**3GPP TSG-RAN WG4 Meeting #111 R4-24xxxxx**

**Fukuoka, Japan 20 – 24 May, 2024**

**Third Generation Partnership Project (3GPP™)**

**DRAFT Meeting Report  
for  
TSG RAN WG4  
meeting: 110bis**

**Changsha, China, 15/04/2024 to 19/04/2024**

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Contents:

1 Opening of the meeting 9

2 Meeting agenda, arrangement and meeting report 9

3 Incoming LS 9

4 Rel-18 maintenance for LTE and NR 13

4.1 Rel-18 spectrum related WI maintenance 13

4.1.1 Enhancement for 700/800/900MHz band combinations 13

4.1.2 NR CA band combinations with two SUL cells in Rel-18 13

4.1.3 High power UE (power class 1.5) for NR TDD bands 13

4.1.4 4Rx support for NR FR1 bands (<2.6GHz) in Rel-18 13

4.1.5 Additional NR bands for UL-MIMO in Rel-18 13

4.1.6 Introduction of evolved shared spectrum bands 13

4.1.7 New bands and BW allocation for 5G terrestrial broadcast - part 2 13

4.1.8 Introduction of the satellite L-/S-band 13

4.1.9 Introduction of a new FDD band (L+S band) for IoT NTN operation 13

4.1.10 High Power UE (Power Class 2) for LTE FDD Band 14 14

4.1.11 Other Rel-18 spectrum related WIs 14

4.2 Rel-18 non-spectrum related WI maintenance 14

4.2.1 NR Channel raster enhancement 14

4.2.1.1 Channel raster for TN 14

4.2.1.2 Channel raster for NTN 15

4.2.1.3 UE capability 15

4.2.2 NB-IoT/eMTC core & perf. requirements for NTN 16

4.2.2.1 UE RF requirement 16

4.2.2.2 SAN RF requirement and conformance testing 16

4.2.2.3 RRM requirement 16

4.2.2.4 Demodulation requirements 18

4.2.3 Low NR band 4Rx for handheld UE and 3Tx for inter-band UL CA and EN-DC 18

4.2.4 BS and UE EMC enhancements maintenance 18

4.2.5 NR Support for UAV 18

4.2.6 Enhanced LTE Support for UAV 19

4.2.7 Air-to-ground network for NR 19

4.2.7.1 UE RF requirements 19

4.2.7.2 BS RF requirements and conformance testing 19

4.2.7.3 RRM core and performance requirements 20

4.2.7.4 Demodulation performance requirements 21

4.2.7.4.1 UE demodulation performance and CSI requirements 21

4.2.7.4.2 BS demodulation performance requirements 21

4.2.8 Support of intra-band non-collocated EN-DC/NR-CA deployment 22

4.2.8.1 UE RF requirements 22

4.2.8.2 RRM Core and performance requirements 23

4.2.8.3 Demodulation performance requirements 23

4.2.9 Other Rel-18 non-spectrum related WIs 23

4.2.9.1 UE RF requirements 23

4.2.9.2 BS RF requirements 23

4.2.9.3 RRM requirements 23

4.2.9.4 OTA aspects 23

4.3 Rel-18 TEI 23

4.4 Moderator summary and conclusions (for Agenda 4) 25

5 Rel-18 on-going spectrum related WIs for NR 27

5.1 Issues arising from basket WIs but not subject to block approval 27

5.1.1 UE RF requirements 27

5.1.1.1 Band combinations with UL configurations including intra-band ULCA with IMD or triple beat issues 27

5.1.1.2 Others 29

5.1.2 Moderator summary and conclusions 31

5.2 Moderator summary and conclusions (for basket WI AI 5.3 to AI 5.22 ) 31

5.3 Rel-18 Dual Connectivity (DC) of 1 band LTE (1DL/1UL) and 1 NR band (1DL/1UL) 32

5.3.1 Rapporteur input (WID/TR/big CR) 32

5.3.2 UE RF requirements without FR2 band 33

5.3.3 UE RF requirements with FR2 band 33

5.4 Rel-18 Dual Connectivity (DC) of 2 bands LTE inter-band CA (2DL/1UL) and 1 NR band (1DL/1UL) 33

5.4.1 Rapporteur input (WID/TR/big CR) 33

5.4.2 UE RF requirements without FR2 band 34

5.4.3 UE RF requirements with FR2 band 35

5.5 Rel-18 WID on DC of x bands LTE inter-band CA (x=3,4,5) and 1 NR band 35

5.5.1 Rapporteur input (WID/TR/big CR) 35

5.5.2 UE RF requirements without FR2 band 35

5.5.3 UE RF requirements with FR2 band 36

5.6 Rel-18 WID: DC of x bands (x=1,2,3,4) LTE inter-band CA (xDL/1UL) and 2 bands NR inter-band CA (2DL/1UL) 36

5.6.1 Rapporteur input (WID/TR/big CR) 36

5.6.2 UE RF requirements without FR2 band 36

5.6.3 UE RF requirements with FR2 band 40

5.7 Rel-18 Dual Connectivity (DC) of x bands (x=1,2,3) LTE inter-band CA (xDL/1UL) and y bands NR inter-band CA (yDL/1UL) 40

5.7.1 Rapporteur input (WID/TR/big CR) 40

5.7.2 UE RF requirements without FR2 band 40

5.7.3 UE RF requirements with FR2 band 41

5.8 Rel-18 WID: DC of x LTE bands and y NR bands with z bands DL and 3 bands UL (x=1, 2, 3, 4, y=1, 2; 3<=z<=6) 41

5.8.1 Rapporteur input (WID/TR/big CR) 41

5.8.2 UE RF requirements without FR2 band 41

5.8.3 UE RF requirements with FR2 band 41

5.9 Rel-18 NR intra band Carrier Aggregation for xCC DL/yCC UL including contiguous and non-contiguous spectrum (x>=y) 41

5.9.1 Rapporteur input (WID/TR/big CR) 41

5.9.2 UE RF requirements for FR1 41

5.9.3 UE RF requirements for FR2 42

5.10 Rel-18 NR Inter-band Carrier Aggregation/Dual Connectivity for 2 bands DL with x bands UL (x=1,2) 42

5.10.1 Rapporteur input (WID/TR/big CR) 42

5.10.2 UE RF requirements without FR2 band 43

5.10.3 UE RF requirements with FR2 band 46

5.11 Rel-18 NR Inter-band Carrier Aggregation/Dual Connectivity for 3 bands DL with x bands UL (x=1,2) 46

5.11.1 Rapporteur input (WID/TR/big CR) 46

5.11.2 UE RF requirements without FR2 band 47

5.11.3 UE RF requirements with FR2 band 50

5.12 Rel-18 NR Inter-band Carrier Aggregation/Dual Connectivity for y bands DL with x bands UL (y=4,5,6, x=1,2) 50

5.12.1 Rapporteur input (WID/TR/big CR) 50

5.12.2 UE RF requirements without FR2 band 50

5.12.3 UE RF requirements with FR2 band 51

5.13 Rel-18 Band combinations for SA NR supplementary uplink (SUL), NSA NR SUL, NSA NR SUL with UL sharing from the UE perspective (ULSUP) 51

5.13.1 Rapporteur input (WID/TR/big CR) 51

5.13.2 UE RF requirements 51

5.14 High-power UE operation for fixed-wireless/vehicle-mounted use cases in LTE bands and NR bands 52

5.14.1 Rapporteur input (WID/TR/big CR) 52

5.14.2 UE RF requirements 52

5.15 High power for FR1 for DC\_R18\_xBLTE\_yBNR\_zDLnUL with power class PC2 and PC1.5 54

5.15.1 Rapporteur input (WID/TR/big CR) 54

5.15.2 UE RF requirements 54

5.16 High power UE for FR1 for NR\_CA\_R18\_intra with power class 2 and 1.5 on TDD band(s) 55

5.16.1 Rapporteur input (WID/TR/big CR) 55

5.16.2 UE RF requirements with PC2 and PC1.5 55

5.17 High power UE for FR1 NR inter-band CA/DC or SUL band combination with y DL-x UL and PCm (m<3) and high power on TDD 56

5.17.1 Rapporteur input (WID/TR/big CR) 56

5.17.2 UE RF requirements with PC2 and PC1.5 56

5.18 High power UE for FR1 for inter-band NR\_CADC\_R18\_yBDL\_xBUL with power class 2 on single carrier uplink on FDD band 59

5.18.1 Rapporteur input (WID/TR/big CR) 59

5.18.2 UE RF requirements 59

5.19 High power UE for FR1 for FDD single band(s) with PC2 61

5.19.1 Rapporteur input (WID/TR/big CR) 61

5.19.2 UE RF requirements 62

5.20 Adding new channel bandwidth(s) support to existing NR bands 63

5.20.1 Rapporteur input (WID/TR/big CR) 63

5.20.2 UE RF requirements 63

5.20.3 BS RF requirements 63

5.21 Simultaneous Rx/Tx inter-band combinations for NR CA/DC, NR SUL and LTE/NR DC in Rel-18 63

5.21.1 Rapporteur input (WID/TR/big CR) 63

5.21.2 Identification of simultaneous Rx/Tx capability for band combinations and UE RF requirements 63

5.22 3Tx NR inter-band UL Carrier Aggregation (CA) and EN-DC 65

5.22.1 Rapporteur input (WID/TR/big CR) 65

5.22.2 UE RF requirements with PC2 and PC1.5 65

6 Rel-18 on-going non-spectrum related work items for NR 66

6.1 Further RF requirements enhancement for NR and EN-DC in FR1 66

6.1.1 UE RF requirements maintenance 66

6.1.1.1 4Tx UE RF requirements 66

6.1.1.2 8Rx UE RF requirements 66

6.1.1.3 Lower MSD for inter-band CA/EN-DC/DC combinations 66

6.1.2 RRM performance requirements 67

6.1.3 Demodulation and CSI requirements 67

6.1.3.1 8Rx UE demodulation and CSI 68

6.1.3.1.1 PDSCH requirements 68

6.1.3.1.2 SDR requirements 70

6.1.3.1.3 CQI reporting requirements 70

6.1.3.2 4Tx BS demodulation 70

6.1.4 Moderator summary and conclusions 70

6.2 NR RF requirements enhancement for FR2, Phase 3 71

6.2.1 UL 256QAM core requirements maintenance 71

6.2.2 Beam correspondence requirements maintenance for RRC\_INACTIVE and initial access 71

6.2.3 BS demodulation requirements (UL 256QAM) 71

6.2.4 Moderator summary and conclusions 71

6.3 Requirement for NR FR2 multi-Rx chain DL reception 72

6.3.1 UE RF requirements maintenance for simultaneous DL reception with up to 4 layer MIMO 72

6.3.2 RRM core requirements maintenance for simultaneous DL reception from different directions 72

6.3.3 RRM performance requirements 75

6.3.3.1 RRM test case design 75

6.3.3.2 RRM measurement accuracy requirements 76

6.3.4 Demodulation performance and CSI requirements 77

6.3.4.1 General aspects 78

6.3.4.2 PDSCH requirements 78

6.3.4.3 PMI reporting requirements 79

6.3.5 Moderator summary and conclusions 79

6.4 Even Further RRM enhancement for NR and MR-DC 80

6.4.1 RRM core requirements maintenance for FR2 SCell activation delay reduction 80

6.4.2 RRM core requirements maintenance for FR1-FR1 NR-DC 81

6.4.3 RRM performance requirements for FR2 SCell activation delay reduction 81

6.4.4 RRM performance requirements for FR1-FR1 NR DC 83

6.4.5 Moderator summary and conclusions 84

6.5 Further enhancements on NR and MR-DC measurement gaps and measurements without gaps 84

6.5.1 RRM core requirements maintenance for pre-configured MGs, multiple concurrent MGs and NCSG 85

6.5.2 RRM core requirements maintenance for measurements without gaps 88

6.5.3 RRM performance requirements for pre-configured MGs, multiple concurrent MGs and NCSG 90

6.5.4 RRM performance requirements for measurements without gaps 92

6.5.5 Moderator summary and conclusions 95

6.6 Completion of specification support for bandwidth part operation without restriction in NR 96

6.6.1 RRM core requirements maintenance 96

6.6.2 RRM performance requirements 97

6.6.3 Moderator summary and conclusions 99

6.7 Enhanced NR support for high speed train scenario in frequency range 2 99

6.7.1 RRM core requirement maintenance 99

6.7.2 RRM performance requirements 99

6.7.3 Demodulation performance requirements 101

6.7.3.1 General and channel modelling 101

6.7.3.2 PDSCH requirements with CA 101

6.7.3.3 PDSCH requirements with multi-Rx Chain DL reception 101

6.7.4 Moderator summary and conclusions 102

6.8 NR support for dedicated spectrum less than 5MHz for FR1 102

6.8.1 System parameter maintenance 102

6.8.2 UE RF requirement maintenance 103

6.8.3 BS RF requirement maintenance 103

6.8.4 BS RF conformance testing 104

6.8.5 RRM core requirement maintenance 104

6.8.6 RRM performance requirements 105

6.8.7 Demodulation performance requirements 107

6.8.7.1 UE demodulation performance and CSI requirements 107

6.8.7.2 BS demodulation performance requirements 110

6.8.8 Moderator summary and conclusions 112

6.9 Enhancement of TRP and TRS requirements and test methodologies 113

6.9.1 Enhancement maintenance of test methodology 113

6.9.1.1 Anechoic chamber test methodology 113

6.9.1.2 Reverberation chamber test methodology 115

6.9.1.3 MU assessment 115

6.9.2 Performance requirements 115

6.9.3 Moderator summary and conclusions 117

6.10 Enhancement of Multiple Input Multiple Output Over-the-Air test methodology and requirements for NR UEs 117

6.10.1 FR2 MIMO OTA test methodology enhancement maintenance 117

6.10.2 FR1 MIMO OTA test methodology enhancement maintenance 118

6.10.3 Performance requirements 119

6.10.4 Moderator summary and conclusions 120

6.11 NR demodulation performance evolution 120

6.11.1 General aspects 120

6.11.2 Advanced receiver to cancel inter-user interference for MU-MIMO demodulation requirements 120

6.11.2.1 Receiver assumption and NWA signaling 120

6.11.2.2 Test parameters and simulation results 121

6.11.3 Absolute physical layer throughput requirements with link adaptation 124

6.11.4 Moderator summary and conclusions 124

6.12 Expanded and improved NR positioning 124

6.12.1 RF requirements maintenance 124

6.12.2 RRM core requirements maintenance 124

6.12.2.1 General aspects 124

6.12.2.2 SL Positioning and Carrier Phase Positioning 124

6.12.2.3 LPHAP use case 126

6.12.2.4 RedCap Positioning and PRS/SRS bandwidth aggregation 127

6.12.3 RRM performance requirements 129

6.12.3.1 SL Positioning 129

6.12.3.2 LPHAP use case 131

6.12.3.3 RedCap Positioning 131

6.12.3.4 PRS/SRS bandwidth aggregation 133

6.12.3.5 Carrier Phase Positioning 134

6.12.4 Moderator summary and conclusions 135

6.13 Multi-carrier enhancements for NR 136

6.13.1 UE RF requirements maintenance 136

6.13.2 RRM core requirements maintenance 137

6.13.3 RRM performance requirements 137

6.13.4 Moderator summary and conclusions 137

6.14 Further NR mobility enhancements 138

6.14.1 RRM Core requirements maintenance 138

6.14.1.1 L1/L2 based inter-cell mobility 138

6.14.1.2 Other RRM Core requirements 141

6.14.2 RRM performance requirements 142

6.14.2.1 L1/L2 based inter-cell mobility 142

6.14.2.2 Other RRM performance requirements 148

6.14.3 Moderator summary and conclusions 150

6.15 Dual Tx/Rx Multi-SIM for NR 150

6.15.1 RRM core requirements maintenance for Rel-17 MUSIM gaps 150

6.15.2 RRM performance requirements 153

6.15.3 Moderator summary and conclusions 154

6.16 NR NTN enhancement 154

6.16.1 System parameters and regulatory requirements 154

6.16.2 Co-existence study for above 10GHz bands 155

6.16.3 SAN RF requirements 156

6.16.4 SAN RF conformance testing requirements 157

6.16.5 UE RF requirements 159

6.16.5.1 Tx RF requirements 159

6.16.5.2 Rx RF requirements 161

6.16.5.3 PUSCH DMRS bundling requirements and others 163

6.16.6 RRM core requirements 163

6.16.6.1 NR-NTN RRM requirements in above 10 GHz bands 163

6.16.6.2 Network verified UE location 164

6.16.6.3 NTN-TN and NTN-NTN mobility and service continuity enhancements 165

6.16.7 RRM performance requirements 167

6.16.7.1 NR-NTN RRM performance requirements in above 10 GHz bands 167

6.16.7.2 Network verified UE location 168

6.16.7.3 NTN-TN and NTN-NTN mobility and service continuity enhancements 168

6.16.8 Demodulation performance requirements 169

6.16.8.1 SAN demodulation performance requirements 169

6.16.8.2 UE demodulation performance and CSI requirements 170

6.16.9 Moderator summary and conclusions 171

6.17 Further NR coverage enhancements 173

6.17.1 UE RF requirements maintenance 173

6.17.1.1 Enhancement of increasing UE power high limit for CA and DC 173

6.17.1.2 Enhancement to reduce MPR/PAR 173

6.17.2 BS demodulation performance requirements 174

6.17.3 Moderator summary and conclusions 177

6.18 NR Network-controlled Repeaters 178

6.18.1 RF core requirements maintenance 178

6.18.1.1 RF requirements for NCR-Fwd 178

6.18.1.2 RF requirements for NCR-MT 179

6.18.2 EMC core requirements maintenance 179

6.18.3 RF conformance testing 179

6.18.4 EMC conformance testing 182

6.18.5 RRM core requirements maintenance 182

6.18.6 RRM performance requirements 182

6.18.7 Demodulation performance requirements 183

6.18.8 Moderator summary and conclusions 185

6.19 NR MIMO evolution for downlink and uplink 185

6.19.1 UE RF requirements maintenance 185

6.19.2 RRM core requirements maintenance 185

6.19.3 RRM performance requirements 188

6.19.3.1 RRM performance requirements for TDCP 188

6.19.3.2 Other RRM performance requirements 189

6.19.4 Demodulation performance requirements 190

6.19.4.1 UE demodulation performance and CSI requirements 190

6.19.4.2 BS demodulation performance requirements 193

6.19.5 Moderator summary and conclusions 195

6.20 NR sidelink evolution 195

6.20.1 UE RF requirements maintenance 195

6.20.1.1 Sidelink on a single unlicensed spectrum 196

6.20.1.2 Con-current operation on Uu and sidelink 197

6.20.1.3 Sidelink CA 197

6.20.2 RRM core requirements maintenance 198

6.20.3 RRM performance requirements 198

6.20.4 UE demodulation performance requirements 199

6.20.5 Moderator summary and conclusions 200

6.21 Enhanced support of reduced capability NR devices 201

6.21.1 UE RF requirements maintenance 201

6.21.2 RRM core requirements maintenance 201

6.21.3 Demodulation performance requirements 202

6.21.3.1 UE demodulation performance and CSI requirements 202

6.21.3.2 BS demodulation performance requirements 204

6.21.4 Moderator summary and conclusions 204

6.22 Enhanced NR Sidelink Relay 204

6.22.1 RRM core requirements maintenance 204

6.22.2 RRM performance requirements 204

6.22.3 Moderator summary and conclusions 204

6.23 Mobile IAB (Integrated Access and Backhaul) for NR 205

6.23.1 RF core requirements maintenance 205

6.23.2 RF conformance testing 205

6.23.3 RRM core requirements maintenance 205

6.23.4 RRM performance requirements 205

6.23.5 Demodulation performance requirements 206

6.23.6 Moderator summary and conclusions 208

6.24 Network energy saving for NR 208

6.24.1 BS conformance testing requirements 208

6.24.2 RRM core requirements maintenance 208

6.24.3 RRM performance requirements 211

6.24.3.1 SSB-less SCell operation 211

6.24.3.2 Other RRM performance requirements 213

6.24.4 UE demodulation performance and CSI requirements 214

6.24.5 Moderator summary and conclusions 215

6.25 Enhancement of NR dynamic spectrum sharing 216

6.25.1 UE demodulation performance requirements 216

6.25.2 Moderator summary and conclusions 218

7 Rel-18 on-going work Items for LTE 218

7.1 Rel-18 LTE-Advanced Carrier Aggregation for x bands (x<= 6) DL with y bands (y=1, 2) UL 218

7.1.1 Rapporteur input (WID/TR/big CR) 218

7.1.2 UE RF requirements for 1 UL 218

7.1.2.1 Requirements with specific issues 218

7.1.2.2 Requirements without specific issues 219

7.1.3 UE RF requirements for 2UL 220

7.1.3.1 Requirements with specific issues 220

7.1.3.2 Requirements without specific issues 221

7.1.4 Moderator summary and conclusions 221

7.2 Introduction of the Extended L-band (UL 1668-1675, DL 1518-1525) for IoT NTN 221

7.2.1 UE RF requirements maintenance 221

7.2.2 SAN RF requirements maintenance 221

7.2.3 RRM core requirements maintenance and RRM/demodulation performance requirements 221

7.2.4 Moderator summary and conclusions 221

7.3 IoT (Internet of Things) NTN (non-terrestrial network) enhancements 222

7.3.1 UE RF requirements maintenance 222

7.3.2 SAN RF requirements maintenance 222

7.3.3 RRM core requirements maintenance 222

7.3.4 RRM performance requirements 222

7.3.5 Demodulation performance requirements 224

7.3.6 Moderator summary and conclusions 225

8 Rel-18 feature list 225

9 Rel-19 on-going non-spectrum related work items 226

9.1 UE RF enhancements for NR FR1/FR2 and EN-DC, Phase 4 226

9.1.1 General aspects (work plan) 226

9.1.2 High power UE (HPUE) for CA in terrestrial network (TN) 226

9.1.3 Power domain enhancement for NR single carrier and NR intra-band UL CA for PC2 and PC3 229

9.1.4 6Rx UE 231

9.1.5 Moderator summary and conclusions 233

9.2 NR base station (BS) RF requirement evolution for FR1/FR2 and testing 233

9.2.1 General aspects (work plan) 233

9.2.2 Expected EIRP mask for upper 6GHz 234

9.2.3 OTA test enhancement 235

9.2.4 Moderator summary and conclusions 236

9.3 Study on IMT parameters for 4400 to 4800 MHz, 7125 to 8400 MHz and 14800 to 15350 MHz 236

9.3.1 General aspects (work plan) 236

9.3.2 LS reply for NR in 4400 to 4800 MHz 237

9.3.3 Study the IMT parameters relevant for sharing and compatibility for 7125 to 8400 MHz frequency range 238

9.3.4 Study the IMT parameters relevant for sharing and compatibility for 14800 to 15350 MHz frequency range 240

9.3.5 Other aspects 241

9.3.6 Moderator summary and conclusions 242

9.4 TRP (Total Radiated Power), TRS (Total Radiated Sensitivity) and MIMO OTA (Over the Air) testing enhancement Phase 3 242

9.4.1 General aspects (work plan) 242

9.4.2 Core part 243

9.4.2.1 Test methodology for FR1 non-RedCap headworn XR devices 243

9.4.2.2 Test methodology and radiated performance metric for FR1 NTN devices 244

9.4.2.3 FR1 dynamic MIMO OTA test methodology 245

9.4.3 Moderator summary and conclusions 245

9.5 Study on NR FR2 OTA (Over the Air) testing enhancement Phase 3 246

9.5.1 General aspects (work plan) 246

9.5.2 RF testing methodology for FR2 non-handheld UE that can transmit simultaneously with multi-panel 246

9.5.3 Moderator summary and conclusions 246

9.6 NR Radio Resource Management (RRM) Phase 5 246

9.6.1 General aspects (work plan) 246

9.6.2 FR2-1 SSB based L3 measurement delay reduction for connected mode 247

9.6.3 Moderator summary and conclusions 249

9.7 Support of intra-band non-collocated EN-DC/NR-CA deployment Phase2: new receiver type(s) 249

9.7.1 General aspects (work plan) 249

9.7.2 UE RF requirements for type 4a/4b capable FWA UE 250

9.7.3 Moderator summary and conclusions 251

9.8 Enhancements for Air-to-ground network for NR 251

9.8.1 General aspects (work plan) 251

9.8.2 UE RF requirements for CA and UL-MIMO 251

9.8.3 BS RF requirements for CA 252

9.8.4 Moderator summary and conclusions 253

9.9 NR sidelink Intra-band Carrier Aggregation in ITS band 253

9.9.1 General aspects (work plan) 253

9.9.2 UE RF requirements for intra-band non-contiguous CA 254

9.9.3 UE RF requirements for intra-band contiguous CA 254

9.9.4 Moderator summary and conclusions 255

9.10 NR channel BW less than 5MHz for FR1 Phase 2 255

9.10.1 General aspects (work plan) 255

9.10.2 UE RF requirements for inter-band NR CA/DC with 3MHz CBW 257

9.10.3 Moderator summary and conclusions 258

9.11 Artificial Intelligence (AI)/Machine Learning (ML) for NR Air Interface 258

9.11.1 General aspects 258

9.11.2 Testability and interoperability issues for beam management 260

9.11.3 Testability and interoperability issues for positioning accuracy enhancement 262

9.11.4 Testability and interoperability issues for CSI compression and CSI prediction 264

9.11.5 Moderator summary and conclusions 266

9.12 Evolution of NR duplex operation: Sub-band full duplex (SBFD) 266

9.12.1 General aspects (work plan) 266

9.12.2 BS RF requirements 267

9.12.3 Moderator summary and conclusions 268

9.13 Study on solutions for Ambient IoT (Internet of Things) in NR 268

9.13.1 General aspects (work plan) 268

9.13.2 Co-existence study for ambient IoT and NR/LTE 269

9.13.3 Moderator summary and conclusions 270

9.14 Low-power wake-up signal and receiver for NR (LP-WUS/WUR) 271

9.14.1 General aspects (work plan) 271

9.14.2 UE RF requirements for LP-WUS/WUR 271

9.14.3 BS RF requirements for LP-WUS/WUR 272

9.14.4 RRM core requirements for LP-WUS/WUR 274

9.14.5 Moderator summary and conclusions 275

9.15 Non-Terrestrial Networks (NTN) for NR Phase 3 276

9.15.1 General aspects (work plan) 276

9.15.2 UE RF requirements 276

9.15.3 SAN RF requirements 278

9.15.4 Moderator summary and conclusions 278

10 Liaison output to other groups and related issues 279

10.1 R17 related 279

10.2 R15, R16 related 280

10.3 Moderator summary and conclusions 281

11 RAN task and other topics 281

11.1 Specification quality improvement (RP-240782) 281

11.1.1 UE RF specifications TS 38.101-1/-2/-3 281

11.1.2 RRM specification TS 38.133 283

11.2 Power class related topics 284

11.3 RAN4 basket WI work plan (according to WF [R4-2403721](file:///D:\RAN4%23110bis\Docs\R4-2403721.zip)) 290

12 New or revised Rel-19 WID/SID 292

13 Any other business 293

14 Close of the meeting 293

## 1 Opening of the meeting

The Chair Xizeng Dai (Huawei) opened the meeting at RAN4#110-bis on 15/04/2024 at 09:00.

xxx provided the welcome speech.

**Intellectual Property Rights Declaration Policy**

The attention of the delegates to the meeting of this Technical Specification Group was drawn to the fact that 3GPP Individual Members have the obligation under the IPR Policies of their respective Organizational Partners to inform their respective Organizational Partners of Essential IPRs they become aware of.

The delegates were asked to take note that they were thereby invited:

- to investigate whether their organization or any other organization owns IPRs which were, or were likely to become Essential in respect of the work of 3GPP.

- to notify their respective Organizational Partners of all potential IPRs, e.g., for ETSI, by means of the IPR Information Statement and the Licensing declaration forms.

**Statement regarding competition law**

The attention of the delegates to the meeting was drawn to the fact that 3GPP activities were subject to all applicable antitrust and competition laws and that compliance with said laws was therefore required by any participant of the meeting, including the Chair and Vice-Chairs and were invited to seek any clarification needed with their legal counsel. The leadership would conduct the present meeting with impartiality and in the interests of 3GPP. Delegates were reminded that timely submission of work items in advance of TSG/WG meetings was important to allow for full and fair consideration of such matters.

**Meeting arrangements**

The meeting was conducted in three parallel sessions; Main session, RRM session, and BS RF Test Demod session. The Main session was chaired by RAN4 Chair Xizeng Dai (Huawei), RRM session was chaired by RAN4 Vice Chair Shan Yang (China Telecom), and BS RF Test Demod session was chaired by RAN4 Vice Chair Gene Fong (Qualcomm). The sessions were further broken down into separate GTW sessions (separate meeting rooms in F2F meeting). Webinar sessions were made available for online particpants.

Note: One or two additional offline(s) / adhoc session(s) may be scheduled according to RAN conclusion. Total three parallel GTW sessions would be scheduled. Plus, any additonal Offline(s) / ad hoc sesion(s) = ad hoc room or breakout room in F2F meeting.

**Check-in for Registered Delegates**

The attention of the delegates to this meeting was drawn to the fact that it is not permitted to check in other delegates on their behalf. In the even of technical difficulties preventing check in, delegates are encouraged to contact in person MCC.

**Ordinary E-meeting participation**

Attendance at ordinary e-meetings now counts towards accrual and maintenance of voting rights.

- A delegate is deemed to have attended a given meeting if they confirm their participation by check in. If a delegate does not check in during the meeting, it shall be assumed that the individual did not attend.

**Face-to-Face meeting with one-way remote participation (going forward there is no longer two-way remote)**

When it is a face-to-face (ordinary) meeting with one-way remote participation.

- In a meeting designated as face to face (ordinary), those participating remotely are not to be counted toward quorum or attendance, and are not allowed to vote

**F2F network usage conditions**

The PCG has laid down the following network usage conditions as provided below:

**Users shall not use the network to engage in illegal activities. This includes activities such as copyright violation, hacking, espionage or any other activity that may be prohibited by local laws**.

**Users shall not engage in non-work related activities that consume excessive bandwidth** or cause significant degradation of the performance of the network.

Since the **network is a shared resource**, users should exercise some basic etiquette when using the 3GPP network at a meeting. It is understood that high bandwidth applications such as downloading large files or video streaming might be required for business purposes, but delegates should be strongly discouraged in performing these activities for personal use. Downloading a movie or doing something in an interactive environment for personal use essentially wastes bandwidth that others need to make the meeting effective. The meeting Chair should remind end users that the network is a shared resource; the more one user grabs, the less there is for another. Email and its attachments already take up significant bandwidth (certain email programs are not very bandwidth efficient). In case of need the chair can ask the delegates to restrict IT usage to things that are essential for the meeting itself.

**1. DON’T place your WiFi device in ad-hoc mode**

**2. DON’T set up a personal hotspot in the meeting room**

**3. DO try 802.11a if your WiFi device supports it**

**4. DON’T manually allocate an IP address**

**5. DON’T be a bandwidth hog by streaming video, playing online games, or downloading huge files**

**6. DON’T use packet probing software which clogs the local network (e.g., packet sniffers or port scanners)**

**Recording of RAN4 Meeting**

Recording of the GoToWebinar sessions of the present meeting is strictly prohibited. No individual or entity – including the speakers and/or the authors – may electronically record any portion of the meeting without prior written consent of the Chair and all the RAN4 meeting participants.

**Snapshot of contributions type areas submitted in 3GU before the start of the meeting: Total: 1886**

**Figure 1: Breakdown of contributions type areas for RAN4#110-bis pre-meeting**

At the beginning of the meeting, there are 389 contributions related to Rel-19 on-going non-spectrum related work items.

- For “draftCR” type documents there are 9 contributions.

- For “discussion” type documents there are 198 contributions.

- For “other” type documents there are 168 contributions.

## 2 Meeting agenda, arrangement and meeting report

[**R4-2404100**](file:///D:\RAN4%23110bis\Docs\R4-2404100.zip) **RAN4#110 Meeting Report**

*Type: report For: Approval  
 Source: ETSI MCC*

**Abstract:**

[RAN4#110-bis][100] Main Session

**Decision: Approved.**

[**R4-2404101**](file:///D:\RAN4%23110bis\Docs\R4-2404101.zip) **Agenda for RAN4#110-bis**

*Type: agenda For: Approval  
 Source: RAN4 Chair (Huawei)*

**Abstract:**

[RAN4#110-bis][100] Main Session

**Decision: Approved.**

[**R4-2404102**](file:///D:\RAN4%23110bis\Docs\R4-2404102.zip) **RAN4#110-bis Meeting Arrangements and Guidelines**

*Type: other For: Approval  
 Source: RAN4 Chair (Huawei)*

**Abstract:**

[RAN4#110-bis][100] Main Session

**Decision: Approved.**

## 3 Incoming LS

[**R4-2404103**](file:///D:\RAN4%23110bis\Docs\R4-2404103.zip) **LS on Seamless Air Alliance for Non-Terrestrial Network (NTN) Mobile VSAT Enhancements in Rel-19**

*Type: LS in For: Information  
 Original outgoing LS: SAA, to RAN, cc RAN4  
 Source: Seamless Air Alliance NTN Working Group*

**Abstract:**

[RAN4#110-bis][100] Main Session

**Decision: Noted.**

[**R4-2404104**](file:///D:\RAN4%23110bis\Docs\R4-2404104.zip) **Reply LS on UE capabilities for MPR reduction**

*Type: LS in For: Information  
 Original outgoing LS: R1-2401627, to RAN4, cc RAN2  
 Source: RAN1*

**Abstract:**

[RAN4#110-bis][100] Main Session

**Decision: Noted.**

[**R4-2404105**](file:///D:\RAN4%23110bis\Docs\R4-2404105.zip) **LS on Rel-18 RAN1 UE features list for NR after RAN1#116**

*Type: LS in For: Information  
 Original outgoing LS: R1-2401711, to RAN2, cc RAN4  
 Source: RAN1*

**Abstract:**

[RAN4#110-bis][100] Main Session

**Decision: Noted.**

[**R4-2404106**](file:///D:\RAN4%23110bis\Docs\R4-2404106.zip) **LS on NCD-SSB time offset for non-RedCap UEs in TDD**

*Type: LS in For: Information  
 Original outgoing LS: R1-2401743, to RAN2, RAN4, cc -  
 Source: RAN1*

**Abstract:**

[RAN4#110-bis][100] Main Session

**Decision: Noted.**

[**R4-2404107**](file:///D:\RAN4%23110bis\Docs\R4-2404107.zip) **Reply LS on Satellite Switch with Resync**

*Type: LS in For: Information  
 Original outgoing LS: R1-2401748, to RAN2, cc RAN4  
 Source: RAN1*

**Abstract:**

[RAN4#110-bis][100] Main Session

**Decision: Noted.**

[**R4-2404108**](file:///D:\RAN4%23110bis\Docs\R4-2404108.zip) **Reply LS on UL Tx switching**

*Type: LS in For: Information  
 Original outgoing LS: R1-2401776, to RAN2, cc RAN4  
 Source: RAN1*

**Abstract:**

[RAN4#110-bis][100] Main Session

**Decision: Noted.**

[**R4-2404109**](file:///D:\RAN4%23110bis\Docs\R4-2404109.zip) **LS on the bandwidth used in measurements for positioning of RedCap UEs**

*Type: LS in For: Information  
 Original outgoing LS: R1-2401801, to RAN2, RAN4, cc -  
 Source: RAN1*

**Abstract:**

[RAN4#110-bis][100] Main Session

**Decision: Noted.**

[**R4-2404110**](file:///D:\RAN4%23110bis\Docs\R4-2404110.zip) **LS on Rel-18 RAN1 UE features list for LTE after RAN1#116**

*Type: LS in For: Information  
 Original outgoing LS: R1-2401824, to RAN2, cc RAN4  
 Source: RAN1*

**Abstract:**

[RAN4#110-bis][100] Main Session

**Decision: Noted.**

[**R4-2404111**](file:///D:\RAN4%23110bis\Docs\R4-2404111.zip) **Questions on RAN1 parameter list**

*Type: LS in For: Information  
 Original outgoing LS: R2-2401644, to RAN1, cc RAN3, RAN4  
 Source: RAN2*

**Abstract:**

[RAN4#110-bis][100] Main Session

**Decision: Noted.**

[**R4-2404112**](file:///D:\RAN4%23110bis\Docs\R4-2404112.zip) **Reply LS on R17 DC location signaling**

*Type: LS in For: Information  
 Original outgoing LS: R2-2401767, to RAN4, cc -  
 Source: RAN2*

**Abstract:**

[RAN4#110-bis][100] Main Session

**Decision: Noted.**

[**R4-2404113**](file:///D:\RAN4%23110bis\Docs\R4-2404113.zip) **Reply LS on inter-frequency neighbour cells supporting NR dedicated spectrum less than 5 MHz for FR1**

*Type: LS in For: Information  
 Original outgoing LS: R2-2401885, to RAN1, RAN4, cc -  
 Source: RAN2*

**Abstract:**

[RAN4#110-bis][100] Main Session

**Decision: Noted.**

[**R4-2404114**](file:///D:\RAN4%23110bis\Docs\R4-2404114.zip) **LS on positioning MAC agreements**

*Type: LS in For: Information  
 Original outgoing LS: R2-2401912, to RAN1, RAN4, cc -  
 Source: RAN2*

**Abstract:**

[RAN4#110-bis][100] Main Session

**Decision: Noted.**

[**R4-2404115**](file:///D:\RAN4%23110bis\Docs\R4-2404115.zip) **Reply LS on n-TimingAdvanceOffset for PDCCH order RACH**

*Type: LS in For: Information  
 Original outgoing LS: R2-2401958, to RAN4, cc RAN1  
 Source: RAN2*

**Abstract:**

[RAN4#110-bis][100] Main Session

**Decision: Noted.**

[**R4-2404116**](file:///D:\RAN4%23110bis\Docs\R4-2404116.zip) **Reply LS on Rel-18 UL Tx switching for parallel switching on four bands**

*Type: LS in For: Information  
 Original outgoing LS: R2-2401969, to RAN4, cc RAN1  
 Source: RAN2*

**Abstract:**

[RAN4#110-bis][100] Main Session

**Decision: Noted.**

[**R4-2404117**](file:///D:\RAN4%23110bis\Docs\R4-2404117.zip) **LS on NCD-SSB time offset for non-(e)RedCap UEs in TDD**

*Type: LS in For: Information  
 Original outgoing LS: R2-2402045, to RAN1, cc RAN4  
 Source: RAN2*

**Abstract:**

[RAN4#110-bis][100] Main Session

**Decision: Noted.**

[**R4-2404118**](file:///D:\RAN4%23110bis\Docs\R4-2404118.zip) **LS reply on FR2 ACS/IBB testing**

*Type: LS in For: Information  
 Original outgoing LS: R5-241876, to RAN4, cc -  
 Source: RAN5*

**Abstract:**

[RAN4#110-bis][100] Main Session

**Decision: Noted.**

[**R4-2404119**](file:///D:\RAN4%23110bis\Docs\R4-2404119.zip) **LS to RAN4 on TT work for Rel-18 NR FR1 TRP TRS**

*Type: LS in For: Information  
 Original outgoing LS: R5-241956, to RAN4, cc -  
 Source: RAN5*

**Abstract:**

[RAN4#110-bis][100] Main Session

**Decision: Noted.**

[**R4-2404120**](file:///D:\RAN4%23110bis\Docs\R4-2404120.zip) **LS on per UE energy consumption in RAN**

*Type: LS in For: Information  
 Original outgoing LS: S2-2403733, to RAN, RAN1, RAN2, RAN4, cc SA, SA1, SA5, RAN3  
 Source: SA2*

**Abstract:**

[RAN4#110-bis][100] Main Session

**Decision: Noted.**

## 4 Rel-18 maintenance for LTE and NR

The following guidance are provided for AI 4:

- For maintenance agenda AI 4 (Rel-18), draftCRs are expected and multiple draft CRs per company in the lowest agenda are allowed. For tracking the changes easily, it expected that one batch of CRs (Cat-F/A/…) will just cover a single topic/WI rather than multiple topics/WIs and Cat-F draft CR with corresponding Cat-A draft CRs needs be submitted under the same agenda.

