**3GPP TSG-RAN WG4 Meeting #101e R4-21xxxxx**

**Online Meeting, 01 November – 12 November 2021**

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

**DRAFT Meeting Report  
for  
TSG RAN WG4  
meeting: 100-e**

**Electronic Meeting, Online, 16/08/2021 to 27/08/2021**

Report generated on Friday, 2021-08-13 12:08 UTC

Contents:

1 Opening of the E-meeting 15

2 Approval of the agenda 15

3 Election for RAN4 vice chairs 16

4 Letters / reports from other groups / meetings 16

5 Rel-15 and previous release maintenance 19

5.1 Rel-15 New radio access technology 19

5.1.1 System Parameters Maintenance 19

5.1.2 UE RF requirements maintenance 19

5.1.2.1 [FR1] Maintenance for 38.101-1 19

5.1.2.2 [FR2] Maintenance for 38.101-2 27

5.1.2.3 Maintenance for 38.101-3 32

5.1.3 UE EMC requirements maintenance 36

5.1.4 BS RF requirements maintenance 37

5.1.4.1 General 37

5.1.4.2 TX/RX requirements maintenance (38.104) 37

5.1.4.3 MSR specifications maintenance 38

5.1.5 BS conformance testing Maintenance 39

5.1.5.1 General 39

5.1.5.2 Conducted conformance testing (38.141-1) 39

5.1.5.3 Radiated conformance testing (38.141-2) 40

5.1.5.4 eAAS specifications maintenance 42

5.1.6 BS EMC requirements Maintenance 47

5.1.7 RRM core requirements maintenance (38.133/36.133) 48

5.1.8 RRM performance requirements maintenance (38.133/36.133) 54

5.1.9 Demodulation and CSI requirements maintenance (38.101-4/38.104) 74

5.1.9.1 UE demodulation requirements 74

5.1.9.2 CSI requirements 75

5.1.9.3 BS demodulation requirements 77

5.1.10 Positioning specs maintenance (36.171, 37.171 and 38.171) 79

5.1.10.1 Frequency Bands for testing of A-GNSS Sensitivity 79

5.1.10.2 Other 80

5.1.11 Testability Maintenance (38.810) 81

5.2 LTE maintenance (up to Rel-15) 81

5.2.1 Even further mobility enhancement 81

5.2.1.1 RRM core requirements 81

5.2.1.2 RRM performance requirements 81

5.2.2 Other WIs or R16 TEI 81

5.2.2.1 BS RF requirements 81

5.2.2.2 UE RF requirements 81

5.2.2.3 RRM requirements 83

5.2.2.3.1 RRM core requirements 83

5.2.2.3.2 RRM performance requirements 85

5.2.2.4 Demodulation and CSI requirements 85

5.2.2.4.1 UE demodulation requirements 85

5.2.2.4.2 CSI requirements 86

5.2.2.4.3 BS demodulation requirements 86

6 Rel-16 maintenance for both NR and LTE 86

6.1 NR maintenance 86

6.1.1 NR-based access to unlicensed spectrum 86

6.1.1.1 System parameter 86

6.1.1.2 UE RF requirement 86

6.1.1.3 BS RF requirement 87

6.1.1.4 BS conformance testing 89

6.1.1.4.1 Non-contiguous transmission testing 89

6.1.1.4.2 Others 91

6.1.1.5 RRM core requirements (38.133) 91

6.1.1.5.1 General 91

6.1.1.5.2 RRC connection mobility control 92

6.1.1.5.3 SCell activation/deactivation (delay and interruption) 92

6.1.1.5.4 Timing 92

6.1.1.5.5 Other requirements 92

6.1.1.6 RRM performance requirements (38.133) 94

6.1.1.6.1 General 94

6.1.1.6.2 Measurement accuracy requirements 94

6.1.1.6.3 Test cases 94

6.1.1.6.3.1 General 94

6.1.1.6.3.2 RRC IDLE cell re-selection 95

6.1.1.6.3.3 HO (delay and interruptions) 96

6.1.1.6.3.4 RRC Re-establishment 97

6.1.1.6.3.5 RRC Connection Release with Redirection 98

6.1.1.6.3.6 Random access 99

6.1.1.6.3.7 Timing (transmit timing and TA) 100

6.1.1.6.3.8 BWP switching delay and interruptions 101

6.1.1.6.3.9 PSCell addition/release (delay and interruption) 101

6.1.1.6.3.10 SCell activation/deactivation (delay and interruption) 102

6.1.1.6.3.11 Other interruptions 103

6.1.1.6.3.12 RLM 103

6.1.1.6.3.13 Beam management (BFD and link recovery) 104

6.1.1.6.3.14 SS-RSRP/SS-RSRQ/SS-SINR/L1-RSRP measurement procedure (intra-frequency, inter-frequency, inter-RAT) 105

6.1.1.6.3.15 RSSI/CO measurement procedure (intra-frequency, inter-frequency, inter-RAT) 106

6.1.1.6.3.16 SFTD measurement procedure 106

6.1.1.6.3.17 SS-RSRP/SS-RSRQ/SS-SINR/L1-RSRP measurement accuracy (intra-frequency, inter-frequency, inter-RAT) 106

6.1.1.6.3.18 RSSI/CO measurement accuracy (intra-frequency, inter-frequency, inter-RAT) 107

6.1.1.6.3.19 SFTD measurement accuracy 107

6.1.1.6.3.20 Other 107

6.1.1.7 Demodulation and CSI requirements (38.101-4/38.104) 108

6.1.1.7.1 General 108

6.1.1.7.2 UE demodulation requirements 108

6.1.1.7.3 CSI requirements 109

6.1.1.7.4 BS demodulation requirements 110

6.1.2 Integrated Access and Backhaul for NR 115

6.1.2.1 RF requirements 115

6.1.2.2 RF conformance testing 116

6.1.2.2.1 General 116

6.1.2.2.2 Common test issues for conducted and radiated conformance testing 117