- When submitting contributions to AI 4.1.11/AI 4.2.9, please add (WI\_code) in the beginning of titles for both discussion files and draft CRs to facilitate moderators and session chairs handling.

- When reserving the tdoc number, please use the correct WI code rather than simply using TEI and fill the column of “Related WIs” in your reservation spreadsheet. If you submit a draft CR with TEI as WI code, please inform session chair.

- For all the endorsed draft CRs in this bis meeting, please re-submit them in the next ordinary meeting.

- The contributions corresponding to incoming LS for Rel-15/16/17 are expected to be submitted in AI 10, if there is a dedicated agenda in AI 10. The contributions corresponding to incoming LS for Rel-18 are expected to be submitted to (sub-) agenda dedicated to the individual WIs under AI 4, 5, 6. If there is no dedicated agenda, please submit to AI 4.1.11 or AI 4.2.9 depending on whether it is spectrum related topic or non-spectrum related topic.

### 4.1 Rel-18 spectrum related WI maintenance

#### 4.1.1 Enhancement for 700/800/900MHz band combinations

#### 4.1.2 NR CA band combinations with two SUL cells in Rel-18

**Topic #1 Maintenance of Spectrum related WIs in Rel-18**

[**R4-2404891**](file:///D:\RAN4%23110bis\Docs\R4-2404891.zip) **(NR\_2SUL\_cell\_combos\_R18) Draft CR for TS 38.101-1 on two SUL cells with inter-band CA band combinations**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: ZTE Corporation*

**Decision:** The document was **not treated**.

#### 4.1.3 High power UE (power class 1.5) for NR TDD bands

#### 4.1.4 4Rx support for NR FR1 bands (<2.6GHz) in Rel-18

#### 4.1.5 Additional NR bands for UL-MIMO in Rel-18

#### 4.1.6 Introduction of evolved shared spectrum bands

#### 4.1.7 New bands and BW allocation for 5G terrestrial broadcast - part 2

#### 4.1.8 Introduction of the satellite L-/S-band

#### 4.1.9 Introduction of a new FDD band (L+S band) for IoT NTN operation

**Topic #1 Maintenance of Spectrum related WIs in Rel-18**

[**R4-2404782**](file:///D:\RAN4%23110bis\Docs\R4-2404782.zip) **(IoT\_NTN\_FDD\_LS\_band) Draft CR to 36.307: Release independent for IoT-NTN requirements (Rel-18)**

*Type: draftCR For: Endorsement  
 36.307 v18.4.0 CR- rev Cat: F (Rel-18)  
  
 Source: Mediatek India Technology Pvt.*

**Decision:** The document was **not treated**.

[**R4-2404543**](file:///D:\RAN4%23110bis\Docs\R4-2404543.zip) **(IoT\_NTN\_FDD\_LS\_band) CR to 36.307: Release independent for IoT-NTN requirements (Rel-18)**

*Type: CR For: Agreement  
 36.307 v18.4.0 CR-4502 rev Cat: F (Rel-18)  
  
 Source: Mediatek India Technology Pvt.*

**Decision:** The document was **withdrawn**.

#### 4.1.10 High Power UE (Power Class 2) for LTE FDD Band 14

#### 4.1.11 Other Rel-18 spectrum related WIs

**Topic #1 Maintenance of Spectrum related WIs in Rel-18**

[**R4-2404179**](file:///D:\RAN4%23110bis\Docs\R4-2404179.zip) **Draft CR to 38.101-1 on corrections for n109 UE channel BW table misalignment in Table 5.3.5-1**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: Apple*

**Decision:** The document was **not treated**.

### 4.2 Rel-18 non-spectrum related WI maintenance

#### 4.2.1 NR Channel raster enhancement

##### 4.2.1.1 Channel raster for TN

[**R4-2404161**](file:///D:\RAN4%23110bis\Docs\R4-2404161.zip) **Remaining issues for enhanced channel raster**

*Type: discussion For: Discussion  
 Source: Apple*

**Decision: Noted.**

[**R4-2404380**](file:///D:\RAN4%23110bis\Docs\R4-2404380.zip) **Request for mandatory enhanced raster for n26**

*Type: discussion For: Approval  
 Source: T-Mobile USA, Telstra*

**Decision: Noted.**

[**R4-2404612**](file:///D:\RAN4%23110bis\Docs\R4-2404612.zip) **Supporting of enhanced channel raster**

*Type: discussion For: Discussion  
 Source: China Telecom*

**Abstract:**

In this discussion paper, we have the following proposals about how to indicate mandatory support for enhanced channel raster and how to capture it in spec if enhanced channel raster is mandatory in early release.

**Decision: Noted.**

[**R4-2404676**](file:///D:\RAN4%23110bis\Docs\R4-2404676.zip) **Discussion on mandatory of enhanced channel raster**

*Type: discussion For: Discussion  
 Source: CMCC*

**Decision: Noted.**

[**R4-2405660**](file:///D:\RAN4%23110bis\Docs\R4-2405660.zip) **Enhanced channel raster UE capability**

*Type: other For: Approval  
 Source: Nokia*

**Decision: Noted.**

Draft CR

[**R4-2404162**](file:///D:\RAN4%23110bis\Docs\R4-2404162.zip) **Clarification for the mandatory support of enhanced channel raster for the TN bands**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: Apple, T-Mobile*

**Decision:** The document was **not treated**.

[**R4-2405415**](file:///D:\RAN4%23110bis\Docs\R4-2405415.zip) **(NR\_channel\_raster\_enh-Core) Enhanced Channel raster for CA**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

[**R4-2405416**](file:///D:\RAN4%23110bis\Docs\R4-2405416.zip) **(NR\_channel\_raster\_enh-Core) Enhanced Channel raster for CA**

*Type: draftCR For: Endorsement  
 38.104 v18.5.0 CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

##### 4.2.1.2 Channel raster for NTN

Draft CR

[**R4-2404163**](file:///D:\RAN4%23110bis\Docs\R4-2404163.zip) **Clarification for the mandatory support of enhanced channel raster for the NTN bands**

*Type: draftCR For: Endorsement  
 38.101-5 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: Apple, Ligado Networks, Inmarsat, Viasat, Globalstar, Thales, Hughes/Echostar, Omnispace, Terrestar*

**Decision:** The document was **not treated**.

[**R4-2405417**](file:///D:\RAN4%23110bis\Docs\R4-2405417.zip) **(NR\_channel\_raster\_enh-Core) Enhanced Channel raster for CA**

*Type: draftCR For: Endorsement  
 38.101-5 v18.5.0 CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

[**R4-2405418**](file:///D:\RAN4%23110bis\Docs\R4-2405418.zip) **(NR\_channel\_raster\_enh-Core) Enhanced Channel raster for CA**

*Type: draftCR For: Endorsement  
 38.108 v18.2.0 CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

##### 4.2.1.3 UE capability

[**R4-2405419**](file:///D:\RAN4%23110bis\Docs\R4-2405419.zip) **UE capability for Redcap UE**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2405609**](file:///D:\RAN4%23110bis\Docs\R4-2405609.zip) **Enhanced Channel Raster Capabilities for RedCap UEs**

*Type: other For: Approval  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

#### 4.2.2 NB-IoT/eMTC core & perf. requirements for NTN

##### 4.2.2.1 UE RF requirement

##### 4.2.2.2 SAN RF requirement and conformance testing

##### 4.2.2.3 RRM requirement

##### 4.2.2.4 Demodulation requirements

#### 4.2.3 Low NR band 4Rx for handheld UE and 3Tx for inter-band UL CA and EN-DC

[**R4-2404507**](file:///D:\RAN4%23110bis\Docs\R4-2404507.zip) **Discussion on 3Tx SAR solution for inter-band CA with PC1.5**

*Type: LS out For: Approval  
 to RAN2  
 Source: Huawei, HiSilicon*

**Abstract:**

MCC: This is a discussion on a LS to RAN2 on 3Tx SAR solution for inter-band CA with PC1.5.

**Decision: Revised to R4-2406579 (from R4-2404507).**

[**R4-2406579**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406579.zip) **Draft LS on 3Tx SAR solution for inter-band CA with PC1.5**

*Type: LS out For: Approval  
 to RAN2  
 Source: Huawei, HiSilicon*

**Abstract:**

MCC: This is a discussion on a LS to RAN2 on 3Tx SAR solution for inter-band CA with PC1.5.

**Decision: Return to.**

[**R4-2405693**](file:///D:\RAN4%23110bis\Docs\R4-2405693.zip) **On the mutual relationship of conditions of SAR solution for 3Tx HPUE**

*Type: other For: Approval  
 Source: E-surfing Digital*

**Decision: Noted.**

Draft CR

[**R4-2404606**](file:///D:\RAN4%23110bis\Docs\R4-2404606.zip) **draft CR on typo correction of higherpowerlimit for EN-DC**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.1 CR- rev Cat: F (Rel-18)  
  
 Source: LG Electronics*

**Abstract:**

It is draft CR on typo correction of higherpowerlimit for EN-DC

**Decision: Not pursued.**

[**R4-2405490**](file:///D:\RAN4%23110bis\Docs\R4-2405490.zip) **draftCR on correction of condition for 3Tx SAR solution**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: E-surfing Digital*

**Decision: Revised to R4-2406580 (from R4-2405490).**

**[R4-2406580](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406580.zip) draftCR on correction of condition for 3Tx SAR solution**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: E-surfing Digital*

**Decision: Return to.**

#### 4.2.4 BS and UE EMC enhancements maintenance

#### 4.2.5 NR Support for UAV

[**R4-2405746**](file:///D:\RAN4%23110bis\Docs\R4-2405746.zip) **On the introduction of aerial Pmax in the specification**

*Type: discussion For: Discussion  
 Source: Nokia*

**Decision: Noted.**

Draft CR

[**R4-2405747**](file:///D:\RAN4%23110bis\Docs\R4-2405747.zip) **DraftCR to 38.101-1 on Aerial Specific Pmax Values**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: (Rel-18)  
  
 Source: Nokia*

**Decision:** The document was **not treated**.

#### 4.2.6 Enhanced LTE Support for UAV

Draft CR

[**R4-2405748**](file:///D:\RAN4%23110bis\Docs\R4-2405748.zip) **DraftCR to 36.101 on Aerial Specific Pmax Values**

*Type: draftCR For: Endorsement  
 36.101 v18.5.0 CR- rev Cat: (Rel-18)  
  
 Source: Nokia*

**Decision:** The document was **not treated**.

#### 4.2.7 Air-to-ground network for NR

##### 4.2.7.1 UE RF requirements

Draft CR

[**R4-2404346**](file:///D:\RAN4%23110bis\Docs\R4-2404346.zip) **(NR\_ATG-Core) CR for 38101-1 to update ATG related requirement**

*Type: CR For: Endorsement  
 38.101-1 v18.5.0 CR-2194 rev Cat: F (Rel-18)  
  
 Source: Apple*

*CMCC: there is conflict with the spec.*

*ZTE: it leads to more complexity and not clear.*

*Qualcomm: there is some misunderstanding. Originally it was agreed to use UE capability. We should not change the wording to consider both capability and UE declaration.*

*Ericsson: We share the similar view as ZTE for receiver characteristic that the power should be sum of all the connectors.*

*Apple: Regarding the MOP declaration, the declaration is the power by vendor. The power capability is signalled. We can change the wording that power signalled to the network. To distinguish two types of UEs, two types of UE are mentioned in the general part. We should clearly state two types.*

**Decision: Revised to R4-2406592 (from R4-2404346).**

[**R4-2406592**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406592.zip) **(NR\_ATG-Core) CR for 38101-1 to update ATG related requirement**

*Type: CR For: Endorsement  
 38.101-1 v18.5.0 CR-2194 rev Cat: F (Rel-18)  
  
 Source: Apple*

**Decision: Return to.**

[**R4-2404607**](file:///D:\RAN4%23110bis\Docs\R4-2404607.zip) **draft CR on MOP and configured transmitted power for ATG UE**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: LG Electronics*

**Abstract:**

It is draft CR on ATG UE for MOP and configured transmitted power.

Huawei: what is the meaning for Teval

LGE: it is based on the existing requirement.

**Decision: Revised to R4-2406593 (from R4-2404607).**

[**R4-2406593**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406593.zip) **draft CR on MOP and configured transmitted power for ATG UE**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: LG Electronics, Huawei*

**Decision: Return to.**

[**R4-2405336**](file:///D:\RAN4%23110bis\Docs\R4-2405336.zip) **Draft CR for TS 38.101-1 to correct the Pcmax tolerance for ATG UE**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

*ZTE: LGE version is probably more comprehensive.*

**Decision: Merged (with R4-24xxxxx).**

##### 4.2.7.2 BS RF requirements and conformance testing

##### 4.2.7.3 RRM core and performance requirements

##### 4.2.7.4 Demodulation performance requirements

#### 4.2.8 Support of intra-band non-collocated EN-DC/NR-CA deployment

##### 4.2.8.1 UE RF requirements

Draft CRs/CRs

[**R4-2404261**](file:///D:\RAN4%23110bis\Docs\R4-2404261.zip) **[NonCol\_intraB\_ENDC\_NR\_CA-Core] CR 38.101-3 v18.5.0 Clarifications on RF requirement for non-collocated inter-band EN-DC with LTE contiguous CCs**

*Type: CR For: Endorsement  
 38.101-3 v18.5.1 CR-1186 rev Cat: F (Rel-18)  
  
 Source: Huawei, Hisilicon, NTT DOCOMO, KDDI, SoftBank, LGU Plus*

**Decision:** The document was **not treated**.

[**R4-2404340**](file:///D:\RAN4%23110bis\Docs\R4-2404340.zip) **(NonCol\_intraB\_ENDC\_NR\_CA-Core) On applicability of diversity characteristic**

*Type: CR For: Endorsement  
 38.101-1 v18.5.0 CR-2193 rev Cat: F (Rel-18)  
  
 Source: Apple*

**Decision:** The document was **not treated**.

[**R4-2404341**](file:///D:\RAN4%23110bis\Docs\R4-2404341.zip) **(NonCol\_intraB\_ENDC\_NR\_CA-Core) On general clasue for receiver characteristics**

*Type: CR For: Endorsement  
 38.101-3 v18.5.0 CR-1182 rev Cat: F (Rel-18)  
  
 Source: Apple*

**Decision:** The document was **not treated**.

[**R4-2405471**](file:///D:\RAN4%23110bis\Docs\R4-2405471.zip) **[NonCol\_intraB\_ENDC\_NR\_CA-Core] CR on 38.101-1 v18.4.0 Specifying different UE architecture types**

*Type: CR For: Endorsement  
 38.101-1 v18.5.0 CR-2199 rev Cat: F (Rel-18)  
  
 Source: Huawei, Hisilicon*

**Decision:** The document was **not treated**.

[**R4-2405496**](file:///D:\RAN4%23110bis\Docs\R4-2405496.zip) **[NonCol\_intraB\_ENDC\_NR\_CA-Core] CR on 38.101-3 v18.5.0 Specifying different UE architecture types**

*Type: CR For: Endorsement  
 38.101-3 v18.5.1 CR-1187 rev Cat: F (Rel-18)  
  
 Source: Huawei, Hisilicon*

**Decision:** The document was **not treated**.

##### 4.2.8.2 RRM Core and performance requirements

##### 4.2.8.3 Demodulation performance requirements

#### 4.2.9 Other Rel-18 non-spectrum related WIs

##### 4.2.9.1 UE RF requirements

##### 4.2.9.2 BS RF requirements

##### 4.2.9.3 RRM requirements

##### 4.2.9.4 OTA aspects

### 4.3 Rel-18 TEI

[**R4-2404677**](file:///D:\RAN4%23110bis\Docs\R4-2404677.zip) **Support of UL Tx switching for CA with two contiguous aggregated carriers in each band**

*Type: discussion For: Discussion  
 Source: CMCC, CBN*

**Decision: Noted.**

[**R4-2404866**](file:///D:\RAN4%23110bis\Docs\R4-2404866.zip) **Inter-band CA support for power boosting feature for Rel-18 coverage enhancement**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

discuss the remaining issue for power boosting feature to support inter-band CA

**Decision: Noted.**

[**R4-2405169**](file:///D:\RAN4%23110bis\Docs\R4-2405169.zip) **Discussion on the applicability of PC7**

*Type: discussion For: Discussion  
 Source: Huawei,HiSilicon*

**Decision: Noted.**

[**R4-2405377**](file:///D:\RAN4%23110bis\Docs\R4-2405377.zip) **further discussion on the intra-band EN-DC support**

*Type: other For: Approval  
 Source: OPPO*

**Decision: Noted.**

[**R4-2405453**](file:///D:\RAN4%23110bis\Docs\R4-2405453.zip) **Harmonic Mixing clean-up**

*Type: other For: Approval  
 Source: Qualcomm France*

**Abstract:**

RX Mixing clean-up is considered in this contribution. MCC: Chair recommended to move [R4-2405453](file:///D:\RAN4%23110bis\Docs\R4-2405453.zip) from AI 11.1.1 to AI 4.3 and treat it in [102] together with 5961.

**Decision: Noted.**

[**R4-2405961**](file:///D:\RAN4%23110bis\Docs\R4-2405961.zip) **Corrections to UL harmonic MSD**

*Type: other For: Approval  
 38.101-1 v CR- rev Cat: (Rel-18)  
  
 Source: Skyworks Solutions Inc.*

**Decision: Noted.**

Draft CR/CRs

[**R4-2404354**](file:///D:\RAN4%23110bis\Docs\R4-2404354.zip) **CR on updating UE capability name for 2Rx XR UEs [2Rx\_XR\_Device]**

*Type: CR For: Endorsement  
 38.101-1 v18.5.0 CR-2195 rev Cat: F (Rel-18)  
  
 Source: Apple*

**Decision:** The document was **not treated**.

[**R4-2404678**](file:///D:\RAN4%23110bis\Docs\R4-2404678.zip) **Draft CR to support uplink Tx switching for CA with two contiguous aggregated carriers in each band**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: (Rel-18)  
  
 Source: CMCC, CBN*

**Decision:** The document was **not treated**.

[**R4-2404865**](file:///D:\RAN4%23110bis\Docs\R4-2404865.zip) **Draft CR to 38.101-1: for power boosting feature supporting CA**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: Ericsson*

**Abstract:**

draftCR to support power boosting feature for UL CA

**Decision:** The document was **not treated**.

LS

[**R4-2405378**](file:///D:\RAN4%23110bis\Docs\R4-2405378.zip) **draftLS to RAN2 on IE intraBandENDCsupportUL**

*Type: LS out For: Approval  
 to RAN2  
 Source: OPPO*

**Decision:** The document was **not treated**.

### 4.4 Moderator summary and conclusions (for Agenda 4)

[**R4-2405254**](file:///D:\RAN4%23110bis\Docs\R4-2405254.zip) **Topic summary for [110bis][101] R18\_UERF\_maintenance\_Part1**

*Type: other For: Information  
 Source: Moderator(Meta)*

**Abstract:**

Summary for AI 4.1, 4.2.1, 4.2.2, 4.2.2.1, 4.2.5, 4.2.6

**Decision:** The document was **not treated**.

[**R4-2405255**](file:///D:\RAN4%23110bis\Docs\R4-2405255.zip) **Topic summary for [110bis][102] R18\_UERF\_maintenance\_Part2**

*Type: other For: Information  
 Source: Moderator(Huawei)*

**Abstract:**

Summary for AI 4.2.9, 4.2.9.1, 4.3

**Decision:** The document was **not treated**.

## 5 Rel-18 on-going spectrum related WIs for NR

All the rapporteurs of basket WIs are expected to reserve tdoc numbers for revised WID/draftTR/Big CR before the meeting. In the bis meeting, the big draft CR is expected.

This agenda item covers all Rel-18 on-going spectrum related WIs for NR.

### 5.1 Issues arising from basket WIs but not subject to block approval

#### 5.1.1 UE RF requirements

##### 5.1.1.1 Band combinations with UL configurations including intra-band ULCA with IMD or triple beat issues

[**R4-2404172**](file:///D:\RAN4%23110bis\Docs\R4-2404172.zip) **MSD Analysis for PC3 CA\_n40A-n41C with UL CA\_n41C**

*Type: discussion For: Discussion  
 38.101 v CR- rev Cat: (Rel-18)  
  
 Source: Apple*

**Decision: Noted.**

[**R4-2404180**](file:///D:\RAN4%23110bis\Docs\R4-2404180.zip) **Reconsideration on MSD requirements with intra-band contiguous UL CA**

*Type: other For: Approval  
 Source: Apple*

**Decision: Noted.**

[**R4-2405444**](file:///D:\RAN4%23110bis\Docs\R4-2405444.zip) **Considerations on CA\_n40A-n41C**

*Type: other For: Approval  
 Source: Qualcomm France*

**Abstract:**

Considerations on CA\_n40A-n41C are provided in this contribution.

**Decision: Noted.**

[**R4-2405445**](file:///D:\RAN4%23110bis\Docs\R4-2405445.zip) **Considerations on CA\_n41C-n79A**

*Type: other For: Approval  
 Source: Qualcomm France*

**Abstract:**

Considerations on CA\_n41C-n79A are provided in this contribution.

**Decision: Noted.**

[**R4-2405446**](file:///D:\RAN4%23110bis\Docs\R4-2405446.zip) **MSD for UL CA\_n3B**

*Type: other For: Approval  
 Source: Qualcomm France*

**Abstract:**

MSD analysis for UL CA n3B is provided in this contribution.

**Decision: Noted.**

[**R4-2405677**](file:///D:\RAN4%23110bis\Docs\R4-2405677.zip) **CA\_n3B BCS1**

*Type: other For: Approval  
 Source: Murata Manufacturing Co Ltd.*

**Decision: Noted.**

[**R4-2405954**](file:///D:\RAN4%23110bis\Docs\R4-2405954.zip) **CA\_n5-n13 REFSENS**

*Type: other For: Approval  
 38.101-1 v CR- rev Cat: (Rel-18)  
  
 Source: Skyworks Solutions Inc.*

**Decision: Noted.**

[**R4-2405955**](file:///D:\RAN4%23110bis\Docs\R4-2405955.zip) **CA\_n40A-n41C MSD**

*Type: other For: Approval  
 38.101-1 v CR- rev Cat: (Rel-18)  
  
 Source: Skyworks Solutions Inc., ZTE Corposation*

**Decision: Noted.**

[**R4-2405963**](file:///D:\RAN4%23110bis\Docs\R4-2405963.zip) **CA\_n3B REFSENS**

*Type: other For: Approval  
 38.101-1 v CR- rev Cat: (Rel-18)  
  
 Source: Skyworks Solutions Inc.*

**Decision: Noted.**

TPs

[**R4-2404937**](file:///D:\RAN4%23110bis\Docs\R4-2404937.zip) **On PC3 MSD values for DC\_18\_n77A and CA\_n18-n77A in Rel-18**

*Type: pCR For: Approval  
 38.718-02-01 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: KDDI Corporation*

**Abstract:**

MCC: The Chair recommended to move [R4-2404937](file:///D:\RAN4%23110bis\Docs\R4-2404937.zip) from AI 4 to AI 5.1.1.1 and treat it in [103].

**Decision:** The document was **not treated**.

[**R4-2405240**](file:///D:\RAN4%23110bis\Docs\R4-2405240.zip) **TP for TR38.718-02-01\_CA\_n40A-n41C**

*Type: pCR For: Approval  
 38.718-02-01 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: ZTE Corporation, Skyworks Solutions, Inc.*

**Decision:** The document was **not treated**.

[**R4-2405241**](file:///D:\RAN4%23110bis\Docs\R4-2405241.zip) **TP for TR38.718-02-01\_CA\_n41A-n79C and CA\_n41C-n79A**

*Type: pCR For: Approval  
 38.718-02-01 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: ZTE Corporation, Mediatek*

**Decision:** The document was **not treated**.

##### 5.1.1.2 Others

[**R4-2405061**](file:///D:\RAN4%23110bis\Docs\R4-2405061.zip) **Clarification on notation of EN-DC and NE-DC combinations with intra-band components**

*Type: discussion For: Discussion  
 Source: CHTTL*

**Decision: Noted.**

[**R4-2405325**](file:///D:\RAN4%23110bis\Docs\R4-2405325.zip) **Discussion on RF requirements for CA\_n78A-n104A**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2405443**](file:///D:\RAN4%23110bis\Docs\R4-2405443.zip) **Considerations on CA\_n3A-n39A**

*Type: other For: Approval  
 Source: Qualcomm France*

**Abstract:**

Considerations on CA\_n3A-n39A are provided in this contribution.

**Decision: Noted.**

[**R4-2405450**](file:///D:\RAN4%23110bis\Docs\R4-2405450.zip) **Requirements for CA\_n78A-n104A**

*Type: other For: Approval  
 Source: Qualcomm France*

**Abstract:**

MSD analysis for Harmonic, Harmonic mixing, and Cross-band interference for CA\_n78A-n104A is provided in this contribution.

**Decision: Noted.**

[**R4-2405454**](file:///D:\RAN4%23110bis\Docs\R4-2405454.zip) **UL CA\_n5A-n13A**

*Type: other For: Approval  
 Source: Qualcomm France*

**Abstract:**

Analysis for UL CA\_n5A-n13A is provided in this contribution.

**Decision: Noted.**

[**R4-2405688**](file:///D:\RAN4%23110bis\Docs\R4-2405688.zip) **CA\_n78-n104 Simultaneous RX/TX Analysis**

*Type: other For: Approval  
 Source: Murata Manufacturing Co Ltd.*

**Decision: Noted.**

[**R4-2405876**](file:///D:\RAN4%23110bis\Docs\R4-2405876.zip) **On CA\_n78-n104 and 3300-7125MHz RFFE architecture**

*Type: other For: Approval  
 Source: Skyworks Solutions Inc.*

**Abstract:**

In this contribution, we provide our inputs to the CA\_n78-n104 requirements and the overall 3.3-7.125GHz frequency range architecture issues.

**Decision: Noted.**

[**R4-2405959**](file:///D:\RAN4%23110bis\Docs\R4-2405959.zip) **On NR-U Nominal Channel Spacing**

*Type: other For: Approval  
 38.101-1 v CR- rev Cat: (Rel-18)  
  
 Source: Skyworks Solutions Inc., Nokia*

**Decision: Noted.**

Draft CRs

[**R4-2405300**](file:///D:\RAN4%23110bis\Docs\R4-2405300.zip) **draft CR for TS38.101-3 to clarify 1 UL configuration for NR Inter-band CA configurations between FR1 and FR2**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.1 CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

[**R4-2405301**](file:///D:\RAN4%23110bis\Docs\R4-2405301.zip) **draft CR for TS38.101-2 to clarify 1 UL configuration for CA**

*Type: draftCR For: Endorsement  
 38.101-2 v18.5.0 CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

[**R4-2405353**](file:///D:\RAN4%23110bis\Docs\R4-2405353.zip) **DraftCR to TS38.101-3 addition of the missing NE-DC requirements**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.1 CR- rev Cat: B (Rel-18)  
  
 Source: Huawei Technologies France*

**Abstract:**

This draftCR is NOT for block approval.

**Decision:** The document was **not treated**.

TPs

[**R4-2405324**](file:///D:\RAN4%23110bis\Docs\R4-2405324.zip) **Discussion and TP for TR 38.718-02-01 to introduce CA\_n3A-n39A**

*Type: other For: Approval  
 38.718-02-01 v CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

[**R4-2405326**](file:///D:\RAN4%23110bis\Docs\R4-2405326.zip) **TP for TR 38.718-02-01 to introduce CA\_n78A-n104A**

*Type: pCR For: Approval  
 38.718-02-01 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

#### 5.1.2 Moderator summary and conclusions

[**R4-2405256**](file:///D:\RAN4%23110bis\Docs\R4-2405256.zip) **Topic summary for [110bis][103] NR\_Baskets\_Part\_1**

*Type: other For: Information  
 Source: Moderator(Skyworks)*

**Abstract:**

Summary for AI 5.1, 11.3

**Decision:** The document was **not treated**.

### 5.2 Moderator summary and conclusions (for basket WI AI 5.3 to AI 5.22 )

[**R4-2405257**](file:///D:\RAN4%23110bis\Docs\R4-2405257.zip) **Topic summary for [110bis][104] NR\_Baskets\_Part\_2**

*Type: other For: Information  
 Source: Moderator(Nokia)*

**Abstract:**

Summary for AI 5.3~5.8

**Decision:** The document was **not treated**.

[**R4-2405258**](file:///D:\RAN4%23110bis\Docs\R4-2405258.zip) **Topic summary for [110bis][105] NR\_Baskets\_Part\_3**

*Type: other For: Information  
 Source: Moderator(Ericsson)*

**Abstract:**

Sumamry for AI 5.9~5.13

**Decision:** The document was **not treated**.

[**R4-2405260**](file:///D:\RAN4%23110bis\Docs\R4-2405260.zip) **Topic summary for [110bis][107] LTE\_NR\_HPUE\_FWVM**

*Type: other For: Information  
 Source: Moderator(Nokia)*

**Abstract:**

Summary for AI 5.14

**Decision: Noted.**

[**R4-2405261**](file:///D:\RAN4%23110bis\Docs\R4-2405261.zip) **Topic summary for [110bis][108] HPUE\_Basket\_EN-DC**

*Type: other For: Information  
 Source: Moderator(Ericsson)*

**Abstract:**

Summary for AI 5.15

**Decision: Noted.**

[**R4-2405262**](file:///D:\RAN4%23110bis\Docs\R4-2405262.zip) **Topic summary for [110bis][109] HPUE\_Basket\_Intra-CA\_TDD**

*Type: other For: Information  
 Source: Moderator(Huawei)*

**Abstract:**

Summary for AI 5.16

**Decision: Noted.**

[**R4-2405263**](file:///D:\RAN4%23110bis\Docs\R4-2405263.zip) **Topic summary for [110bis][110] HPUE\_Basket\_inter-CA\_SUL**

*Type: other For: Information  
 Source: Moderator(China Telecom)*

**Abstract:**

Summary for AI 5.17

**Decision: Noted.**

**Newly allocated tdocs in the first round**

[**R4-2406566**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406566.zip) **WF on PC2 and PC1.5 indication for combinations in the tables**

*Type: other For: Approval  
 Source: China Telecom*

**Decision: Return to.**

**Minutes and agreements after the first round**

Refer to the following hyperlinks for more detailed meeting minutes

<https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_110bis/Inbox/Drafts/%5B110bis%5D%5B100%5D%20Main%20Session/01.Monday/04.%5B110%5D_R4_2405263%20Topic%20summary%20for%20%5B110bis%5D%5B110%5D%20HPUE_Basket_inter-CA_SUL.docx>

**Issue 1-1: Higher order inter-band DL combination PC2/PC1.5 indications.**

**Agreement:**

* Combine Option 1 and Option 2 together to mitigate the power class disparity issue between higher order inter-band DL combination and its fallback combinations.
  + How to implement the agreements can be further discussed.
* Leave Option 3 for further discussion in the topic thread [140]

[**R4-2405264**](file:///D:\RAN4%23110bis\Docs\R4-2405264.zip) **Topic summary for [110bis][111] HPUE\_Basket\_FDD**

*Type: other For: Information  
 Source: Moderator(China Unicom)*

**Abstract:**

Summary for AI 5.18, 5.19

**Decision: Noted.**

**Newly allocated tdocs in the first round**

[**R4-2406573**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406573.zip) **WF on A-MPR for FDD HPUE**

*Type: other For: Approval  
 Source: China Unicom*

**Decision: Return to.**

[**R4-2406574**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406574.zip) **WF on single band intra-band and inter-band FDD PC2 MSD**

*Type: other For: Approval  
 Source: Skyworks*

**Decision: Return to.**

**Minutes and agreements after the first round**

Refer to the following hyperlinks for more detailed meeting minutes

<https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_110bis/Inbox/Drafts/%5B110bis%5D%5B100%5D%20Main%20Session/01.Monday/05.%5B111%5D_R4_2405264%20Topic%20summary%20for%20%5B110bis%5D%5B111%5D%20HPUE_Basket_FDD.docx>

[**R4-2405265**](file:///D:\RAN4%23110bis\Docs\R4-2405265.zip) **Topic summary for [110bis][112] LTE\_NR\_Other\_WI**

*Type: other For: Information  
 Source: Moderator(Huawei)*

**Abstract:**

Summary for AI 5.20, 5.21

**Decision: Noted.**

**Newly allocated tdocs in the first round**

[**R4-2406578**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406578.zip) **WF on MSD values for band combinations with simultaneous Rx-Tx requirements**

*Type: other For: Approval  
 Source: Huawei*

**Decision: Return to.**

**Minutes and agreements after the first round**

Refer to the following hyperlinks for more detailed meeting minutes

<https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_110bis/Inbox/Drafts/%5B110bis%5D%5B100%5D%20Main%20Session/01.Monday/06.%5B112%5D_R4_2405265%20Topic%20summary%20for%20%5B110bis%5D%5B112%5D%20LTE_NR_Other_WI.docx>

[**R4-2405266**](file:///D:\RAN4%23110bis\Docs\R4-2405266.zip) **Topic summary for [110bis][113] NR\_3Tx-4Rx\_WI**

*Type: other For: Information  
 Source: Moderator(OPPO)*

**Abstract:**

Summary for AI 4.2.3,5.22

**Decision: Noted.**

**Minutes and agreements after the first round**

Refer to the following hyperlinks for more detailed meeting minutes

<https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_110bis/Inbox/Drafts/%5B110bis%5D%5B100%5D%20Main%20Session/01.Monday/07.%5B113%5D_R4_2405266%20Topic%20summary%20for%20%5B110bis%5D%5B113%5D%20NR_3Tx-4Rx_WI%20v2.docx>

### 5.3 Rel-18 Dual Connectivity (DC) of 1 band LTE (1DL/1UL) and 1 NR band (1DL/1UL)

#### 5.3.1 Rapporteur input (WID/TR/big CR)

[**R4-2404783**](file:///D:\RAN4%23110bis\Docs\R4-2404783.zip) **TR 37.718-11-11 v1.3.0 Rel-18 Dual Connectivity (DC) of 1 LTE band (1DL/1UL) and 1 NR band (1DL/1UL)**

*Type: draft TR For: Agreement  
 37.718-11-11 v1.2.0 CR- rev Cat: (Rel-18)  
  
 Source: CHTTL*

**Decision:** The document was **for email approval**.

[**R4-2404794**](file:///D:\RAN4%23110bis\Docs\R4-2404794.zip) **Big draft CR for Rel-18 Dual Connectivity (DC) of 1 LTE band (1DL/1UL) and 1 NR band (1DL/1UL)**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.1 CR- rev Cat: B (Rel-18)  
  
 Source: CHTTL*

**Decision:** The document was **for email approval**.

#### 5.3.2 UE RF requirements without FR2 band

[**R4-2404221**](file:///D:\RAN4%23110bis\Docs\R4-2404221.zip) **Draft CR for TS38.101-3 ENDC for FR1 1BLTE1BNR**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.1 CR- rev Cat: (Rel-18)  
  
 Source: SoftBank Corp.*

**Decision:** The document was **not treated**.

[**R4-2404504**](file:///D:\RAN4%23110bis\Docs\R4-2404504.zip) **draftCR to 38.101-3: Correction on the format for DC\_41A\_n41A**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.1 CR- rev Cat: F (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

[**R4-2405397**](file:///D:\RAN4%23110bis\Docs\R4-2405397.zip) **TP for TR 37.718-11-11: support of uplink DC\_41A\_n79C**

*Type: pCR For: Approval  
 37.718-11-11 v1.2.0 CR- rev Cat: (Rel-18)  
  
 Source: Qualcomm Incorporated*

**Decision:** The document was **not treated**.

#### 5.3.3 UE RF requirements with FR2 band

### 5.4 Rel-18 Dual Connectivity (DC) of 2 bands LTE inter-band CA (2DL/1UL) and 1 NR band (1DL/1UL)

#### 5.4.1 Rapporteur input (WID/TR/big CR)

[**R4-2405412**](file:///D:\RAN4%23110bis\Docs\R4-2405412.zip) **TR 37.718-21-11 V0.11.0 for DC of 2 LTE band and 1 NR band**

*Type: draft TR For: Agreement  
 37.718-21-11 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **for email approval**.

[**R4-2405413**](file:///D:\RAN4%23110bis\Docs\R4-2405413.zip) **Draft CR on introduction of completed DC of 2 bands LTE and 1 band NR from RAN4#110bis into TS 38.101-3**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.1 CR- rev Cat: B (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **for email approval**.

[**R4-2405414**](file:///D:\RAN4%23110bis\Docs\R4-2405414.zip) **Rel-18 WID: Dual Connectivity (DC) of 2 bands LTE inter-band CA (2DL/1UL) and 1 NR band (1DL/1UL)**

*Type: WID revised For: Endorsement  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

#### 5.4.2 UE RF requirements without FR2 band

[**R4-2404228**](file:///D:\RAN4%23110bis\Docs\R4-2404228.zip) **TP for TR37.718-21-11 Support of DC\_3A-11A\_n1A**

*Type: pCR For: Approval  
 37.718-21-11 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: SoftBank Corp.*

**Decision:** The document was **not treated**.

[**R4-2404501**](file:///D:\RAN4%23110bis\Docs\R4-2404501.zip) **TP to TR 37.718-21-11: DC\_5A-7A\_n1A**

*Type: other For: Approval  
 37.718-21-11 v CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

[**R4-2404849**](file:///D:\RAN4%23110bis\Docs\R4-2404849.zip) **TP for TR 37.718-21-11: support of DL DC\_3A-8B\_n1A, DC\_3A-3A-8B\_n1A with UL DC\_8B\_n1A**

*Type: pCR For: Approval  
 37.718-21-11 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: CHTTL*

**Decision:** The document was **not treated**.

[**R4-2404856**](file:///D:\RAN4%23110bis\Docs\R4-2404856.zip) **TP for TR 37.718-21-11: support of DL DC\_7A-8B\_n1A, DC\_7A-7A-8B\_n1A with UL DC\_8B\_n1A**

*Type: pCR For: Approval  
 37.718-21-11 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: CHTTL*

**Decision:** The document was **not treated**.

[**R4-2405045**](file:///D:\RAN4%23110bis\Docs\R4-2405045.zip) **TP to TR 37.718-21-11 Addition of DC\_3A-28A\_n105A**

*Type: pCR For: Approval  
 37.718-21-11 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: Nokia, Spark NZ Ltd*

**Decision:** The document was **not treated**.

[**R4-2405116**](file:///D:\RAN4%23110bis\Docs\R4-2405116.zip) **draftCR to 38.101-3: DC\_7A-7A-8A\_n78(2A)**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.1 CR- rev Cat: B (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

[**R4-2405331**](file:///D:\RAN4%23110bis\Docs\R4-2405331.zip) **TP for TR 37.718-21-11 to introduce UL configuration DC\_3C\_n78A for DC\_3C-8A\_n78A**

*Type: pCR For: Approval  
 37.718-21-11 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon, DT*

**Decision:** The document was **not treated**.

#### 5.4.3 UE RF requirements with FR2 band

### 5.5 Rel-18 WID on DC of x bands LTE inter-band CA (x=3,4,5) and 1 NR band

#### 5.5.1 Rapporteur input (WID/TR/big CR)

[**R4-2405034**](file:///D:\RAN4%23110bis\Docs\R4-2405034.zip) **Revised Rel-18 WID on DC of x bands LTE inter-band CA (x=3,4,5) and 1 NR band**

*Type: WID revised For: Endorsement  
 Source: Nokia*

**Abstract:**

Inclusion of requests provided for RAN4#110bis

**Decision:** The document was **not treated**.

[**R4-2405035**](file:///D:\RAN4%23110bis\Docs\R4-2405035.zip) **Big draftCR to introduce new combinations DC of x bands LTE inter-band CA (x345) and 1 NR band**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.0 CR- rev Cat: B (Rel-18)  
  
 Source: Nokia*

**Abstract:**

To capture agreed combinations at RAN4#110bis

**Decision:** The document was **for email approval**.

#### 5.5.2 UE RF requirements without FR2 band

[**R4-2404268**](file:///D:\RAN4%23110bis\Docs\R4-2404268.zip) **draftCR for TS 38.101-3 DC\_R18\_xBLTE\_1BNR\_yDL2UL without FR2**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.1 CR- rev Cat: B (Rel-18)  
  
 Source: Huawei, HiSilicon, KT, KT SAT*

**Decision:** The document was **not treated**.

[**R4-2405117**](file:///D:\RAN4%23110bis\Docs\R4-2405117.zip) **draftCR to 38.101-3: DC\_1A-7A-7A-8A\_n78(2A) and DC\_3A-7A-7A-8A\_n78(2A)**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.1 CR- rev Cat: B (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

#### 5.5.3 UE RF requirements with FR2 band

### 5.6 Rel-18 WID: DC of x bands (x=1,2,3,4) LTE inter-band CA (xDL/1UL) and 2 bands NR inter-band CA (2DL/1UL)

#### 5.6.1 Rapporteur input (WID/TR/big CR)

[**R4-2404233**](file:///D:\RAN4%23110bis\Docs\R4-2404233.zip) **TR 37.718-11-21 v0.11.0 for DC\_R18\_xBLTE\_2BNR\_yDL2UL**

*Type: draft TR For: Agreement  
 37.718-11-21 v0.11.0 CR- rev Cat: (Rel-18)  
  
 Source: LG Electronics Deutschland*

**Abstract:**

TR 37.718-11-21 v0.11.0 for DC\_R18\_xBLTE\_2BNR\_yDL2UL

**Decision:** The document was **for email approval**.

#### 5.6.2 UE RF requirements without FR2 band

[**R4-2404159**](file:///D:\RAN4%23110bis\Docs\R4-2404159.zip) **CR for TS38.101-3 Rel-18 CAT-F: Introducing missing MSD Rel-18 requirements**

*Type: CR For: Agreement  
 38.101-1 v18.5.0 CR-2192 rev Cat: F (Rel-18)  
  
 Source: SoftBank Corp.*

**Abstract:**

ENDC 3\_n1-n79 correction

**Decision:** The document was **withdrawn**.

[**R4-2404192**](file:///D:\RAN4%23110bis\Docs\R4-2404192.zip) **TP to TR 37.718-11-21: Addition of DC configurations for DC\_3\_n8-n77**

*Type: pCR For: Approval  
 37.718-11-21 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: Apple, LGE*

**Decision:** The document was **not treated**.

[**R4-2404210**](file:///D:\RAN4%23110bis\Docs\R4-2404210.zip) **Draft CR for TS38.101-3 Rel-18 CAT-F: Introducing missing MSD requirements**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.1 CR- rev Cat: F (Rel-18)  
  
 Source: SoftBank Corp.*

**Abstract:**

ENDC 3\_n1-n79 correction

**Decision:** The document was **withdrawn**.

[**R4-2404225**](file:///D:\RAN4%23110bis\Docs\R4-2404225.zip) **Draft CR for TS38.101-3 ENDC for FR1 xBLTE2BNR**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.1 CR- rev Cat: (Rel-18)  
  
 Source: SoftBank Corp.*

**Decision:** The document was **not treated**.

[**R4-2404271**](file:///D:\RAN4%23110bis\Docs\R4-2404271.zip) **draftCR for TS 38.101-3 DC\_R18\_xBLTE\_2BNR\_yDL2UL without FR2**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.1 CR- rev Cat: B (Rel-18)  
  
 Source: Huawei, HiSilicon, KT, KT SAT*

**Decision:** The document was **not treated**.

[**R4-2404502**](file:///D:\RAN4%23110bis\Docs\R4-2404502.zip) **TP to TR 37.718-11-21: DC\_8A\_n7A-n78A**

*Type: other For: Approval  
 37.718-11-21 v CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

[**R4-2404503**](file:///D:\RAN4%23110bis\Docs\R4-2404503.zip) **TP to TR 37.718-11-21:DC\_5A-7A\_n1A-n78A**

*Type: other For: Approval  
 37.718-11-21 v CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

[**R4-2404518**](file:///D:\RAN4%23110bis\Docs\R4-2404518.zip) **TP to TR 37.718-11-21:DC\_1A-8A\_n7A-n78A**

*Type: other For: Approval  
 37.718-11-21 v CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

[**R4-2404519**](file:///D:\RAN4%23110bis\Docs\R4-2404519.zip) **TP to TR 37.718-11-21:DC\_3A-8A\_n7A-n78A**

*Type: other For: Approval  
 37.718-11-21 v CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

[**R4-2404520**](file:///D:\RAN4%23110bis\Docs\R4-2404520.zip) **TP to TR 37.718-11-21: DC\_7A-8A\_n7A-n78A**

*Type: other For: Approval  
 37.718-11-21 v CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

[**R4-2404521**](file:///D:\RAN4%23110bis\Docs\R4-2404521.zip) **TP to TR 37.718-11-21: DC\_1A-3A-8A\_n7A-n78A**

*Type: other For: Approval  
 37.718-11-21 v CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

[**R4-2404522**](file:///D:\RAN4%23110bis\Docs\R4-2404522.zip) **TP to TR 37.718-11-21: DC\_1A-7A-8A\_n7A-n78A**

*Type: other For: Approval  
 37.718-11-21 v CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

[**R4-2404523**](file:///D:\RAN4%23110bis\Docs\R4-2404523.zip) **TP to TR 37.718-11-21: DC\_3A-7A-8A\_n7A-n78A**

*Type: other For: Approval  
 37.718-11-21 v CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

[**R4-2404886**](file:///D:\RAN4%23110bis\Docs\R4-2404886.zip) **TP for TR 37.718-11-21: support of DL DC\_8B\_n1A-n78A with UL DC\_8B\_n1A and DC\_8B\_n78A**

*Type: pCR For: Approval  
 37.718-11-21 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: CHTTL*

**Decision:** The document was **not treated**.

[**R4-2405040**](file:///D:\RAN4%23110bis\Docs\R4-2405040.zip) **TP to TR 37.718-11-21 Addition of DC\_28A\_n1A-n105A**

*Type: pCR For: Approval  
 37.718-11-21 v0.11.0 CR- rev Cat: (Rel-18)  
  
 Source: Nokia, Spark NZ Ltd*

**Decision:** The document was **not treated**.

[**R4-2405041**](file:///D:\RAN4%23110bis\Docs\R4-2405041.zip) **TP to TR 37.718-11-21 Addition of DC\_28A\_n1A-n5A**

*Type: pCR For: Approval  
 37.718-11-21 v0.11.0 CR- rev Cat: (Rel-18)  
  
 Source: Nokia, Spark NZ Ltd*

**Decision:** The document was **not treated**.

[**R4-2405042**](file:///D:\RAN4%23110bis\Docs\R4-2405042.zip) **TP to TR 37.718-11-21 Addition of DC\_28A\_n5A-n105A**

*Type: pCR For: Approval  
 37.718-11-21 v0.11.0 CR- rev Cat: (Rel-18)  
  
 Source: Nokia, Spark NZ Ltd*

**Decision:** The document was **not treated**.

[**R4-2405043**](file:///D:\RAN4%23110bis\Docs\R4-2405043.zip) **TP to TR 37.718-11-21 Addition of DC\_28A\_n5A-n78A**

*Type: pCR For: Approval  
 37.718-11-21 v0.11.0 CR- rev Cat: (Rel-18)  
  
 Source: Nokia, Spark NZ Ltd*

**Decision:** The document was **not treated**.

[**R4-2405044**](file:///D:\RAN4%23110bis\Docs\R4-2405044.zip) **TP to TR 37.718-11-21 Addition of DC\_28A\_n78A-n105A**

*Type: pCR For: Approval  
 37.718-11-21 v0.11.0 CR- rev Cat: (Rel-18)  
  
 Source: Nokia, Spark NZ Ltd*

**Decision:** The document was **not treated**.

[**R4-2405118**](file:///D:\RAN4%23110bis\Docs\R4-2405118.zip) **draftCR to 38.101-3 to add DC\_1A-3A-7A-8A\_n7A-n78A**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.1 CR- rev Cat: B (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

[**R4-2405242**](file:///D:\RAN4%23110bis\Docs\R4-2405242.zip) **draft CR to TS38.101-3\_DC\_8-39\_n40-n41, DC\_8-39\_n40-n79 and DC\_8-39\_n41-n79.**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.1 CR- rev Cat: B (Rel-18)  
  
 Source: ZTE Corporation*

**Decision:** The document was **not treated**.

[**R4-2405330**](file:///D:\RAN4%23110bis\Docs\R4-2405330.zip) **Draft CR for TS 38.101-3 to correct the missing UL configuration for DC\_3C\_n1A-n75A**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.0 CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon, DT*

**Decision:** The document was **not treated**.

[**R4-2405495**](file:///D:\RAN4%23110bis\Docs\R4-2405495.zip) **TP for 37.718-11-21 to include DC\_28A\_n40A-n77A**

*Type: pCR For: Approval  
 37.718-11-21 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: Ericsson*

**Abstract:**

TP for 37.718-11-21 to include DC\_28A\_n40A-n77A

**Decision:** The document was **not treated**.

[**R4-2405502**](file:///D:\RAN4%23110bis\Docs\R4-2405502.zip) **Draft CR for 38.101-3 to correct Note number for inter-band EN-DC coinfigurations within FR1**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.1 CR- rev Cat: F (Rel-18)  
  
 Source: Samsung*

**Decision:** The document was **not treated**.

#### 5.6.3 UE RF requirements with FR2 band

[**R4-2404269**](file:///D:\RAN4%23110bis\Docs\R4-2404269.zip) **draftCR for TS 38.101-3 DC\_R18\_xBLTE\_2BNR\_yDL2UL with FR2**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.1 CR- rev Cat: B (Rel-18)  
  
 Source: Huawei, HiSilicon, KT, KT SAT*

**Decision:** The document was **not treated**.

### 5.7 Rel-18 Dual Connectivity (DC) of x bands (x=1,2,3) LTE inter-band CA (xDL/1UL) and y bands NR inter-band CA (yDL/1UL)

#### 5.7.1 Rapporteur input (WID/TR/big CR)

[**R4-2405250**](file:///D:\RAN4%23110bis\Docs\R4-2405250.zip) **TS 38.101-3 big draft CR for DC\_R18\_xBLTE\_yBNR\_zDL2UL**

*Type: CR For: Endorsement  
 38.101-3 v18.5.0 CR-1185 rev Cat: B (Rel-18)  
  
 Source: ZTE Corporation*

**Abstract:**

MCC: This is converted to a draftCR for post-meeting endorsement.

**Decision:** The document was **withdrawn**.

[**R4-2405981**](file:///D:\RAN4%23110bis\Docs\R4-2405981.zip) **TS 38.101-3 big draft CR for DC\_R18\_xBLTE\_yBNR\_zDL2UL**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.1 CR- rev Cat: (Rel-18)  
  
 Source: ZTE*

**Abstract:**

MCC: This replaces formal CR. Chair: This is for [Post-Meeting] approval.

**Decision:** The document was **for email approval**.

#### 5.7.2 UE RF requirements without FR2 band

[**R4-2404273**](file:///D:\RAN4%23110bis\Docs\R4-2404273.zip) **draftCR for TS 38.101-3 DC\_R18\_xBLTE\_yBNR\_zDL2UL without FR2**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.1 CR- rev Cat: B (Rel-18)  
  
 Source: Huawei, HiSilicon, KT, KT SAT*

**Decision:** The document was **not treated**.

#### 5.7.3 UE RF requirements with FR2 band

[**R4-2404272**](file:///D:\RAN4%23110bis\Docs\R4-2404272.zip) **draftCR for TS 38.101-3 DC\_R18\_xBLTE\_yBNR\_zDL2UL with FR2**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.1 CR- rev Cat: B (Rel-18)  
  
 Source: Huawei, HiSilicon, KT, KT SAT*

**Decision:** The document was **not treated**.

### 5.8 Rel-18 WID: DC of x LTE bands and y NR bands with z bands DL and 3 bands UL (x=1, 2, 3, 4, y=1, 2; 3<=z<=6)

#### 5.8.1 Rapporteur input (WID/TR/big CR)

#### 5.8.2 UE RF requirements without FR2 band

#### 5.8.3 UE RF requirements with FR2 band

### 5.9 Rel-18 NR intra band Carrier Aggregation for xCC DL/yCC UL including contiguous and non-contiguous spectrum (x>=y)

#### 5.9.1 Rapporteur input (WID/TR/big CR)

[**R4-2405762**](file:///D:\RAN4%23110bis\Docs\R4-2405762.zip) **TR 38.718-01-01 v0.9.0 Rel-18 NR Intra-band**

*Type: draft TR For: Agreement  
 38.718-01-01 v0.7.0 CR- rev Cat: (Rel-18)  
  
 Source: Ericsson*

**Abstract:**

TR 38.718-01-01 v0.9.0 Rel-18 NR Intra-band

**Decision:** The document was **for email approval**.

#### 5.9.2 UE RF requirements for FR1

[**R4-2405449**](file:///D:\RAN4%23110bis\Docs\R4-2405449.zip) **Missing MSD for PC3 CA\_n71B BCS4/5**

*Type: other For: Approval  
 Source: Qualcomm France*

**Abstract:**

Missing MSD test case for PC3 CA\_n71B BCS4/5 is discussed in this contribution. MCC: Chair recommended to treat in email thread [103].

**Decision:** The document was **not treated**.

Draft CR

[**R4-2405332**](file:///D:\RAN4%23110bis\Docs\R4-2405332.zip) **Draft CR for TS 38.101-1 to introduce CA\_n40B with BCS4&5**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon, CMCC*

**Decision:** The document was **not treated**.

#### 5.9.3 UE RF requirements for FR2

[**R4-2405501**](file:///D:\RAN4%23110bis\Docs\R4-2405501.zip) **Draft CR for 38.101-2 to correct UL configuration for NR Intra-band non-contiguous CA**

*Type: draftCR For: Endorsement  
 38.101-2 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: Samsung*

**Decision:** The document was **not treated**.

### 5.10 Rel-18 NR Inter-band Carrier Aggregation/Dual Connectivity for 2 bands DL with x bands UL (x=1,2)

#### 5.10.1 Rapporteur input (WID/TR/big CR)

[**R4-2405246**](file:///D:\RAN4%23110bis\Docs\R4-2405246.zip) **TR38.718-02-01 v0.11.0: Rel-18 NR Inter-band Carrier Aggregation/Dual Connectivity for 2 bands DL with x bands UL (x=1,2)**

*Type: draft TR For: Agreement  
 38.718-02-01 v0.11.0 CR- rev Cat: (Rel-18)  
  
 Source: ZTE Corporation*

**Decision:** The document was **for email approval**.

[**R4-2405978**](file:///D:\RAN4%23110bis\Docs\R4-2405978.zip) **TS 38.101-1 big draft CR for NR\_CADC\_R18\_2BDL\_xBUL**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: (Rel-18)  
  
 Source: ZTE*

**Abstract:**

MCC: This replaces formal CR. Chair: This is for [Post-Meeting] approval.

**Decision:** The document was **for email approval**.

[**R4-2405979**](file:///D:\RAN4%23110bis\Docs\R4-2405979.zip) **TS 38.101-2 big draft CR for NR\_CADC\_R18\_2BDL\_xBUL**

*Type: draftCR For: Endorsement  
 38.101-2 v18.5.0 CR- rev Cat: (Rel-18)  
  
 Source: ZTE*

**Abstract:**

MCC: This replaces the formal CR. Chair: This is for [Post-Meeting] approval.

**Decision:** The document was **for email approval**.

[**R4-2405980**](file:///D:\RAN4%23110bis\Docs\R4-2405980.zip) **TS 38.101-3 big draft CR for NR\_CADC\_R18\_2BDL\_xBUL**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.1 CR- rev Cat: (Rel-18)  
  
 Source: ZTE*

**Abstract:**

MCC: This replaces formal CR. Chair: This is for [Post-Meeting] approval.

**Decision:** The document was **for email approval**.

[**R4-2405247**](file:///D:\RAN4%23110bis\Docs\R4-2405247.zip) **TS 38.101-1 big draft CR for NR\_CADC\_R18\_2BDL\_xBUL**

*Type: CR For: Endorsement  
 38.101-1 v18.5.0 CR-2197 rev Cat: B (Rel-18)  
  
 Source: ZTE Corporation*

**Abstract:**

MCC: This is converted to a draftCR for post-meeting endorsement.

**Decision:** The document was **withdrawn**.

[**R4-2405248**](file:///D:\RAN4%23110bis\Docs\R4-2405248.zip) **TS 38.101-2 big draft CR for NR\_CADC\_R18\_2BDL\_xBUL**

*Type: CR For: Endorsement  
 38.101-2 v18.5.0 CR-0736 rev Cat: B (Rel-18)  
  
 Source: ZTE Corporation*

**Abstract:**

MCC: This is converted to a draftCR for post-meeting endorsement.

**Decision:** The document was **withdrawn**.

[**R4-2405249**](file:///D:\RAN4%23110bis\Docs\R4-2405249.zip) **TS 38.101-3 big draft CR for NR\_CADC\_R18\_2BDL\_xBUL**

*Type: CR For: Endorsement  
 38.101-3 v18.5.0 CR-1184 rev Cat: B (Rel-18)  
  
 Source: ZTE Corporation*

**Abstract:**

MCC: This is converted to a draftCR for post-meeting endorsement.

**Decision:** The document was **withdrawn**.

#### 5.10.2 UE RF requirements without FR2 band

[**R4-2404226**](file:///D:\RAN4%23110bis\Docs\R4-2404226.zip) **Draft CR for TS38.101-1 Support of CA\_n1A-n77(3A)**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: (Rel-18)  
  
 Source: SoftBank Corp.*

**Decision:** The document was **not treated**.

[**R4-2404471**](file:///D:\RAN4%23110bis\Docs\R4-2404471.zip) **Draft CR for TS 38.101-1 to add BCS4 and 5 for PC3 two-band inter-band CA**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: B (Rel-18)  
  
 Source: Samsung, TELUS, Bell Mobility*

**Decision:** The document was **not treated**.

[**R4-2404472**](file:///D:\RAN4%23110bis\Docs\R4-2404472.zip) **TP for TR 38.718-02-01 CA\_n7-n71**

*Type: pCR For: Approval  
 38.718-02-01 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: Samsung, TELUS, Bell Mobility*

**Decision:** The document was **not treated**.

[**R4-2404614**](file:///D:\RAN4%23110bis\Docs\R4-2404614.zip) **TP for TR 38.718: PC3 inter-band CA\_n5-n13**

*Type: pCR For: Approval  
 38.718-02-01 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: Verizon, Samsung*

**Abstract:**

MCC: Chair recommended to treat in email thread [103] .

**Decision:** The document was **not treated**.

[**R4-2404615**](file:///D:\RAN4%23110bis\Docs\R4-2404615.zip) **TS 38.101-1: DraftCR for introducing UL CA configuration**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: B (Rel-18)  
  
 Source: Verizon, Ericsson, Samsung*

**Decision:** The document was **not treated**.

[**R4-2404859**](file:///D:\RAN4%23110bis\Docs\R4-2404859.zip) **draft CR for 2 band NR 2UL/2DL CA related combos without MSD issues**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: B (Rel-18)  
  
 Source: CHTTL*

**Decision:** The document was **not treated**.

[**R4-2405236**](file:///D:\RAN4%23110bis\Docs\R4-2405236.zip) **Draft CR to TS38.101-1: to add CA\_n8-n39\_BCS 4 and 5**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: B (Rel-18)  
  
 Source: ZTE Corporation*

**Decision:** The document was **not treated**.

[**R4-2405237**](file:///D:\RAN4%23110bis\Docs\R4-2405237.zip) **TP for TR38.718-02-01\_CA\_n5A-n78C**

*Type: pCR For: Approval  
 38.718-02-01 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: ZTE Corporation, Huawei*

**Decision:** The document was **not treated**.

[**R4-2405238**](file:///D:\RAN4%23110bis\Docs\R4-2405238.zip) **TP for TR38.718-02-01\_CA\_n34A-n79C**

*Type: pCR For: Approval  
 38.718-02-01 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: ZTE Corporation*

**Decision:** The document was **not treated**.

[**R4-2405239**](file:///D:\RAN4%23110bis\Docs\R4-2405239.zip) **TP for TR38.718-02-01\_CA\_n39A-n79C**

*Type: pCR For: Approval  
 38.718-02-01 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: ZTE Corporation, Huawei*

**Decision:** The document was **not treated**.

[**R4-2405327**](file:///D:\RAN4%23110bis\Docs\R4-2405327.zip) **TP for TR 38.718-02-01 to introduce CA\_n28A-n79C with BCS4&5**

*Type: pCR For: Approval  
 38.718-02-01 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon, ZTE*

**Decision:** The document was **not treated**.

[**R4-2405328**](file:///D:\RAN4%23110bis\Docs\R4-2405328.zip) **TP for TR 38.718-02-01 to introduce CA\_n3A-n79C with BCS4&5**

*Type: pCR For: Approval  
 38.718-02-01 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon, ZTE*

**Decision:** The document was **not treated**.

[**R4-2405329**](file:///D:\RAN4%23110bis\Docs\R4-2405329.zip) **Draft CR for TS 38.101-1 to introduce CA\_n1A-n5A and CA\_n1A-n8A with BCS4&5**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon, , China Telecom, China Unicom*

**Decision:** The document was **not treated**.

[**R4-2405333**](file:///D:\RAN4%23110bis\Docs\R4-2405333.zip) **Draft CR for TS 38.101-1 to introduce FR1 inter-band BCS 4 and 5 with two bands CA**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

[**R4-2405767**](file:///D:\RAN4%23110bis\Docs\R4-2405767.zip) **draft CR 38.101-1 adding 2 bands DC combinations**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: B (Rel-18)  
  
 Source: Ericsson, Rogers*

**Abstract:**

draft CR 38.101-1 adding 2 bands DC combinations

**Decision:** The document was **not treated**.

#### 5.10.3 UE RF requirements with FR2 band

[**R4-2404892**](file:///D:\RAN4%23110bis\Docs\R4-2404892.zip) **Draft CR for TS 38.101-3 on correction inter-band CA configurations between FR1 and FR2 for two bands**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.1 CR- rev Cat: F (Rel-18)  
  
 Source: ZTE Corporation*

**Decision:** The document was **not treated**.

[**R4-2405504**](file:///D:\RAN4%23110bis\Docs\R4-2405504.zip) **Draft CR for 38.101-3 to correct UL configuration for inter-band CA configurations between FR1 and FR2 (two bands)**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.1 CR- rev Cat: F (Rel-18)  
  
 Source: Samsung*

**Decision:** The document was **not treated**.

[**R4-2405768**](file:///D:\RAN4%23110bis\Docs\R4-2405768.zip) **draft CR 38.101-3 adding 2 bands CA configuration**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.1 CR- rev Cat: B (Rel-18)  
  
 Source: Ericsson, Rogers*

**Abstract:**

draft CR 38.101-3 adding 2 bands CA configuration

**Decision:** The document was **not treated**.

### 5.11 Rel-18 NR Inter-band Carrier Aggregation/Dual Connectivity for 3 bands DL with x bands UL (x=1,2)

#### 5.11.1 Rapporteur input (WID/TR/big CR)

[**R4-2404887**](file:///D:\RAN4%23110bis\Docs\R4-2404887.zip) **TR 38.718-03-01 v0.11.0 on Rel-18 NR Inter-band Carrier Aggregation/Dual Connectivity for 3 bands DL with x bands UL (x=1,2)**

*Type: draft TR For: Agreement  
 38.718-03-01 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: ZTE Corporation*

**Decision:** The document was **for email approval**.

[**R4-2404888**](file:///D:\RAN4%23110bis\Docs\R4-2404888.zip) **Big draft CR to reflect the completed NR inter-band CA DC combinations for 3 bands DL with up to 2 bands UL into TS 38.101-1**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: B (Rel-18)  
  
 Source: ZTE Corporation*

**Decision:** The document was **for email approval**.

[**R4-2404889**](file:///D:\RAN4%23110bis\Docs\R4-2404889.zip) **Big draft CR to reflect the completed NR inter-band CA DC combinations for 3 bands DL with up to 2 bands UL into TS 38.101-3**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.1 CR- rev Cat: B (Rel-18)  
  
 Source: ZTE Corporation*

**Decision:** The document was **for email approval**.

[**R4-2404890**](file:///D:\RAN4%23110bis\Docs\R4-2404890.zip) **Revised WID: Rel-18 NR Inter-band Carrier Aggregation/Dual Connectivity for 3 bands DL with x bands UL (x=1,2)**

*Type: WID revised For: Endorsement  
 Source: ZTE Corporation*

**Decision:** The document was **not treated**.

#### 5.11.2 UE RF requirements without FR2 band

[**R4-2404229**](file:///D:\RAN4%23110bis\Docs\R4-2404229.zip) **TP for TR38.718-03-01 Support of CA\_n1-n77-n79**

*Type: pCR For: Approval  
 38.718-03-01 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: SoftBank Corp.*

**Decision:** The document was **not treated**.

[**R4-2404473**](file:///D:\RAN4%23110bis\Docs\R4-2404473.zip) **Draft CR for TS 38.101-1 to add BCS4 and 5 for PC3 three-band inter-band CA**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: B (Rel-18)  
  
 Source: Samsung, TELUS, Bell Mobility*

**Decision:** The document was **not treated**.

[**R4-2404474**](file:///D:\RAN4%23110bis\Docs\R4-2404474.zip) **TP for TR 38.718-03-01 to include CA\_n5-n7-n66**

*Type: pCR For: Approval  
 38.718-03-01 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: Samsung, TELUS, Bell Mobility*

**Decision:** The document was **not treated**.

[**R4-2404475**](file:///D:\RAN4%23110bis\Docs\R4-2404475.zip) **TP for TR 38.718-03-01 to include CA\_n7-n66-n71**

*Type: pCR For: Approval  
 38.718-03-01 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: Samsung, TELUS, Bell Mobility*

**Decision:** The document was **not treated**.

[**R4-2404861**](file:///D:\RAN4%23110bis\Docs\R4-2404861.zip) **draft CR for 3 band NR 2UL/3DL CA related combos without MSD issues**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: B (Rel-18)  
  
 Source: CHTTL*

**Decision:** The document was **not treated**.

[**R4-2404895**](file:///D:\RAN4%23110bis\Docs\R4-2404895.zip) **TP for TR 38.718-03-01 on correction the band number for CA specific band combination part**

*Type: pCR For: Approval  
 38.718-03-01 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: ZTE Corporation*

**Decision:** The document was **not treated**.

[**R4-2405046**](file:///D:\RAN4%23110bis\Docs\R4-2405046.zip) **TP to TR 38.718-03-01 Addition of CA\_n1-n5-n105**

*Type: pCR For: Approval  
 38.718-03-01 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: Nokia, Spark NZ Ltd*

**Decision:** The document was **not treated**.

[**R4-2405047**](file:///D:\RAN4%23110bis\Docs\R4-2405047.zip) **TP to TR 38.718-03-01 Addition of CA\_n1-n5-n40**

*Type: pCR For: Approval  
 38.718-03-01 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: Nokia, Spark NZ Ltd*

**Decision:** The document was **not treated**.

[**R4-2405048**](file:///D:\RAN4%23110bis\Docs\R4-2405048.zip) **TP to TR 38.718-03-01 Addition of CA\_n5-n40-n105**

*Type: pCR For: Approval  
 38.718-03-01 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: Nokia, Spark NZ Ltd*

**Decision:** The document was **not treated**.

[**R4-2405049**](file:///D:\RAN4%23110bis\Docs\R4-2405049.zip) **TP to TR 38.718-03-01 Addition of CA\_n5-n78-n105**

*Type: pCR For: Approval  
 38.718-03-01 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: Nokia, Spark NZ Ltd*

**Decision:** The document was **not treated**.

[**R4-2405050**](file:///D:\RAN4%23110bis\Docs\R4-2405050.zip) **TP to TR 38.718-03-01 Addition of CA\_n5-n7-n105**

*Type: pCR For: Approval  
 38.718-03-01 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: Nokia, Spark NZ Ltd*

**Decision:** The document was **not treated**.

[**R4-2405051**](file:///D:\RAN4%23110bis\Docs\R4-2405051.zip) **TP to TR 38.718-03-01 Addition of CA\_n5-n7-n40**

*Type: pCR For: Approval  
 38.718-03-01 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: Nokia, Spark NZ Ltd*

**Decision:** The document was **not treated**.

[**R4-2405052**](file:///D:\RAN4%23110bis\Docs\R4-2405052.zip) **TP to TR 38.718-03-01 Addition of CA\_n7-n28-n40**

*Type: pCR For: Approval  
 38.718-03-01 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: Nokia, Spark NZ Ltd*

**Decision:** The document was **not treated**.

[**R4-2405334**](file:///D:\RAN4%23110bis\Docs\R4-2405334.zip) **Draft CR for TS 38.101-1 to introduce FR1 inter-band BCS 4 and 5 with three bands CA**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

[**R4-2405491**](file:///D:\RAN4%23110bis\Docs\R4-2405491.zip) **TP for 38.718-03-01 to include CA\_n8A-n40A-n77A and CA\_n8A-n40A-n77(2A)**

*Type: pCR For: Approval  
 38.718-03-01 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: Ericsson*

**Abstract:**

TP for 38.718-03-01 to include CA\_n8A-n40A-n77A and CA\_n8A-n40A-n77(2A)

**Decision:** The document was **not treated**.

[**R4-2405492**](file:///D:\RAN4%23110bis\Docs\R4-2405492.zip) **TP for 38.718-03-01 to include CA\_n3A-n8A-n40A**

*Type: pCR For: Approval  
 38.718-03-01 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: Ericsson*

**Abstract:**

TP for 38.718-03-01 to include CA\_n3A-n8A-n40A

**Decision:** The document was **not treated**.

[**R4-2405493**](file:///D:\RAN4%23110bis\Docs\R4-2405493.zip) **TP for 38.718-03-01 to include CA\_n8A-n28A-n40A**

*Type: pCR For: Approval  
 38.718-03-01 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: Ericsson*

**Abstract:**

TP for 38.718-03-01 to include CA\_n8A-n28A-n40A

**Decision:** The document was **not treated**.

[**R4-2405494**](file:///D:\RAN4%23110bis\Docs\R4-2405494.zip) **TP for 38.718-03-01 to include CA\_n8A-n28A-n77A and CA\_n8A-n28A-n77(2A)**

*Type: pCR For: Approval  
 38.718-03-01 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: Ericsson*

**Abstract:**

TP for 38.718-03-01 to include CA\_n8A-n28A-n77A and CA\_n8A-n28A-n77(2A)

**Decision:** The document was **not treated**.

#### 5.11.3 UE RF requirements with FR2 band

[**R4-2404893**](file:///D:\RAN4%23110bis\Docs\R4-2404893.zip) **Draft CR for TS 38.101-3 on correction inter-band CA configurations between FR1 and FR2 for three bands**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.1 CR- rev Cat: F (Rel-18)  
  
 Source: ZTE Corporation*

**Decision:** The document was **not treated**.

[**R4-2405769**](file:///D:\RAN4%23110bis\Docs\R4-2405769.zip) **draft CR 38.101-3 to include 3 bands NR CA FR1-FR2 combinations**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.1 CR- rev Cat: B (Rel-18)  
  
 Source: Ericsson, Rogers*

**Abstract:**

draft CR 38.101-3 to include 3 bands NR CA FR1-FR2 combinations

**Decision:** The document was **not treated**.

### 5.12 Rel-18 NR Inter-band Carrier Aggregation/Dual Connectivity for y bands DL with x bands UL (y=4,5,6, x=1,2)

#### 5.12.1 Rapporteur input (WID/TR/big CR)

#### 5.12.2 UE RF requirements without FR2 band

[**R4-2404476**](file:///D:\RAN4%23110bis\Docs\R4-2404476.zip) **Draft CR for TS 38.101-1 to add new combinations for PC3 four-band inter-band CA**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: B (Rel-18)  
  
 Source: Samsung, TELUS, Bell Mobility*

**Decision:** The document was **for email approval**.

[**R4-2404875**](file:///D:\RAN4%23110bis\Docs\R4-2404875.zip) **draft CR for 4 and 5 band NR 2UL/4DL, 2UL/5DL DL CA related combos without MSD issues**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: B (Rel-18)  
  
 Source: CHTTL*

**Decision:** The document was **for email approval**.

#### 5.12.3 UE RF requirements with FR2 band

[**R4-2404894**](file:///D:\RAN4%23110bis\Docs\R4-2404894.zip) **Draft CR for TS 38.101-3 on correction inter-band CA configurations between FR1 and FR2 for more than three bands**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.1 CR- rev Cat: F (Rel-18)  
  
 Source: ZTE Corporation*

**Decision:** The document was **not treated**.

[**R4-2405503**](file:///D:\RAN4%23110bis\Docs\R4-2405503.zip) **Draft CR for 38.101-3 to correct UL configuration for inter-band CA configurations between FR1 and FR2 (four bands)**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.1 CR- rev Cat: F (Rel-18)  
  
 Source: Samsung*

**Decision:** The document was **not treated**.

### 5.13 Rel-18 Band combinations for SA NR supplementary uplink (SUL), NSA NR SUL, NSA NR SUL with UL sharing from the UE perspective (ULSUP)

#### 5.13.1 Rapporteur input (WID/TR/big CR)

[**R4-2405322**](file:///D:\RAN4%23110bis\Docs\R4-2405322.zip) **Draft TR 37.718-00-00 v0.9.0**

*Type: draft TR For: Agreement  
 37.718-00-00 v0.9.0 CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **for email approval**.

[**R4-2405323**](file:///D:\RAN4%23110bis\Docs\R4-2405323.zip) **Draft Big CR on Introduction of completed SUL band combinations into TS 38.101-1**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **for email approval**.

#### 5.13.2 UE RF requirements

[**R4-2405335**](file:///D:\RAN4%23110bis\Docs\R4-2405335.zip) **Draft CR for TS 38.101-1 to introduce SUL\_n79A-n83A with BCS4&5**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon, CMCC*

**Decision:** The document was **not treated**.

### 5.14 High-power UE operation for fixed-wireless/vehicle-mounted use cases in LTE bands and NR bands

#### 5.14.1 Rapporteur input (WID/TR/big CR)

[**R4-2405401**](file:///D:\RAN4%23110bis\Docs\R4-2405401.zip) **FWA TR 37.829**

*Type: draft TR For: Agreement  
 37.829 v0.9.0 CR- rev Cat: (Rel-18)  
  
 Source: Nokia*

**Decision:** The document was **for email approval**.

[**R4-2405982**](file:///D:\RAN4%23110bis\Docs\R4-2405982.zip) **Big CR High-power UE operation for fixed-wireless/vehicle-mounted use cases in LTE bands and NR bands**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: (Rel-18)  
  
 Source: Nokia*

**Abstract:**

MCC: This replaces formal CR. Chair: This is for [Post-Meeting] approval.

**Decision:** The document was **for email approval**.

[**R4-2405402**](file:///D:\RAN4%23110bis\Docs\R4-2405402.zip) **Revised WID 5.14 High-power UE operation for fixed-wireless/vehicle-mounted use cases in LTE bands and NR bands**

*Type: WID revised For: Endorsement  
 Source: Nokia*

**Decision:** The document was **not treated**.

[**R4-2405919**](file:///D:\RAN4%23110bis\Docs\R4-2405919.zip) **Revised WID on High-power UE operation for fixed-wireless/vehicle-mounted use cases in LTE bands and NR bands in Rel-18, adding missing Rx requirements for n100/n101 PC1 HPUE**

*Type: WID revised For: Endorsement  
 Source: Huawei, HiSilicon*

**Abstract:**

In this contribution we provide revised LTE\_NR\_HPUE\_FWVM\_R18 WID for Endorsement, to update it with introduction of the following objective: “Introduce Rx requirements for PC1 HPUE cab-radio for n100 and n101 operation in CEPT countries subject to ECC(20)

Nokia: there is misalignment from ECC. But it is left open intentionally.

Huawei: we know the motivation and history. We have regulation four years ago. We cannot simply ignore it. There are discussions in ETSI.

Nokia: ETSI regulation applies in some countries. After ETSI made conclusions, we can work in 3GPP.

Huawei: we need formal response to ETSI. It is a serious issue.

**Decision: Noted.**

[**R4-2405403**](file:///D:\RAN4%23110bis\Docs\R4-2405403.zip) **Big CR High-power UE operation for fixed-wireless/vehicle-mounted use cases in LTE bands and NR bands**

*Type: CR For: Endorsement  
 38.101-1 v18.5.0 CR-2198 rev Cat: B (Rel-18)  
  
 Source: Nokia*

**Abstract:**

MCC: This is converted to a draftCR for post-meeting endorsement.

**Decision:** The document was **withdrawn**.

#### 5.14.2 UE RF requirements

[**R4-2404231**](file:///D:\RAN4%23110bis\Docs\R4-2404231.zip) **FWA PC1 B106 A-MPR**

*Type: other For: Approval  
 38.101-1 v CR- rev Cat: (Rel-18)  
  
 Source: Nokia*

*AT&T: support Nokia proposal for collecting more inputs. Prefer to note the paper now.*

*Verizon: Prefer other companies to provide input to improve the MPR.*

**Decision: Noted.**

[**R4-2404232**](file:///D:\RAN4%23110bis\Docs\R4-2404232.zip) **FWA PC1 NS\_03, NS\_03U and NS\_100 NR A-MPR**

*Type: other For: Approval  
 38.101-1 v CR- rev Cat: (Rel-18)  
  
 Source: Nokia*

**Decision: Approved.**

[**R4-2405917**](file:///D:\RAN4%23110bis\Docs\R4-2405917.zip) **Analysis of ETSI TC RT discussion on missing Rx requirements for n100/n101 PC1 HPUE cab-radio**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Abstract:**

In this contribution, we provide analysis of recent ETSI TC RT contribution dealing with misalignments among TS 103 793 and TS 38.101-1, including proposed RAN4 actions.

**Decision: Return to.**

TPs

[**R4-2404283**](file:///D:\RAN4%23110bis\Docs\R4-2404283.zip) **TP to TR 37.829: Reference to the ECC Report 318 for Bands n100 and n101**

*Type: pCR For: Approval  
 37.829 v0.8.0 CR- rev Cat: (Rel-18)  
  
 Source: Nokia*

**Abstract:**

This contribution provides a text proposal to record this observation in TR 37.829.

**Decision: Approved.**

[**R4-2404538**](file:///D:\RAN4%23110bis\Docs\R4-2404538.zip) **TP to TR 37.829: A-MPR study for n41**

*Type: pCR For: Approval  
 37.829 v0.8.0 CR- rev Cat: (Rel-18)  
  
 Source: Nokia*

**Decision: Approved.**

[**R4-2405404**](file:///D:\RAN4%23110bis\Docs\R4-2405404.zip) **TP to TR 37.829: A-MPR study for n7**

*Type: pCR For: Approval  
 37.829 v0.8.0 CR- rev Cat: (Rel-18)  
  
 Source: Nokia*

**Decision: Approved.**

Draft CRs

[**R4-2404282**](file:///D:\RAN4%23110bis\Docs\R4-2404282.zip) **Draft CR to TR 37.828 on clarification of simulation results**

*Type: draftCR For: Endorsement  
 37.828 v17.1.0 CR- rev Cat: F (Rel-17)  
  
 Source: Nokia*

**Abstract:**

Clarify that the simulation results and conclusion that have been recorded in the approved TR 37.880 can be applied.

**Decision: Endorsed.**

LS

[**R4-2405918**](file:///D:\RAN4%23110bis\Docs\R4-2405918.zip) **Draft LS to ETSI TC RT on missing receiver characteristics of the n100/n101 HPUE cab-radio based on ECC(20)02**

*Type: LS out For: Approval  
 to ETSI TC RT, cc TSG RAN  
 Source: Huawei, HiSilicon*

**Abstract:**

Draft LS to ETSI TC RT on Rx requirements for n100/n101 PC1 HPUE cab-radio.