6.1.2.2.2.1 Test Model with High PSD and narrow RBs allocation 117

6.1.2.2.2.2 MU clean-up 118

6.1.2.2.2.3 Others 118

6.1.2.2.3 Conducted conformance testing 119

6.1.2.2.4 Radiated conformance testing 119

6.1.2.3 RRM core requirements 120

6.1.2.4 RRM performance requirements 120

6.1.2.5 EMC performance requirements 121

6.1.2.6 Demodulation and CSI requirements 121

6.1.2.6.1 General 122

6.1.2.6.2 IAB-DU performance requirements 122

6.1.2.6.3 IAB-MT performance requirements 123

6.1.3 5G V2X with NR sidelink 124

6.1.3.1 RF core requirements 124

6.1.3.2 RRM requirements (38.133) 125

6.1.3.3 Demodulation requirements (38.101-4) 125

6.1.3.3.1 General 125

6.1.3.3.2 Single link test 126

6.1.3.3.3 Multiple link test 126

6.1.4 Multi-RAT Dual-Connectivity and Carrier Aggregation enhancements 126

6.1.4.1 UE RF requirement (38.101-1) 126

6.1.4.2 RRM core requirement (38.133/36.133) 126

6.1.4.2.1 Early Measurement reporting 126

6.1.4.2.2 Efficient and low latency serving cell configuration, activation and setup 126

6.1.4.3 RRM performance requirements (38.133) 127

6.1.4.3.1 Early Measurement reporting 127

6.1.4.3.2 Efficient and low latency serving cell configuration, activation and setup 127

6.1.5 Enhancements on MIMO for NR 128

6.1.5.1 RRM requirements (38.133) 128

6.1.5.1.1 Applicability of MRTD/MTTD requirements for multi-TRxP 128

6.1.5.1.2 Test case for pathloss RS activation delay 129

6.1.5.1.3 Others 130

6.1.5.2 Others 130

6.1.6 NR Positioning Support 131

6.1.6.1 RRM core requirement (38.133) 131

6.1.6.1.1 PRS-RSTD measurement requirements 131

6.1.6.1.2 PRS-RSRP measurement requirements 133

6.1.6.1.3 UE Rx-Tx time difference measurement requirements 134

6.1.6.1.4 Other requirements 137

6.1.6.2 RRM performance requirements (38.133) 139

6.1.6.2.1 General 139

6.1.6.2.2 UE requirements and test cases 139

6.1.6.2.2.1 General 139

6.1.6.2.2.2 Measurement accuracy requirements 139

6.1.6.2.2.3 Test cases 140

6.1.6.2.2.2.1 PRS RSTD 140

6.1.6.2.2.4 Other 141

6.1.6.2.2.2.2 PRS RSRP 141

6.1.6.2.2.3.1 General 141

6.1.6.2.2.2.2 PRS RSRP 142

6.1.6.2.2.3.1 General 142

6.1.6.2.2.2.3 UE Rx-Tx time difference 143

6.1.6.2.2.3.2 Measurement requirements 143

6.1.6.2.2.2.3 UE Rx-Tx time difference 143

6.1.6.2.2.3.2 Measurement requirements 144

6.1.6.2.2.2.3 UE Rx-Tx time difference 144

6.1.6.2.2.3.2 Measurement requirements 144

6.1.6.2.2.2.3 UE Rx-Tx time difference 145

6.1.6.2.2.3.3 Accuracy requirements 145

6.1.6.2.3 gNB requirements 146

6.1.6.2.3.1 General 146

6.1.6.2.3.2 SRS-RSRP requirements 146

6.1.6.2.3.3 gNB Rx-Tx time difference requirements 147

6.1.7 NR RRM requirement enhancement 148

6.1.7.1 RRM core requirements 148

6.1.7.2 RRM performance requirements 150

6.1.8 NR RRM requirements for CSI-RS based L3 measurement 151

6.1.8.1 RRM core requirements (38.133) 151

6.1.8.2 RRM performance requirements (38.133) 154

6.1.8.2.1 General 154

6.1.8.2.2 Measurement accuracy requirements 154

6.1.8.2.2.1 CSI-RSRP requirements 154

6.1.8.2.2.2 CSI-RSRQ requirements 154

6.1.8.2.2.3 CSI-SINR requirements 154

6.1.8.2.3 Test cases 154

6.1.8.2.3.1 General 154

6.1.8.2.3.2 Intra-frequency measurement 154

6.1.8.2.3.3 Inter-frequency measurement 154

6.1.8.2.3.4 Measurement performance 154

6.1.9 Maintenance for other WIs 154

6.1.9.1 BS RF requirements 154

6.1.9.2 UE RF requirements 157

6.1.9.2.1 [FR1] Maintenance for 38.101-1 158

6.1.9.2.2 [FR2] Maintenance for 38.101-2 164

6.1.9.2.3 Maintenance for 38.101-3 166

6.1.9.3 RRM requirements 168

6.1.9.3.1 RRM core 168

6.1.9.3.2 RRM performance 171

6.1.9.4 Demodulation and CSI requirements 172

6.1.9.4.1 UE demodulation requirements 172

6.1.9.4.2 CSI requirements 173

6.1.9.4.3 BS demodulation requirements 173

6.1.9.5 NR MIMO OTA test methods (38.827) 176

6.1.10 R16 TEI 177

6.1.10.1 BS RF requirements 177

6.1.10.2 UE RF requirements 177

6.1.10.3 RRM requirements 177

6.1.10.4 Demodulation and CSI requirements 178

6.1.10.5 US band n77 (update of requirements) 178

6.2 LTE maintenance and TEI 180

6.2.1 BS RF requirements 180

6.2.2 UE RF requirements 180

6.2.3 RRM requirements 181

6.2.3.1 RRM core requirements 181

6.2.3.2 RRM performance requirements 183

6.2.4 Demodulation and CSI requirements 183

6.2.4.1 UE demodulation requirements 183

6.2.4.2 CSI requirements 183

6.2.4.3 BS demodulation requirements 183

6.3 Rel-16 UE feature list maintenance 183

6.4 LS response for WP5D (RP-210747) on recommendations ITU-R M.2070 and ITU -R M.2071 on Unwanted Emissions of IMT-Advanced 183

7 Rel-17 maintenance for both NR and LTE 184

7.1 Introduction of FR2 FWA UE with maximum TRP of 23dBm for n257 and n258 184

7.2 Introduction of NR band n67 185

7.2.1 UE RF requirements (38.101-1) 185

7.2.2 BS RF requirements (38.104) 185

7.2.3 RRM requirements (38.133) 185

7.3 Introduction of NR band n85 185

7.3.1 UE RF requirements (38.101-1) 185

7.3.2 BS RF requirements (38.104) 185

7.3.3 RRM requirements (38.133) 185

7.4 Introduction of NR band n24 185

7.4.1 UE RF requirements (38.101-1) 185

7.4.2 BS RF requirements (38.104) 185

7.4.3 RRM requirements (38.133) 185

7.5 High power UE (power class 2) for NR band n34 185

7.5.1 General 185

7.5.2 UE RF requirements 185

7.6 Modification of LTE Band 24 specifications to comply with updated regulatory emission limits 185

7.6.1 UE RF requirements 185

7.6.2 BS RF requirements 187

7.6.3 RRM requirements 187

8 Rel-17 spectrum related Work Items for NR 187

8.1 Introduction of lower 6GHz NR unlicensed operation for Europe 187

8.1.1 General 187

8.1.2 Comparison of reusing n96 and defining a new band 187

8.1.3 UE RF requirements 188

8.1.4 BS RF requirements 188

8.1.5 Others 189

8.2 Introduction of operation in full unlicensed band 5925-7125MHz for NR 189

8.2.1 General 189

8.2.2 Regulatory requirements and feasibility of re-using existing NS 189

8.2.3 UE RF requirements 190

8.2.4 BS RF requirements 190

8.3 Introduction of NR 47 GHz band 190

8.3.1 UE RF requirements maintenance (38.101-2) 190

8.3.2 BS RF requirements maintenance (38.104) 191

8.3.3 BS conformance (38.141) 191

8.3.4 RRM requirements maintenance (38.133) 192

8.3.5 Demodulation and CSI requirements 192

8.3.5.1 UE demodulation (38.101-4) 192

8.3.5.2 BS demodulation (38.104) 192

8.4 Introduction of 900 MHz spectrum to 5G NR applicable for Rail Mobile Radio 192

8.4.1 General 192

8.4.2 UE RF requirements 193

8.4.3 BS RF requirements 193

8.4.4 Others 194

8.5 Introduction of 1900 MHz spectrum to 5G NR applicable for Rail Mobile Radio 194

8.5.1 General 194

8.5.2 UE RF requirements 194

8.5.3 BS RF requirements 195

8.5.4 Others 195

8.6 Issues arising from basket WIs but not subject to block approval 195

8.6.1 UE RF requirements 195

8.6.2 Feasibility study of defining “low MSD” for CA and DC 198

8.6.3 Others 200

8.7 NR intra band Carrier Aggregation for xCC DL/yCC UL including contiguous and non-contiguous spectrum (x>=y) 200

8.7.1 Rapporteur Input (WID/TR/CR) 200

8.7.2 UE RF requirements for FR1 200

8.7.3 UE RF requirements for FR2 201

8.8 NR inter-band Carrier Aggregation/Dual Connectivity for 2 bands DL with x bands UL (x=1, 2) 201

8.8.1 Rapporteur Input (WID/TR/CR) 201

8.8.2 NR inter band CA requirements without any FR2 band(s) 202

8.8.3 NR inter band CA requirements with at least one FR2 band 209

8.9 NR Inter-band Carrier Aggregation for 3 bands DL with 1 band UL 211

8.9.1 Rapporteur Input (WID/TR/CR) 211

8.9.2 UE RF requirements 211

8.10 NR Inter-band Carrier Aggregation for 4 bands DL with 1 band UL 217

8.10.1 Rapporteur Input (WID/TR/CR) 217

8.10.2 UE RF requirements 218

8.11 NR Inter-band Carrier Aggregation/Dual connectivity for 3 bands DL with 2 bands UL 221

8.11.1 Rapporteur Input (WID/TR/CR) 221

8.11.2 UE RF requirements 222

8.12 NR inter-band Carrier Aggregation and Dual connectivity for DL 4 bands and 2UL bands 230

8.12.1 Rapporteur Input (WID/TR/CR) 231

8.12.2 UE RF requirements 231

8.13 NR inter-band CA for 5 bands DL with x bands UL (x=1, 2) 235

8.13.1 Rapporteur Input (WID/TR/CR) 235

8.13.2 UE RF requirements 235

8.14 DC of 1 LTE band and 1 NR band 236

8.14.1 Rapporteur Input (WID/TR/CR) 236

8.14.2 EN-DC requirements without FR2 band 236

8.14.3 EN-DC requirements with FR2 band 239

8.15 DC of 2 LTE band and 1 NR band 239

8.15.1 Rapporteur Input (WID/TR/CR) 239

8.15.2 EN-DC requirements without FR2 band 240

8.15.3 DMEN-DC requirements with FR2 band 248

8.16 DC of 3 LTE band and 1 NR band 249

8.16.1 Rapporteur Input (WID/TR/CR) 249

8.16.2 EN-DC requirements without FR2 band 249

8.16.3 EN-DC requirements with FR2 band 255

8.17 DC of 4 LTE band and 1 NR band 256