**Decision: Return to.**

### 5.15 High power for FR1 for DC\_R18\_xBLTE\_yBNR\_zDLnUL with power class PC2 and PC1.5

#### 5.15.1 Rapporteur input (WID/TR/big CR)

[**R4-2405763**](file:///D:\RAN4%23110bis\Docs\R4-2405763.zip) **TR 38.898 v0.9.0 Rel-18 High power UE for FR1 for DC\_R18\_xBLTE\_yBNR\_zDLnUL**

*Type: draft TR For: Agreement  
 38.898 v0.7.0 CR- rev Cat: (Rel-18)  
  
 Source: Ericsson*

**Abstract:**

TR 38.898 v0.9.0 Rel-18 High power UE for FR1 for DC\_R18\_xBLTE\_yBNR\_zDLnUL

**Decision:** The document was **for email approval**.

#### 5.15.2 UE RF requirements

TPs

[**R4-2404154**](file:///D:\RAN4%23110bis\Docs\R4-2404154.zip) **TP for TR38.898 to add HP-ENDC 8\_n28-n78**

*Type: pCR For: Approval  
 38.898 v0.8.0 CR- rev Cat: (Rel-18)  
  
 Source: SoftBank Corp.*

**Decision: Approved.**

[**R4-2404155**](file:///D:\RAN4%23110bis\Docs\R4-2404155.zip) **TP for TR38.898 to include new HP-ENDC combinations for FR1**

*Type: pCR For: Approval  
 38.898 v0.8.0 CR- rev Cat: (Rel-18)  
  
 Source: SoftBank Corp., LG Electronics*

**Abstract:**

add new HP-ENDC 1-11\_n77, 1-11\_n79, 3-8\_n79, 3-11\_n77, 8-11\_n77, 8-11\_n79, 3\_n1-n79

**Decision: Approved.**

[**R4-2405053**](file:///D:\RAN4%23110bis\Docs\R4-2405053.zip) **TP to TR 38.898 Addition of PC2 for CA\_40A-n40A**

*Type: pCR For: Approval  
 38.898 v0.8.0 CR- rev Cat: (Rel-18)  
  
 Source: Nokia, nbn*

**Decision:** The document was **not treated**.

[**R4-2405054**](file:///D:\RAN4%23110bis\Docs\R4-2405054.zip) **TP to TR 38.898 Addition of PC2 for CA\_40A-n77A and CA\_40C-n77A**

*Type: pCR For: Approval  
 38.898 v0.8.0 CR- rev Cat: (Rel-18)  
  
 Source: Nokia, nbn*

*CHTTL: only uplink 40A\_77A are requested. We need update the configuration tables.*

*Qualcomm: : There is inconsistent MSD value and TP needs be revised.*

**Decision: Revised to R4-2406557 (from R4-2405054).**

[**R4-2406557**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406557.zip) **TP to TR 38.898 Addition of PC2 for CA\_40A-n77A and CA\_40C-n77A**

*Type: pCR For: Approval  
 38.898 v0.8.0 CR- rev Cat: (Rel-18)  
  
 Source: Nokia, nbn*

**Decision: Return to.**

[**R4-2405055**](file:///D:\RAN4%23110bis\Docs\R4-2405055.zip) **TP to TR 38.898 Addition of PC2 for CA\_40A-n78A and CA\_40C-n78A**

*Type: pCR For: Approval  
 38.898 v0.8.0 CR- rev Cat: (Rel-18)  
  
 Source: Nokia, nbn*

*Qualcomm: There is inconsistent MSD value and TP needs be revised.*

*CHTTL: the configurations need be updated. The proponent proposed the smaller MSD. But I think MSD was introduced two meetings ago. MSD is average value among multiple companies and we need further check.*

**Decision: Revised to R4-2406558 (from R4-2405055).**

[**R4-2406558**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406558.zip) **TP to TR 38.898 Addition of PC2 for CA\_40A-n78A and CA\_40C-n78A**

*Type: pCR For: Approval  
 38.898 v0.8.0 CR- rev Cat: (Rel-18)  
  
 Source: Nokia, nbn*

**Decision: Return to.**

Draft CRs

[**R4-2404183**](file:///D:\RAN4%23110bis\Docs\R4-2404183.zip) **Draft CR to 38.101-3 on adding general notes for PC2 support indications in band combination configuration tables**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: Apple*

*Qualcomm: it should be treated in [110]. There are redundancy to introduce the notes for multiple talbes. It is better to have note in general part.*

*CHTTL: Huawei also had discussion paper for NR-CA. Regarding the CR, if we add a lot of notes in different, we have concern on that it will cause confusion. We can consider put note outside table to have general text.*

*Huawei: I share the similar concern as Qualcomm and CHTTL. We had WF and we need discuss it in [110].*

*Apple: We can discuss it together with discussion paper in [110]. Qualcomm comment is good and we can put it as general text.*

**Decision: Return to.**

### 5.16 High power UE for FR1 for NR\_CA\_R18\_intra with power class 2 and 1.5 on TDD band(s)

#### 5.16.1 Rapporteur input (WID/TR/big CR)

#### 5.16.2 UE RF requirements with PC2 and PC1.5

[**R4-2405459**](file:///D:\RAN4%23110bis\Docs\R4-2405459.zip) **Draft CR for TS 38.101-1 to update NR intra-band CA HPUE requirement**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: B (Rel-18)  
  
 Source: Huawei,HiSilicon*

**Decision: Endorsed.**

### 5.17 High power UE for FR1 NR inter-band CA/DC or SUL band combination with y DL-x UL and PCm (m<3) and high power on TDD

#### 5.17.1 Rapporteur input (WID/TR/big CR)

[**R4-2404611**](file:///D:\RAN4%23110bis\Docs\R4-2404611.zip) **Big CR to 38.101-1 new combinations for Rel-18 NR HPUE Inter-band**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: B (Rel-18)  
  
 Source: China Telecom*

**Abstract:**

draft bigCR for email approval

**Decision:** The document was **for email approval**.

[**R4-2404883**](file:///D:\RAN4%23110bis\Docs\R4-2404883.zip) **TR for High power UE for FR1 NR inter-band CA/DC or NR SUL band combination with y (1<y<=6) bands DL and x (x=1, 2) bands UL and power class m (m<3) and high power on TDD band(s)**

*Type: draft TR For: Agreement  
 38.899 v0.9.0 CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon, China Telecom*

**Decision:** The document was **for email approval**.

#### 5.17.2 UE RF requirements with PC2 and PC1.5

[**R4-2404181**](file:///D:\RAN4%23110bis\Docs\R4-2404181.zip) **On PC2 and PC1.5 indications in BC configuration tables**

*Type: other For: Approval  
 Source: Apple*

**Decision: Noted.**

[**R4-2404884**](file:///D:\RAN4%23110bis\Docs\R4-2404884.zip) **Discussion on HPUE indication in band combination configuration tables**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

TPs

[**R4-2404157**](file:///D:\RAN4%23110bis\Docs\R4-2404157.zip) **TP for TR38.899 to add HP-NRCA n28-n77, n41-n77 and n77-n79**

*Type: pCR For: Approval  
 38.899 v0.8.0 CR- rev Cat: (Rel-18)  
  
 Source: SoftBank Corp.*

**Abstract:**

add new UL configuration to HP NRCA n28-n77, n41-n77, n77-n79

CHTTL: NOTE 12 Table 5.5.1-1should not be void. Table 5.x.3-1 only the last two rows are needed. The values are for PC3.

Qualcomm: the values are for PC3. There are a lot of errors in the current TR.

Apple: share the comments from CHTTL and Qualcomm. CA\_n77-n79 does not support simulatenous Rx-Tx. This harmonic analysis is not needed.

Nokia: Regarding when simultaneous Rx-Tx should be discussed, sometimes companies want to remove it and sometimes people want to add it. We need a clear guidance.

Mediatek: we discuss CA\_n77-n79, we agree that we have no sharing implementation. It cannot support simultaneous Rx-Tx.

CHTTL: Note 12 states non-simultaneous Rx-Tx.

Softbank: Note 12 has not simultaneous Rx-Tx.

**Decision: Revised to R4-2406559 (from R4-2404157).**

[**R4-2406559**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406559.zip) **TP for TR38.899 to add HP-NRCA n28-n77, n41-n77 and n77-n79**

*Type: pCR For: Approval  
 38.899 v0.8.0 CR- rev Cat: (Rel-18)  
  
 Source: SoftBank Corp.*

**Abstract:**

add new UL configuration to HP NRCA n28-n77, n41-n77, n77-n79

**Decision: Return to.**

[**R4-2404158**](file:///D:\RAN4%23110bis\Docs\R4-2404158.zip) **TP for TR38.899 to add HP NRCA n1-n41, n1-n3-n79 and n1-n28-n79**

*Type: pCR For: Approval  
 38.899 v0.8.0 CR- rev Cat: (Rel-18)  
  
 Source: SoftBank Corp., LG Electronics*

**Abstract:**

add new UL configuration to HP-NRCA n1-n41, n1-n3-n79, n1-n28-n79

CHTTL: there is one typo.

Qualcomm: n1-n3-n79 CA\_n1A-n3A-n79A needs revision.

**Decision: Revised to R4-2406560 (from R4-2404158).**

[**R4-2406560**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406560.zip) **TP for TR38.899 to add HP NRCA n1-n41, n1-n3-n79 and n1-n28-n79**

*Type: pCR For: Approval  
 38.899 v0.8.0 CR- rev Cat: (Rel-18)  
  
 Source: SoftBank Corp., LG Electronics*

**Abstract:**

**Decision: Return to.**

[**R4-2405056**](file:///D:\RAN4%23110bis\Docs\R4-2405056.zip) **TP to TR 38.899 Addition of PC2 and PC1.5 for CA\_n40A-n77A**

*Type: pCR For: Approval  
 38.899 v0.8.0 CR- rev Cat: (Rel-18)  
  
 Source: Nokia, nbn*

Qualcomm: the values in Table 5.10.3.3-1 need be revised

Nokia: we just copy from the spec.

**Decision: Revised to R4-2406561 (from R4-2405056).**

[**R4-2406561**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406561.zip) **TP to TR 38.899 Addition of PC2 and PC1.5 for CA\_n40A-n77A**

*Type: pCR For: Approval  
 38.899 v0.8.0 CR- rev Cat: (Rel-18)  
  
 Source: Nokia, nbn*

**Decision: Return to.**

[**R4-2405057**](file:///D:\RAN4%23110bis\Docs\R4-2405057.zip) **TP to TR 38.899 Addition of PC2 and PC1.5 for CA\_n40A-n78A**

*Type: pCR For: Approval  
 38.899 v0.8.0 CR- rev Cat: (Rel-18)  
  
 Source: Nokia, nbn*

**Decision: Revised to R4-2406562 (from R4-2405057).**

[**R4-2406562**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406562.zip) **TP to TR 38.899 Addition of PC2 and PC1.5 for CA\_n40A-n78A**

*Type: pCR For: Approval  
 38.899 v0.8.0 CR- rev Cat: (Rel-18)  
  
 Source: Nokia, nbn*

**Decision: Return to.**

[**R4-2405369**](file:///D:\RAN4%23110bis\Docs\R4-2405369.zip) **(HPUE\_FR1\_TDD\_NR\_CADC\_SUL\_R18) TP for TR 38.899 to introduce PC2 and PC1.5 CA\_n3A-n40A**

*Type: pCR For: Approval  
 38.899 v0.8.0 CR- rev Cat: (Rel-18)  
  
 Source: CMCC, Murata Manufacturing Co Ltd., ZTE Corporation*

*Qualcomm: keep it open until next meeting and we can bring the analysis.*

**Decision: Postponed.**

[**R4-2405370**](file:///D:\RAN4%23110bis\Docs\R4-2405370.zip) **(HPUE\_FR1\_TDD\_NR\_CADC\_SUL\_R18) TP for TR 38.899 to introduce PC2 and PC1.5 CA\_n39-n41**

*Type: pCR For: Approval  
 38.899 v0.8.0 CR- rev Cat: (Rel-18)  
  
 Source: CMCC, ZTE Corporation, Huawei, HiSilicon, Murata Manufacturing Co Ltd.*

*CHTTL: PC1.5 and PC2 are new cases and it is better not to use note 11. We need using the new note.*

*Apple: there is uplink configuration n41C to support PC2. I wonder if for PC3 n41C + n39 we consider cross-band isolation?*

*Qualcomm: Maybe we can return to it to understand the small difference.*

*ZTE: to Apple, PC3 the cross-isolation has already been included in the spec.*

*CMCC: we can make revision of TP. We can change it to new note.*

**Decision: Revised to R4-2406563 (from R4-2405370).**

[**R4-2406563**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406563.zip) **(HPUE\_FR1\_TDD\_NR\_CADC\_SUL\_R18) TP for TR 38.899 to introduce PC2 and PC1.5 CA\_n39-n41**

*Type: pCR For: Approval  
 38.899 v0.8.0 CR- rev Cat: (Rel-18)  
  
 Source: CMCC, ZTE Corporation, Huawei, HiSilicon, Murata Manufacturing Co Ltd.*

**Decision: Return to.**

[**R4-2405371**](file:///D:\RAN4%23110bis\Docs\R4-2405371.zip) **(HPUE\_FR1\_TDD\_NR\_CADC\_SUL\_R18) TP for TR 38.899 to introduce PC2 and PC1.5 CA\_n28A-n40A**

*Type: pCR For: Approval  
 38.899 v0.8.0 CR- rev Cat: (Rel-18)  
  
 Source: CMCC, Huawei, HiSilicon, ZTE Corporation, Murata Manufacturing Co Ltd.*

*CHTTL: the same comment as for the previous note. PC1.5 needs the new note.*

**Decision: Revised to R4-2406564 (from R4-2405371).**

[**R4-2406564**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406564.zip) **(HPUE\_FR1\_TDD\_NR\_CADC\_SUL\_R18) TP for TR 38.899 to introduce PC2 and PC1.5 CA\_n28A-n40A**

*Type: pCR For: Approval  
 38.899 v0.8.0 CR- rev Cat: (Rel-18)  
  
 Source: CMCC, Huawei, HiSilicon, ZTE Corporation, Murata Manufacturing Co Ltd.*

*CHTTL: the same comment as for the previous note. PC1.5 needs the new note.*

**Decision: Return to.**

[**R4-2405372**](file:///D:\RAN4%23110bis\Docs\R4-2405372.zip) **(HPUE\_FR1\_TDD\_NR\_CADC\_SUL\_R18) TP for TR 38.899 to introduce PC2 CA\_n3A-n41C**

*Type: pCR For: Approval  
 38.899 v0.8.0 CR- rev Cat: (Rel-18)  
  
 Source: CMCC, Huawei, HiSilicon, ZTE Corporation, Murata Manufacturing Co Ltd.*

**Decision: Approved.**

[**R4-2405373**](file:///D:\RAN4%23110bis\Docs\R4-2405373.zip) **(HPUE\_FR1\_TDD\_NR\_CADC\_SUL\_R18) TP for TR 38.899 to introduce PC2 and PC1.5 CA\_n40A-n41A**

*Type: pCR For: Approval  
 38.899 v0.8.0 CR- rev Cat: (Rel-18)  
  
 Source: CMCC, Huawei, HiSilicon, ZTE Corporation, Murata Manufacturing Co Ltd.*

**Decision: Approved.**

[**R4-2405764**](file:///D:\RAN4%23110bis\Docs\R4-2405764.zip) **TP 38.899 adding PC2 UL to CA\_n7-n26-n78**

*Type: pCR For: Approval  
 38.899 v0.10.0 CR- rev Cat: (Rel-18)  
  
 Source: Ericsson, Telstra*

**Abstract:**

TP 38.899 adding PC2 UL to CA\_n7-n26-n78

**Decision: Approved.**

Draft CRs

[**R4-2404139**](file:///D:\RAN4%23110bis\Docs\R4-2404139.zip) **DraftCR 38.101-1 Addition of Single UL PC1.5 CA Combinations**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: B (Rel-18)  
  
 Source: AT&T, FirstNet*

**Decision: Endorsed.**

[**R4-2404156**](file:///D:\RAN4%23110bis\Docs\R4-2404156.zip) **Draft CR for TS38.101-1 to add new HP-NRCA for FR1**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: B (Rel-18)  
  
 Source: SoftBank Corp.*

**Abstract:**

add new HP-NRCA n3-n41-n77, n1-n3-n28-n77, n1-n28-n79, n1-n3-n79, n1-n77, n1-n77-n79, n3-n28-n77-n79

Apple: there is combinations of n1-n28-n79. n79 is not specified to support PC2. I wonder if there is any intention to limit to PC2 and not support PC1.5

Softbank: we only consider PC2.

CHTTL: this is based on the request.

**Decision: Revised to R4-2406565 (from R4-2404156).**

[**R4-2406565**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406565.zip) **Draft CR for TS38.101-1 to add new HP-NRCA for FR1**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: B (Rel-18)  
  
 Source: SoftBank Corp.*

**Abstract:**

add new HP-NRCA n3-n41-n77, n1-n3-n28-n77, n1-n28-n79, n1-n3-n79, n1-n77, n1-n77-n79, n3-n28-n77-n79

**Decision: Return to.**

[**R4-2404182**](file:///D:\RAN4%23110bis\Docs\R4-2404182.zip) **Draft CR to 38.101-1 on adding general notes for PC2/PC1.5 support indications in band combination configuration tables**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: Apple*

**Decision: Not pursued.**

[**R4-2404470**](file:///D:\RAN4%23110bis\Docs\R4-2404470.zip) **Draft CR for TS 38.101-1 to add new combinations for Rel-18 NR HPUE Inter-band**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: B (Rel-18)  
  
 Source: Samsung, TELUS, Bell Mobility*

**Decision: Endorsed.**

[**R4-2405100**](file:///D:\RAN4%23110bis\Docs\R4-2405100.zip) **R4-240xxxx [HPUE\_FR1\_TDD\_NR\_CADC\_SUL\_R18] Draft CR for TS 38.101-1 Addition of inter-band PC2 CA Combinations**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: B (Rel-18)  
  
 Source: KDDI Corporation, Samsung*

**Decision: Withdrawn.**

[**R4-2405321**](file:///D:\RAN4%23110bis\Docs\R4-2405321.zip) **Draft CR for TS 38.101-1: Addition of inter-band PC2 CA Combinations**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: B (Rel-18)  
  
 Source: KDDI Corporation*

**Decision: Endorsed.**

### 5.18 High power UE for FR1 for inter-band NR\_CADC\_R18\_yBDL\_xBUL with power class 2 on single carrier uplink on FDD band

#### 5.18.1 Rapporteur input (WID/TR/big CR)

[**R4-2404779**](file:///D:\RAN4%23110bis\Docs\R4-2404779.zip) **TR 38.850 v1.3.0 HPUE\_FR1\_FDD\_NR\_CADC\_R18**

*Type: draft TR For: Agreement  
 38.850 v1.3.0 CR- rev Cat: (Rel-18)  
  
 Source: China Unicom*

**Decision:** The document was **for email approval**.

#### 5.18.2 UE RF requirements

[**R4-2404173**](file:///D:\RAN4%23110bis\Docs\R4-2404173.zip) **MSD Analysis for CA\_n25A-n77A with n25 PC2 UL**

*Type: discussion For: Discussion  
 38.101 v CR- rev Cat: (Rel-18)  
  
 Source: Apple*

**Decision: Noted.**

[**R4-2404174**](file:///D:\RAN4%23110bis\Docs\R4-2404174.zip) **MSD Analysis for CA\_n8A-n41A with n8 PC2 UL**

*Type: discussion For: Discussion  
 38.101 v CR- rev Cat: (Rel-18)  
  
 Source: Apple*

**Decision: Noted.**

[**R4-2404175**](file:///D:\RAN4%23110bis\Docs\R4-2404175.zip) **MSD Analysis for CA\_n71A-n77A with n71 PC2 UL**

*Type: discussion For: Discussion  
 38.101 v CR- rev Cat: (Rel-18)  
  
 Source: Apple*

**Decision: Noted.**

[**R4-2404879**](file:///D:\RAN4%23110bis\Docs\R4-2404879.zip) **Discussion on FDD HPUE MSD**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2404880**](file:///D:\RAN4%23110bis\Docs\R4-2404880.zip) **MSD for CA\_n8-n41 with PC2 n8 UL**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2405447**](file:///D:\RAN4%23110bis\Docs\R4-2405447.zip) **n71(2A) PC2 MSD**

*Type: other For: Approval  
 Source: Qualcomm France*

**Abstract:**

MSD for CA\_n71(2A) is discussed in this contribution.

**Decision: Noted.**

[**R4-2405448**](file:///D:\RAN4%23110bis\Docs\R4-2405448.zip) **MSD for PC2 CA\_n71B BCS4/5**

*Type: other For: Approval  
 Source: Qualcomm France*

**Abstract:**

MSD test case for PC2 CA\_n71B BCS4/5 is discussed in this contribution.

**Decision: Noted.**

[**R4-2405960**](file:///D:\RAN4%23110bis\Docs\R4-2405960.zip) **PC2 CA\_n25-n41 Rx Mixing**

*Type: other For: Approval  
 38.101-1 v CR- rev Cat: (Rel-18)  
  
 Source: Skyworks Solutions Inc.*

**Decision: Noted.**

TPs

[**R4-2404381**](file:///D:\RAN4%23110bis\Docs\R4-2404381.zip) **TP for TR 38.850: Corrections for typos**

*Type: pCR For: Approval  
 38.850 v1.2.0 CR- rev Cat: (Rel-18)  
  
 Source: T-Mobile USA*

**Decision: Approved.**

[**R4-2404382**](file:///D:\RAN4%23110bis\Docs\R4-2404382.zip) **TP for TR 38.850: DL CA\_n25A-n41A UL n25 PC2**

*Type: pCR For: Approval  
 38.850 v1.2.0 CR- rev Cat: (Rel-18)  
  
 Source: T-Mobile USA*

*Skyworks: we provide MSD analysis for 1Tx. We do not provide 2Tx. We would like to come back with 2Tx. We can work on 1Tx. We need revise this TP to capture our results in discussion paper.*

*CHTTL: need correction. For PC2 harmonic mixing, the new note is needed. The last table the uplink frequency is not correct.*

**Decision: Revised to R4-2406567 (from R4-2404382).**

[**R4-2406567**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406567.zip) **TP for TR 38.850: DL CA\_n25A-n41A UL n25 PC2**

*Type: pCR For: Approval  
 38.850 v1.2.0 CR- rev Cat: (Rel-18)  
  
 Source: T-Mobile USA*

**Decision: Return to.**

[**R4-2404383**](file:///D:\RAN4%23110bis\Docs\R4-2404383.zip) **TP for TR 38.850: DL CA\_n41A-n66A UL n66 PC2**

*Type: pCR For: Approval  
 38.850 v1.2.0 CR- rev Cat: (Rel-18)  
  
 Source: T-Mobile USA*

*Skyworks: come back. The interference would be higher than values in the TP.*

*Qualcomm: we also want to check it.*

**Decision: Revised to R4-2406568 (from R4-2404383).**

[**R4-2406568**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406568.zip) **TP for TR 38.850: DL CA\_n41A-n66A UL n66 PC2**

*Type: pCR For: Approval  
 38.850 v1.2.0 CR- rev Cat: (Rel-18)  
  
 Source: T-Mobile USA*

**Decision: Return to.**

[**R4-2404384**](file:///D:\RAN4%23110bis\Docs\R4-2404384.zip) **TP for TR 38.850: DL CA\_n71A-n85A UL n71 PC2**

*Type: pCR For: Approval  
 38.850 v1.2.0 CR- rev Cat: (Rel-18)  
  
 Source: T-Mobile USA*

*CHTTL: new note is needed for cross-band isolation for PC2.*

**Decision: Revised to R4-2406569 (from R4-2404384).**

[**R4-2406569**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406569.zip) **TP for TR 38.850: DL CA\_n71A-n85A UL n71 PC2**

*Type: pCR For: Approval  
 38.850 v1.2.0 CR- rev Cat: (Rel-18)  
  
 Source: T-Mobile USA*

**Decision: Return to.**

[**R4-2404385**](file:///D:\RAN4%23110bis\Docs\R4-2404385.zip) **TP for TR 38.850: DL CA\_n71B UL n71 PC2**

*Type: pCR For: Approval  
 38.850 v1.2.0 CR- rev Cat: (Rel-18)  
  
 Source: T-Mobile USA*

*Qualcomm: it is part of open issue discussion.*

**Decision: Revised to R4-2406570 (from R4-2404385).**

[**R4-2406570**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406570.zip) **TP for TR 38.850: DL CA\_n71B UL n71 PC2**

*Type: pCR For: Approval  
 38.850 v1.2.0 CR- rev Cat: (Rel-18)  
  
 Source: T-Mobile USA*

**Decision: Return to.**

[**R4-2405374**](file:///D:\RAN4%23110bis\Docs\R4-2405374.zip) **(HPUE\_FR1\_FDD\_NR\_CADC\_R18) TP for TR 38.850 to introduce PC2 CA\_n8A-n79A with UL n8**

*Type: pCR For: Approval  
 38.850 v1.2.0 CR- rev Cat: (Rel-18)  
  
 Source: CMCC, Huawei, HiSilicon, ZTE Corporation, Murata Manufacturing Co Ltd.*

CHTTL: Table 5.x.2.1-2 the note2 is not correct. The mixing should be removed from harmonic mixing.

**Decision: Revised to R4-2406571 (from R4-2405374).**

[**R4-2406571**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406571.zip) **(HPUE\_FR1\_FDD\_NR\_CADC\_R18) TP for TR 38.850 to introduce PC2 CA\_n8A-n79A with UL n8**

*Type: pCR For: Approval  
 38.850 v1.2.0 CR- rev Cat: (Rel-18)  
  
 Source: CMCC, Huawei, HiSilicon, ZTE Corporation, Murata Manufacturing Co Ltd.*

**Decision: Return to.**

[**R4-2405375**](file:///D:\RAN4%23110bis\Docs\R4-2405375.zip) **(HPUE\_FR1\_FDD\_NR\_CADC\_R18) TP for TR 38.850 to introduce PC2 CA\_n8A-n41A with UL n8**

*Type: pCR For: Approval  
 38.850 v1.2.0 CR- rev Cat: (Rel-18)  
  
 Source: CMCC, Huawei, HiSilicon, ZTE Corporation, Murata Manufacturing Co Ltd.*

*CHTTL: further check note 2 for harmonic.*

**Decision: Revised to R4-2406572 (from R4-2405375).**

[**R4-2406572**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406572.zip) **(HPUE\_FR1\_FDD\_NR\_CADC\_R18) TP for TR 38.850 to introduce PC2 CA\_n8A-n41A with UL n8**

*Type: pCR For: Approval  
 38.850 v1.2.0 CR- rev Cat: (Rel-18)  
  
 Source: CMCC, Huawei, HiSilicon, ZTE Corporation, Murata Manufacturing Co Ltd.*

*CHTTL: further check note 2 for harmonic.*

**Decision: Return to.**

Draft CR

[**R4-2404140**](file:///D:\RAN4%23110bis\Docs\R4-2404140.zip) **DraftCR 38.101-1 Addition of Single UL PC2 FDD CA Combinations with no MSD**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: B (Rel-18)  
  
 Source: AT&T*

*Skyworks: why is the note 12 changed from void to new text? Need time to review the calculation.*

*AT&T: it is not our changes.*

*Qualcomm: no-MSD would be OK. We need discuss how to handle 2Tx and thus need more time for it.*

**Decision: Return to.**

### 5.19 High power UE for FR1 for FDD single band(s) with PC2

#### 5.19.1 Rapporteur input (WID/TR/big CR)

[**R4-2404780**](file:///D:\RAN4%23110bis\Docs\R4-2404780.zip) **TR 38.896 v1.3.0 HPUE\_NR\_FR1\_FDD\_R18**

*Type: draft TR For: Agreement  
 38.896 v1.3.0 CR- rev Cat: (Rel-18)  
  
 Source: China Unicom*

**Decision:** The document was **for email approval**.

#### 5.19.2 UE RF requirements

[**R4-2404176**](file:///D:\RAN4%23110bis\Docs\R4-2404176.zip) **MSD Analysis for PC2 CA\_n71(2A)**

*Type: discussion For: Discussion  
 38.101 v CR- rev Cat: (Rel-18)  
  
 Source: Apple*

**Abstract:**

MCC: Chair recommended to move [R4-2404176](file:///D:\RAN4%23110bis\Docs\R4-2404176.zip) from AI 5.1.1.1 to AI 5.19.2 and treat it in [111] .

**Decision: Noted.**

[**R4-2404193**](file:///D:\RAN4%23110bis\Docs\R4-2404193.zip) **On HPUE for NR FDD bands**

*Type: other For: Approval  
 Source: Apple*

**Decision: Noted.**

[**R4-2404762**](file:///D:\RAN4%23110bis\Docs\R4-2404762.zip) **MSD considerations on CA\_n71(2A)**

*Type: other For: Approval  
 Source: Murata Manufacturing Co Ltd.*

**Decision: Noted.**

[**R4-2404878**](file:///D:\RAN4%23110bis\Docs\R4-2404878.zip) **Remaining issues for FDD HPUE A-MPR**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2405451**](file:///D:\RAN4%23110bis\Docs\R4-2405451.zip) **Discussion on MSD for 1TX/2TX PC2**

*Type: other For: Discussion  
 Source: Qualcomm France*

**Abstract:**

Possibilities to use some kind framework to derive MSD for 1TX/2TX PC2 cases from respective PC3 MSD is discussed in this contribution. MCC: The Chair recommended to move [R4-2405451](file:///D:\RAN4%23110bis\Docs\R4-2405451.zip) from AI 5.1.1.2 to AI 5.19.2 and treat it in [111].

**Decision: Noted.**

[**R4-2405712**](file:///D:\RAN4%23110bis\Docs\R4-2405712.zip) **PC2 A-MPR for bands n7 and n28**

*Type: other For: Approval  
 Source: Qualcomm Inc.*

**Decision: Noted.**

[**R4-2405956**](file:///D:\RAN4%23110bis\Docs\R4-2405956.zip) **Guidelines for PC2 FDD Dual-TX MSD**

*Type: other For: Approval  
 38.101-1 v CR- rev Cat: (Rel-18)  
  
 Source: Skyworks Solutions Inc.*

**Decision: Noted.**

[**R4-2405957**](file:///D:\RAN4%23110bis\Docs\R4-2405957.zip) **PC2 CA\_n71B MSD**

*Type: other For: Approval  
 38.101-1 v CR- rev Cat: (Rel-18)  
  
 Source: Skyworks Solutions Inc.*

**Decision: Noted.**

[**R4-2405962**](file:///D:\RAN4%23110bis\Docs\R4-2405962.zip) **n28 NS\_17 PC2**

*Type: other For: Discussion  
 38.101-1 v CR- rev Cat: (Rel-18)  
  
 Source: Skyworks Solutions Inc.*

**Decision: Noted.**

### 5.20 Adding new channel bandwidth(s) support to existing NR bands

#### 5.20.1 Rapporteur input (WID/TR/big CR)

#### 5.20.2 UE RF requirements

#### 5.20.3 BS RF requirements

### 5.21 Simultaneous Rx/Tx inter-band combinations for NR CA/DC, NR SUL and LTE/NR DC in Rel-18

#### 5.21.1 Rapporteur input (WID/TR/big CR)

[**R4-2404512**](file:///D:\RAN4%23110bis\Docs\R4-2404512.zip) **TR 38.894 v0.6.0**

*Type: draft TR For: Agreement  
 38.894 v0.5.0 CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **for email approval**.

#### 5.21.2 Identification of simultaneous Rx/Tx capability for band combinations and UE RF requirements

[**R4-2404222**](file:///D:\RAN4%23110bis\Docs\R4-2404222.zip) **MSD for CA\_n39A-n40A-n41A supporting simultaneous Rx/Tx**

*Type: discussion For: Approval  
 Source: Murata Manufacturing Co Ltd.*

**Decision: Noted.**

[**R4-2404513**](file:///D:\RAN4%23110bis\Docs\R4-2404513.zip) **Discussion on simultaneous Rx-Tx requirement applied to the higher order band combination of CA\_n39A-n41A**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2404514**](file:///D:\RAN4%23110bis\Docs\R4-2404514.zip) **Discussion on simultaneous Rx-Tx requirement applied to the higher order band combination of CA\_n40A-n41A**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2405038**](file:///D:\RAN4%23110bis\Docs\R4-2405038.zip) **Discussion on Simultaneous Rx/Tx**

*Type: discussion For: Approval  
 Source: Nokia*

**Decision: Noted.**

[**R4-2405452**](file:///D:\RAN4%23110bis\Docs\R4-2405452.zip) **On simultaneous Rx-Tx requirements for higher order band combinations of CA\_40A-41A and CA\_n39A-n41A**

*Type: other For: Approval  
 Source: Qualcomm France*

**Abstract:**

Reference architecture for simultaneous Rx-Tx requirements for higher order band combinations of CA\_40A-41A and CA\_n39A-n41A is discussed in this contribution.

**Decision: Revised to R4-2406576 (from R4-2405452).**

[**R4-2406576**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406576.zip) **On simultaneous Rx-Tx requirements for higher order band combinations of CA\_40A-41A and CA\_n39A-n41A**

*Type: other For: Approval  
 Source: Qualcomm France*

**Abstract:**

Reference architecture for simultaneous Rx-Tx requirements for higher order band combinations of CA\_40A-41A and CA\_n39A-n41A is discussed in this contribution.

**Decision: Noted.**

TPs

[**R4-2404223**](file:///D:\RAN4%23110bis\Docs\R4-2404223.zip) **TP for TR 38.894: CA\_n28A-n39A-n41A**

*Type: other For: Approval  
 Source: Murata Manufacturing Co Ltd.*

**Decision: Return to.**

[**R4-2404224**](file:///D:\RAN4%23110bis\Docs\R4-2404224.zip) **TP for TR 38.894: CA\_n39A-n41A-n79A**

*Type: other For: Approval  
 Source: Murata Manufacturing Co Ltd.*

**Decision: Return to.**

[**R4-2404515**](file:///D:\RAN4%23110bis\Docs\R4-2404515.zip) **TP to 38.894: CA\_n40A-n41A-n79A**

*Type: other For: Approval  
 38.894 v CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision: Return to.**

[**R4-2404516**](file:///D:\RAN4%23110bis\Docs\R4-2404516.zip) **TP to 38.894: CA\_n8A-n40A-n41A**

*Type: other For: Approval  
 38.894 v CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision: Return to.**

[**R4-2404517**](file:///D:\RAN4%23110bis\Docs\R4-2404517.zip) **TP to 38.894: CA\_n28A-n40A-n41A**

*Type: other For: Approval  
 38.894 v CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision: Return to.**

Draft CRs

[**R4-2404511**](file:///D:\RAN4%23110bis\Docs\R4-2404511.zip) **draftCR to 38.101-1: Correction on delta\_Rib for CA\_n39-n41-n79**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision: Endorsed.**

[**R4-2405039**](file:///D:\RAN4%23110bis\Docs\R4-2405039.zip) **DraftCR to 38.101-1 Update to Simultaneous Rx/Tx Notes**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: (Rel-18)  
  
 Source: Nokia*

**Decision: Revised to R4-2406577 (from R4-2405039).**

**[R4-2406577](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406577.zip) DraftCR to 38.101-1 Update to Simultaneous Rx/Tx Notes**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: (Rel-18)  
  
 Source: Nokia*

**Decision: Return to.**

### 5.22 3Tx NR inter-band UL Carrier Aggregation (CA) and EN-DC

#### 5.22.1 Rapporteur input (WID/TR/big CR)

#### 5.22.2 UE RF requirements with PC2 and PC1.5

TPs

[**R4-2404992**](file:///D:\RAN4%23110bis\Docs\R4-2404992.zip) **TP for TR 38.880\_CA\_n26A-n77A with 3Tx**

*Type: pCR For: Approval  
 38.880 v0.2.0 CR- rev Cat: (Rel-18)  
  
 Source: Samsung*

*Huawei: need time to check MSD values.*

**Decision: Return to.**

Draft CRs

[**R4-2405180**](file:///D:\RAN4%23110bis\Docs\R4-2405180.zip) **Draft CR 38101-1 Clarification of MIMO and TxD capability for PC3**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: OPPO*

*CATT: Note y can be coverd. But not a big issue.*

*Qualcomm: want to revist note x for single Tx.*

*CHTTL: Support CR.*

*OPPO: for note x, we can remove it. We can only keep UL-MIMO. Note y is still needed.*

**Decision: Revised to R4-2406581 (from R4-2405180).**

[**R4-2406581**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406581.zip) **Draft CR 38101-1 Clarification of MIMO and TxD capability for PC3**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: OPPO*

**Decision: Return to.**

[**R4-2405181**](file:///D:\RAN4%23110bis\Docs\R4-2405181.zip) **Draft CR 38101-3 Clarification of MIMO and TxD capability for PC3**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: OPPO*

**Decision: Revised to R4-2406582 (from R4-2405181).**

[**R4-2406582**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406582.zip) **Draft CR 38101-3 Clarification of MIMO and TxD capability for PC3**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: OPPO*

**Decision: Return to.**

[**R4-2405235**](file:///D:\RAN4%23110bis\Docs\R4-2405235.zip) **Correct the MOP tables for 3Tx band combination**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: ZTE Corporation*

**Decision: Endorsed.**

## 6 Rel-18 on-going non-spectrum related work items for NR

This agenda items covers all Rel-18 on-going non-spectrum related work items for NR.

### 6.1 Further RF requirements enhancement for NR and EN-DC in FR1

#### 6.1.1 UE RF requirements maintenance

##### 6.1.1.1 4Tx UE RF requirements

[**R4-2404658**](file:///D:\RAN4%23110bis\Docs\R4-2404658.zip) **4Tx power degradation for SRS antenna switching**

*Type: other For: Approval  
 Source: vivo*

**Decision: Noted.**

Draft CRs

[**R4-2404659**](file:///D:\RAN4%23110bis\Docs\R4-2404659.zip) **Draft CR for 4Tx power degradation for SRS antenna switching**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: (Rel-18)  
  
 Source: vivo*

**Decision: Not pursued.**

[**R4-2405105**](file:///D:\RAN4%23110bis\Docs\R4-2405105.zip) **draft CR for TS 38.101-1: some update on EVM requirement for 4Tx UL MIMO**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: (Rel-18)  
  
 Source: CHTTL*

**Decision: Endorsed.**

##### 6.1.1.2 8Rx UE RF requirements

##### 6.1.1.3 Lower MSD for inter-band CA/EN-DC/DC combinations

Draft CRs

[**R4-2404881**](file:///D:\RAN4%23110bis\Docs\R4-2404881.zip) **(NR\_ENDC\_RF\_FR1\_enh2-Core) Correction on Lower-MSD verification for NR CA**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: Huawei, HiSilicon*

Qualcomm: The reason to have this senetence is that we want to ensure the lower MSD capability has power class value. We are OK to modify it but not OK to remove it.

Ericsson: We agree that the sentence is not clear. It is better to modify it. We can put the similar sentence from other place.

Huawei: We are OK to further discussions. This note is informative.