8.17.1 Rapporteur Input (WID/TR/CR) 256

8.17.2 EN-DC requirements without FR2 band 256

8.17.3 EN-DC requirements with FR2 band 260

8.18 DC of 5 bands LTE inter-band CA (5DL/1L) and 1 NR band (1DL/1UL) 260

8.18.1 Rapporteur Input (WID/TR/CR) 260

8.18.2 UE RF requirements 260

8.19 DC of x bands (x=1,2, 3, 4) LTE inter-band CA and 2 bands NR inter-band CA 260

8.19.1 Rapporteur Input (WID/TR/CR) 260

8.19.2 EN-DC requirements including NR inter CA without FR2 band 261

8.19.3 EN-DC requirements including NR inter CA with FR2 band 266

8.20 DC of x bands (x=1,2) LTE inter-band CA (xDL/xUL) and y bands (y=3-x) NR inter-band CA 267

8.20.1 Rapporteur Input (WID/TR/CR) 267

8.20.2 UE RF requirements 267

8.21 DC of x bands (x=1,2,3) LTE inter-band CA (xDL/1UL) and 3 bands NR inter-band CA (3DL/1UL) 268

8.21.1 Rapporteur Input (WID/TR/CR) 268

8.21.2 UE RF requirements 268

8.22 DC of x bands (x=2,3,4) LTE inter-band CA (xDL/1UL) and 1 NR FR1 band (1DL/1UL) and 1 NR FR2 band (1DL/1UL) 268

8.22.1 Rapporteur Input (WID/TR/CR) 268

8.22.2 UE RF requirements 269

8.23 DC of x bands (x=1,2,3) LTE inter-band CA (xDL/1UL) and 4 bands NR inter-band CA (4DL/1UL) 269

8.23.1 Rapporteur Input (WID/TR/CR) 269

8.23.2 UE RF requirements 269

8.24 Band combinations for SA NR supplementary uplink (SUL) NSA NR SUL, NSA NR SUL with UL sharing from the UE perspective (ULSUP) 269

8.24.1 Rapporteur Input (WID/TR/CR) 269

8.24.2 UE RF requirements 270

8.25 Band combinations for Uu and V2X con-current operation 270

8.25.1 General and Rapporteur Input (WID/TR/CR) 270

8.25.2 UE RF requirement for concurrent operation between NR Uu band and NR PC5 band 271

8.25.3 UE RF requirement for concurrent operation between LTE Uu band and NR PC5 band 271

8.25.4 UE RF requirement for concurrent operation between NR Uu band and LTE PC5 band 271

8.25.5 UE RF requirement for concurrent operation of LTE/NR CA/DC band combinations + PC5 V2X 271

8.26 Adding channel bandwidth support to existing NR bands 271

8.26.1 General and Rapporteur Input (WID/TR/CR) 272

8.26.2 UE RF requirements 272

8.26.2.1 Addition of bandwidth and Tx/Rx requirements 272

8.26.2.2 NR-U 100MHz bandwidth 273

8.26.3 BS RF requirements 274

8.27 Introduction of channel bandwidths 35MHz and 45MHz for NR 274

8.27.1 General and Rapporteur Input (WID/TR/CR) 275

8.27.2 UE RF requirements 275

8.27.3 BS RF requirements 276

8.27.4 RRM requirements 277

8.27.5 UE demodulation and CSI requirements 277

8.28 Introduction of bandwidth combination set 4 (BCS4) for NR 277

8.28.1 General and Rapporteur Input (WID/TR/CR) 277

8.28.2 UE RF requirements 278

8.28.2.1 MSD 279

8.28.2.2 Others (in case MPR/A-MPR is needed) 279

8.29 Addition of MSD (Maximum Sensitivity Degradation) for inter-band EN-DC combinations (1 band LTE+1 band NR FR1) due to added channel bandwidths 280

8.29.1 General and Rapporteur Input (WID/TR/CR) 280

8.29.2 UE RF requirements 280

8.29.3 Others 280

8.30 High-power UE operation for use cases in Band n77 and n78 280

8.30.1 General 280

8.30.2 PC1.5 UE RF requirements 281

8.30.2.1 MPR and A-MPR 281

8.30.2.2 Device type signaling 282

8.30.2.3 FWA MPE handling 282

8.31 High power UE (power class 1.5) for NR band n79 283

8.31.1 General 283

8.31.2 UE RF requirements 283

8.31.2.1 MPR 283

8.32 High power UE (power class 2) for NR band n39 283

8.32.1 General 283

8.32.2 UE RF requirements 283

8.32.2.1 A-MPR 283

8.33 High-power UE operation for fixed-wireless/vehicle-mounted use cases in Band 12, Band 5, Band 13, Band n5, Band n13, and Band n71 284

8.33.1 General 284

8.33.2 Feasibility study 284

8.33.2.1 Coexistence study between B5 and adjacent bands 284

8.33.2.2 Coexistence study between B13/n13 and adjacent bands 284

8.33.2.3 Filter with smaller duplex for B13, n13 and n71 284

8.33.2.4 PA related to MPR and A-MPR for B13, n13, and n71 285

8.33.3 UE RF requirements 285

8.33.3.1 UE REFSENS 285

8.33.3.2 UE Tx requirements (MOP, MPR, A-MPR, and ACLR) 285

8.34 SAR schemes for UE power class 2 (PC2) for NR inter-band Carrier Aggregation and supplemental uplink (SUL) configurations with 2 bands UL 285

8.34.1 General and Rapporteur Input (WID/TR/CR) 285

8.34.2 PC2 SAR solution 285

8.34.3 UE maximum power 286

8.34.4 Others 287

8.35 High power UE (power class 2) for NR inter-band Carrier Aggregation with 2 bands downlink and 2 bands uplink 287

8.35.1 Rapporteur Input (WID/TR/CR) 287

8.35.2 UE RF requirements 287

8.36 High power UE (power class 2) for EN-DC with 1 LTE band + 1 NR TDD band 289

8.36.1 Rapporteur Input (WID/TR/CR) 289

8.36.2 UE RF requirements 289

8.37 Power Class 2 UE for NR inter-band CA and SUL configurations with x (x>2) bands DL and y (y=1, 2) bands UL 290

8.37.1 Rapporteur Input (WID/TR/CR) 290

8.37.2 UE RF requirements 290

8.38 Power Class 2 for EN-DC with xLTE band + yNR DL with 1LTE+1(TDD) NR UL band (x= 2, 3, 4, y=1; x=1, 2, y=2) 292

8.38.1 Rapporteur Input (WID/TR/CR) 292

8.38.2 UE RF requirements 292

8.39 High power UE for NR TDD intra-band carrier aggregation in frequency range FR1 294

8.39.1 General and Rapporteur Input (WID/TR/CR) 294

8.39.2 UE RF requirements 294

8.40 Introduction of FR2 FWA UE with maximum TRP of 23dBm for band n259 294

8.40.1 UE RF requirements 294

8.40.2 RRM performance requirements 295

8.40.3 Others 295

8.41 Additional NR bands for UL-MIMO 295

8.41.1 General and Rapporteur Input (WID/TR/CR) 295

8.41.2 MPR/A-MPR requirements 295

8.41.3 Others 296

8.42 Downlink interruption for band combinations to conduct dynamic Tx Switching 296

8.42.1 General and Rapporteur Input (WID/TR/CR) 296

8.42.2 Determination of inter-band uplink CA and EN-DC combinations for which DL interruption is not allowed 296

8.42.3 Others 296

8.43 Simultaneous Rx/Tx band combinations for CA, SUL, MR-DC and NR-DC 296

8.43.1 General and Rapporteur Input (WID/TR/CR) 296

8.43.2 Applicability rule and criteria of simultaneous RX/TX 296

8.43.3 Identification of simultaneous Rx/Tx capability for band combinations 297

8.44 LTE/NR spectrum sharing in Band 34/n34 and Band 39/n39 298

8.44.1 General 298

8.44.2 Introduction of uplink 7.5KHz frequency shift 298

9 Rel-17 non-spectrum related work items for NR 299

9.1 Multiple Input Multiple Output (MIMO) Over-the-Air (OTA) requirements for NR UEs 299

9.1.1 General 299

9.1.2 Performance requirements 300

9.1.2.1 Performance Requirements for FR1 300

9.1.2.2 Performance Requirements for FR2 300

9.1.3 Testing methodologies 301

9.1.3.1 Testing parameters for Performance 301

9.1.3.2 Optimization of test methodologies 301

9.1.3.3 Channel model validation 302

9.2 Introduction of UE TRP (Total Radiated Power) and TRS (Total Radiated Sensitivity) requirements and test methodologies for FR1 (NR SA and EN-DC) 303