**Decision: Revised to R4-2406588 (from R4-2404881).**

[**R4-2406588**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406588.zip) **(NR\_ENDC\_RF\_FR1\_enh2-Core) Correction on Lower-MSD verification for NR CA**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision: Return to.**

[**R4-2404882**](file:///D:\RAN4%23110bis\Docs\R4-2404882.zip) **(NR\_ENDC\_RF\_FR1\_enh2-Core) Correction on Lower-MSD verification for EN-DC**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision: Revised to R4-2406589 (from R4-2404882).**

[**R4-2406589**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406589.zip) **(NR\_ENDC\_RF\_FR1\_enh2-Core) Correction on Lower-MSD verification for EN-DC**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision: Return to.**

[**R4-2404990**](file:///D:\RAN4%23110bis\Docs\R4-2404990.zip) **CR for 38.101-1 Modification for Lower MSD**

*Type: CR For: Endorsement  
 38.101-1 v18.5.0 CR-2196 rev Cat: F (Rel-18)  
  
 Source: Samsung*

**Decision:** The document was **not treated**.

[**R4-2404991**](file:///D:\RAN4%23110bis\Docs\R4-2404991.zip) **CR for 38.101-3 Modification for Lower MSD**

*Type: CR For: Endorsement  
 38.101-3 v18.5.1 CR-1183 rev Cat: F (Rel-18)  
  
 Source: Samsung*

**Decision: Not pursued.**

[**R4-2405229**](file:///D:\RAN4%23110bis\Docs\R4-2405229.zip) **draft CR for TS 38.101-1: 4Rx/8Rx applicability for Lower-MSD requirements**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: ZTE Corporation, CHTTL, Samsung*

**Decision: Endorsed.**

[**R4-2405230**](file:///D:\RAN4%23110bis\Docs\R4-2405230.zip) **draft CR for TS 38.101-3: 4Rx/8Rx applicability for Lower-MSD requirements**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.1 CR- rev Cat: F (Rel-18)  
  
 Source: ZTE Corporation, CHTTL, Samsung*

**Decision: Endorsed.**

#### 6.1.2 RRM performance requirements

#### 6.1.3 Demodulation and CSI requirements

#### 6.1.4 Moderator summary and conclusions

[**R4-2405268**](file:///D:\RAN4%23110bis\Docs\R4-2405268.zip) **Topic summary for [110bis][115] FR1\_enh2\_R18**

*Type: other For: Information  
 Source: Moderator(vivo)*

**Abstract:**

Summary for 6.1, 6.1.1

**Decision: Noted.**

**Newly allocated tdocs in the first round**

[**R4-2406590**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406590.zip) **WF on 4Tx SRS issues**

*Type: other For: Approval  
 Source: Vivo*

**Decision: Return to.**

**Minutes and agreements after the first round**

Refer to the following hyperlinks for more detailed meeting minutes

<https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_110bis/Inbox/Drafts/%5B110bis%5D%5B100%5D%20Main%20Session/02.Tuesday/01.%5B115%5D_draft_R4_2405268_Topic_summary_%5B110bis%5D%5B115%5D%20FR1_enh2_R18_v1.docx>

**Issue 1-1-1: Whether the proposed of set of proposals in R4-2404658/9 are workable to address ΔPPowerClass for 4Tx. and requirements for SRS antenna ?**

Chair: The deadline to address this issue is May meeting 2024.

### 6.2 NR RF requirements enhancement for FR2, Phase 3

#### 6.2.1 UL 256QAM core requirements maintenance

[**R4-2405058**](file:///D:\RAN4%23110bis\Docs\R4-2405058.zip) **Draft CR for Rel-18 TS 38.101-2 on correction of the MPR rule for CA**

*Type: draftCR For: Endorsement  
 38.101-2 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: MediaTek (Wuhan) Inc.*

**Decision: Endorsed.**

#### 6.2.2 Beam correspondence requirements maintenance for RRC\_INACTIVE and initial access

#### 6.2.3 BS demodulation requirements (UL 256QAM)

#### 6.2.4 Moderator summary and conclusions

[**R4-2405269**](file:///D:\RAN4%23110bis\Docs\R4-2405269.zip) **Topic summary for [110bis][116] FR2\_enh\_req\_Ph3\_R18**

*Type: other For: Information  
 Source: Moderator(Nokia)*

**Abstract:**

Summary for AI 6.2, 6.2.1, 6.2.2

**Decision: Withdrawn.**

### 6.3 Requirement for NR FR2 multi-Rx chain DL reception

#### 6.3.1 UE RF requirements maintenance for simultaneous DL reception with up to 4 layer MIMO

#### 6.3.2 RRM core requirements maintenance for simultaneous DL reception from different directions

#### 6.3.3 RRM performance requirements

#### 6.3.4 Demodulation performance and CSI requirements

#### 6.3.5 Moderator summary and conclusions

[**R4-2405270**](file:///D:\RAN4%23110bis\Docs\R4-2405270.zip) **Topic summary for [110bis][117] FR2\_multiRx\_UERF\_R18**

*Type: other For: Information  
 Source: Moderator(Qualcomm)*

**Abstract:**

Summary for AI 6.3, 6.3.1

**Decision: Withdrawn.**

### 6.4 Even Further RRM enhancement for NR and MR-DC

### 6.5 Further enhancements on NR and MR-DC measurement gaps and measurements without gaps

### 6.6 Completion of specification support for bandwidth part operation without restriction in NR

### 6.7 Enhanced NR support for high speed train scenario in frequency range 2

### 6.8 NR support for dedicated spectrum less than 5MHz for FR1

#### 6.8.1 System parameter maintenance

[**R4-2404284**](file:///D:\RAN4%23110bis\Docs\R4-2404284.zip) **Recommendation on inter-frequency neighbour cells supporting NR dedicated spectrum less than 5 MHz for FR1**

*Type: discussion For: Discussion  
 Source: Nokia*

**Abstract:**

This contribution further discusses this issue and provide a recommendation from RAN4 specifications viewpoint.

**Decision: Noted.**

#### 6.8.2 UE RF requirement maintenance

[**R4-2405067**](file:///D:\RAN4%23110bis\Docs\R4-2405067.zip) **n28 3MHz operation and asymmetric bandwidth**

*Type: discussion For: Decision  
 Source: Rakuten Mobile, Inc*

**Decision: Noted.**

[**R4-2405658**](file:///D:\RAN4%23110bis\Docs\R4-2405658.zip) **(NR\_FR1\_lessthan\_5MHz\_BW) NS\_17 for Band n28 3 MHz operation**

*Type: other For: Approval  
 Source: Nokia, Skyworks Solutions Inc., Rakuten Mobile, Inc*

**Decision: Noted.**

[**R4-2405715**](file:///D:\RAN4%23110bis\Docs\R4-2405715.zip) **Required A-MPR for NS\_17 for 3 MHz at 715-718 MHz**

*Type: other For: Approval  
 Source: Qualcomm Inc.*

**Decision: Noted.**

Draft CRs

[**R4-2405066**](file:///D:\RAN4%23110bis\Docs\R4-2405066.zip) **Draft CR to TS38.101 on supporting Asymmetric 3Mhz BW for n28**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: B (Rel-18)  
  
 Source: Rakuten Mobile, Inc*

**Decision:** The document was **not treated**.

[**R4-2405659**](file:///D:\RAN4%23110bis\Docs\R4-2405659.zip) **(NR\_FR1\_lessthan\_5MHz\_BW) NS\_17 correction on Band n28 3 MHz operation in Japan**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: Nokia, Skyworks Solutions Inc., Rakuten Mobile, Inc*

**Decision:** The document was **not treated**.

#### 6.8.3 BS RF requirement maintenance

#### 6.8.4 BS RF conformance testing

#### 6.8.5 RRM core requirement maintenance

#### 6.8.6 RRM performance requirements

#### 6.8.7 Demodulation performance requirements

#### 6.8.8 Moderator summary and conclusions

[**R4-2405271**](file:///D:\RAN4%23110bis\Docs\R4-2405271.zip) **Topic summary for [110bis][118] NR\_FR1\_lessthan\_5MHz\_BW\_R18**

*Type: other For: Information  
 Source: Moderator(Nokia)*

**Abstract:**

Summary for AI 6.8, 6.8.1, 6.8.2

**Decision:** The document was **not treated**.

### 6.9 Enhancement of TRP and TRS requirements and test methodologies

### 6.10 Enhancement of Multiple Input Multiple Output Over-the-Air test methodology and requirements for NR UEs

### 6.11 NR demodulation performance evolution

### 6.12 Expanded and improved NR positioning

#### 6.12.1 RF requirements maintenance

#### 6.12.2 RRM core requirements maintenance

#### 6.12.3 RRM performance requirements

#### 6.12.4 Moderator summary and conclusions

[**R4-2405272**](file:///D:\RAN4%23110bis\Docs\R4-2405272.zip) **Topic summary for [110bis][119] NR\_pos\_enh2\_UERF\_R18**

*Type: other For: Information  
 Source: Moderator(CATT)*

**Abstract:**

Summary for AI 6.12, 6.12.1

**Decision: Withdrawn.**

### 6.13 Multi-carrier enhancements for NR

#### 6.13.1 UE RF requirements maintenance

[**R4-2404379**](file:///D:\RAN4%23110bis\Docs\R4-2404379.zip) **Tx switching time for dual-TAG**

*Type: discussion For: Discussion  
 38.101-1 v CR- rev Cat: (Rel-18)  
  
 Source: Apple, Qualcomm*

**Decision: Noted.**

[**R4-2404508**](file:///D:\RAN4%23110bis\Docs\R4-2404508.zip) **Discussion on the remaining issues for the feature list of Rel-18 Tx switching**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2405892**](file:///D:\RAN4%23110bis\Docs\R4-2405892.zip) **Capabilities discussion**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

**Abstract:**

Discussion about [R4-2404116](file:///D:\RAN4%23110bis\Docs\R4-2404116.zip) Reply LS on Rel-18 UL Tx switching for parallel switching on four bands

**Decision: Noted.**

LS

[**R4-2404177**](file:///D:\RAN4%23110bis\Docs\R4-2404177.zip) **[draft] LS on Rel-18 Tx switching enhancement with dual-TAG**

*Type: LS out For: Approval  
 to RAN1  
 Source: Apple*

**Abstract:**

MCC: This is a draft LS to RAN1 on Rel-18 Tx switching enhancement with dual-TAG.

**Decision:** The document was **not treated**.

[**R4-2405498**](file:///D:\RAN4%23110bis\Docs\R4-2405498.zip) **Discussion and draft reply LS on UL Tx switching for parallel switching on four bands**

*Type: discussion For: Approval  
 38.101-1 v CR- rev Cat: (Rel-18)  
  
 Source: MediaTek Inc.*

**Decision:** The document was **not treated**.

[**R4-2405943**](file:///D:\RAN4%23110bis\Docs\R4-2405943.zip) **Views on RAN2 LS and UE feature list for Rel-18 Tx switching**

*Type: other For: Approval  
 Source: DOCOMO Beijing Labs*

**Decision:** The document was **not treated**.

[**R4-2405944**](file:///D:\RAN4%23110bis\Docs\R4-2405944.zip) **draft Reply LS on Rel-18 UL Tx switching for parallel switching on four bands**

*Type: LS out For: Approval  
 to RAN2, cc RAN1  
 Source: DOCOMO Beijing Labs*

**Decision:** The document was **not treated**.

Draft CRs

[**R4-2404509**](file:///D:\RAN4%23110bis\Docs\R4-2404509.zip) **draftCR for 38.101-1: Correction on time mask for Rel-18 Tx switching**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

#### 6.13.2 RRM core requirements maintenance

#### 6.13.3 RRM performance requirements

#### 6.13.4 Moderator summary and conclusions

[**R4-2405273**](file:///D:\RAN4%23110bis\Docs\R4-2405273.zip) **Topic summary for [110bis][120] NR\_MC\_enh\_UERF\_R18**

*Type: other For: Information  
 Source: Moderator(China Telecom)*

**Abstract:**

Summary for AI 6.13, 6.13.1

**Decision:** The document was **not treated**.

### 6.14 Further NR mobility enhancements

### 6.15 Dual Tx/Rx Multi-SIM for NR

### 6.16 NR NTN enhancement

#### 6.16.1 System parameters and regulatory requirements

#### 6.16.2 Co-existence study for above 10GHz bands

#### 6.16.3 SAN RF requirements

#### 6.16.4 SAN RF conformance testing requirements

#### 6.16.5 UE RF requirements

[**R4-2405085**](file:///D:\RAN4%23110bis\Docs\R4-2405085.zip) **draft Big CR to TS 38.101-5**

*Type: draftCR For: Endorsement  
 38.101-5 v18.5.0 CR- rev Cat: B (Rel-18)  
  
 Source: Samsung Electronics*

**Abstract:**

This is a draft Big CR reserved to capture all endorsed CRs to TS 38.101-5.

**Decision: for email approval.**

##### 6.16.5.1 Tx RF requirements

[**R4-2404939**](file:///D:\RAN4%23110bis\Docs\R4-2404939.zip) **NTN enhancement - NTN UE TRP requirement and Tx antenna performance**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

This contributions discusses the need of specifying NTN UE maximum TRP requirement and Tx antenna performance to finalize NTN UE RF specifications

**Decision: Noted.**

[**R4-2405176**](file:///D:\RAN4%23110bis\Docs\R4-2405176.zip) **Discussion on the minimum output power of NTN UE**

*Type: other For: Approval  
 Source: OPPO*

**Decision: Noted.**

[**R4-2405296**](file:///D:\RAN4%23110bis\Docs\R4-2405296.zip) **Discussion on NTN UE RF Tx requirements**

*Type: discussion For: Discussion  
 Source: Samsung*

**Decision: Noted.**

[**R4-2405339**](file:///D:\RAN4%23110bis\Docs\R4-2405339.zip) **Discussion on Tx requirement for Ka band NTN UE**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2405640**](file:///D:\RAN4%23110bis\Docs\R4-2405640.zip) **Further discussion on Tx RF requirements for NTN in Ka-band**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2405889**](file:///D:\RAN4%23110bis\Docs\R4-2405889.zip) **VSAT type 2 and 5 MPR to meet OFF-axis EIRP**

*Type: other For: Approval  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

Draft CR

[**R4-2404941**](file:///D:\RAN4%23110bis\Docs\R4-2404941.zip) **NTN enhancement: draft CR to TS 38.101-5 NTN Ka-band - additional Tx updates to the running CR**

*Type: draftCR For: Endorsement  
 38.101-5 v18.5.0 CR- rev Cat: B (Rel-18)  
  
 Source: Ericsson, Thales*

**Abstract:**

This contribution is a draft CR to TS 38.101-5 running CR, introducing NTN Ka-band. The proposed Tx updates are on top of the running of the endorsed runing CR in last RAN4 meeting

**Decision: Revised to R4-2406602 (from R4-2404941).**

[**R4-2406602**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406602.zip) **NTN enhancement: draft CR to TS 38.101-5 NTN Ka-band - additional Tx updates to the running CR**

*Type: draftCR For: Endorsement  
 38.101-5 v18.5.0 CR- rev Cat: B (Rel-18)  
  
 Source: Ericsson, Thales, Samsung*

**Abstract:**

This contribution is a draft CR to TS 38.101-5 running CR, introducing NTN Ka-band. The proposed Tx updates are on top of the running of the endorsed runing CR in last RAN4 meeting

**Decision: Return to.**

[**R4-2405318**](file:///D:\RAN4%23110bis\Docs\R4-2405318.zip) **draft CR for TS 38.101-5 9.2.1**

*Type: draftCR For: Endorsement  
 38.101-5 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: Samsung*

**Decision: Merged (with R4-24xxxxx).**

[**R4-2405341**](file:///D:\RAN4%23110bis\Docs\R4-2405341.zip) **Draft CR for TR 38.863 to introduce some technical background for R18 NTN VSAT UE Tx requirements**

*Type: draftCR For: Endorsement  
 38.863 v18.1.0 CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

*ZTE: the table is for BS.*

**Decision: Revised to R4-2406604 (from R4-2405341).**

[**R4-2406604**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406604.zip) **Draft CR for TR 38.863 to introduce some technical background for R18 NTN VSAT UE Tx requirements**

*Type: draftCR For: Endorsement  
 38.863 v18.1.0 CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

*ZTE: the table is for BS.*

**Decision: Return to.**

[**R4-2405641**](file:///D:\RAN4%23110bis\Docs\R4-2405641.zip) **Draft CR to TS 38.101-5 Clause 9.3 Output power dynamics**

*Type: draftCR For: Endorsement  
 38.101-5 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: ZTE Corporation*

**Decision: Revised to R4-2406605 (from R4-2405641).**

**[R4-2406605](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406605.zip) Draft CR to TS 38.101-5 Clause 9.3 Output power dynamics**

*Type: draftCR For: Endorsement  
 38.101-5 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: ZTE Corporation*

**Decision: Return to.**

##### 6.16.5.2 Rx RF requirements

[**R4-2404940**](file:///D:\RAN4%23110bis\Docs\R4-2404940.zip) **NTN enhancement - NTN UE Rx antenna performance**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

This contributions discusses the need of specifying Rx antenna performance to finalize NTN UE RF specifications

**Decision: Noted.**

[**R4-2405314**](file:///D:\RAN4%23110bis\Docs\R4-2405314.zip) **Discussions on NTN UE RF Rx requirements**

*Type: discussion For: Discussion  
 Source: Samsung*

**Decision: Noted.**

[**R4-2405342**](file:///D:\RAN4%23110bis\Docs\R4-2405342.zip) **Discussion on Rx requirement for Ka band NTN UE**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2405642**](file:///D:\RAN4%23110bis\Docs\R4-2405642.zip) **Further discussion on Rx RF requirements for NTN in Ka-band**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2405974**](file:///D:\RAN4%23110bis\Docs\R4-2405974.zip) **THALES, Magister Solutions Ltd, Eutelsat Group, ESA, Inmarsat, Viasat, Novamint, EchoStar, Amazon**

*Type: discussion For: Discussion  
 Source: THALES*

**Abstract:**

The current paper is to discuss the ACS remaining issue for VSAT UE requirement definition in above 10 GHz applicable to TS 38.101-5.

**Decision:** The document was **withdrawn**.

Draft CR

[**R4-2404942**](file:///D:\RAN4%23110bis\Docs\R4-2404942.zip) **NTN enhancement: draft CR to TS 38.101-5 NTN Ka-band - additional Rx updates to the running CR**

*Type: draftCR For: Endorsement  
 38.101-5 v18.5.0 CR- rev Cat: B (Rel-18)  
  
 Source: Ericsson, Thales*

**Abstract:**

This contribution is a draft CR to TS 38.101-5 running CR, introducing NTN Ka-band. The proposed Rx updates are on top of the running of the endorsed runing CR in last RAN4 meeting

**Decision: Merged (with R4-24xxxxx).**

[**R4-2405338**](file:///D:\RAN4%23110bis\Docs\R4-2405338.zip) **Draft CR for 38.101-5 to introduce clause 10.1~10.3**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision: Revised to R4-2406606 (from R4-2405338).**

[**R4-2406606**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406606.zip) **Draft CR for 38.101-5 to introduce clause 10.1~10.3**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision: Return to.**

[**R4-2405343**](file:///D:\RAN4%23110bis\Docs\R4-2405343.zip) **Draft CR for TR 38.863 to introduce some technical background for R18 NTN VSAT UE Rx requirements**

*Type: draftCR For: Endorsement  
 38.863 v18.1.0 CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision: Revised to R4-2406607 (from R4-2405343).**

[**R4-2406607**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406607.zip) **Draft CR for TR 38.863 to introduce some technical background for R18 NTN VSAT UE Rx requirements**

*Type: draftCR For: Endorsement  
 38.863 v18.1.0 CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision: Return to.**

[**R4-2405643**](file:///D:\RAN4%23110bis\Docs\R4-2405643.zip) **Draft CR to TS 38.101-5 Clause 10.4 Maximum input power requirement**

*Type: draftCR For: Endorsement  
 38.101-5 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: ZTE Corporation*

**Decision: Revised to R4-2406608 (from R4-2405643).**

[**R4-2406608**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406608.zip) **Draft CR to TS 38.101-5 Clause 10.4, 10.6, 10.8 and annex**

*Type: draftCR For: Endorsement  
 38.101-5 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: ZTE Corporation*

**Decision: Return to.**

[**R4-2405644**](file:///D:\RAN4%23110bis\Docs\R4-2405644.zip) **Draft CR to TS 38.101-5 Clause 10.6 Blocking characteristics**

*Type: draftCR For: Endorsement  
 38.101-5 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: ZTE Corporation*

**Decision: Not pursued.**

[**R4-2405645**](file:///D:\RAN4%23110bis\Docs\R4-2405645.zip) **Draft CR to TS 38.101-5 Annex NTN VSAT related FRC**

*Type: draftCR For: Endorsement  
 38.101-5 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: ZTE Corporation*

**Decision: Not pursued.**

##### 6.16.5.3 PUSCH DMRS bundling requirements and others

#### 6.16.6 RRM core requirements

#### 6.16.7 RRM performance requirements

#### 6.16.8 Demodulation performance requirements

#### 6.16.9 Moderator summary and conclusions

[**R4-2405274**](file:///D:\RAN4%23110bis\Docs\R4-2405274.zip) **Topic summary for [110bis][121] NR\_NTN\_enh\_UERF\_R18**

*Type: other For: Information  
 Source: Moderator(ZTE)*

**Abstract:**

Summary for AI 6.16.5

**Decision: Noted.**

**Newly allocated tdocs in the first round**

[**R4-2406609**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406609.zip) **WF on Rel-18 NTN UE RF requirements**

*Type: other For: Approval  
 Source: ZTE*

**Decision: Return to.**

**Minutes and agreements after the first round**

Refer to the following hyperlinks for more detailed meeting minutes

<https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_110bis/Inbox/Drafts/%5B110bis%5D%5B100%5D%20Main%20Session/02.Tuesday/06.%5B121%5D_R4_2405274%20Topic%20summary%20for%20%5B110bis%5D%5B121%5D%20NR_NTN_enh_UERF_R18.docx>

**Issue 1-1: Maximum TRP**

**Agreement:**

* For type 1 and type 4 with mechanical steering antenna (e.g. parabolic antenna)
  + 35dBm
* For type 2,3, 5 with electronic steering antenna (e.g. phase antenna array)
  + 35dBm, 40dBm or 45dBm for further decision in this meeting.

**Issue 1-2: Minimum output power**

**Tentative Agreement:**

* 52.5dBm for type 3 UE and 66.5dBm for type 1,2,4,5 UE

**Issue 1-3: Transmit OFF power**

* **Recommended for further discussion:** 
  + Option 1: reusing FR2 BS OFF power requirement -36dBm/MHz
  + Option 2: to follow the existing FR2-1 OFF power requirement -35dBm/BW

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Operating band | Channel bandwidth / Transmit OFF power (dBm) / measurement bandwidth | | | |
|  | 50 MHz | 100 MHz | 200 MHz | 400 MHz |
| n512, n511, n510 | [-35] | [-35] | [-35] | [-35] |
|  | 47.58 MHz | 95.16 MHz | 190.20 MHz | 380.28 MHz |

**Agreement:**

* Agree on Option 1.

**Issue 1-4: Transmit ON-OFF time mask**

**Agreement:**

* Transient period for FR2-NTN is 5us.

**Issue 1-7: SEM**

**Agreement:**

* Agree on proposal 4.
  + FFS on definition of P\_(rated,UE)

**Issue 1-8: Power control requirement**

**Agreement:**

* No requirement for power control for Ka band for NR-NTN UE

**Issue 2-1 Minimum EIS requirement**

**Agreement:**

* for type 3 UE, to specify minimum EIS as -115.6dBm for 50MHz, for the other channel bandwidth, the corresponding EIS requirement could be scaled with PRB based compared with 50MHz;
* for type 1/2/4/5 UE, to specify minimum EIS as -122dBm for 50MHz, for the other channel bandwidth, the corresponding EIS requirement could be scaled with PRB based compared with 50MHz

**Issue 2-2: Maximum input power**

**Agreement:**

* For type 3,
  + [-101]dBm as maximum input power with 64QAM
* For type 1/2/4/5:
  + -109.6dBm with 16QAM or [64QAM].
  + FFS for QPSK
* The exact MCS or coding rate for FRC of maximum input power need further discussion and confirmation.

**Issue 2-5: Polarization characteristics**

**Agreement:**

* Either RHCP or LHCP is supported by Ka band VSAT in Rel-18

### 6.17 Further NR coverage enhancements

#### 6.17.1 UE RF requirements maintenance

##### 6.17.1.1 Enhancement of increasing UE power high limit for CA and DC

[**R4-2404621**](file:///D:\RAN4%23110bis\Docs\R4-2404621.zip) **On DPC reporting with proprietary P-MPR methods for exposure compliance**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

In this contribution we discuss the virtues of introducing the DPC scheme versus observability of proprietary methods for exposure compliance

**Decision: Noted.**

Draft CR

[**R4-2404622**](file:///D:\RAN4%23110bis\Docs\R4-2404622.zip) **Draft CR to 38.101-1: correction of Pcmax per serving cell to enable the DPC reporting feature for all UEs**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: Ericsson*

**Abstract:**

Draft CR to correct the Pcmax for serving cells to enable the DPC reporting and improving scheduling for all UEs, including UEs not reporting duty-cycle capabilities

**Decision: Not pursued.**

##### 6.17.1.2 Enhancement to reduce MPR/PAR

[**R4-2404643**](file:///D:\RAN4%23110bis\Docs\R4-2404643.zip) **Discussion on the applicable scenarios for power boosting in UE feature list**

*Type: other For: Discussion  
 Source: vivo*

**Decision: Noted.**

[**R4-2404864**](file:///D:\RAN4%23110bis\Docs\R4-2404864.zip) **remaining issue for power boosting feature**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

discuss the remaining issue for power boosting feature

**Decision: Noted.**

[**R4-2404929**](file:///D:\RAN4%23110bis\Docs\R4-2404929.zip) **Power boosting features applicability to UL CA scenarios**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision: Noted.**

Draft CR

[**R4-2404863**](file:///D:\RAN4%23110bis\Docs\R4-2404863.zip) **Draft CR to 38.101-1: for coverage enhancement maintenance**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: Ericsson*

**Abstract:**

draftCR to support power boosting feature for singel UL CC for DL CA only

**Decision: Not pursued.**

#### 6.17.2 BS demodulation performance requirements

#### 6.17.3 Moderator summary and conclusions

[**R4-2405275**](file:///D:\RAN4%23110bis\Docs\R4-2405275.zip) **Topic summary for [110bis][122] NR\_cov\_enh2\_R18**

*Type: other For: Information  
 Source: Moderator(Huawei)*

**Abstract:**

Summary for AI 6.17, 6.17.1

**Decision: Revised to R4-2406556 (from R4-2405275).**

**[R4-2406556](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406556.zip) Topic summary for [110bis][122] NR\_cov\_enh2\_R18**

*Type: other For: Information  
 Source: Moderator(Huawei)*

**Abstract:**

Summary for AI 6.17, 6.17.1

**Decision: Noted.**

**Newly allocated tdocs in the first round**

[**R4-2406591**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406591.zip) **WF on power boosting feature in Rel-18**

*Type: other For: Approval  
 Source: Ericsson*

**Decision: Return to.**

**Minutes and agreements after the first round**

Refer to the following hyperlinks for more detailed meeting minutes

<https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_110bis/Inbox/Drafts/%5B110bis%5D%5B100%5D%20Main%20Session/02.Tuesday/02.%5B122%5D_R4_2406556%20Topic%20summary%20for%20%5B110bis%5D%5B122%5D%20NR_cov_enh2_R18.docx>

**Issue 1-1: Whether to consider DPC reporting for the UE that only using P-MPR instead of indicating max duty cycle capabilities**

Chair: The deadline to address this issue is May meeting 2024.

**Issue 2-1: Whether Rel-18 power boosting can be applied to CA**

Chair: the deadline to address this issue in Rel-18 is May meeting 2024.

### 6.18 NR Network-controlled Repeaters

### 6.19 NR MIMO evolution for downlink and uplink

#### 6.19.1 UE RF requirements maintenance

#### 6.19.2 RRM core requirements maintenance

#### 6.19.3 RRM performance requirements

#### 6.19.4 Demodulation performance requirements

#### 6.19.5 Moderator summary and conclusions

[**R4-2405276**](file:///D:\RAN4%23110bis\Docs\R4-2405276.zip) **Topic summary for [110bis][123] NR\_MIMO\_evo\_UERF\_R18**

*Type: other For: Information  
 Source: Moderator(Samsung)*

**Abstract:**

Summary for AI 6.19, 6.19.1

**Decision: Withdrawn.**

### 6.20 NR sidelink evolution

#### 6.20.1 UE RF requirements maintenance

[**R4-2405390**](file:///D:\RAN4%23110bis\Docs\R4-2405390.zip) **Big draftCR to TR 38.786 UE NR sidelink evolution**

*Type: draftCR For: Endorsement  
 38.786 v18.1.0 CR- rev Cat: F (Rel-18)  
  
 Source: OPPO*

**Decision: Return to.**

[**R4-2405391**](file:///D:\RAN4%23110bis\Docs\R4-2405391.zip) **Big draftCR to TS38.101-1 for Sidelink enhancement**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: OPPO*

**Decision: Return to.**

[**R4-2404746**](file:///D:\RAN4%23110bis\Docs\R4-2404746.zip) **Remaining A-MPR NS values for SL-U**

*Type: discussion For: Discussion  
 Source: LG Electronics Finland*

**Abstract:**

This document initiates the discussion of the remaining 10 NS values for NR SL-U to ensure worldwide use of this feature.

**Decision:** The document was **withdrawn**.

##### 6.20.1.1 Sidelink on a single unlicensed spectrum

[**R4-2405385**](file:///D:\RAN4%23110bis\Docs\R4-2405385.zip) **on Rel-18 maintenance work**

*Type: other For: Approval  
 Source: OPPO*

**Decision: Noted.**

[**R4-2404862**](file:///D:\RAN4%23110bis\Docs\R4-2404862.zip) **Remaining A-MPR NS values for SL-U**

*Type: discussion For: Discussion  
 Source: LG Electronics Finland*

**Abstract:**

This document initiates the discussion of the remaining 10 NS values for NR SL-U to ensure worldwide use of this feature.

**Decision: Noted.**

[**R4-2405384**](file:///D:\RAN4%23110bis\Docs\R4-2405384.zip) **Further simulation results for up to Rel-17 NS values**

*Type: other For: Approval  
 Source: OPPO*

**Decision: Noted.**

Draft CR

[**R4-2404811**](file:///D:\RAN4%23110bis\Docs\R4-2404811.zip) **draft CR to TR 38.786 on SL-U A-MPR for remaining NS values**

*Type: draftCR For: Endorsement  
 38.786 v18.1.0 CR- rev Cat: F (Rel-18)  
  
 Source: LG Electronics Finland*

**Abstract:**

Add LG Electronics SL-U A-MPR simulation results for NS\_29, NS\_54, NS\_59, NS\_63, NS\_64, NS\_65, NS\_66, NS\_67, NS\_68 and NS\_69.

**Decision: Endorsed.**

[**R4-2404844**](file:///D:\RAN4%23110bis\Docs\R4-2404844.zip) **draft CR on SL-U A-MPR for NS\_28 and NS\_30**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: LG Electronics Finland*

**Abstract:**

Specify NS\_28 and NS\_30 A-MPR requirements for SL-U. For NS\_31 A-MPR, some NOTEs in Table 6.2E.3F.2-2 and Table 6.2E.3F.2-3 are VOID as not necessary.

**Decision: Postponed.**

[**R4-2405382**](file:///D:\RAN4%23110bis\Docs\R4-2405382.zip) **draft CR to TR 38.786 for Rel-18 A-MPR simulation results**

*Type: draftCR For: Endorsement  
 38.786 v18.1.0 CR- rev Cat: F (Rel-18)  
  
 Source: OPPO*

**Decision: Endorsed.**

##### 6.20.1.2 Con-current operation on Uu and sidelink

##### 6.20.1.3 Sidelink CA

Draft CR

[**R4-2404510**](file:///D:\RAN4%23110bis\Docs\R4-2404510.zip) **draftCR to 38.101-1: Correction on sidelink CA**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision: Revised to R4-2406595 (from R4-2404510).**

[**R4-2406595**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406595.zip) **draftCR to 38.101-1: Correction on sidelink CA**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision: Return to.**

[**R4-2404601**](file:///D:\RAN4%23110bis\Docs\R4-2404601.zip) **draft CR on SL CA configured transmitted power**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: LG Electronics*

**Abstract:**

It is draft CR to add the missing PSFCH and S-SSB for SL CA configured transmitted power.

Xiaomi: the table number is wrong.

**Decision: Revised to R4-2406596 (from R4-2404601).**

[**R4-2406596**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406596.zip) **draft CR on SL CA configured transmitted power**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: LG Electronics*

**Abstract:**

It is draft CR to add the missing PSFCH and S-SSB for SL CA configured transmitted power.

Xiaomi: the table number is wrong.

**Decision: Return to.**

[**R4-2404602**](file:///D:\RAN4%23110bis\Docs\R4-2404602.zip) **draft CR on SL CA MPR for non-contiguous RB allocation**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: LG Electronics*

**Abstract:**

It is draft CR on SL CA MPR for non-contiguous RB allocation.

Xiaomi: new table number is needed.

**Decision: Revised to R4-2406597 (from R4-2404602).**

[**R4-2406597**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406597.zip) **draft CR on SL CA MPR for non-contiguous RB allocation**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: LG Electronics*

**Abstract:**

It is draft CR on SL CA MPR for non-contiguous RB allocation.

Xiaomi: new table number is needed.

**Decision: Return to.**

[**R4-2405383**](file:///D:\RAN4%23110bis\Docs\R4-2405383.zip) **draft CR to TS 38.101-1 for Rel-18 sidelink MPR format**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: OPPO*

**Decision: Return to.**

#### 6.20.2 RRM core requirements maintenance

#### 6.20.3 RRM performance requirements

#### 6.20.4 UE demodulation performance requirements

#### 6.20.5 Moderator summary and conclusions

[**R4-2405277**](file:///D:\RAN4%23110bis\Docs\R4-2405277.zip) **Topic summary for [110bis][124] NR\_SL\_enh2\_UERF\_R18**

*Type: other For: Information  
 Source: Moderator(LGE)*

**Abstract:**

Summary for AI 6.20, 6.20.1

**Decision: Noted.**

**Newly allocated tdocs in the first round**

[**R4-2406598**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406598.zip) **WF on SL enhancement for remaining NS values**

*Type: other For: Approval  
 Source: LGE*

**Decision: Return to.**

**Minutes and agreements after the first round**

Refer to the following hyperlinks for more detailed meeting minutes

<https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_110bis/Inbox/Drafts/%5B110bis%5D%5B100%5D%20Main%20Session/02.Tuesday/04.%5B124%5D_R4_2405277%20Topic%20summary%20for%20%5B110bis%5D%5B124%5D%20NR_SL_enh2_UERF_R18.docx>

**Issue 1-1: SL UE RF maintenance work in Rel-18**

Chair: suggest to have a new spectrum related Rel-19 WI in upcoming RAN plenary, if the work cannot be done until May meeting.

### 6.21 Enhanced support of reduced capability NR devices

#### 6.21.1 UE RF requirements maintenance

#### 6.21.2 RRM core requirements maintenance

#### 6.21.3 Demodulation performance requirements

#### 6.21.4 Moderator summary and conclusions

[**R4-2405278**](file:///D:\RAN4%23110bis\Docs\R4-2405278.zip) **Topic summary for [110bis][125] NR\_redcap\_enh\_UERF\_R18**

*Type: other For: Information  
 Source: Moderator(Ericsson)*

**Abstract:**

Summary for AI 6.21, 6.21.1

**Decision: Withdrawn.**

### 6.22 Enhanced NR Sidelink Relay

### 6.23 Mobile IAB (Integrated Access and Backhaul) for NR

### 6.24 Network energy saving for NR

#### 6.24.1 BS conformance testing requirements

[**R4-2405302**](file:///D:\RAN4%23110bis\Docs\R4-2405302.zip) **Summary of conformance testing for NES**

*Type: discussion For: Discussion  
 38.141-1 v CR- rev Cat: (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2405680**](file:///D:\RAN4%23110bis\Docs\R4-2405680.zip) **Discussion on NES BS RF tests**

*Type: other For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision: Noted.**

#### 6.24.2 RRM core requirements maintenance

#### 6.24.3 RRM performance requirements

#### 6.24.4 UE demodulation performance and CSI requirements

#### 6.24.5 Moderator summary and conclusions

[**R4-2405279**](file:///D:\RAN4%23110bis\Docs\R4-2405279.zip) **Topic summary for [110bis][126] Netw\_Energy\_NR\_R18**

*Type: other For: Information  
 Source: Moderator(Huawei)*

**Abstract:**

Summary for AI 6.24, 6.24.1

**Decision:** The document was **not treated**.

### 6.25 Enhancement of NR dynamic spectrum sharing

## 7 Rel-18 on-going work Items for LTE

This agenda item covers all Rel-18 on-going work Items for LTE.

### 7.1 Rel-18 LTE-Advanced Carrier Aggregation for x bands (x<= 6) DL with y bands (y=1, 2) UL

#### 7.1.1 Rapporteur input (WID/TR/big CR)

[**R4-2404275**](file:///D:\RAN4%23110bis\Docs\R4-2404275.zip) **Draft Big CR on Introduction of completed R18 x(x<=6) DL y(y<=2) UL CA band combinations to TS 36.101**

*Type: draftCR For: Endorsement  
 36.101 v18.5.0 CR- rev Cat: B (Rel-18)  
  
 Source: Huawei Technologies France*

**Decision:** The document was **for email approval**.

[**R4-2404276**](file:///D:\RAN4%23110bis\Docs\R4-2404276.zip) **TR 36.718-02-01 LTE-A CA for x(x=123456) DL y(y=12) UL**

*Type: draft TR For: Agreement  
 36.718-02-01 v0.0.5 CR- rev Cat: (Rel-18)  
  
 Source: Huawei Technologies France*

**Decision:** The document was **for email approval**.

#### 7.1.2 UE RF requirements for 1 UL

##### 7.1.2.1 Requirements with specific issues

[**R4-2404191**](file:///D:\RAN4%23110bis\Docs\R4-2404191.zip) **On CA\_28C**

*Type: other For: Approval  
 Source: Apple*

**Decision: Noted.**

Draft CRs

[**R4-2404463**](file:///D:\RAN4%23110bis\Docs\R4-2404463.zip) **Draft CR for TS 36.101 Addition of new LTE-A CA combinations**

*Type: draftCR For: Endorsement  
 36.101 v18.5.0 CR- rev Cat: B (Rel-18)  
  
 Source: Samsung*

**Decision:** The document was **not treated**.

[**R4-2405407**](file:///D:\RAN4%23110bis\Docs\R4-2405407.zip) **draftCR 36.101 Addition of UL CA\_2C**

*Type: draftCR For: Endorsement  
 36.101 v18.5.0 CR- rev Cat: B (Rel-18)  
  
 Source: Nokia, AMX*

**Decision:** The document was **not treated**.

[**R4-2405408**](file:///D:\RAN4%23110bis\Docs\R4-2405408.zip) **draftCR 36.101 Addition of UL CA\_28C**

*Type: draftCR For: Endorsement  
 36.101 v18.5.0 CR- rev Cat: B (Rel-18)  
  
 Source: Nokia, AMX*

**Decision:** The document was **not treated**.

TPs

[**R4-2404464**](file:///D:\RAN4%23110bis\Docs\R4-2404464.zip) **TP to TR 36.718-02-01 Addition of CA\_12-71**

*Type: pCR For: Approval  
 36.718-02-01 v0.0.5 CR- rev Cat: (Rel-18)  
  
 Source: Samsung*

**Decision:** The document was **not treated**.

[**R4-2405405**](file:///D:\RAN4%23110bis\Docs\R4-2405405.zip) **TP to TR 36.718-02-01 LTE CA\_2C**

*Type: pCR For: Approval  
 36.718-02-01 v0.0.5 CR- rev Cat: (Rel-18)  
  
 Source: Nokia, AMX*

**Decision:** The document was **not treated**.

[**R4-2405406**](file:///D:\RAN4%23110bis\Docs\R4-2405406.zip) **TP to TR 36.718-02-01 LTE CA\_28C**

*Type: pCR For: Approval  
 36.718-02-01 v0.0.5 CR- rev Cat: (Rel-18)  
  
 Source: Nokia, AMX*

**Decision:** The document was **not treated**.

##### 7.1.2.2 Requirements without specific issues

Draft CR

[**R4-2404230**](file:///D:\RAN4%23110bis\Docs\R4-2404230.zip) **Draft CR for TS36.101 to add of 1UL configurations LTECA\_1A-3A-8B, CA\_3A-8B-11A and CA\_1A-8B-11A**

*Type: draftCR For: Endorsement  
 36.101 v18.5.0 CR- rev Cat: (Rel-18)  
  
 Source: SoftBank Corp.*

**Decision:** The document was **not treated**.

[**R4-2404219**](file:///D:\RAN4%23110bis\Docs\R4-2404219.zip) **Draft CR for TS36.101 to add of 1UL configurations LTECA\_1A-3A-8B, CA\_3A-8B-11A and CA\_1A-8B-11A**

*Type: draftCR For: Endorsement  
 36.101 v18.5.0 CR- rev Cat: (Rel-18)  
  
 Source: SoftBank Corp.*

**Decision:** The document was **withdrawn**.

#### 7.1.3 UE RF requirements for 2UL

##### 7.1.3.1 Requirements with specific issues

TPs

[**R4-2404466**](file:///D:\RAN4%23110bis\Docs\R4-2404466.zip) **TP to TR 36.718-02-01 Addition of CA\_1-7-40 and CA\_1-7-40-40**

*Type: pCR For: Approval  
 36.718-02-01 v0.0.5 CR- rev Cat: (Rel-18)  
  
 Source: Samsung, Spark NZ Ltd*

**Decision:** The document was **not treated**.

[**R4-2404467**](file:///D:\RAN4%23110bis\Docs\R4-2404467.zip) **TP to TR 36.718-02-01 Addition of CA\_1-28-40 and CA\_1-28-40-40**

*Type: pCR For: Approval  
 36.718-02-01 v0.0.5 CR- rev Cat: (Rel-18)  
  
 Source: Samsung, Spark NZ Ltd*

**Decision:** The document was **not treated**.

[**R4-2404468**](file:///D:\RAN4%23110bis\Docs\R4-2404468.zip) **TP to TR 36.718-02-01 Addition of CA\_3-7-40 and CA\_3-7-40-40**

*Type: pCR For: Approval  
 36.718-02-01 v0.0.5 CR- rev Cat: (Rel-18)  
  
 Source: Samsung, Spark NZ Ltd*

**Decision:** The document was **not treated**.

[**R4-2404469**](file:///D:\RAN4%23110bis\Docs\R4-2404469.zip) **TP to TR 36.718-02-01 Addition of CA\_7-28-40 and CA\_7-28-40-40**

*Type: pCR For: Approval  
 36.718-02-01 v0.0.5 CR- rev Cat: (Rel-18)  
  
 Source: Samsung, Spark NZ Ltd*

**Decision:** The document was **not treated**.

Draft CR

[**R4-2404465**](file:///D:\RAN4%23110bis\Docs\R4-2404465.zip) **Draft CR for TS 36.101 to add new LTE-A CA combinations**

*Type: draftCR For: Endorsement  
 36.101 v18.5.0 CR- rev Cat: B (Rel-18)  
  
 Source: Samsung, Spark NZ Ltd*

**Decision:** The document was **not treated**.

##### 7.1.3.2 Requirements without specific issues

TP

[**R4-2404227**](file:///D:\RAN4%23110bis\Docs\R4-2404227.zip) **TP for TR 36.718-02-01 Addition of CA\_1-8-11**

*Type: pCR For: Approval  
 36.718-02-01 v0.0.5 CR- rev Cat: (Rel-18)  
  
 Source: SoftBank Corp.*

**Decision:** The document was **not treated**.

Draft CR

[**R4-2404220**](file:///D:\RAN4%23110bis\Docs\R4-2404220.zip) **Draft CR for TS36.101 to add of 2UL configurations LTECA\_1A-3A-8B, CA\_3A-8B-11A and CA\_1A-8B-11A**

*Type: draftCR For: Endorsement  
 36.101 v18.5.0 CR- rev Cat: (Rel-18)  
  
 Source: SoftBank Corp.*

**Decision:** The document was **not treated**.

#### 7.1.4 Moderator summary and conclusions

[**R4-2405259**](file:///D:\RAN4%23110bis\Docs\R4-2405259.zip) **Topic summary for [110bis][106] LTE\_Baskets**

*Type: other For: Information  
 Source: Moderator(Huawei)*

**Abstract:**

Summary for AI 7.1

**Decision:** The document was **not treated**.

### 7.2 Introduction of the Extended L-band (UL 1668-1675, DL 1518-1525) for IoT NTN

#### 7.2.1 UE RF requirements maintenance

#### 7.2.2 SAN RF requirements maintenance

#### 7.2.3 RRM core requirements maintenance and RRM/demodulation performance requirements

#### 7.2.4 Moderator summary and conclusions

[**R4-2405267**](file:///D:\RAN4%23110bis\Docs\R4-2405267.zip) **Topic summary for [110bis][114] IoT\_NTN\_extLband**

*Type: other For: Information  
 Source: Moderator(Inmarsat)*

**Abstract:**

Summary for AI 7.2

**Decision: Withdrawn.**

### 7.3 IoT (Internet of Things) NTN (non-terrestrial network) enhancements

#### 7.3.1 UE RF requirements maintenance

#### 7.3.2 SAN RF requirements maintenance

#### 7.3.3 RRM core requirements maintenance

#### 7.3.4 RRM performance requirements

#### 7.3.5 Demodulation performance requirements

#### 7.3.6 Moderator summary and conclusions

[**R4-2405280**](file:///D:\RAN4%23110bis\Docs\R4-2405280.zip) **Topic summary for [110bis][127] IoT\_NTN\_enh\_UERF\_R18**

*Type: other For: Information  
 Source: Moderator(Mediatek)*

**Abstract:**

Summary for AI 7.3.1

**Decision: Withdrawn.**

## 8 Rel-18 feature list

[**R4-2404353**](file:///D:\RAN4%23110bis\Docs\R4-2404353.zip) **On Rel-18 UE feature list**

*Type: discussion For: Decision  
 Source: Apple*

**Decision: Noted.**

[**R4-2404609**](file:///D:\RAN4%23110bis\Docs\R4-2404609.zip) **Consideration on Rel-18 RAN4 UE feature list for NR**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2404928**](file:///D:\RAN4%23110bis\Docs\R4-2404928.zip) **Views on RAN4 Rel-18 UE feature list**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision: Noted.**

[**R4-2405973**](file:///D:\RAN4%23110bis\Docs\R4-2405973.zip) **Rel-18 RAN4 UE feature list for NR\_MC\_enh**

*Type: other For: Approval  
 Source: DOCOMO Beijing Labs*

**Decision: Noted.**

**Moderator summary and conclusions**

[**R4-2405281**](file:///D:\RAN4%23110bis\Docs\R4-2405281.zip) **Topic summary for [110bis][128] NR\_LTE\_Rel-18\_feature\_list**

*Type: other For: Information  
 Source: Moderator(CMCC)*

**Abstract:**

Summary for AI 8

**Decision:** The document was **not treated**.

## 9 Rel-19 on-going non-spectrum related work items

Rel-19 on-going non-spectrum related work items.

### 9.1 UE RF enhancements for NR FR1/FR2 and EN-DC, Phase 4

#### 9.1.1 General aspects (work plan)

[**R4-2405486**](file:///D:\RAN4%23110bis\Docs\R4-2405486.zip) **Work plan for Rel-19 UE RF enhancements**

*Type: Work Plan For: Approval  
 Source: Huawei, HiSilicon, AT&T*

*Qualcomm: for 6Rx, we need flexilbility. For MIMO layer, demodulation session will also discuss it.*

*CATT: for big CR, do we have one CR for all the three objectives or have separate CRs? Do we have running CRs?*

*Huawei: we can follow the similar way as Rel-16. We have separate draft CRs and in the end agree on one big CR. For running CR, we can add more details into the draft CRs.*

*Chair: treat the feasibility study of 6-layer in main session involving the demodulation experts.*

**Decision: Noted.**

#### 9.1.2 High power UE (HPUE) for CA in terrestrial network (TN)

[**R4-2404184**](file:///D:\RAN4%23110bis\Docs\R4-2404184.zip) **On Rel-19 HPUE for CA and DC**

*Type: other For: Approval  
 Source: Apple*

**Decision: Noted.**

[**R4-2404208**](file:///D:\RAN4%23110bis\Docs\R4-2404208.zip) **High power UE for CA in terrestrial networks**

*Type: other For: Approval  
 38.101-1 v CR- rev Cat: (Rel-19)  
  
 Source: Qualcomm Technologies Int*

**Abstract:**

Discusses parameters that should be studied for PC1.5 specifications development for contiguous and non-contiguous CA

**Decision: Noted.**

[**R4-2404455**](file:///D:\RAN4%23110bis\Docs\R4-2404455.zip) **Initial consideration on HPUE for CA in terrestrial network (TN)**

*Type: discussion For: Discussion  
 Source: CATT*

**Decision: Noted.**

[**R4-2404485**](file:///D:\RAN4%23110bis\Docs\R4-2404485.zip) **On SAR Solution of R19 HPUE for CA**

*Type: other For: Approval  
 Source: E-surfing Digital*

**Decision: Noted.**

[**R4-2404541**](file:///D:\RAN4%23110bis\Docs\R4-2404541.zip) **High power UE for intra/inter-band CA/DC including 2Tx/3Tx in TN**

*Type: other For: Approval  
 Source: Meta Ireland*

**Abstract:**

In this paper, we suggest how to define the RF requirements for high power UE for intra-band uplink CA i.e. n41C, n77 and other CA combinations and inter-band CA/DC including 3Tx in the cross inter-band CA/DC operation.

**Decision: Noted.**

[**R4-2404551**](file:///D:\RAN4%23110bis\Docs\R4-2404551.zip) **Discussion on PC1.5 TDD intra-band CA**

*Type: discussion For: Discussion  
 Source: Xiaomi*

**Decision: Noted.**

[**R4-2404552**](file:///D:\RAN4%23110bis\Docs\R4-2404552.zip) **Discussion on PC1.5 UE for two band NR inter-band uplink CA**

*Type: discussion For: Discussion  
 Source: Xiaomi*

**Decision: Noted.**

[**R4-2404553**](file:///D:\RAN4%23110bis\Docs\R4-2404553.zip) **Discussion on increasing high power limit for inter-band CA DC with 2Tx and or 3Tx**

*Type: discussion For: Discussion  
 Source: Xiaomi*

**Decision: Noted.**

[**R4-2404605**](file:///D:\RAN4%23110bis\Docs\R4-2404605.zip) **Discussion on HPUE for CA and EN-DC**

*Type: discussion For: Discussion  
 Source: LG Electronics*

**Abstract:**

It disscuses on HPUE RF requirements for CA and EN-DC.

**Decision: Noted.**

[**R4-2404623**](file:///D:\RAN4%23110bis\Docs\R4-2404623.zip) **PC 1.5 for band combinations and the general framework for high power classes**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

In this contribution we propose a general framework for handling HPUE (PC1.5) and the requirements needed for supporting BCs in the field

**Decision: Noted.**

[**R4-2404665**](file:///D:\RAN4%23110bis\Docs\R4-2404665.zip) **Discussion on high power UE for CA in terrestrial network**

*Type: other For: Approval  
 Source: vivo*

**Decision: Noted.**

[**R4-2404745**](file:///D:\RAN4%23110bis\Docs\R4-2404745.zip) **Discussions on TDD intra-band CA HPUE**

*Type: discussion For: Approval  
 Source: China Unicom*

**Decision: Noted.**

[**R4-2404885**](file:///D:\RAN4%23110bis\Docs\R4-2404885.zip) **Initial consideration on R19 UE RF enh for HPUE in TN**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2404901**](file:///D:\RAN4%23110bis\Docs\R4-2404901.zip) **On architecture aspects for PC1p5 intra-band ULCA support**

*Type: other For: Approval  
 Source: Skyworks Solutions Inc.*

**Abstract:**

for FR1, R19 introduces power class 1.5 for intra-band contiguous and non-contiguous ULCA. In this contribution, we discuss the architecture aspects and their limitations for supporting PC1.5 ULCA under unbalanced transmitted BW in each CC.

**Decision: Noted.**

[**R4-2404986**](file:///D:\RAN4%23110bis\Docs\R4-2404986.zip) **Views on HPUE**

*Type: discussion For: Discussion  
 Source: Samsung*

**Decision: Noted.**

[**R4-2405059**](file:///D:\RAN4%23110bis\Docs\R4-2405059.zip) **Initial discussion on Rel-19 High power UE (HPUE) support for EN-DC**

*Type: discussion For: Discussion  
 Source: CHTTL*

**Decision: Noted.**

[**R4-2405182**](file:///D:\RAN4%23110bis\Docs\R4-2405182.zip) **R19 3Tx inter-band enh**

*Type: other For: Approval  
 Source: OPPO*

**Decision: Noted.**

[**R4-2405226**](file:///D:\RAN4%23110bis\Docs\R4-2405226.zip) **Discussion on R19 FR1 TN HPUE requirements**

*Type: other For: Agreement  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2405409**](file:///D:\RAN4%23110bis\Docs\R4-2405409.zip) **Discussion on PC 1.5 EN-DC**

*Type: discussion For: Discussion  
 Source: Nokia*

**Decision: Noted.**

[**R4-2405497**](file:///D:\RAN4%23110bis\Docs\R4-2405497.zip) **Discussion and overview on Rel-19 UE RF HPUE enhancements**

*Type: discussion For: Approval  
 Source: MediaTek Inc.*

**Decision: Noted.**

[**R4-2405964**](file:///D:\RAN4%23110bis\Docs\R4-2405964.zip) **Initial views on UL CA and EN-DC with 3Tx for handheld UE**

*Type: other For: Approval  
 Source: NTT DOCOMO INC.*

**Decision: Noted.**

#### 9.1.3 Power domain enhancement for NR single carrier and NR intra-band UL CA for PC2 and PC3

[**R4-2404194**](file:///D:\RAN4%23110bis\Docs\R4-2404194.zip) **On power domain enhancement for NR**

*Type: other For: Approval  
 Source: Apple*

**Decision: Noted.**

[**R4-2404209**](file:///D:\RAN4%23110bis\Docs\R4-2404209.zip) **Power boosting and MPR reduction**

*Type: other For: Approval  
 38.101-1 v CR- rev Cat: (Rel-19)  
  
 Source: Qualcomm Technologies Int*

**Abstract:**

Parameters required for MPR reduction study and FR2 methods for MPR enhancement are discussed

**Decision: Noted.**

[**R4-2404270**](file:///D:\RAN4%23110bis\Docs\R4-2404270.zip) **Views on MPR reduction**

*Type: other For: Approval  
 Source: Sony*

**Decision: Noted.**

[**R4-2404456**](file:///D:\RAN4%23110bis\Docs\R4-2404456.zip) **Initial consideration on power domain enhancement for single carrier operation**

*Type: discussion For: Discussion  
 Source: CATT*

**Decision: Noted.**

[**R4-2404546**](file:///D:\RAN4%23110bis\Docs\R4-2404546.zip) **Discussion on power domain enhancement**

*Type: discussion For: Discussion  
 Source: Xiaomi*

**Decision: Noted.**

[**R4-2404588**](file:///D:\RAN4%23110bis\Docs\R4-2404588.zip) **Discussion on MPR reduction for FR1 and FR2**

*Type: discussion For: Discussion  
 Source: Samsung*

**Decision: Noted.**

[**R4-2404616**](file:///D:\RAN4%23110bis\Docs\R4-2404616.zip) **Initiatory discussion on power domain enhancement**

*Type: other For: Approval  
 Source: E-surfing Digital*

**Decision: Noted.**

[**R4-2404624**](file:///D:\RAN4%23110bis\Docs\R4-2404624.zip) **MPR reductions for UE-specific bandwidths and for UL intra-band CA**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

In this contribution we consider MPR reductions for UE-specific channel bandwidths within a wider BS bandwidth and for intra-band CA (FR1 and FR2)

**Decision: Noted.**

[**R4-2404642**](file:///D:\RAN4%23110bis\Docs\R4-2404642.zip) **Discussion on MPR reduction for NR single carrier and NR intra-band UL CA**

*Type: other For: Discussion  
 Source: vivo*

**Decision: Noted.**

[**R4-2404936**](file:///D:\RAN4%23110bis\Docs\R4-2404936.zip) **FR2 MPR requirements improvement for single carrier or intra band CA**

*Type: discussion For: Discussion  
 Source: NTT DOCOMO, INC.*

**Decision: Noted.**

[**R4-2405064**](file:///D:\RAN4%23110bis\Docs\R4-2405064.zip) **Discussion on power boosting and/or MPR reduction**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2405306**](file:///D:\RAN4%23110bis\Docs\R4-2405306.zip) **Discussion on enhanced MPR scenarios**

*Type: discussion For: Discussion  
 Source: CMCC*

**Decision: Noted.**

[**R4-2405606**](file:///D:\RAN4%23110bis\Docs\R4-2405606.zip) **Discussion on MPR reduction for power domain enhancement**

*Type: discussion For: Discussion  
 Source: LG Electronics UK*

**Decision: Noted.**

[**R4-2405614**](file:///D:\RAN4%23110bis\Docs\R4-2405614.zip) **On power domain enhancement for NR single carrier and NR intra-band UL CA for PC2 and PC3**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2405619**](file:///D:\RAN4%23110bis\Docs\R4-2405619.zip) **Discussion on power domain enhancement for NR single carrier**

*Type: other For: Approval  
 Source: MediaTek (Wuhan) Inc.*

**Decision: Noted.**

#### 9.1.4 6Rx UE

[**R4-2404178**](file:///D:\RAN4%23110bis\Docs\R4-2404178.zip) **Views on 6Rx for handheld UEs**

*Type: discussion For: Discussion  
 Source: Apple*

**Decision: Noted.**

[**R4-2404539**](file:///D:\RAN4%23110bis\Docs\R4-2404539.zip) **Discussion on 6Rx initial consideration points for single carrier**

*Type: other For: Approval  
 Source: Meta Ireland*

**Abstract:**

In this paper, we provide our preference and how to specify the 6Rx core requirements including REFSENS and SRS related topic i.e. SRS IL values and SRS switching perspectives according to UE capability.

**Decision: Noted.**

[**R4-2404544**](file:///D:\RAN4%23110bis\Docs\R4-2404544.zip) **Discussion on NR 6Rx UE**

*Type: discussion For: Discussion  
 Source: Xiaomi*

**Decision: Noted.**

[**R4-2404587**](file:///D:\RAN4%23110bis\Docs\R4-2404587.zip) **Discussion on 6RX for handheld UE and FWA**

*Type: discussion For: Discussion  
 Source: Spreadtrum Communications*

**Decision: Noted.**

[**R4-2404666**](file:///D:\RAN4%23110bis\Docs\R4-2404666.zip) **Discussion on 6Rx for handheld and FWA UE**

*Type: other For: Approval  
 Source: vivo*

**Decision: Noted.**

[**R4-2404793**](file:///D:\RAN4%23110bis\Docs\R4-2404793.zip) **Discussion for 6 Rx**

*Type: discussion For: Discussion  
 Source: LG Electronics France*

**Decision: Noted.**

[**R4-2404930**](file:///D:\RAN4%23110bis\Docs\R4-2404930.zip) **Views on SRS insertion loss compensation and reporting enhancements**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision: Noted.**

[**R4-2404935**](file:///D:\RAN4%23110bis\Docs\R4-2404935.zip) **Views on 6Rx for handheld and FWA UE**

*Type: discussion For: Discussion  
 Source: Samsung*

**Decision: Noted.**

[**R4-2405083**](file:///D:\RAN4%23110bis\Docs\R4-2405083.zip) **UE SRS IL imbalance for 6Rx UE**

*Type: discussion For: Discussion  
 Source: Shanghai Chen Si Electronics*

**Decision: Noted.**

[**R4-2405183**](file:///D:\RAN4%23110bis\Docs\R4-2405183.zip) **R19 6Rx delta RIB**

*Type: other For: Approval  
 Source: OPPO*

**Decision: Noted.**

[**R4-2405227**](file:///D:\RAN4%23110bis\Docs\R4-2405227.zip) **Discussion on NR 6Rx requirement**

*Type: other For: Agreement  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2405615**](file:///D:\RAN4%23110bis\Docs\R4-2405615.zip) **On RF requirements for 6Rx smartphone**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2405727**](file:///D:\RAN4%23110bis\Docs\R4-2405727.zip) **Initial considerations on 6RX**

*Type: discussion For: Discussion  
 Source: Qualcomm France*

**Abstract:**

Initial considerations on 6RX are provided in this contribution.

**Decision: Noted.**

[**R4-2405933**](file:///D:\RAN4%23110bis\Docs\R4-2405933.zip) **Initial discussion on SRS insertion loss imbalance reporting and 6Rx requirements**

*Type: other For: Approval  
 Source: Ericsson India Private Limited*

**Decision: Noted.**

[**R4-2405689**](file:///D:\RAN4%23110bis\Docs\R4-2405689.zip) **Initial considerations on 6RX**

*Type: discussion For: (not specified)  
 Source: Qualcomm France*

**Abstract:**

Initial considerations on 6RX are provided in this contribution.

**Decision:** The document was **withdrawn**.

LS

[**R4-2405616**](file:///D:\RAN4%23110bis\Docs\R4-2405616.zip) **LS on 4T6R AS-SRS**

*Type: LS out For: Approval  
 to RAN1, cc RAN2  
 Source: Huawei, HiSilicon*

**Decision: Return to.**

#### 9.1.5 Moderator summary and conclusions

[**R4-2405282**](file:///D:\RAN4%23110bis\Docs\R4-2405282.zip) **Topic summary for [110bis][129] NR\_ENDC\_RF\_Ph4**

*Type: other For: Information  
 Source: Moderator(Huawei)*

**Abstract:**

Summary for AI 9.1

**Decision: Noted.**

**Newly allocated tdocs in the first round**

[**R4-2406583**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406583.zip) **WF on HPUE UE for UL CA and EN-DC**

*Type: other For: Approval  
 Source: Samsung*

**Decision: Return to.**

[**R4-2406584**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406584.zip) **WF on power domain enhancement**

*Type: other For: Approval  
 Source: Huawei*

**Decision: Return to.**

[**R4-2406585**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406585.zip) **WF on requirements for 6Rx**

*Type: other For: Approval  
 Source: AT&T*

**Decision: Return to.**

**Minutes and agreements after the first round**

Refer to the following hyperlinks for more detailed meeting minutes

<https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_110bis/Inbox/Drafts/%5B110bis%5D%5B100%5D%20Main%20Session/01.Monday/08.%5B129%5D_R4_2405282%20Topic%20summary%20for%20%5B110bis%5D%5B129%5D%20NR_ENDC_RF_Ph4.docx>

**Issue 2-1-1: New proposed BC configurations which are not included in the WI objectives**

**Agreement:**

* For the lower order power class cases,
  + Have the Rel-19 basket WIs to cover the necessary requirements
    - FFS on whether to have independent basket WIs to cover the requirements in RAN plenary
* For the new UL intra-band CA configurations for PC1.5 and the other band specific requirements of the example band combinations in this WID
  + Have the Rel-19 basket WIs to cover the necessary requirements
    - FFS on whether to have independent basket WIs to cover the requirements in RAN plenary
  + Discuss the requirements for those new UL intra-band CA configurations for PC1.5 after the general requirements are finalized in this WI

**Issue 2-2-1: Applicability of 3Tx requirements for FWA and handheld UE**

**Agreement:**

* 3Tx NR-CA configurations and corresponding requirements defined in Rel-18 are applied to handheld UE in Rel-19.
* 3Tx EN-DC configurations and corresponding requirements defined in Rel-18 are applied to handheld UE in Rel-19

### 9.2 NR base station (BS) RF requirement evolution for FR1/FR2 and testing

### 9.3 Study on IMT parameters for 4400 to 4800 MHz, 7125 to 8400 MHz and 14800 to 15350 MHz

#### 9.3.1 General aspects (work plan)

[**R4-2404934**](file:///D:\RAN4%23110bis\Docs\R4-2404934.zip) **Views on IMT parameters for WP5D and RAN4**

*Type: discussion For: Discussion  
 Source: Samsung*

**Decision: Noted.**

[**R4-2405661**](file:///D:\RAN4%23110bis\Docs\R4-2405661.zip) **General IMT parameters**

*Type: discussion For: Discussion  
 Source: Nokia*

**Decision: Noted.**

[**R4-2405874**](file:///D:\RAN4%23110bis\Docs\R4-2405874.zip) **Work Plan for SI on IMT parameters relevant for sharing and compatibility for 4400 to 4800 MHz, 7125 to 8400 MHz, and 14800 to 1530 MHz frequency ranges**

*Type: Work Plan For: Approval  
 Source: Ericsson*

**Abstract:**

This contribution is proposing a Work Plan to answer ITU-R LS for 4400 to 4800 MHz, 7125 to 8400 MHz, and 14800 to 1530 MHz frequency ranges

Chair: the work plan is agreeable to the group, and the LS to ITU can capture the work plan if needed.

**Decision: Noted.**

[**R4-2404857**](file:///D:\RAN4%23110bis\Docs\R4-2404857.zip) **Work Plan for SI on IMT parameters relevant for sharing and compatibility for 4400 to 4800 MHz, 7125 to 8400 MHz, and 14800 to 1530 MHz frequency ranges**

*Type: Work Plan For: Approval  
 Source: Ericsson*

**Abstract:**

This contribution is proposing a Work Plan to answer ITU-R LS for 4400 to 4800 MHz, 7125 to 8400 MHz, and 14800 to 1530 MHz frequency ranges

**Decision:** The document was **withdrawn**.

#### 9.3.2 LS reply for NR in 4400 to 4800 MHz

[**R4-2404164**](file:///D:\RAN4%23110bis\Docs\R4-2404164.zip) **On IMT technical parameters for 4400-4800MHz**

*Type: discussion For: Discussion  
 Source: Apple*

**Decision: Noted.**

[**R4-2404247**](file:///D:\RAN4%23110bis\Docs\R4-2404247.zip) **On UE IMT parameters for 4400-4800MHz based on n79**

*Type: other For: Approval  
 Source: Skyworks Solutions Inc.*

**Abstract:**

In this contribution, we provide some elements of the answers for the system and UE parameters, focussing on the 4400-4800MHz range based on band n79 parameters.

**Decision: Noted.**

[**R4-2404702**](file:///D:\RAN4%23110bis\Docs\R4-2404702.zip) **Discussion on Interference Concerns for Altimeters in 4400 to 4800 MHz**

*Type: discussion For: Discussion  
 Source: ISSDU*

**Abstract:**

This contribution addresses aircraft altimeter safety against potential 5G interference in the N79 band (4.2-4.4 GHz). It recommends revising TS 38.104 to adjust spectrum boundaries as per ITU-R guidelines and suggests updating 3GPP TS 38.108 for enhanced

ZTE: the protection issue of altimeter was discussed when 5G starts.

Ericsson: the same parameters will be provided to ITU for consideration. Procedurely we can only do the change in the other WI rather than this SI.

CATT: for proposal 1, it is not possible and not necessary.

**Decision: Noted.**

[**R4-2405079**](file:///D:\RAN4%23110bis\Docs\R4-2405079.zip) **Views on IMT parameters for 4400 to 4800 MHz**

*Type: discussion For: Approval  
 Source: Qualcomm Germany*

**Decision: Noted.**

[**R4-2405728**](file:///D:\RAN4%23110bis\Docs\R4-2405728.zip) **Technical parameters for the 4400 to 4800 MHz IMT band for sharing studies**

*Type: discussion For: Approval  
 Source: CableLabs, Charter Communications, Cox Communications*

**Decision: Noted.**

LS

[**R4-2404285**](file:///D:\RAN4%23110bis\Docs\R4-2404285.zip) **LS reply for NR in 4400 to 4800 MHz**

*Type: other For: Approval  
 Source: Nokia*

**Abstract:**

This contribution discusses the BS antenna parameters extracted from the extended array antenna model in [R4-2108080](file:///D:\RAN4%23110bis\Docs\R4-2108080.zip) and proposes some updates according to better represent actual deployment scenarios.

**Decision: Noted.**

[**R4-2404759**](file:///D:\RAN4%23110bis\Docs\R4-2404759.zip) **Draft LS on Parameters relevant for 4400 to 4800 MHz of terrestrial component of IMT for sharing and compatibility studies in preparation for WRC-27**

*Type: discussion For: Approval  
 Source: Ericsson*

**Abstract:**

At the end of this contribution a draft LS to ITU-R WP 5D with a workplan and information relevant for 4400 to 4800 MHz is attached as an annex.

**Decision: Revised to R4-2406613 (from R4-2404759).**

[**R4-2406613**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406613.zip) **Draft LS on Parameters relevant for 4400 to 4800 MHz of terrestrial component of IMT for sharing and compatibility studies in preparation for WRC-27**

*Type: discussion For: Approval  
 Source: Ericsson*

**Abstract:**

At the end of this contribution a draft LS to ITU-R WP 5D with a workplan and information relevant for 4400 to 4800 MHz is attached as an annex.

**Decision: Return to.**

[**R4-2405425**](file:///D:\RAN4%23110bis\Docs\R4-2405425.zip) **LS reply for range 4400 to 4800 MHz**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2405629**](file:///D:\RAN4%23110bis\Docs\R4-2405629.zip) **draft LS reply for NR in 4400 to 4800 MHz**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

#### 9.3.3 Study the IMT parameters relevant for sharing and compatibility for 7125 to 8400 MHz frequency range

[**R4-2404165**](file:///D:\RAN4%23110bis\Docs\R4-2404165.zip) **On IMT technical parameters for 7125-8400MHz**

*Type: discussion For: Discussion  
 Source: Apple*

**Decision: Noted.**

[**R4-2404246**](file:///D:\RAN4%23110bis\Docs\R4-2404246.zip) **On UE IMT parameters for 7125-8400MHz based on n104 extrapolation**

*Type: other For: Approval  
 Source: Skyworks Solutions Inc.*

**Abstract:**

In this contribution, we provide some elements of the answers for the system and UE parameters, focussing on the 7125-8400MHz range based on extrapolating from band n104 parameters.

**Decision: Noted.**

[**R4-2404286**](file:///D:\RAN4%23110bis\Docs\R4-2404286.zip) **IMT parameters for 7125 to 8400 MHz**

*Type: other For: Approval  
 Source: Nokia*

**Abstract:**

This contribution discusses the BS antenna parameters from the SI outcomes on 7 to 24 GHz as captured in TR 38.820 or 6 to 10 GHz parameters as captured in TR 38.921 and proposes some updates to better represents actual deployment scenarios.

**Decision: Noted.**

[**R4-2404454**](file:///D:\RAN4%23110bis\Docs\R4-2404454.zip) **On IMT parameters for 7125 to 8400 MHz frequency range**

*Type: discussion For: Discussion  
 Source: CATT*

**Decision: Noted.**

[**R4-2404673**](file:///D:\RAN4%23110bis\Docs\R4-2404673.zip) **Discussion on characteristics of UE for 7125 to 8400 MHz**

*Type: other For: Approval  
 Source: vivo*

**Decision: Noted.**

[**R4-2404943**](file:///D:\RAN4%23110bis\Docs\R4-2404943.zip) **IMT parameters relevant for sharing and compatibility for 7125 to 8400 MHz frequency range**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

This contribution discusses parameters for the 7125-8400 MHz frequency range, addressing ITU-R WP5D LS

**Decision: Noted.**

[**R4-2405080**](file:///D:\RAN4%23110bis\Docs\R4-2405080.zip) **Views on IMT parameters for 7125 to 8400 MHz**

*Type: discussion For: Approval  
 Source: Qualcomm Germany*

**Decision: Noted.**

[**R4-2405426**](file:///D:\RAN4%23110bis\Docs\R4-2405426.zip) **IMT technology related parameters for 7125 to 8400 MHz**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2405630**](file:///D:\RAN4%23110bis\Docs\R4-2405630.zip) **Discussion on IMT parameters for 7125-8400MHz**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2405729**](file:///D:\RAN4%23110bis\Docs\R4-2405729.zip) **Technical parameters for the 7125 to 8400 MHz and 14800 to 15350 MHz IMT bands for sharing studies**

*Type: discussion For: Approval  
 Source: CableLabs, Charter Communications, Cox Communications*

**Decision: Noted.**

#### 9.3.4 Study the IMT parameters relevant for sharing and compatibility for 14800 to 15350 MHz frequency range

[**R4-2404166**](file:///D:\RAN4%23110bis\Docs\R4-2404166.zip) **On IMT technical parameters for 14800-15350MHz**

*Type: discussion For: Discussion  
 Source: Apple*

**Decision: Noted.**

[**R4-2404245**](file:///D:\RAN4%23110bis\Docs\R4-2404245.zip) **On UE IMT parameters for 14800-15350MHz**

*Type: other For: Approval  
 Source: Skyworks Solutions Inc.*

**Abstract:**

In this contribution, we provide some elements of the answers for the system and UE parameters, focussing on the 14.8-15.35GHz frequency range.

**Decision: Noted.**

[**R4-2404287**](file:///D:\RAN4%23110bis\Docs\R4-2404287.zip) **IMT parameters for 14800 to 15350 MHz**

*Type: discussion For: Discussion  
 Source: Nokia*

**Abstract:**

This contribution discusses the BS antenna parameters from the SI outcomes on 7 to 24 GHz as captured in TR 38.820 and the propagation loss model in TR 36.942.

**Decision: Noted.**

[**R4-2404486**](file:///D:\RAN4%23110bis\Docs\R4-2404486.zip) **Views on IMT parameters for 14800 to 15350 MHz frequency range**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

**Decision: Noted.**

[**R4-2404674**](file:///D:\RAN4%23110bis\Docs\R4-2404674.zip) **Discussion on characteristics of UE for 14800 to 15350 MHz**

*Type: other For: Approval  
 Source: vivo*

**Decision: Noted.**

[**R4-2404858**](file:///D:\RAN4%23110bis\Docs\R4-2404858.zip) **On BS and UE RF feasibility aspects relevant for 14800 to 15350 MHz frequency range**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

This contribution focuses on the discussion for the 14800 to 15350 frequency range.

**Decision: Noted.**

[**R4-2405081**](file:///D:\RAN4%23110bis\Docs\R4-2405081.zip) **Views on IMT parameters for 14 800 to 15 350 MHz**

*Type: discussion For: Approval  
 Source: Qualcomm Germany*

**Decision: Noted.**

[**R4-2405427**](file:///D:\RAN4%23110bis\Docs\R4-2405427.zip) **Discussion on frequency range 14.8-15.35 GHz**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2405631**](file:///D:\RAN4%23110bis\Docs\R4-2405631.zip) **Discussion on IMT parameters for 14800 to 15350 MHz**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2405875**](file:///D:\RAN4%23110bis\Docs\R4-2405875.zip) **On BS and UE RF feasibility aspects relevant for 14800 to 15350 MHz frequency range**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

This contribution focuses on the discussion for the 14800 to 15350 frequency range.

**Decision:** The document was **withdrawn**.

LS

[**R4-2404675**](file:///D:\RAN4%23110bis\Docs\R4-2404675.zip) **draft LS on the channel model for 7-24 GHz**

*Type: other For: Approval  
 Source: vivo*

*ZTE: RAN1 will discuss the channel model. RAN4 uses the current model for co-existence study. If RAN1 had new agreement, we can add it for RAN4 afterwards.*

*Ericsson: We do not study MIMO performance in this SI. We have tight timeline to reply ITU. We do not involve RAN1 aspects.*

*CATT: in our understanding, RAN1 refines the model. We should not wait for that.*

*Huawei: We share the similar view. RAN4 can reuse the existing model. There are different schedule for this SI and RAN1 SI.*

*Samsung: Based on our understanding, ITU may or may not use our model. Given the previous speaker, we should not wait for RAN1.*

*Vivo: We proposed LS to check whether WG have common understanding.*

**Decision: Noted.**

#### 9.3.5 Other aspects

[**R4-2404760**](file:///D:\RAN4%23110bis\Docs\R4-2404760.zip) **An overview of the array antenna model**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

In this contribution we present an overview of the array antenna model used in 3GPP and provide some additional background and description required for the LS response to ITU-R WP 5D.

**Decision: Noted.**

[**R4-2405309**](file:///D:\RAN4%23110bis\Docs\R4-2405309.zip) **Discussion on parameters of terrestrial component of IMT for sharing studies**

*Type: discussion For: Discussion  
 Source: CMCC*

**Decision: Noted.**

[**R4-2405428**](file:///D:\RAN4%23110bis\Docs\R4-2405428.zip) **On pre-set sub array tilt**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2405632**](file:///D:\RAN4%23110bis\Docs\R4-2405632.zip) **Discussion on other issues in ITU-R LS**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

TR/TP

[**R4-2404944**](file:///D:\RAN4%23110bis\Docs\R4-2404944.zip) **TR skeleton for the SI on IMT parameters for 4400 to 4800 MHz, 7125 to 8400 MHz and 14800 to 15350 MHz**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

This contribution is a draft skeleton for the new TR capturing the outcomes of the SI FS\_4400\_15350MHz\_NR

Huawei: Suggest to have different sections for different frequency ranges.

CATT: we can split into different frequency range sections.

Qualcomm: We suggest the new section for AAS modelling.

Ericsson: To Huawei, CATT, it is based on the TR for 10MHz. We can revise TRs.

CableLabs: add sub-sections to describe the SINR to Throughput, since ITU provides the table.

**Decision: Revised to R4-2406614 (from R4-2404944).**

**[R4-2406614](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406614.zip) TR skeleton for the SI on IMT parameters for 4400 to 4800 MHz, 7125 to 8400 MHz and 14800 to 15350 MHz**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

**Decision: Return to.**

#### 9.3.6 Moderator summary and conclusions

[**R4-2405283**](file:///D:\RAN4%23110bis\Docs\R4-2405283.zip) **Topic summary for [110bis][130] FS\_NR\_IMT**

*Type: other For: Information  
 Source: Moderator(Ericsson)*

**Abstract:**

Summary for AI 9.3

**Decision: Noted.**

**Newly allocated tdocs in the first round**

[**R4-2406600**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406600.zip) **Ad hoc minutes on FS\_NR\_IMT**

*Type: other For: Approval  
 Source: Ericsson*

**Decision: Noted.**

[**R4-2406601**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406601.zip) **WF on study of IMT parameters for 4400 ~4800 MHz frequency range**

*Type: other For: Approval  
 Source: Ericsson*

**Decision: Revised to R4-2406612 (from R4-2406601).**

[**R4-2406612**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406612.zip) **WF on study of IMT parameters for 4400 ~4800 MHz frequency range**

*Type: other For: Approval  
 Source: Ericsson*

**Decision: Return to.**

[**R4-2406615**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406615.zip) **WF on IMT parameters for other frequency ranges**

*Type: other For: Approval  
 Source: CATT*

**Decision: Return to.**

**Minutes and agreements after the first round**

Refer to the following hyperlinks for more detailed meeting minutes

R4\_2406600 ad hoc minutes was handled during 1st round online discussions.

<https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_110bis/Inbox/Drafts/%5B110bis%5D%5B100%5D%20Main%20Session/02.Tuesday/08.%5B130%5D_R4_2406600%20%5B110bis%5D%5B130%5D%20FS_NR_IMT%20ad-hoc%20minutes%20after.docx>

The agreed way forward during ad hoc were captured below.

**Issue 2-1: Basis for parameters**

**Way forward:**

* One parameter set will be sent
* Majority view is to keep the mechanical and pre-set tilt the same as in the previous response

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1.7c | Pre-set sub-array down-tilt (degrees) (Note 6) | 3 | 3 | 3 |  |  |
| 1.12 | Mechanical down-tilt (degrees) | 3 | 6 | 6 |  |  |

**Way forward for checking in the main session:**

* AAS: Antenna parameters table for AAS captures 8x8 (No sub-array) for micro AAS and N/A for indoor
* Non-AAS: 2x4 BS for micro, 2x2 indoor is considered part of non-AAS parameters

**Issue 2-3: Power class**

**Way forward for UE power class:**

* As in UE specification
* Reflected in maximum output power

**Issue 2-4: Number of UE RX**

**Way forward on sensitivity:**

* Assume in UE specification

**Issue 2-5: Channel bandwidth and SCS**

**Way forward:**

* As in UE specification; up to 100MHz as typical

**Issue 2-6: UE Noise Figure**

**Way forward:**

* 9dB

**Issue 2-7: Updating of antenna table terminology**

**Way forward**

* Update the term ‘H/V polarized element’ to ‘linear ±45º polarized sub-array’ in Note 3
* Change the word ‘elements’ from Row 1.6 to “sub-arrays/elements”.