9.2.1 General and work plan 303

9.2.2 SA test methodology 304

9.2.3 EN-DC test methodology 304

9.2.4 UE with multiple antennas test methodology 305

9.2.5 Others 306

9.3 RF requirements enhancement for NR frequency range 1 (FR1) 306

9.3.1 General 306

9.3.2 RF core requirements 306

9.3.2.1 UL MIMO configuration for SUL band configurations 306

9.3.2.2 2Tx switching between carrier 1 and carrier 2 306

9.3.2.3 Tx switching between 1 carrier on band A and 2 contiguous aggregated carriers on band B 306

9.3.2.4 HPUE for TDD intra-band contiguous UL CA 306

9.3.2.5 HPUE for TDD intra-band non-contiguous UL CA 307

9.3.2.6 Intra-band UL contiguous CA for UL MIMO (n41C and n78C) 307

9.3.2.7 Evaluation according to RAN task 308

9.3.2.7.1 Clarification of Tx switching scenarios 308

9.3.2.7.2 Solution for Scell dropping 308

9.3.3 RRM core requirements 310

9.3.3.1 Tx switching requirements 310

9.4 NR RF requirement enhancements for frequency range 2 (FR2) 311

9.4.1 General 311

9.4.2 UE RF requirements for inter-band CA 311

9.4.2.1 Inter-band DL CA requirements 312

9.4.2.1.1 Applicability of CBM/IBM for different CA configurations 312

9.4.2.1.2 CA\_n258A-n260A and CA\_n257A-n259A based on IBM 312

9.4.2.1.3 CA configurations within the same frequency group based on CBM 312

9.4.2.2 Inter-band UL CA requirements 313

9.4.2.2.1 Inter-band UL CA for two bands 313

9.4.2.2.2 CA configuration CA\_n257A-n259A based on IBM 314

9.4.2.3 Feasibility study for DL inter-band CA 314

9.4.2.3.1 Study for CBM between different frequency groups 314

9.4.2.3.2 Study for IBM within the same frequency group 316

9.4.3 UL gaps for self-calibration and monitoring 316

9.4.3.1 Gap use cases and performance evaluation 316

9.4.3.2 UE Tx power management 316

9.4.3.3 Others 317

9.4.4 DC location for intra-band UL CA with > 2 CCs for both FR2 and FR1 317

9.4.5 CA BW classes 318

9.4.5.1 New FR2 CA BW classes 318

9.4.5.2 UE Rx requirements 319

9.4.6 RRM core requirements 319

9.4.6.1 Inter-band DL CA requirements for CBM 319

9.4.6.1.1 MRTD requirements 319

9.4.6.1.2 Other RRM requirements 321

9.4.6.2 Inter-band UL CA for IBM 322

9.4.6.3 UL gaps for self-calibration and monitoring 322

9.5 NR repeater 322

9.5.1 General 322

9.5.1.1 System parameters 323

9.5.1.2 Repeater Class/Type 323

9.5.1.3 TDD repeater switching requirements 324

9.5.1.4 Others 325

9.5.2 Conductive RF core requirements 325

9.5.2.1 Transmitted power related requirements 325

9.5.2.2 Emission requirements 326

9.5.2.3 Others 327

9.5.3 Radiated RF core requirements 327

9.5.3.1 Transmitted power related requirements 327

9.5.3.2 Emission requirements 328

9.5.3.3 Others 329

9.5.4 EMC core requirements 329

9.6 Introduction of DL 1024QAM for NR FR1 330

9.6.1 General 330

9.6.2 BS TX RF requirements 331

9.6.2.1 Deployment and link level simulation 331

9.6.2.2 EVM requirements 331

9.6.2.3 Others 332

9.6.3 UE RX RF requirements 332

9.7 UE RF requirements for Transparent Tx Diversity (TxD) for NR 332

9.7.1 General 332

9.7.2 UE RF requirements for phase 1 (38.101-1) 334

9.7.2.1 UE requirements (other than MPR) 334

9.7.2.2 MPR requirements 334

9.7.3 UE RF requirements for phase 2 (38.101-1) 334

9.7.3.1 SRS antenna switching related 334

9.7.3.2 ULFPTx related 335

9.7.4 Power class ambiguity issues 335

9.7.5 Capability related 337

9.8 Enhancement for NR high speed train scenario in FR1 337

9.8.1 General 337

9.8.2 RRM core requirements 337

9.8.2.1 UE RRM core requirements for CA scenario 337

9.8.2.1.1 Intra-frequency measurements 337

9.8.2.1.2 Inter-frequency measurements 338

9.8.2.1.3 Other 339

9.8.3 UE demodulation requirements (38.101-4) 340

9.8.3.1 General 340

9.8.3.2 PDSCH requirements for CA scenarios 341

9.9 NR support for high speed train scenario in FR2 342

9.9.1 General 342

9.9.2 High speed train deployment scenario in FR2 342

9.9.2.1 Deployment Scenario-A 342

9.9.2.2 Deployment Scenario-B 343

9.9.2.3 Channel modeling 344

9.9.2.4 Others 345

9.9.3 UE RF core requirements 345

9.9.3.1 Baseline power class and UE Tx requirements 345

9.9.3.2 Beam correspondence 345

9.9.3.3 UE Rx requirements 346

9.9.3.4 Others 346

9.9.4 RRM core requirements 346

9.9.4.1 General 346

9.9.4.2 Number of RX beams 347

9.9.4.3 RRC Idle/Inactive and connected state mobility requirements 348

9.9.4.4 Timing requirements 348

9.9.4.5 Signalling characteristics requirements 349

9.9.4.6 Measurement procedure requirements 350

9.9.5 Demodulation requirements 351

9.9.5.1 General 351

9.9.5.2 UE demodulation requirements 351

9.9.5.3 BS demodulation requirements 352

9.9.5.3.1 PUSCH requirements 352

9.9.5.3.2 PUSCH with UL timing adjustment requirements 353

9.9.5.3.3 PRACH requirements 353

9.10 Further RRM enhancement for NR and MR-DC 354

9.10.1 General 354

9.10.2 RRM core requirements 354

9.10.2.1 SRS antenna port switching 354

9.10.2.2 HO with PSCell 355

9.10.2.3 PUCCH SCell activation/deactivation 357

9.11 NR and MR-DC measurement gap enhancements 359

9.11.1 General 359

9.11.2 RRM core requirements 359

9.11.2.1 Pre-configured MG pattern(s) 359

9.11.2.2 Multiple concurrent and independent MG patterns 361

9.11.2.3 Network Controlled Small Gap 363

9.12 Further enhancement on NR demodulation performance 364

9.12.1 General 364

9.12.2 UE demodulation and CSI requirements 365

9.12.2.1 MMSE-IRC receiver for inter-cell interference 365

9.12.2.1.1 PDSCH requirements 365

9.12.2.1.2 CSI requirements 366

9.12.2.2 MMSE-IRC receiver for intra-cell inter-user interference 367

9.12.2.3 Evaluation on CRS interference in scenarios with overlapping spectrum for LTE and NR 369

9.12.3 BS demodulation requirements 372

9.12.3.1 PUSCH demodulation requirements for FR1 256QAM 372

9.13 Solutions for NR to support non-terrestrial networks (NTN) 374

9.13.1 General and work plan 374

9.13.1.1 System parameters 374

9.13.1.2 NTN gNB Class/Type 375

9.13.1.3 Regulatory information 376

9.13.1.4 Others 376

9.13.2 Coexistence aspects 377

9.13.2.1 Coexistence scenarios and Simulation assumptions 377

9.13.2.2 Simulation results 379

9.13.3 BS RF requirements 380

9.13.3.1 TX requirements 380

9.13.3.2 RX requirements 381

9.13.4 UE RF requirements 381

9.13.4.1 TX requirements 381

9.13.4.2 RX requirements 381

9.13.5 RRM core requirements 382

9.13.5.1 General and RRM requirements impacts 382

9.13.5.2 GNSS-related requirements 382

9.13.5.3 Mobility requirements 383

9.13.5.4 Timing requirements 384

9.13.5.5 Measurement procedure requirements 386

9.14 UE Power Saving Enhancements 387

9.14.1 General 387

9.14.2 UE measurements relaxation for RLM and/or BFD 387