**Issue 3-1: Baseline for parameters**

**Way forward:**

* N104 as starting point
  + Identify which parameters need further discussion and could differ from n104

**Issue 3-2: Deployment scenarios to consider**

**Way forward:**

* Include urban and sub-urban macro, but double check coverage

### 9.4 TRP (Total Radiated Power), TRS (Total Radiated Sensitivity) and MIMO OTA (Over the Air) testing enhancement Phase 3

### 9.5 Study on NR FR2 OTA (Over the Air) testing enhancement Phase 3

### 9.6 NR Radio Resource Management (RRM) Phase 5

### 9.7 Support of intra-band non-collocated EN-DC/NR-CA deployment Phase2: new receiver type(s)

#### 9.7.1 General aspects (work plan)

[**R4-2404199**](file:///D:\RAN4%23110bis\Docs\R4-2404199.zip) **RF/RRM work plan for NonCol\_intraB\_ENDC\_NR\_CA\_Ph2 WI**

*Type: Work Plan For: Approval  
 Source: KDDI Corporation*

**Decision:** The document was **not treated**.

[**R4-2405101**](file:///D:\RAN4%23110bis\Docs\R4-2405101.zip) **On UE RF architecture in work plan**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Comments regarding what to introduce in work plan, like UE RF architecture

**Decision: Noted.**

#### 9.7.2 UE RF requirements for type 4a/4b capable FWA UE

[**R4-2404200**](file:///D:\RAN4%23110bis\Docs\R4-2404200.zip) **Discussion on non-collocated EN-DC/NR-CA for Type 4a/4b**

*Type: discussion For: Discussion  
 Source: KDDI Corporation*

**Decision: Noted.**

[**R4-2404258**](file:///D:\RAN4%23110bis\Docs\R4-2404258.zip) **Introduction of type 4 UE architecture**

*Type: discussion For: Discussion  
 Source: Huawei Technologies France*

**Decision: Noted.**

[**R4-2404342**](file:///D:\RAN4%23110bis\Docs\R4-2404342.zip) **On type 4 UE for intra-band non-colocation NR CA/EN-DC**

*Type: discussion For: Discussion  
 Source: Apple*

**Decision: Noted.**

[**R4-2404545**](file:///D:\RAN4%23110bis\Docs\R4-2404545.zip) **Discussion on UE RF requirements for type 4a/4b capable FWA UE**

*Type: discussion For: Discussion  
 Source: Xiaomi*

**Decision: Noted.**

[**R4-2404987**](file:///D:\RAN4%23110bis\Docs\R4-2404987.zip) **Views on RF aspect for non-collocated deployment**

*Type: discussion For: Discussion  
 Source: Samsung*

**Decision: Noted.**

[**R4-2405102**](file:///D:\RAN4%23110bis\Docs\R4-2405102.zip) **On UE RF requirements**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

Proposal regarding Type 4 UE RX Power Imbalance.

**Decision: Noted.**

[**R4-2405234**](file:///D:\RAN4%23110bis\Docs\R4-2405234.zip) **Discussion on type 4a/4b for NonCol\_intraB\_ENDC\_NR\_CA**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2405380**](file:///D:\RAN4%23110bis\Docs\R4-2405380.zip) **Initial discussion on intra-band non-collocated**

*Type: other For: Approval  
 Source: OPPO*

**Decision: Noted.**

[**R4-2405410**](file:///D:\RAN4%23110bis\Docs\R4-2405410.zip) **Discussion intra-band non-collocated deployment Phase2**

*Type: discussion For: Discussion  
 Source: Nokia*

**Decision: Noted.**

#### 9.7.3 Moderator summary and conclusions

[**R4-2405284**](file:///D:\RAN4%23110bis\Docs\R4-2405284.zip) **Topic summary for [110bis][131] NonCol\_intraB\_ENDC\_NR\_CA**

*Type: other For: Information  
 Source: Moderator(KDDI)*

**Abstract:**

Summary for AI 4.2.8.1, 9.7

**Decision:** The document was **not treated**.

### 9.8 Enhancements for Air-to-ground network for NR

#### 9.8.1 General aspects (work plan)

[**R4-2404692**](file:///D:\RAN4%23110bis\Docs\R4-2404692.zip) **(NR\_ATG\_enh-Core) Work plan on Rel-19 enhancements for ATG**

*Type: discussion For: Discussion  
 Source: CMCC*

*Chair: no comments received and encourage companies to follow the work plan.*

**Decision: Noted.**

[**R4-2405345**](file:///D:\RAN4%23110bis\Docs\R4-2405345.zip) **General discussion on UE spec impacts and Rel-19 ATG UE spec framework**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

#### 9.8.2 UE RF requirements for CA and UL-MIMO

[**R4-2404347**](file:///D:\RAN4%23110bis\Docs\R4-2404347.zip) **Overview on requirement impact for ATG UE**

*Type: discussion For: Discussion  
 Source: Apple*

**Decision: Noted.**

[**R4-2404608**](file:///D:\RAN4%23110bis\Docs\R4-2404608.zip) **Discussion on ATG UE RF requirements for UL-MIMO**

*Type: discussion For: Discussion  
 Source: LG Electronics*

**Abstract:**

It disscuses on ATG UE RF requirements for UL-MIMO.

**Decision: Noted.**

[**R4-2404693**](file:///D:\RAN4%23110bis\Docs\R4-2404693.zip) **(NR\_ATG\_enh-Core) General consideration on UE RF core requirements for ATG with CA and UL-MIMO**

*Type: discussion For: Discussion  
 Source: CMCC*

**Decision: Noted.**

[**R4-2405344**](file:///D:\RAN4%23110bis\Docs\R4-2405344.zip) **General discussion on Rel-19 ATG UE RF**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2405521**](file:///D:\RAN4%23110bis\Docs\R4-2405521.zip) **Discussion on RF considerations of ATG UE CA and UL MIMO**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

This paper will delve into some RF considerations for defining requirements for ATG CA and UL MIMO

**Decision: Noted.**

[**R4-2405621**](file:///D:\RAN4%23110bis\Docs\R4-2405621.zip) **Discussion on RF requirements for ATG UE in Rel-19**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

#### 9.8.3 BS RF requirements for CA

#### 9.8.4 Moderator summary and conclusions

[**R4-2405285**](file:///D:\RAN4%23110bis\Docs\R4-2405285.zip) **Topic summary for [110bis][132] NR\_ATG\_enh**

*Type: other For: Information  
 Source: Moderator(CMCC)*

**Abstract:**

Summary for 4.2.7.1, 9.8.1,9.8.2

**Decision: Noted.**

**Newly allocated tdocs in the first round**

[**R4-2406594**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406594.zip) **WF on Rel-19 ATG UE requirements**

*Type: other For: Approval  
 Source: CMCC*

**Decision: Return to.**

**Minutes and agreements after the first round**

Refer to the following hyperlinks for more detailed meeting minutes

<https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_110bis/Inbox/Drafts/%5B110bis%5D%5B100%5D%20Main%20Session/02.Tuesday/03.%5B132%7D_R4_2405285_NR-ATG.docx>

**Issue 3-1-1: whether maximum output power is declared per single carrier or per band(aggregated across all CCs) for inter-band CA and intra-band contiguous CA**

**Agreement**:

* Reuse the existing Rel-18 capability for MOP for ATG UE in Rel-19

**Issue 3-1-2: Tx RF requirements for intra-band contigous CA with one UL carrier and inter-band CA with one UL carrier.**

* Proposals
  + Option 1: reuse Tx RF requirements for ATG UE single CC operation. (APPLE, ZTE)
  + Option 2: TBA

**Agreement:**

* Agree on Option 1.

**Issue 3-2-1: more clarification for contiguous CA**

**Agreement:**

* Only consider contiguous DL CA case for ATG UE intra-band CA.
* The example band combination for intra-band contiguous CA is CA\_n79C

**Issue 3-4-2: max layer number for UL-MIMO**

* Proposals
  + Option 1: 2 layers (ZTE)

**Agreement:**

* Agree Option 1.

**Issue 3-4-4: the operation band for UL MIMOProposals**

* Proposals
  + Option 1: it’s better to clarify one exemplary band (Huawei)
  + Option 2: all existing ATG operation band applies (LGE)

**Agreement:**

* Agree on Option 2.

**Issue 3-4-5: maximum output power**

* Proposals
  + Option 1: For UE maximum output power, reuse the rated maximum output power declared by the ATG UE capability maxOutputPowerATG-r18, and consider the existing NR UL-MIMO requirement as starting point with the capability antennaArrayType-r18. (LGE)
  + Option 2: UE maximum output power with UL MIMO should be declared via UE capability (CMCC, Ericsson)
    - Power declaration should depend on the activation status of the ATG CA (Ericsson)

**Agreement:**

* Use Option 1 as starting point.

### 9.9 NR sidelink Intra-band Carrier Aggregation in ITS band

#### 9.9.1 General aspects (work plan)

[**R4-2405389**](file:///D:\RAN4%23110bis\Docs\R4-2405389.zip) **Work Plan for Rel-19 sidelink**

*Type: Work Plan For: Approval  
 Source: OPPO, LGE*

*Huawei: in the WID, the contiguous and non-contiguous CA are differentiated. In work plan there are different objectives for power clases.*

*OPPO: In the WID, there is note to say PC3 can start earlier. That is why we differentiate PC3 and PC2 in the different meetings. Regarding the agenda arrangement, we can have further offline.*

*LGE: I would like to suggest separate agenda: contiguous and non-contiguous.*

**Decision: Noted.**

[**R4-2404542**](file:///D:\RAN4%23110bis\Docs\R4-2404542.zip) **Consideration of leftover issue of NR sidelink WI in Rel-18 and scope in Rel-19**

*Type: other For: Approval  
 Source: Meta Ireland*

**Abstract:**

In this paper, we provide our preference and how to treat the leftover topic and SL-CA work scope in the first phase Rel-19 timeline.

**Decision: Noted.**

[**R4-2404207**](file:///D:\RAN4%23110bis\Docs\R4-2404207.zip) **Sidelink CA**

*Type: discussion For: Discussion  
 38.101-1 v CR- rev Cat: (Rel-19)  
  
 Source: Qualcomm Technologies Int*

**Decision:** The document was **withdrawn**.

TR/TP

[**R4-2405388**](file:///D:\RAN4%23110bis\Docs\R4-2405388.zip) **TR skeleton for intra-band sidelink CA**

*Type: other For: Approval  
 Source: OPPO*

LGE: there is one typo for section 7.1

Meta: did not find Rx requirements sections.

OPPO: we can add Rx part.

**Decision: Revised to R4-2406599 (from R4-2405388).**

**[R4-2406599](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406599.zip) TR skeleton for intra-band sidelink CA**

*Type: other For: Approval  
 Source: OPPO*

**Decision: Return to.**

#### 9.9.2 UE RF requirements for intra-band non-contiguous CA

[**R4-2404506**](file:///D:\RAN4%23110bis\Docs\R4-2404506.zip) **On sidelink intra-band contiguous/non-contiguous CA in PC3 and PC2**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2404547**](file:///D:\RAN4%23110bis\Docs\R4-2404547.zip) **Discussion on sidelink intra-band non-contiguous CA with PC3 and PC 2 in n47**

*Type: discussion For: Discussion  
 Source: Xiaomi*

**Decision: Noted.**

[**R4-2404603**](file:///D:\RAN4%23110bis\Docs\R4-2404603.zip) **Discussion on UE RF requirements for SL intra-band non-contiguous CA**

*Type: discussion For: Discussion  
 Source: LG Electronics*

**Abstract:**

It disscuses on UE RF requirements for SL intra-band non-contiguous CA.

**Decision: Noted.**

[**R4-2404667**](file:///D:\RAN4%23110bis\Docs\R4-2404667.zip) **Discussion on UE RF requirements for intra-band non-contiguous CA**

*Type: other For: Approval  
 Source: vivo*

**Decision: Noted.**

[**R4-2405387**](file:///D:\RAN4%23110bis\Docs\R4-2405387.zip) **Initial discussion on Sidelink intra-band non-contiguous CA work**

*Type: other For: Approval  
 Source: OPPO*

**Decision: Noted.**

#### 9.9.3 UE RF requirements for intra-band contiguous CA

[**R4-2404505**](file:///D:\RAN4%23110bis\Docs\R4-2404505.zip) **On sidelink intra-band contiguous CA in PC2**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2404548**](file:///D:\RAN4%23110bis\Docs\R4-2404548.zip) **Discussion on sidelink intra-band contiguous CA with power class 2 in n47**

*Type: discussion For: Discussion  
 Source: Xiaomi*

**Decision: Noted.**

[**R4-2404604**](file:///D:\RAN4%23110bis\Docs\R4-2404604.zip) **Discussion on UE RF requirements for SL intra-band contiguous CA**

*Type: discussion For: Discussion  
 Source: LG Electronics*

**Abstract:**

It disscuses on UE RF requirements for SL intra-band contiguous CA.

**Decision: Noted.**

[**R4-2404668**](file:///D:\RAN4%23110bis\Docs\R4-2404668.zip) **Discussion on UE RF requirements for intra-band contiguous CA**

*Type: other For: Approval  
 Source: vivo*

**Decision: Noted.**

[**R4-2405386**](file:///D:\RAN4%23110bis\Docs\R4-2405386.zip) **Initial discussion on Sidelink intra-band contiguous CA work**

*Type: other For: Approval  
 Source: OPPO*

**Decision: Noted.**

#### 9.9.4 Moderator summary and conclusions

[**R4-2405286**](file:///D:\RAN4%23110bis\Docs\R4-2405286.zip) **Topic summary for [110bis][133] NR\_SL\_ intraB\_CA\_ITS**

*Type: other For: Information  
 Source: Moderator(OPPO)*

**Abstract:**

Summary for AI 9.9

**Decision: Noted.**

**Newly allocated tdocs in the first round**

[**R4-2406611**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406611.zip) **WF on NR\_SL\_ intraB\_CA\_ITS**

*Type: other For: Approval  
 Source: OPPO*

**Decision: Return to.**

**Minutes and agreements after the first round**

Refer to the following hyperlinks for more detailed meeting minutes

<https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_110bis/Inbox/Drafts/%5B110bis%5D%5B100%5D%20Main%20Session/02.Tuesday/05.%5B133%5D_draft%20R4_2405286%20Topic%20summary%20for%20%5B110bis%5D%5B133%5D%20NR_SL_%20intraB_CA_ITS_v3_Meta_HW%20(1).docx>

**Issue 2-1-1: Channel bandwidth**

**Agreement:**

* RAN4 should specify the RF requirements based on the channel bandwidth combinations with two component carrier in Table 2.1-1:

Table 2.1-1 channel bandwidth combinations for SL intra-band non-contiguous CA

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sidelink CA configuration / Bandwidth combination set | | | | | | | |
| Sidelink CA configuration | Sidelink CA configuration for TX | Component carriers in order of increasing carrier frequency | | | | Maximum aggregated  bandwidth [MHz] | Bandwidth combination set |
| Channel bandwidths for carrier [MHz] | Channel bandwidths for carrier [MHz] | Channel bandwidths for carrier [MHz] | Channel bandwidths for carrier [MHz] |
| SL\_n47(2A) | SL\_n47(2A) | 10 | 10, 20 |  |  | 30 | 0 |

**Issue 3-1-1: System Parameter**

**Agreement:**

* RAN4 define the PC2 RF requirements for sidelink CA SL\_n47B with channel bandwidth combinations in Table 2.1-1:

Table 2.1-1 channel bandwidth combinations for PC2 SL intra-band contiguous CA

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Sidelink CA configuration / Bandwidth combination set** | | | | | | | |
| Sidelink CA configuration | Sidelink CA configuration for TX | Component carriers in order of increasing carrier frequency | | | | Maximum aggregated  bandwidth [MHz] | Bandwidth combination set |
| Channel bandwidths for carrier [MHz] | Channel bandwidths for carrier [MHz] | Channel bandwidths for carrier [MHz] | Channel bandwidths for carrier [MHz] |
| SL\_n47B | SL\_n47B | 10 | 10, 20,30 |  |  | 70 | 0 |
|  |  | [20] | [20], [30] |  |  |  |  |
|  |  | 30 | 30,40 |  |  |  |  |

**Issue 3-2-2: RF architecture**

**Agreement:**

* Specify PC2 MPR considering both single Tx and dual Tx.
  + FFS on PA assumptions, i.e., number of PAs and/or number of LOs

### 9.10 NR channel BW less than 5MHz for FR1 Phase 2

#### 9.10.1 General aspects (work plan)

[**R4-2404735**](file:///D:\RAN4%23110bis\Docs\R4-2404735.zip) **Workplan for Rel-19 NR channel BW less than 5MHz for TN work item**

*Type: Work Plan For: Approval  
 Source: Intel Corporation*

**Decision:** The document was **not treated**.

[**R4-2405912**](file:///D:\RAN4%23110bis\Docs\R4-2405912.zip) **Analysis of the ECC regulation for multi-carrier operation in n100/n101**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon, Vodafone, Orange, Telia Company, Telefónica, Deutsche Telekom*

**Abstract:**

In this contribution, we provide analysis of the ECC regulation related to the single-carrier and multi-carrier operation aspects, based on ECC Decision (20)02.

**Decision: Noted.**

Draft CR

[**R4-2405913**](file:///D:\RAN4%23110bis\Docs\R4-2405913.zip) **Draft CR to TS 38.104: Clarification on multiple carrier operation for n100/n101, Rel-17**

*Type: draftCR For: Endorsement  
 38.104 v17.13.0 CR- rev Cat: F (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Abstract:**

Based on related discussion paper capturing single-carrier and multiple-carrier operation (including CA) for n100/n101, in this CR we provide clarification on the multiple carrier operation for FRMCS BS operation in bands n100 and/or n101.

**Decision:** The document was **not treated**.

[**R4-2405914**](file:///D:\RAN4%23110bis\Docs\R4-2405914.zip) **Draft CR to TS 38.104: Clarification on multiple carrier operation for n100/n101, Rel-18**

*Type: draftCR For: Endorsement  
 38.104 v18.5.0 CR- rev Cat: A (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Abstract:**

Based on related discussion paper capturing single-carrier and multiple-carrier operation (including CA) for n100/n101, in this CR we provide clarification on the multiple carrier operation for FRMCS BS operation in bands n100 and/or n101.

**Decision:** The document was **not treated**.

[**R4-2405915**](file:///D:\RAN4%23110bis\Docs\R4-2405915.zip) **Draft CR to TS 38.141-1: Clarification on multiple carrier operation for n100/n101, Rel-17**

*Type: draftCR For: Endorsement  
 38.141-1 v17.13.0 CR- rev Cat: F (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Abstract:**

Based on related discussion paper capturing single-carrier and multiple-carrier operation (including CA) for n100/n101, in this CR we provide clarification on the multiple carrier operation for FRMCS BS operation in bands n100 and/or n101.

**Decision:** The document was **not treated**.

[**R4-2405916**](file:///D:\RAN4%23110bis\Docs\R4-2405916.zip) **Draft CR to TS 38.141-1: Clarification on multiple carrier operation for n100/n101, Rel-18**

*Type: draftCR For: Endorsement  
 38.141-1 v18.5.0 CR- rev Cat: A (Rel-18)  
  
 Source: Huawei, HiSilicon*

**Abstract:**

Based on related discussion paper capturing single-carrier and multiple-carrier operation (including CA) for n100/n101, in this CR we provide clarification on the multiple carrier operation for FRMCS BS operation in bands n100 and/or n101.

**Decision:** The document was **not treated**.

#### 9.10.2 UE RF requirements for inter-band NR CA/DC with 3MHz CBW

[**R4-2404257**](file:///D:\RAN4%23110bis\Docs\R4-2404257.zip) **DC CA UE Requirements in the case of 3MHz CBW**

*Type: discussion For: Discussion  
 Source: Huawei Technologies France*

**Decision: Noted.**

[**R4-2404288**](file:///D:\RAN4%23110bis\Docs\R4-2404288.zip) **UE RF specification impact for inter-band NR CA/DC with 3MHz CBW**

*Type: other For: Approval  
 Source: Nokia*

**Abstract:**

This contribution provides the necessary changes of the UE RF requirements in TS 38.101-1 to support inter-band NR CA/DC with 3MHz CBW in band n100 and 5MHz or 10MHz CBW in band n101.

**Decision: Noted.**

[**R4-2404453**](file:///D:\RAN4%23110bis\Docs\R4-2404453.zip) **On UE RF requirements for inter-band NR CA/DC with 3MHz CBW**

*Type: discussion For: Discussion  
 Source: CATT*

**Decision: Noted.**

[**R4-2404736**](file:///D:\RAN4%23110bis\Docs\R4-2404736.zip) **Discussion on the RF spec scope of Rel-19 less than 5MHz work item for TN**

*Type: discussion For: Discussion  
 Source: Intel Corporation, UIC*

**Decision: Noted.**

[**R4-2404784**](file:///D:\RAN4%23110bis\Docs\R4-2404784.zip) **Discussion for UE RF requirements for inter-band NR CA/DC with 3MHz CBW**

*Type: discussion For: Discussion  
 Source: LG Electronics France*

**Decision: Noted.**

[**R4-2405062**](file:///D:\RAN4%23110bis\Docs\R4-2405062.zip) **Discussion on UE RF requirements inter-band NR CA/DC with 3MHz CBW**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2405714**](file:///D:\RAN4%23110bis\Docs\R4-2405714.zip) **UE RF impacts from NR less than 5 MHz phase 2**

*Type: other For: Approval  
 Source: Qualcomm Inc.*

**Decision: Noted.**

TP

[**R4-2405765**](file:///D:\RAN4%23110bis\Docs\R4-2405765.zip) **TP adding 3MHz example combination CA\_n100-n101**

*Type: discussion For: Approval  
 Source: Ericsson*

**Abstract:**

TP adding 3MHz example combination CA\_n100-n101. MCC: Chair recommended to move [R4-2405765](file:///D:\RAN4%23110bis\Docs\R4-2405765.zip), [R4-2405766](file:///D:\RAN4%23110bis\Docs\R4-2405766.zip) from AI 6.8.2 to AI 9.10.2 and treat it under [134].

**Decision:** The document was **not treated**.

Draft CR

[**R4-2404500**](file:///D:\RAN4%23110bis\Docs\R4-2404500.zip) **draftCR for inter-band NR CA/DC with 3MHz CBW (System parameter part)**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: (Rel-19)  
  
 Source: CATT*

**Decision:** The document was **not treated**.

[**R4-2405766**](file:///D:\RAN4%23110bis\Docs\R4-2405766.zip) **draft CR adding 3MHz example combination CA\_n100-n101**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: B (Rel-18)  
  
 Source: Ericsson*

**Abstract:**

draft CR adding 3MHz example combination CA\_n100-n101. MCC: Chair recommended to move [R4-2405765](file:///D:\RAN4%23110bis\Docs\R4-2405765.zip), [R4-2405766](file:///D:\RAN4%23110bis\Docs\R4-2405766.zip) from AI 6.8.2 to AI 9.10.2 and treat it under [134].

**Decision:** The document was **not treated**.

#### 9.10.3 Moderator summary and conclusions

[**R4-2405287**](file:///D:\RAN4%23110bis\Docs\R4-2405287.zip) **Topic summary for [110bis][134] NR\_FR1\_5MHz\_BW\_Ph2**

*Type: other For: Information  
 Source: Moderator(Intel)*

**Abstract:**

Summary for AI 9.10

**Decision:** The document was **not treated**.

### 9.11 Artificial Intelligence (AI)/Machine Learning (ML) for NR Air Interface

#### 9.11.1 General aspects

[**R4-2404281**](file:///D:\RAN4%23110bis\Docs\R4-2404281.zip) **General aspects of AIML**

*Type: other For: Approval  
 Source: InterDigital Communications*

**Abstract:**

In this contribution, we share our analysis on some of the general aspects of AIML.

**Decision: Noted.**

[**R4-2404426**](file:///D:\RAN4%23110bis\Docs\R4-2404426.zip) **Discussion on general aspects for AIML for NR air**

*Type: discussion For: Discussion  
 Source: CATT*

**Decision: Noted.**

[**R4-2404478**](file:///D:\RAN4%23110bis\Docs\R4-2404478.zip) **Discussion on general aspects of AIML for NR air interface**

*Type: discussion For: Discussion  
 Source: CAICT*

**Decision: Noted.**

[**R4-2404620**](file:///D:\RAN4%23110bis\Docs\R4-2404620.zip) **Post-deployment validation discussions for NR AI/ML**

*Type: discussion For: Discussion  
 Source: NTT DOCOMO, INC.*

**Decision: Noted.**

[**R4-2404719**](file:///D:\RAN4%23110bis\Docs\R4-2404719.zip) **Discussion on generalization**

*Type: discussion For: Discussion  
 Source: CMCC*

**Decision: Noted.**

[**R4-2404931**](file:///D:\RAN4%23110bis\Docs\R4-2404931.zip) **Views on general aspects of AI/ML testability and interoperability**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision: Noted.**

[**R4-2404945**](file:///D:\RAN4%23110bis\Docs\R4-2404945.zip) **On general aspects on AI/ML**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision: Noted.**

[**R4-2405148**](file:///D:\RAN4%23110bis\Docs\R4-2405148.zip) **General Aspects on AIML for NR air interface**

*Type: discussion For: Discussion  
 Source: Huawei,HiSilicon*

**Decision: Noted.**

[**R4-2405184**](file:///D:\RAN4%23110bis\Docs\R4-2405184.zip) **General aspects on AI/ML test**

*Type: other For: Approval  
 Source: OPPO*

**Decision: Noted.**

[**R4-2405190**](file:///D:\RAN4%23110bis\Docs\R4-2405190.zip) **Discussion on the general aspects**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2405610**](file:///D:\RAN4%23110bis\Docs\R4-2405610.zip) **AI general considerations**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Consderations on AI in RAN4 applicable to all use cases

**Decision: Noted.**

[**R4-2405651**](file:///D:\RAN4%23110bis\Docs\R4-2405651.zip) **General aspect of AI/ML for NR air interface**

*Type: other For: Approval  
 Source: Samsung*

**Decision: Noted.**

[**R4-2405675**](file:///D:\RAN4%23110bis\Docs\R4-2405675.zip) **Discussion on general aspects of AIML**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

**Decision: Noted.**

[**R4-2405706**](file:///D:\RAN4%23110bis\Docs\R4-2405706.zip) **General aspects on AI/ML for NR Air Interface**

*Type: discussion For: Discussion  
 Source: Apple*

**Decision: Noted.**

[**R4-2405737**](file:///D:\RAN4%23110bis\Docs\R4-2405737.zip) **On General Aspects of AI/ML for Air Interface**

*Type: discussion For: Discussion  
 Source: Nokia*

**Decision: Noted.**

[**R4-2405893**](file:///D:\RAN4%23110bis\Docs\R4-2405893.zip) **On AI/ML general aspects**

*Type: discussion For: Endorsement  
 Source: Keysight Technologies UK Ltd*

**Decision: Noted.**

#### 9.11.2 Testability and interoperability issues for beam management

[**R4-2404143**](file:///D:\RAN4%23110bis\Docs\R4-2404143.zip) **Testability and interoperability for beam management of AI/ML for NR air interface**

*Type: discussion For: Discussion  
 Source: Korea Testing Laboratory*

**Decision: Noted.**

[**R4-2404152**](file:///D:\RAN4%23110bis\Docs\R4-2404152.zip) **Discussion on AI/ML RAN4 BM use case**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

**Decision: Noted.**

[**R4-2404215**](file:///D:\RAN4%23110bis\Docs\R4-2404215.zip) **AI/ML beam management use case discussion**

*Type: discussion For: Approval  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

[**R4-2404427**](file:///D:\RAN4%23110bis\Docs\R4-2404427.zip) **Discussion on testability and interoperability issues for BM**

*Type: discussion For: Discussion  
 Source: CATT*

**Decision: Noted.**

[**R4-2404480**](file:///D:\RAN4%23110bis\Docs\R4-2404480.zip) **Discussion on testability and interoperability issues for beam management**

*Type: discussion For: Discussion  
 Source: CAICT*

**Decision: Noted.**

[**R4-2404484**](file:///D:\RAN4%23110bis\Docs\R4-2404484.zip) **Discussion on AI/ML testability and interoperability issues for beam management**

*Type: discussion For: Discussion  
 Source: LG Electronics Inc.*

**Decision: Noted.**

[**R4-2404573**](file:///D:\RAN4%23110bis\Docs\R4-2404573.zip) **Discussion on testability and interoperability issues for beam management**

*Type: discussion For: Discussion  
 Source: Xiaomi*

**Decision: Noted.**

[**R4-2404721**](file:///D:\RAN4%23110bis\Docs\R4-2404721.zip) **Discussion on testability and interoperability issues for beam management**

*Type: discussion For: Discussion  
 Source: CMCC*

**Decision: Noted.**

[**R4-2404946**](file:///D:\RAN4%23110bis\Docs\R4-2404946.zip) **Discussion on testability and interoperability issues for beam management**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision: Noted.**

[**R4-2405021**](file:///D:\RAN4%23110bis\Docs\R4-2405021.zip) **AIML beam management**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Discuss testability and interoperability issues for beam management

**Decision: Noted.**

[**R4-2405149**](file:///D:\RAN4%23110bis\Docs\R4-2405149.zip) **Testability and interoperability issues for beam management**

*Type: discussion For: Discussion  
 Source: Huawei,HiSilicon*

**Decision: Noted.**

[**R4-2405185**](file:///D:\RAN4%23110bis\Docs\R4-2405185.zip) **Testability and interoperability issues for beam management**

*Type: other For: Approval  
 Source: OPPO*

**Decision: Noted.**

[**R4-2405188**](file:///D:\RAN4%23110bis\Docs\R4-2405188.zip) **Discussion on the Interoperability and testability aspects of AI/ML Beam management**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2405652**](file:///D:\RAN4%23110bis\Docs\R4-2405652.zip) **Discussion on testability and interoperability issues for beam management**

*Type: other For: Approval  
 Source: Samsung*

**Decision: Noted.**

[**R4-2405707**](file:///D:\RAN4%23110bis\Docs\R4-2405707.zip) **Discussion on Testability and Interoperability issues for Beam Management**

*Type: discussion For: Discussion  
 Source: Apple*

**Decision: Noted.**

[**R4-2405794**](file:///D:\RAN4%23110bis\Docs\R4-2405794.zip) **Testability and interoperability issues for beam management**

*Type: discussion For: Discussion  
 Source: Nokia*

**Decision: Noted.**

[**R4-2405662**](file:///D:\RAN4%23110bis\Docs\R4-2405662.zip) **Testability and interoperability issues for beam management**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **withdrawn**.

#### 9.11.3 Testability and interoperability issues for positioning accuracy enhancement

[**R4-2404428**](file:///D:\RAN4%23110bis\Docs\R4-2404428.zip) **Discussion on testability and interoperability issues for positioning**

*Type: discussion For: Discussion  
 Source: CATT*

**Decision: Noted.**

[**R4-2404572**](file:///D:\RAN4%23110bis\Docs\R4-2404572.zip) **Discussion on testability and interoperability for AI positioning**

*Type: discussion For: Discussion  
 Source: Xiaomi*

**Decision: Noted.**

[**R4-2404718**](file:///D:\RAN4%23110bis\Docs\R4-2404718.zip) **Discussion on testability and interoperability issues for positioning**

*Type: discussion For: Discussion  
 Source: CMCC*

**Decision: Noted.**

[**R4-2404933**](file:///D:\RAN4%23110bis\Docs\R4-2404933.zip) **Views on requriments of AI/ML based positioning use cases**

*Type: discussion For: Discussion  
 Source: Samsung*

**Decision: Noted.**

[**R4-2404947**](file:///D:\RAN4%23110bis\Docs\R4-2404947.zip) **Discussion on testability and interoperability issues for positioning accuracy enhancement**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision: Noted.**

[**R4-2405150**](file:///D:\RAN4%23110bis\Docs\R4-2405150.zip) **Testability and interoperability issues for positioning accuracy enhancement**

*Type: discussion For: Discussion  
 Source: Huawei,HiSilicon*

**Decision: Noted.**

[**R4-2405186**](file:///D:\RAN4%23110bis\Docs\R4-2405186.zip) **Testability and interoperability issues for positioning accuracy enhancement**

*Type: other For: Approval  
 Source: OPPO*

**Decision: Noted.**

[**R4-2405189**](file:///D:\RAN4%23110bis\Docs\R4-2405189.zip) **Discussion on the Interoperability and testability aspects of AI/ML positioning**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2405520**](file:///D:\RAN4%23110bis\Docs\R4-2405520.zip) **On issues related to AI/ML for positioning**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

This contribution discusses issues related to AI/ML based positioning.

**Decision: Noted.**

[**R4-2405708**](file:///D:\RAN4%23110bis\Docs\R4-2405708.zip) **Discussion on Testability and Interoperability issues for positioning accuracy enhancement**

*Type: discussion For: Discussion  
 Source: Apple*

**Decision: Noted.**

[**R4-2405810**](file:///D:\RAN4%23110bis\Docs\R4-2405810.zip) **Testability and interoperability issues for positioning accuracy enhancement**

*Type: discussion For: Discussion  
 Source: Nokia*

**Decision: Noted.**

#### 9.11.4 Testability and interoperability issues for CSI compression and CSI prediction

[**R4-2404153**](file:///D:\RAN4%23110bis\Docs\R4-2404153.zip) **Discussion on AI/ML RAN4 CSI Interoperability and testability**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

**Decision: Noted.**

[**R4-2404206**](file:///D:\RAN4%23110bis\Docs\R4-2404206.zip) **Training Collaboration for Two-Sided AIML Test**

*Type: discussion For: Discussion  
 Source: VIAVI Solutions*

**Abstract:**

This contribution provides some views on the training collaboration types to be considered for testing two-sided AIML features (e.g. CSI compression) in RAN4.

**Decision: Noted.**

[**R4-2404216**](file:///D:\RAN4%23110bis\Docs\R4-2404216.zip) **AI/ML CSI use case discussion**

*Type: discussion For: Approval  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

[**R4-2404429**](file:///D:\RAN4%23110bis\Docs\R4-2404429.zip) **Discussion on testability and interoperability issues for CSI**

*Type: discussion For: Discussion  
 Source: CATT*

**Decision: Noted.**

[**R4-2404430**](file:///D:\RAN4%23110bis\Docs\R4-2404430.zip) **Discussion on the backbone structures related to CSI compression with two-side AI/ML model**

*Type: discussion For: Information  
 Source: SEU*

**Decision: Noted.**

[**R4-2404477**](file:///D:\RAN4%23110bis\Docs\R4-2404477.zip) **Discussion on testability and interoperability issues for CSI compression and CSI prediction**

*Type: discussion For: Discussion  
 Source: CAICT*

**Decision: Noted.**

[**R4-2404574**](file:///D:\RAN4%23110bis\Docs\R4-2404574.zip) **Discussion on testability and interoperability issues for CSI compression**

*Type: discussion For: Discussion  
 Source: Xiaomi*

**Decision: Noted.**

[**R4-2404720**](file:///D:\RAN4%23110bis\Docs\R4-2404720.zip) **Discussion on testability and interoperability issues for CSI compression and CSI prediction**

*Type: discussion For: Discussion  
 Source: CMCC*

**Decision: Noted.**

[**R4-2404932**](file:///D:\RAN4%23110bis\Docs\R4-2404932.zip) **Views on AI/ML testability for CSI compression use case**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision: Noted.**

[**R4-2404948**](file:///D:\RAN4%23110bis\Docs\R4-2404948.zip) **Discussion on testability and interoperability issues for CSI compression and CSI prediction**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision: Noted.**

[**R4-2405151**](file:///D:\RAN4%23110bis\Docs\R4-2405151.zip) **Testability and interoperability issues for CSI compression and CSI prediction**

*Type: discussion For: Discussion  
 Source: Huawei,HiSilicon*

**Decision: Noted.**

[**R4-2405187**](file:///D:\RAN4%23110bis\Docs\R4-2405187.zip) **Testability and interoperability issues for CSI compression and CSI prediction**

*Type: other For: Approval  
 Source: OPPO*

**Decision: Noted.**

[**R4-2405212**](file:///D:\RAN4%23110bis\Docs\R4-2405212.zip) **Discussion on testability and interoperability issues for AI-CSI**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2405611**](file:///D:\RAN4%23110bis\Docs\R4-2405611.zip) **AI CSI use case**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Discussion on open aspects for the 2-sided use case

**Decision: Noted.**

[**R4-2405653**](file:///D:\RAN4%23110bis\Docs\R4-2405653.zip) **Further study on testability and interoperability issues for AI-CSI**

*Type: other For: Approval  
 Source: Samsung*

**Decision: Noted.**

[**R4-2405709**](file:///D:\RAN4%23110bis\Docs\R4-2405709.zip) **Discussion on Testability and Interoperability issues for CSI Compression and Prediction**

*Type: discussion For: Discussion  
 Source: Apple*

**Decision: Noted.**

[**R4-2405738**](file:///D:\RAN4%23110bis\Docs\R4-2405738.zip) **On AI/ML CSI Compression and Prediction**

*Type: discussion For: Discussion  
 Source: Nokia*

**Decision: Noted.**

[**R4-2405894**](file:///D:\RAN4%23110bis\Docs\R4-2405894.zip) **On AI/ML Testability and interoperability issues for CSI use cases**

*Type: discussion For: Endorsement  
 Source: Keysight Technologies UK Ltd*

**Decision: Noted.**

#### 9.11.5 Moderator summary and conclusions

[**R4-2405288**](file:///D:\RAN4%23110bis\Docs\R4-2405288.zip) **Topic summary for [110bis][135] NR\_AIML\_air**

*Type: other For: Information  
 Source: Moderator(Qualcomm)*

**Abstract:**

Summary for AI 9.11

**Decision:** The document was **not treated**.

**Newly allocated tdocs in the first round**

[**R4-2406616**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406616.zip) **Ad hoc minutes on AI/ML for NR Air Interface**

*Type: other For: Approval  
 Source: Qualcomm*

**Decision: Return to.**

[**R4-2406617**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406617.zip) **WF on AI/ML for NR Air Interface**

*Type: other For: Approval  
 Source: Qualcomm*

**Decision: Return to.**

**Minutes and agreements after the first round**

Refer to the following hyperlinks for more detailed meeting minutes

<https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_110bis/Inbox/Drafts/%5B110bis%5D%5B100%5D%20Main%20Session/02.Tuesday/09.%5B135%5D_R4_2405288_AIML_Summary.docx>

**Issue 1-3: Testing environment/framework**

**Agreement:**

* Both static and non-static scenarios/configurations could be needed for AI testing
  + RAN4 will further discuss how to use them case by case
    - FFS whether to use static scenarios/configurations as baseline.
  + Refine the definitions of static and non-static scenarios/configurations based on two bullets below
    - Static: channel model and SNR settings are fixed and do not change over the test, specific channel realizations may be dynamic
    - Non-static: Non-static scenarios/configuration can be further considered in application to use cases. The details of models are FFS and may include non-stationary SNR and other conditions.