9.15 NR Sidelink enhancement 389

9.15.1 General 389

9.15.2 Spectrum request for SL operation 389

9.15.3 System parameters (numerologies, rasters, CBW, etc) 389

9.15.4 UE RF requirements for NR SL enhancement 390

9.15.4.1 TX requirements 390

9.15.4.2 RX requirements 390

9.15.5 Partially used SL operation with NR Uu operating bands 390

9.15.5.1 FDM operation 391

9.15.5.2 TDM operation 391

9.15.5.3 Synchronous operation between NR Uu and NR SL in a TDD band 392

9.15.5.4 Others 392

9.15.6 High power UE(PC2) for SL 393

9.15.6.1 TX requirements 393

9.15.6.2 Coexistence study 394

9.15.6.3 Others 394

9.15.7 Other RF/general requirements for New SL enhancement 395

9.15.8 RRM core requirements 395

9.16 Extending current NR operation to 71GHz 396

9.16.1 General 396

9.16.2 Band plans and regulatory requirements 397

9.16.3 System parameters (numerologies, rasters, CBW, etc) 398

9.16.4 UE RF requirements 399

9.16.4.1 TX requirements 399

9.16.4.2 RX requirements 401

9.16.5 BS RF requirements 401

9.16.5.1 TX requirements 401

9.16.5.2 RX requirements 402

9.16.6 Co-existence simulations 402

9.16.7 RRM core requirements 403

9.16.7.1 General and RRM requirements impacts 403

9.16.7.2 Timing requirements 404

9.16.7.3 Interruption requirements 405

9.16.7.4 Active BWP switching delay requirements 406

9.16.7.5 Measurement gap interruption requirements 407

9.16.8 Others 407

9.17 Enhancements to Integrated Access and Backhaul (IAB) for NR 408

9.17.1 General 408

9.17.2 RF requirements 408

9.17.2.1 Impact for Simultaneous operation of IAB child and parent links 408

9.17.2.2 Impact for Timing enhancement 408

9.17.2.3 Others 409

9.17.3 RRM core requirements 409

9.17.4 Others 410

9.18 NR coverage enhancements 410

9.18.1 General 410

9.18.2 Phase continuity and power consistency for PUSCH and PUCCH repetition 410

9.18.3 RF requirements 412

9.19 Further enhancements on MIMO for NR 412

9.19.1 General 412

9.19.2 UE RF requirements 412

9.19.2.1 Impact of multi-panel reception 412

9.19.2.2 Impact for MPE 413

9.19.3 RRM core requirements 413

9.19.3.1 General and RRM requirements impacts 413

9.19.3.2 Multi-beam operation enhancement 414

9.19.3.3 Link recovery procedure for FR2 serving cells 415

9.20 Support of reduced capability NR devices 415

9.20.1 General 415

9.20.2 UE RF requirements 416

9.20.2.1 Rx-Tx switching time for FR1 HD-FDD Type A device 416

9.20.2.2 Tx requirements for FR1 416

9.20.2.3 Rx requirements for FR1 417

9.20.2.4 Input on FR2 RedCap UE 418

9.20.2.5 Others 418

9.20.3 RRM core requirements 419

9.20.3.1 General and RRM requirements impacts 419

9.20.3.2 UE complexity reduction 420

9.20.3.3 Extended DRX enhancements 421

9.20.3.4 RRM measurement relaxations 423

9.21 Positioning enhancements for NR 424

9.21.1 General 424

9.21.2 RRM core requirements 424

9.21.2.1 General and RRM requirements impacts 424

9.21.2.2 UE Rx/Tx and/or gNB Rx/Tx timing delay mitigation 424

9.21.2.3 Latency reduction of positioning measurement 425

9.21.2.4 Measurement in RRC\_INACTIVE state 426

9.21.2.5 Impact on existing UE positioning and RRM requirements 427

9.21.2.6 Enhancements of A-GNSS positioning 428

9.22 Multi-Radio Dual-Connectivity enhancements 428

9.22.1 General 428

9.22.2 RRM core requirements 428

9.22.2.1 General and RRM requirements impacts 428

9.22.2.2 Efficient activation/de-activation mechanism for SCells 428

9.22.2.3 Efficient activation/de-activation mechanism for one SCG 429

9.22.2.4 Conditional PSCell change and addition 430

9.23 Enhanced IIoT and URLLC support 431

9.23.1 General 431

9.23.2 RRM core requirements 431

9.23.2.1 General and RRM requirements impacts 431

9.23.2.2 Propagation delay compensation enhancements 431

9.23.2.3 Reference point for Te requirements 432

9.24 NR Sidelink Relay 433

9.24.1 General and work plan 433

9.24.2 RRM core requirements 433

10 Rel-17 Study Items for NR 434

10.1 Study on enhanced test methods for FR2 in NR 434

10.1.1 General 434

10.1.2 Test methodology for high DL power and low UL power test cases 434

10.1.3 Polarization basis mismatch 435

10.1.4 Test time reduction 435

10.1.5 OTA test methods for UE RF, RRM and demodulation for 52.6~71GHz 436

10.1.6 Others 437

10.2 Study on Efficient utilization of licensed spectrum that is not aligned with existing NR channel bandwidths 437

10.2.1 General and work plan 437

10.2.2 Evaluation of use of larger channel bandwidths than operator licensed bandwidth 437

10.2.3 Evaluation of use of overlapping UE channel bandwidths 438

10.2.4 Others 439

10.3 Study on band combination handling in RAN4 440

10.3.1 General and TR 440

10.3.2 How to introduce band combinations including TP format 440

10.3.3 Rules and guidelines of specifying band combinations including notations of CA/DC combinations 440

10.3.4 Improving RAN4 specification structures and reducing redundant contents 441

10.3.5 Others 441

10.4 Study on extended 600MHz NR band 442

10.4.1 General 442

10.4.2 Coexistence study 443

10.4.3 Study on frequency arrangements (such as options B1 and B2) 443

10.4.4 Others 443

10.5 Study on high power UE (power class 2) for one NR FDD band 444

10.5.1 General 444

10.5.2 Duty cycle in FDD bands for SAR issue 444

10.5.3 Analyses on receiver sensitivity degradation 445

10.6 Optimizations of pi/2 BPSK uplink power in NR 446

10.6.1 General and work plan 446

10.6.2 UE Tx power for pi/2 BPSK 446

10.6.3 SAR analysis 446

10.6.4 Shaping filter characteristics 446

10.6.5 Link simulation 447

10.7 Study on 5G NR UE Application Layer Data Throughput Performance 447

10.7.1 General and work plan 447

10.7.2 Test methodology 448

10.7.3 Test parameters 449

11 Rel-17 Work Items for LTE 449

11.1 LTE inter-band Carrier Aggregation for 2 bands DL with 1 band UL 449

11.1.1 Rapporteur Input (WID/TR/CR) 449

11.1.2 UE RF with harmonic, close proximity and isolation issues 450

11.1.3 UE RF without specific issues 450

11.2 LTE inter-band Carrier Aggregation for 3 bands DL with 1 band UL 451

11.2.1 Rapporteur Input (WID/TR/CR) 451

11.2.2 UE RF with harmonic, close proximity and isolation issues 452

11.2.3 UE RF without specific issues 452

11.3 LTE inter-band Carrier Aggregation for x bands DL (x=4, 5) with 1 band UL 453

11.3.1 Rapporteur Input (WID/TR/CR) 453

11.3.2 UE RF with 4 LTE bands CA 454

11.3.3 UE RF with 5 LTE bands CA 458

11.4 LTE inter-band Carrier Aggregation for 2 bands DL with 2 band UL 461

11.4.1 Rapporteur Input (WID/TR/CR) 461

11.4.2 UE RF with harmonic, close proximity and isolation issues 461