### 9.12 Evolution of NR duplex operation: Sub-band full duplex (SBFD)

### 9.13 Study on solutions for Ambient IoT (Internet of Things) in NR

#### 9.13.1 General aspects (work plan)

[**R4-2404459**](file:///D:\RAN4%23110bis\Docs\R4-2404459.zip) **Discussion on the general issues for AIoT**

*Type: discussion For: Discussion  
 Source: CATT*

**Decision: Noted.**

[**R4-2404867**](file:///D:\RAN4%23110bis\Docs\R4-2404867.zip) **A-IoT general overview**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

we present our overview for A-IoT work from RF perspective

**Decision: Noted.**

[**R4-2405298**](file:///D:\RAN4%23110bis\Docs\R4-2405298.zip) **A-IoT TR skeleton for RF part**

*Type: other For: Endorsement  
 38.769 v CR- rev Cat: (Rel-19)  
  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2405379**](file:///D:\RAN4%23110bis\Docs\R4-2405379.zip) **General consideration for A-IOT**

*Type: other For: Approval  
 Source: OPPO*

**Decision: Noted.**

[**R4-2405891**](file:///D:\RAN4%23110bis\Docs\R4-2405891.zip) **UE implementation aspects impacting work planning and study areas in RAN4**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

Work plan

[**R4-2405304**](file:///D:\RAN4%23110bis\Docs\R4-2405304.zip) **A-IoT workplan**

*Type: Work Plan For: Approval  
 Source: CMCC, Huawei, T-mobile*

**Decision:** The document was **not treated**.

#### 9.13.2 Co-existence study for ambient IoT and NR/LTE

[**R4-2404251**](file:///D:\RAN4%23110bis\Docs\R4-2404251.zip) **Preliminary considerations on the ambient IoT device implementation and the co-existence analysis**

*Type: other For: Approval  
 Source: Sony*

**Decision: Noted.**

[**R4-2404355**](file:///D:\RAN4%23110bis\Docs\R4-2404355.zip) **On coexistence between ambient IoT and NR/LTE**

*Type: discussion For: Discussion  
 Source: Apple*

**Decision: Noted.**

[**R4-2404438**](file:///D:\RAN4%23110bis\Docs\R4-2404438.zip) **Discussion on co-existence simulation methodology and scenarios for ambient IoT**

*Type: other For: Approval  
 Source: CATT*

**Decision: Noted.**

[**R4-2404549**](file:///D:\RAN4%23110bis\Docs\R4-2404549.zip) **Discussion on the coexistence study of Ambient IoT and NR/LTE**

*Type: discussion For: Discussion  
 Source: Xiaomi*

**Decision: Noted.**

[**R4-2404586**](file:///D:\RAN4%23110bis\Docs\R4-2404586.zip) **Discussion on co-existence evaluation for A-IoT and NR/LTE**

*Type: discussion For: Discussion  
 Source: Spreadtrum Communications*

**Decision: Noted.**

[**R4-2404671**](file:///D:\RAN4%23110bis\Docs\R4-2404671.zip) **Discussion on the co-existence of the AIoT**

*Type: other For: Approval  
 Source: vivo*

**Decision: Noted.**

[**R4-2404868**](file:///D:\RAN4%23110bis\Docs\R4-2404868.zip) **Coexisting study simulation assumptions for A-IoT**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

we discuss the simulation assumptions for coexisting for A-IoT and proposal followed.

**Decision: Noted.**

[**R4-2404985**](file:///D:\RAN4%23110bis\Docs\R4-2404985.zip) **Views on coexistence of Ambient IoT and NRLTE**

*Type: discussion For: Discussion  
 Source: Samsung*

**Decision: Noted.**

[**R4-2405299**](file:///D:\RAN4%23110bis\Docs\R4-2405299.zip) **General discussion on A-IoT coexistence scenarios**

*Type: discussion For: Discussion  
 38.769 v CR- rev Cat: (Rel-19)  
  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2405305**](file:///D:\RAN4%23110bis\Docs\R4-2405305.zip) **Discussion on A-IoT co-existence evaluation**

*Type: discussion For: Discussion  
 Source: CMCC*

**Decision: Noted.**

[**R4-2405376**](file:///D:\RAN4%23110bis\Docs\R4-2405376.zip) **Consideration on ambient IoT coexistence with NR/LTE**

*Type: discussion For: Discussion  
 Source: China Telecom*

**Decision: Noted.**

[**R4-2405392**](file:///D:\RAN4%23110bis\Docs\R4-2405392.zip) **Discussion on the Ambient IoT coexistence for NR**

*Type: other For: Approval  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

[**R4-2405620**](file:///D:\RAN4%23110bis\Docs\R4-2405620.zip) **Discussion on co-existence study for ambient IoT and NR/LTE**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

#### 9.13.3 Moderator summary and conclusions

[**R4-2405289**](file:///D:\RAN4%23110bis\Docs\R4-2405289.zip) **Topic summary for [110bis][136] FS\_Ambient\_IoT\_solutions**

*Type: other For: Information  
 Source: Moderator(CMCC)*

**Abstract:**

Summary for AI 9.13

**Decision:** The document was **not treated**.

### 9.14 Low-power wake-up signal and receiver for NR (LP-WUS/WUR)

#### 9.14.1 General aspects (work plan)

[**R4-2404655**](file:///D:\RAN4%23110bis\Docs\R4-2404655.zip) **Workplan for Rel-19 LP-WUS WI**

*Type: Work Plan For: Approval  
 Source: vivo*

**Decision:** The document was **not treated**.

[**R4-2404872**](file:///D:\RAN4%23110bis\Docs\R4-2404872.zip) **General overview on WUR RF requirement testability**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

Discuss the testability of WUR in general

**Decision: Noted.**

#### 9.14.2 UE RF requirements for LP-WUS/WUR

[**R4-2404195**](file:///D:\RAN4%23110bis\Docs\R4-2404195.zip) **Initial views on LPWUS for NR**

*Type: other For: Approval  
 Source: Apple*

**Decision: Noted.**

[**R4-2404252**](file:///D:\RAN4%23110bis\Docs\R4-2404252.zip) **On receiver sensitivity and ACS/ASCS of the low power wake up radio**

*Type: other For: Approval  
 Source: Sony*

**Decision: Noted.**

[**R4-2404265**](file:///D:\RAN4%23110bis\Docs\R4-2404265.zip) **UE RF requirements for LP-WUS**

*Type: other For: Approval  
 Source: Nokia*

**Decision: Noted.**

[**R4-2404446**](file:///D:\RAN4%23110bis\Docs\R4-2404446.zip) **On UE RF requirements for LP-WUS/LP-WUR**

*Type: discussion For: Discussion  
 Source: CATT*

**Decision: Noted.**

[**R4-2404550**](file:///D:\RAN4%23110bis\Docs\R4-2404550.zip) **Discussion on RF requirements for LP-WUS**

*Type: discussion For: Discussion  
 Source: Xiaomi*

**Decision: Noted.**

[**R4-2404589**](file:///D:\RAN4%23110bis\Docs\R4-2404589.zip) **Discussion on UE RF requirements and testability for low-power wake-up receiver**

*Type: discussion For: Discussion  
 Source: Samsung*

**Decision: Noted.**

[**R4-2404656**](file:///D:\RAN4%23110bis\Docs\R4-2404656.zip) **Views on LP-WUS UE RF requirements**

*Type: other For: Approval  
 Source: vivo*

**Decision: Noted.**

[**R4-2404873**](file:///D:\RAN4%23110bis\Docs\R4-2404873.zip) **WUR RF requirement overview**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

Discuss the WUR RF requirement in general

**Decision: Noted.**

[**R4-2405119**](file:///D:\RAN4%23110bis\Docs\R4-2405119.zip) **Discussion on UE RF requirements for LP-WUS/WUR**

*Type: discussion For: Discussion  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2405308**](file:///D:\RAN4%23110bis\Docs\R4-2405308.zip) **Discussion on LP-WUS UE RF requirement**

*Type: discussion For: Discussion  
 Source: CMCC*

**Decision: Noted.**

[**R4-2405381**](file:///D:\RAN4%23110bis\Docs\R4-2405381.zip) **Initial discussion on UE RF requirement for LP-WUS**

*Type: other For: Approval  
 Source: OPPO*

**Decision: Noted.**

[**R4-2405487**](file:///D:\RAN4%23110bis\Docs\R4-2405487.zip) **Consideration on UE RF aspects for Rel-19 LP-WUS**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

#### 9.14.3 BS RF requirements for LP-WUS/WUR

#### 9.14.4 RRM core requirements for LP-WUS/WUR

#### 9.14.5 Moderator summary and conclusions

[**R4-2405290**](file:///D:\RAN4%23110bis\Docs\R4-2405290.zip) **Topic summary for [110bis][137] NR\_LPWUS**

*Type: other For: Information  
 Source: Moderator(vivo)*

**Abstract:**

Summary for AI 9.14, 9.14.1, 9.14.2

**Decision:** The document was **not treated**.

### 9.15 Non-Terrestrial Networks (NTN) for NR Phase 3

#### 9.15.1 General aspects (work plan)

#### 9.15.2 UE RF requirements

[**R4-2404185**](file:///D:\RAN4%23110bis\Docs\R4-2404185.zip) **On NTN for RedCap UE**

*Type: other For: Approval  
 Source: Apple*

**Decision: Noted.**

[**R4-2404253**](file:///D:\RAN4%23110bis\Docs\R4-2404253.zip) **UE RF requirement for NTN Redcap and eRedcap**

*Type: other For: Approval  
 Source: Sony*

**Decision: Noted.**

[**R4-2404264**](file:///D:\RAN4%23110bis\Docs\R4-2404264.zip) **RedCap NTN UEs**

*Type: other For: Approval  
 Source: Nokia*

**Decision: Noted.**

[**R4-2404437**](file:///D:\RAN4%23110bis\Docs\R4-2404437.zip) **Discussion on support of NTN full-duplex FDD RedCap UE**

*Type: other For: Approval  
 Source: CATT*

**Decision: Noted.**

[**R4-2404585**](file:///D:\RAN4%23110bis\Docs\R4-2404585.zip) **Discussion on RF requirement for redcap UE in FR1 NTN band.**

*Type: discussion For: Discussion  
 Source: Xiaomi*

**Decision: Noted.**

[**R4-2404670**](file:///D:\RAN4%23110bis\Docs\R4-2404670.zip) **Discussion on support of Rel-17 RedCap and Rel-18 eRedCap UEs with NR NTN operating in FR1-NTN bands**

*Type: other For: Approval  
 Source: vivo*

**Decision: Noted.**

[**R4-2404870**](file:///D:\RAN4%23110bis\Docs\R4-2404870.zip) **RedCap UE RF impact overview**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

discuss the RedCap UE RF impact

**Decision: Noted.**

[**R4-2405063**](file:///D:\RAN4%23110bis\Docs\R4-2405063.zip) **Discussion on UE RF requirements for NR NTN phase3**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2405316**](file:///D:\RAN4%23110bis\Docs\R4-2405316.zip) **Discussions on NTN Phase3 UE requirements**

*Type: discussion For: Discussion  
 Source: Samsung*

**Decision: Noted.**

[**R4-2405346**](file:///D:\RAN4%23110bis\Docs\R4-2405346.zip) **General discussion on Rel-19 NTN RedCap UE**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2405713**](file:///D:\RAN4%23110bis\Docs\R4-2405713.zip) **UE RF impacts from NR NTN Phase 3**

*Type: other For: Approval  
 Source: Qualcomm Inc.*

**Decision: Noted.**

#### 9.15.3 SAN RF requirements

#### 9.15.4 Moderator summary and conclusions

[**R4-2405291**](file:///D:\RAN4%23110bis\Docs\R4-2405291.zip) **Topic summary for [110bis][138] NR\_NTN\_Ph3\_UERF**

*Type: other For: Information  
 Source: Moderator(Qualcomm)*

**Abstract:**

Summary for AI 9.15, 9.15.2

**Decision:** The document was **not treated**.

**Newly allocated tdocs in the first round**

[**R4-2406610**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406610.zip) **WF on NR\_NTN\_Ph3\_UERF**

*Type: other For: Approval  
 Source: Qualcomm*

**Decision: Return to.**

**Minutes and agreements after the first round**

Refer to the following hyperlinks for more detailed meeting minutes

<https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_110bis/Inbox/Drafts/%5B110bis%5D%5B100%5D%20Main%20Session/02.Tuesday/07.%5B138%5D_R4_2405291%20Topic%20summary%20%5B110bis%5D%5B138%5D.docx>

**Issue 1-1: Work plan for RF Core part, UE RF impact from DL coverage enhancement and regenerative payload**

**Agreement:**

* Wait for RAN1 progress before concluding whether there is RAN4 spec impact.

**Issue 1-2: Work plan for RF Core part, UL capacity enhancements (OCC)**

**Agreement:**

* Wait for RAN1 progress before concluding whether there is RAN4 spec impact.

**Issue 1-3: Work plan for RF Core part, HD-FDD RedCap**

**Agreement:**

* Start the discussions on the RF requirements for NTN RedCap with HD-FDD in the next meeting.

**Issue 1-4: Work plan for RF Core part, 1Rx vs. 2Rx for RedCap**

**Agreement:**

* Consider both 1Rx and 2Rx for requirements

**Issue 1-5: Work plan for RF Core part, eRedCap BW reduction**

**Agreement:**

* Specify both variants, i.e. with and without bandwidth reduction

**Issue 2-1: Target power class**

**Agreement:**

* Target power class is PC3.

**Issue 2-2: Channel bandwidts and SCS**

**Agreement:**

* Adopt the same bandwidth as well as SCS as TN RedCap and TN eRedCap UE.

**Issue 2-4: Operating bands**

**Agreement:**

* All the NR-NTN FR1-NTN bands will be considered.

**Issue 2-5: 2 Rx FD-FDD Refsens**

**Agreement:**

* Re-use non-RedCap NTN UE refsens for 2Rx FD-FDD NTN (e)RedCap UE

## 10 Liaison output to other groups and related issues

### 10.1 R17 related

### 10.2 R15, R16 related

### 10.3 Moderator summary and conclusions

[**R4-2405292**](file:///D:\RAN4%23110bis\Docs\R4-2405292.zip) **Topic summary for [110bis][139] NR\_reply\_LS\_UE\_RF**

*Type: other For: Information  
 Source: Moderator(Apple)*

**Abstract:**

Summary for AI 10

**Decision: Withdrawn.**

## 11 RAN task and other topics

### 11.1 Specification quality improvement (RP-240782)

It is expected to focus on identifying the key issues. No CR is expected. No need to propose an SI to capture the agreements.

### 11.1.1 UE RF specifications TS 38.101-1/-2/-3

[**R4-2405294**](file:///D:\RAN4%23110bis\Docs\R4-2405294.zip) **Topic summary for [110bis][141] UERF\_Spec\_Improvement**

*Type: other For: Information  
 Source: Moderator(Qualcomm)*

**Abstract:**

Summary for AI 11.1.1

**Decision:** The document was **not treated**.

[**R4-2405295**](file:///D:\RAN4%23110bis\Docs\R4-2405295.zip) **Topic summary for [110bis][142] RRM\_Spec\_Improvement**

*Type: other For: Information  
 Source: Moderator(Apple)*

**Abstract:**

Summary for AI 11.1.2

**Decision:** The document was **not treated**.

#### 11.1.1 UE RF specifications TS 38.101-1/-2/-3

[**R4-2404448**](file:///D:\RAN4%23110bis\Docs\R4-2404448.zip) **On UE RF specifications improvement**

*Type: discussion For: Discussion  
 Source: CATT*

**Decision: Noted.**

[**R4-2404781**](file:///D:\RAN4%23110bis\Docs\R4-2404781.zip) **Discussion on specification quality improvement for RF**

*Type: discussion For: Discussion  
 Source: LG Electronics*

**Abstract:**

It discusses on specification quality improvement for MOP in TS 38.101-1, basket simplification and MSD in 38.101-1/3. MCC: The Chair stated to discuss proposal 3 and proposal 4 of [R4-2404781](file:///D:\RAN4%23110bis\Docs\R4-2404781.zip) in [102] and discuss other proposals of 4781 in [141].

**Decision: Noted.**

[**R4-2404896**](file:///D:\RAN4%23110bis\Docs\R4-2404896.zip) **Discussion on improving the band combination specifications for Rel-19**

*Type: discussion For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2405036**](file:///D:\RAN4%23110bis\Docs\R4-2405036.zip) **On UE RF specification improvement**

*Type: discussion For: Approval  
 Source: Nokia*

**Decision: Noted.**

[**R4-2405319**](file:///D:\RAN4%23110bis\Docs\R4-2405319.zip) **RAN4 specification quality improvement (General and UE RF specifications)**

*Type: discussion For: Discussion  
 Source: Samsung*

**Decision: Noted.**

[**R4-2405347**](file:///D:\RAN4%23110bis\Docs\R4-2405347.zip) **Discussion on RAN4 spec quality**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2405354**](file:///D:\RAN4%23110bis\Docs\R4-2405354.zip) **On specification improvement for UE RF specifications**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

On specification improvement for UE RF specifications

**Decision: Noted.**

[**R4-2405890**](file:///D:\RAN4%23110bis\Docs\R4-2405890.zip) **UE RF specification improvement areas**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

#### 11.1.2 RRM specification TS 38.133

[**R4-2404409**](file:///D:\RAN4%23110bis\Docs\R4-2404409.zip) **Views on RRM specification TS 38.133 quality improvement**

*Type: discussion For: Discussion  
 Source: CATT*

**Decision: Noted.**

[**R4-2404487**](file:///D:\RAN4%23110bis\Docs\R4-2404487.zip) **Views on spec quality improvement for TS38.133**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

**Decision: Noted.**

[**R4-2404701**](file:///D:\RAN4%23110bis\Docs\R4-2404701.zip) **Specification quality improvement**

*Type: discussion For: Discussion  
 38.133 v CR- rev Cat: (Rel-19)  
  
 Source: Nokia*

**Decision: Noted.**

[**R4-2404734**](file:///D:\RAN4%23110bis\Docs\R4-2404734.zip) **Discussion on specification quality improvement for TS38.133**

*Type: discussion For: Discussion  
 Source: LG Electronics Inc.*

**Decision: Noted.**

[**R4-2404962**](file:///D:\RAN4%23110bis\Docs\R4-2404962.zip) **RRM spec quality improvement**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision: Noted.**

[**R4-2405348**](file:///D:\RAN4%23110bis\Docs\R4-2405348.zip) **RAN4 specification quality improvement (RRM specification)**

*Type: discussion For: Discussion  
 Source: Samsung*

**Decision: Noted.**

[**R4-2405411**](file:///D:\RAN4%23110bis\Docs\R4-2405411.zip) **Discussion on improving the RRM specification TS 38.133 quality**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2405499**](file:///D:\RAN4%23110bis\Docs\R4-2405499.zip) **On specification quality improvement**

*Type: discussion For: Discussion  
 Source: BeammWave*

**Abstract:**

In this contribution we provide initial proposals concerning specification quality improvements of TS 38.133 in the short term.

**Decision: Noted.**

[**R4-2405523**](file:///D:\RAN4%23110bis\Docs\R4-2405523.zip) **On RRM specification quality improvement**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

On RRM specification quality improvement

**Decision: Noted.**

[**R4-2405605**](file:///D:\RAN4%23110bis\Docs\R4-2405605.zip) **On RRM specification quality improvement**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2405674**](file:///D:\RAN4%23110bis\Docs\R4-2405674.zip) **On RRM specification improvements**

*Type: other For: Approval  
 Source: Qualcomm Incorporated*

**Decision: Noted.**

### 11.2 Power class related topics

[**R4-2404186**](file:///D:\RAN4%23110bis\Docs\R4-2404186.zip) **WF on mitigating power class fallback misconception in technical specifications**

*Type: other For: Approval  
 Source: Apple*

**Decision: Noted.**

[**R4-2404450**](file:///D:\RAN4%23110bis\Docs\R4-2404450.zip) **Further discussion on power class applicability**

*Type: discussion For: Discussion  
 Source: CATT*

**Decision: Noted.**

[**R4-2404557**](file:///D:\RAN4%23110bis\Docs\R4-2404557.zip) **Discussion of applicable power classes for NR CA**

*Type: discussion For: Discussion  
 Source: Xiaomi*

**Decision: Noted.**

[**R4-2404625**](file:///D:\RAN4%23110bis\Docs\R4-2404625.zip) **The power-class related issues**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

In this contribution we consider HPUE power-class indication, the per-band-per-PC power class and missing or yet to be evaluated REFSENS exceptions.

**Decision: Noted.**

[**R4-2404660**](file:///D:\RAN4%23110bis\Docs\R4-2404660.zip) **Cleanup of Delta\_powerclass and MOP requirements for HPUE**

*Type: other For: Approval  
 Source: vivo*

**Decision: Noted.**

[**R4-2404877**](file:///D:\RAN4%23110bis\Docs\R4-2404877.zip) **Discussion on power class report for NR CA**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2404988**](file:///D:\RAN4%23110bis\Docs\R4-2404988.zip) **Views on power class related issues**

*Type: discussion For: Discussion  
 Source: Samsung*

**Decision: Noted.**

[**R4-2405179**](file:///D:\RAN4%23110bis\Docs\R4-2405179.zip) **(Power\_Limit\_CA\_DC) R17 power class applicability related**

*Type: other For: Approval  
 Source: OPPO*

**Decision: Noted.**

[**R4-2405228**](file:///D:\RAN4%23110bis\Docs\R4-2405228.zip) **Views on ue-PowerClassPerBandPerBC-r17 and power class indication**

*Type: other For: Agreement  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2405350**](file:///D:\RAN4%23110bis\Docs\R4-2405350.zip) **Discussion on ue-PowerClassPerBandPerBC-r17**

*Type: discussion For: Discussion  
 Source: China Telecom*

**Decision: Noted.**

[**R4-2405676**](file:///D:\RAN4%23110bis\Docs\R4-2405676.zip) **Discussion on NR UE power class**

*Type: discussion For: Discussion  
 Source: Google Inc.*

**Decision: Noted.**

[**R4-2405710**](file:///D:\RAN4%23110bis\Docs\R4-2405710.zip) **Powerclasses and maximum output power**

*Type: other For: Approval  
 Source: Qualcomm Inc.*

**Decision: Noted.**

[**R4-2405953**](file:///D:\RAN4%23110bis\Docs\R4-2405953.zip) **Power class fallback behavior**

*Type: other For: Approval  
 Source: DOCOMO Beijing Labs*

**Decision: Noted.**

Draft CR

[**R4-2404187**](file:///D:\RAN4%23110bis\Docs\R4-2404187.zip) **Draft CR to 38.101-1 on mitigating the potential misconception of power class fallback**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: Apple*

**Decision: Return to.**

[**R4-2404188**](file:///D:\RAN4%23110bis\Docs\R4-2404188.zip) **Draft CR to 38.101-3 on mitigating the potential misconception of power class fallback**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: Apple*

**Decision: Return to.**

[**R4-2404189**](file:///D:\RAN4%23110bis\Docs\R4-2404189.zip) **Draft CR to 36.101 on mitigating the potential misconception of power class fallback**

*Type: draftCR For: Endorsement  
 36.101 v18.5.0 CR- rev Cat: F (Rel-18)  
  
 Source: Apple*

**Decision: Return to.**

[**R4-2404451**](file:///D:\RAN4%23110bis\Docs\R4-2404451.zip) **draftCR on power class applicability**

*Type: draftCR For: Endorsement  
 38.101-1 v17.13.0 CR- rev Cat: F (Rel-17)  
  
 Source: CATT*

**Decision: Return to.**

[**R4-2404452**](file:///D:\RAN4%23110bis\Docs\R4-2404452.zip) **draftCR on power class applicability**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: A (Rel-18)  
  
 Source: CATT*

**Decision: Return to.**

[**R4-2404626**](file:///D:\RAN4%23110bis\Docs\R4-2404626.zip) **Draft CR to 38.101-1: corrections to configured maximum power for serving cells of UL CA**

*Type: draftCR For: Endorsement  
 38.101-1 v17.13.0 CR- rev Cat: F (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Draft CR to correct the Pcmax,f,c for serving cells of a BC such that the maximum UL output power and PH reports become correct

**Decision: Return to.**

[**R4-2404627**](file:///D:\RAN4%23110bis\Docs\R4-2404627.zip) **Draft CR to 38.101-1: corrections to configured maximum power for serving cells of UL CA**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: A (Rel-18)  
  
 Source: Ericsson*

**Abstract:**

Draft CR to correct the Pcmax,f,c for serving cells of a BC such that the maximum UL output power and PH reports become correct

**Decision: Return to.**

[**R4-2404628**](file:///D:\RAN4%23110bis\Docs\R4-2404628.zip) **Draft CR to 38.101-1: correction to HPUE requirements for CA configurations**

*Type: draftCR For: Endorsement  
 38.101-1 v17.13.0 CR- rev Cat: F (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Draft CR to specify the power requirement for NR non-CA BC, DL-only CA and with the per-band-per-BC power class present for inter-band CA

**Decision: Return to.**

[**R4-2404629**](file:///D:\RAN4%23110bis\Docs\R4-2404629.zip) **Draft CR to 38.101-1: correction to HPUE requirements for CA configurations**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: A (Rel-18)  
  
 Source: Ericsson*

**Abstract:**

Draft CR to specify the power requirement for NR non-CA BC, DL-only CA and with the per-band-per-BC power class present for inter-band CA

**Decision: Return to.**

[**R4-2404630**](file:///D:\RAN4%23110bis\Docs\R4-2404630.zip) **Draft CR to 38.101-1: MPR and A-MPR per serving cell with a derated per-band power class for UL CA**

*Type: draftCR For: Endorsement  
 38.101-1 v17.13.0 CR- rev Cat: F (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Draft CR to specify the applicable MPR when a per-band power class change is indicated for a supported BC

**Decision: Return to.**

[**R4-2404631**](file:///D:\RAN4%23110bis\Docs\R4-2404631.zip) **Draft CR to 38.101-1: MPR and A-MPR per serving cell with a derated per-band power class for UL CA**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: A (Rel-18)  
  
 Source: Ericsson*

**Abstract:**

Draft CR to specify the applicable MPR when a per-band power class change is indicated for a supported BC

**Decision: Return to.**

[**R4-2404632**](file:///D:\RAN4%23110bis\Docs\R4-2404632.zip) **Draft CR to 38.101-1: amendment of the maximum output power for single-CC transmission with UL CA**

*Type: draftCR For: Endorsement  
 38.101-1 v17.13.0 CR- rev Cat: F (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Draft CR to optionally allow the UE to exceed the per-BC power class for transmissions on a single CC

**Decision: Return to.**

[**R4-2404633**](file:///D:\RAN4%23110bis\Docs\R4-2404633.zip) **Draft CR to 38.101-1: amendment of the maximum output power for single-CC transmission with UL CA**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: A (Rel-18)  
  
 Source: Ericsson*

**Abstract:**

Draft CR to optionally allow the UE to exceed the per-BC power class for transmissions on a single CC

**Decision: Return to.**

[**R4-2404635**](file:///D:\RAN4%23110bis\Docs\R4-2404635.zip) **Draft CR to 38.101-1: applicability of exceptions to REFSENS for CA and SUL to HPUE**

*Type: draftCR For: Endorsement  
 38.101-1 v17.13.0 CR- rev Cat: F (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Draft CR to add applicability for REFSENS for CA and SUL configurations not exempted for HPUE

**Decision: Return to.**

[**R4-2404636**](file:///D:\RAN4%23110bis\Docs\R4-2404636.zip) **Draft CR to 38.101-1: applicability of exceptions to REFSENS for CA and SUL to HPUE**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: A (Rel-18)  
  
 Source: Ericsson*

**Abstract:**

Draft CR to add applicability for REFSENS for CA and SUL configurations not exempted for HPUE

**Decision: Return to.**

[**R4-2404661**](file:///D:\RAN4%23110bis\Docs\R4-2404661.zip) **draft CR on 38.101-1 for cleanup of Delta\_powerclass and MOP requirements for HPUE**

*Type: draftCR For: Endorsement  
 38.101-1 v17.13.0 CR- rev Cat: (Rel-17)  
  
 Source: vivo*

**Decision: Return to.**

[**R4-2404662**](file:///D:\RAN4%23110bis\Docs\R4-2404662.zip) **draft CR on 38.101-1 for cleanup of Delta\_powerclass and MOP requirements for HPUE**

*Type: draftCR For: Endorsement  
 38.101-1 v18.5.0 CR- rev Cat: (Rel-18)  
  
 Source: vivo*

**Decision: Return to.**

[**R4-2404663**](file:///D:\RAN4%23110bis\Docs\R4-2404663.zip) **draft CR on 38.101-3 for cleanup of Delta\_powerclass and MOP requirements for HPUE**

*Type: draftCR For: Endorsement  
 38.101-3 v17.13.0 CR- rev Cat: (Rel-17)  
  
 Source: vivo*

**Decision: Return to.**

[**R4-2404664**](file:///D:\RAN4%23110bis\Docs\R4-2404664.zip) **draft CR on 38.101-3 for cleanup of Delta\_powerclass and MOP requirements for HPUE**

*Type: draftCR For: Endorsement  
 38.101-3 v18.5.1 CR- rev Cat: (Rel-18)  
  
 Source: vivo*

**Decision: Return to.**

[**R4-2404876**](file:///D:\RAN4%23110bis\Docs\R4-2404876.zip) **(NR\_RF\_FR1-Core) CR for TS38101-1 Clarifying transmitted power requirements for NR CA**

*Type: draftCR For: Endorsement  
 38.101-1 v17.13.0 CR- rev Cat: F (Rel-17)  
  
 Source: Huawei, HiSilicon*

**Decision: Return to.**

[**R4-2405711**](file:///D:\RAN4%23110bis\Docs\R4-2405711.zip) **[NR\_PC2\_CA\_R17\_2BDL\_2BUL-Core] draft CR to TS 38.101-1: power class corrections**

*Type: draftCR For: Endorsement  
 38.101-1 v17.13.0 CR- rev Cat: F (Rel-17)  
  
 Source: Qualcomm Inc.*

**Decision: Return to.**

LS

[**R4-2404634**](file:///D:\RAN4%23110bis\Docs\R4-2404634.zip) **Draft LS on the maximum output power for single CC transmissions with an UL band combination configured**

*Type: LS out For: Approval  
 to RAN2  
 Source: Ericsson*

**Abstract:**

Draft LS to RAN2 to ask for the introduction of a UE capability to exceed the per-BC power class for transmissions on a single CC (optional from Rel-17)

**Decision: Return to.**

[**R4-2404989**](file:///D:\RAN4%23110bis\Docs\R4-2404989.zip) **LS on further clarification for ue-PowerClassPerBandPerBC-r17**

*Type: LS out For: Approval  
 to RAN2  
 Source: Samsung*

**Decision: Return to.**

**Moderator summary and conclusions**

[**R4-2405293**](file:///D:\RAN4%23110bis\Docs\R4-2405293.zip) **Topic summary for [110bis][140] NR\_power\_class**

*Type: other For: Information  
 Source: Moderator(Samsung)*

**Abstract:**

Summary for AI 11.2

**Decision: Noted.**

**Newly allocated tdocs in the first round**

[**R4-2406586**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406586.zip) **WF on legacy power class related issues**

*Type: other For: Approval  
 Source: Qualcomm*

**Decision: Return to.**

[**R4-2406587**](http://10.10.10.10/ftp/RAN/RAN4/Inbox/R4-2406587.zip) **WF on power class fall-back issues**

*Type: other For: Approval  
 Source: Apple*

**Decision: Return to.**

**Minutes and agreements after the first round**

Refer to the following hyperlinks for more detailed meeting minutes

<https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_110bis/Inbox/Drafts/%5B110bis%5D%5B100%5D%20Main%20Session/01.Monday/09.%5B140%5D_R4_2405293%20Topic%20summary%20for%20%5B110bis%5D%5B140%5D%20NR_power_class.docx>

**Issue 1-5: For the following different UL CA cases, whether the configured maximum power (PCMAX, f,c) for serving cell(s) of a band combination should be capped by the per-BC power class? (The per-BC power class is either explicitly reported or inherit from its parent BC)**

**Agreement:**

* Agree on the table below with understanding that issue 1-2 and 1-3 will be discussed separately and the increasing high power limit feature is not indicated.

|  |  |  |
| --- | --- | --- |
|  | **Scenario** | **Options** |
| *#1* | Intra-band DLCA with intra-band ULCA | Alt1: Yes |
| *#2* | Inter-band 2CC ULCA | Alt1: Yes |
| *#3* | Inter+intra 3CC ULCA | Alt1: Yes |
| *#4* | Inter+intra DLCA with intra-band ULCA | Alt1: Yes |

### 11.3 RAN4 basket WI work plan (according to WF [R4-2403721](file:///D:\RAN4%23110bis\Docs\R4-2403721.zip))

[**R4-2404244**](file:///D:\RAN4%23110bis\Docs\R4-2404244.zip) **On valid harmonic mixing orders**

*Type: other For: Approval  
 Source: Skyworks Solutions Inc., Nokia, Qualcomm*

**Abstract:**

In this contribution, we provide proposals to finalize the harmonic mixing orders to be considered and applicable DL frequency ranges, where needed.

**Decision: Noted.**

[**R4-2404248**](file:///D:\RAN4%23110bis\Docs\R4-2404248.zip) **On simplifying analysis for triple beat products**

*Type: other For: Approval  
 Source: Skyworks Solutions Inc., Nokia, Murata*

**Abstract:**

in this contribution we provide an update of the triple beat table for analysis that is simplified and only contains the triple beat products of interest to be used for Release 19 TPs.

**Decision: Noted.**

[**R4-2404249**](file:///D:\RAN4%23110bis\Docs\R4-2404249.zip) **On simplifying analysis for 2DL-1 band intra-band ULCA IMD products**

*Type: other For: Approval  
 Source: Skyworks Solutions Inc., Nokia, Murata*

**Abstract:**

In this contribution, we revisit the different cases, IMD orders. and IMD indexes to provide an updated table for coexistence studies of two band DL and one band UL/2CC combinations for use in Release 19. We also provide simplified expressions for the cal

**Decision: Noted.**

[**R4-2404250**](file:///D:\RAN4%23110bis\Docs\R4-2404250.zip) **On cross-band isolation MSD analysis**

*Type: other For: Approval  
 Source: Skyworks Solutions Inc., Nokia, Murata*

**Abstract:**

we submit a proposal for calculation tables to enable a more straightforward cross-band isolation MSD analysis in the two DL band coexistence to be used for release 19 TPs.

**Decision: Noted.**

[**R4-2404449**](file:///D:\RAN4%23110bis\Docs\R4-2404449.zip) **On RAN4 basket WI work plan**

*Type: discussion For: Discussion  
 Source: CATT*

**Decision: Noted.**

[**R4-2404897**](file:///D:\RAN4%23110bis\Docs\R4-2404897.zip) **Discussion on band combination basket WI TR template in Rel-19**

*Type: discussion For: Approval  
 Source: ZTE Corporation*

**Decision: Noted.**

[**R4-2405037**](file:///D:\RAN4%23110bis\Docs\R4-2405037.zip) **On RAN4 basket WI work planning**

*Type: discussion For: Approval  
 Source: Nokia*

**Decision: Noted.**

[**R4-2405104**](file:///D:\RAN4%23110bis\Docs\R4-2405104.zip) **Work plan for one-two-three band DL coexistence study templates**

*Type: other For: Approval  
 Source: Skyworks Solutions Inc.*

**Abstract:**

In this contribution, we share our work plan to provide a complete set of calculation templates for detecting all currently specified MSD cases for one, two and three DL band combinations and further add guidelines for the MSD test point design.

**Decision: Noted.**

[**R4-2405489**](file:///D:\RAN4%23110bis\Docs\R4-2405489.zip) **On basket WI TR and WID improvement**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision: Noted.**

[**R4-2405554**](file:///D:\RAN4%23110bis\Docs\R4-2405554.zip) **Template example for 2 band DL with 1 or 2 band UL up to 3 UL CCs**

*Type: other For: Approval  
 Source: Skyworks Solutions Inc.*

**Abstract:**

In this contribution, we share the template example for two band DL based on MSD issue detection tables proposed in [4-7] together with additional improvements to the TP structure and tables.

**Decision: Noted.**

[**R4-2405935**](file:///D:\RAN4%23110bis\Docs\R4-2405935.zip) **Improved harmonic related MSDs template**

*Type: other For: Approval  
 Source: Skyworks Solutions Inc.*

**Abstract:**

In this contribution, we propose a new table template covering UL harmonics and harmonic mixing, with the latter updated for proposals made in this meeting for valid harmonic mixing orders

**Decision: Noted.**

[**R4-2404243**](file:///D:\RAN4%23110bis\Docs\R4-2404243.zip) **Improved harmonic related MSDs template**

*Type: other For: Approval  
 Source: Skyworks Solutions Inc., Nokia*

**Abstract:**

In this contribution, we propose a new table template covering UL harmonics and harmonic mixing, with the later updated for proposals made for valid harmonic mixing orders.

**Decision:** The document was **withdrawn**.

## 12 New or revised Rel-19 WID/SID

[**R4-2404898**](file:///D:\RAN4%23110bis\Docs\R4-2404898.zip) **New WID on Rel-19 NR Inter-band CA DC for 3 bands DL with x bands UL (x=1,2)**

*Type: WID new For: Information  
 Source: ZTE Corporation*

**Decision:** The document was **not treated**.

[**R4-2405243**](file:///D:\RAN4%23110bis\Docs\R4-2405243.zip) **New WID: Rel-19 4Rx for NR bands (<2.6GHz) for FWA (Fixed Wireless Access) UEs and handheld UEs**

*Type: WID new For: Information  
 Source: ZTE Corporation*

**Decision:** The document was **not treated**.

[**R4-2405244**](file:///D:\RAN4%23110bis\Docs\R4-2405244.zip) **New WID: Rel-19 NR Inter-band Carrier Aggregation/Dual Connectivity for 2 bands DL with x bands UL (x=1,2)**

*Type: WID new For: Information  
 Source: ZTE Corporation*

**Decision:** The document was **not treated**.

[**R4-2405245**](file:///D:\RAN4%23110bis\Docs\R4-2405245.zip) **New WID: Rel-19 Dual Connectivity (DC) of x bands (x=1,2,3) LTE inter-band CA (xDL/1UL) and y bands (3<=y<=5 and x+y<=6) NR inter-band CA (yDL/1UL)**

*Type: WID new For: Information  
 Source: ZTE Corporation*

**Decision:** The document was **not treated**.

[**R4-2405351**](file:///D:\RAN4%23110bis\Docs\R4-2405351.zip) **Practical network test for RedCap**

*Type: discussion For: Discussion  
 Source: China Telecom*

**Decision:** The document was **not treated**.

[**R4-2405352**](file:///D:\RAN4%23110bis\Docs\R4-2405352.zip) **draft WID on NR power class 2 RedCap (Reduced Capability) UE in FR1**

*Type: WID new For: Information  
 Source: China Telecom, MediaTek*

**Decision:** The document was **not treated**.

[**R4-2405618**](file:///D:\RAN4%23110bis\Docs\R4-2405618.zip) **New release 19 TEI on performance requirements for RTK/PPP positioning and posSIB for NR**

*Type: other For: Approval  
 38.171 v CR- rev Cat: (Rel-19)  
  
 Source: ROHDE & SCHWARZ*

**Decision:** The document was **not treated**.

[**R4-2405649**](file:///D:\RAN4%23110bis\Docs\R4-2405649.zip) **Motivation of introduction of NR based AeroMacs system**

*Type: other For: Information  
 Source: ZTE Corporation , Sanechips*

**Decision:** The document was **not treated**.

[**R4-2405650**](file:///D:\RAN4%23110bis\Docs\R4-2405650.zip) **New WID on NR based AeroMACS**

*Type: other For: Information  
 Source: ZTE Corporation , Sanechips*

**Decision:** The document was **not treated**.

## 13 Any other business

[**R4-2404267**](file:///D:\RAN4%23110bis\Docs\R4-2404267.zip) **Motivation for Iridium NB-IoT**

*Type: discussion For: Discussion  
 Source: Iridium Satellite LLC*

**Decision:** The document was **not treated**.

## 14 Close of the meeting

The RAN4 Chair Xizeng Dai (Huawei) formally closed the RAN4#110-bis meeting on Friday, 19/04/2024 at 17h00.

Report prepared by: MCC

BACKUP

-------------------------- Constant values for Chair Tool, please keep them in your notes ----------------------------

**R4-24AAACR Draft big CR for**

*Type: draftCR For: Endorsement  
 38.1xx-0y v18.x.0 CR- rev Cat: B (Rel-1x)  
  
 Source:*

**Decision: Return to.**

**R4-24AAASU Topic summary for [108bis][10x] x**

*Type: other For: Information  
 Source: Moderator ()*

**Abstract:**

This contribution provides the summary of topics and recommended summary.

**Decision: Return to.**

**R4-24AAAWF WF on**

*Type: other For: Approval  
 Source:*

**Decision: Return to.**

**R4-24AAATP TP for TR 38.xxx**

*Type: pCR For: Approval  
 38.xxx-0y-0y vx.y.z CR- rev Cat: (Rel-18)  
  
 Source:*

**Decision: Return to.**

**LatestTdocNumber: R4-2406618**

-------------------------- Constant values for Chair Tool, please keep them in your notes ----------------------------

-------------------------- Update the Tdoc status by a batch processing ----------------------------

**Update\_Tdoc\_Status\_By\_Batch:**

[R4-2405003](file:///D:\RAN4%23110bis\Docs\R4-2405003.zip) agreed

[R4-2415024](file:///D:\RAN4%23110bis\Docs\R4-2415024.zip) ENDprocessing

-------------------------- Update the Tdoc status by a batch processing ----------------------------