11.4.3 UE RF without specific issues 461

11.5 LTE inter-band Carrier Aggregation for x bands DL (x= 3, 4, 5) with 2 band UL 462

11.5.1 Rapporteur Input (WID/TR/CR) 462

11.5.2 UE RF with MSD 462

11.5.3 UE RF without MSD 462

11.6 RRM for LTE CA basket WIs 463

11.6.1 RRM Core (36.133) 463

11.6.2 RRM Perf (36.133) 463

11.7 New WID on Additional LTE bands for UE category M1&M2 and/or NB1&NB2 in Rel-17 463

11.7.1 Rapporteur Input (WID/TR/CR) 463

11.7.2 RF 463

11.7.3 Others 466

11.8 Additional enhancements for NB-IoT and LTE-MTC 466

11.8.1 General and work plan 466

11.8.2 Support of 16QAM in NB-IoT 466

11.8.2.1 BS RF requirements 466

11.8.2.2 UE RF requirements 467

11.8.3 Support of power reduction for PRACH, PUCCH, and full-PRB PUSCH in MTC 467

11.8.3.1 UE RF requirements 467

11.8.4 RRM core requirements 467

11.8.4.1 Neighbour cell measurement in RRC Connected state for NB-IoT 467

11.8.5 Others 468

12 Liaison and output to other groups 468

12.1 R17 related 468

12.2 Others 469

13 Revision of the Work Plan 472

13.1 R17 new proposals 472

13.1.1 Spectrum related 472

13.1.2 Non-spectrum related 473

13.2 Others 473

14 Any other business 475

14.1 Celebration of RAN4#100 meeting 475

15 Close of the E-meeting 475

## 5 Rel-15 and previous release maintenance

### 5.1 Rel-15 New radio access technology

#### 5.1.7 RRM core requirements maintenance (38.133/36.133)

================================================================================

**Email discussion: [100-e][201] NR\_RRM\_maintenance\_R15\_Core**

**R4-2115191 Email discussion summary: [100-e][201] NR\_RRM\_maintenance\_R15\_Core**

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

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

**R4-2111967 Draft CR on CSI-RS based beam failure detection requirements**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: CATT*

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

**R4-2111968 Draft CR on CSI-RS based beam failure detection requirements**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: CATT*

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

**R4-2111969 Draft CR on CSI-RS based beam failure detection requirements**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: CATT*

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

**R4-2112084 Clarification on PSCell change requirements**

*Type: discussion For: Approval  
 Source: Apple*

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

**R4-2112085 CR for PSCell change requirements (R15)**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Apple*

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

**R4-2112086 CR for PSCell change requirements (R16)**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Apple*

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

**R4-2112087 CR for PSCell change requirements (R17)**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Apple*

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

**R4-2112111 Draft CR for minimum requirement at transitions for BFD R15**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Apple*

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

**R4-2112112 Draft CR for minimum requirement at transitions for BFD R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Apple*

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

**R4-2112113 Draft CR for minimum requirement at transitions for BFD R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Apple*

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

**R4-2112953 Draft CR for editorial modification 38.133**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: (Rel-16)  
  
 Source: LG Electronics UK*

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

**R4-2112955 Draft CR for editorial modification 38.133**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: LG Electronics UK*

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

**R4-2113537 draft CR on CSSF for SCell measurements outside gaps in R15**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: vivo*

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

**R4-2113538 draft CR on CSSF for SCell measurements outside gaps in R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: vivo*

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

**R4-2113539 draft CR on CSSF for SCell measurements outside gaps in R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: F (Rel-17)  
  
 Source: vivo*

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

**R4-2113632 draftCR on TS38.133 inter-frequency without gaps - r15**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

This draft CR corrects UE measurement without gap for effective MGRP

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

**R4-2113633 draftCR on TS38.133 inter-frequency without gap -r16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

This draft CR corrects UE measurement without gap for effective MGRP

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

**R4-2113634 draftCR on TS38.133 inter-frequency without gap -r17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

This draft CR corrects UE measurement without gap for effective MGRP

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

**R4-2114092 CR on clarification on SMTC determination in DC 36133 R15**

*Type: draftCR For: Endorsement  
 36.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

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

**R4-2114093 CR on clarification on SMTC determination in DC 36133 R16**

*Type: draftCR For: Endorsement  
 36.133 v16.10.0 CR- rev Cat: A (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**R4-2114094 CR on clarification on SMTC determination in DC 36133 R17**

*Type: draftCR For: Endorsement  
 36.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, Hisilicon*

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

**R4-2114095 CR on clarification on SMTC determination in DC 38133 R15**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

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

**R4-2114096 CR on clarification on SMTC determination in DC 38133 R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**R4-2114097 CR on clarification on SMTC determination in DC 38133 R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, Hisilicon*

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

**R4-2114155 CR on TS38.133 for applicable DRX cycle in EN-DC, NR SA, NE-DC, and NR-DC**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: MediaTek inc.*

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

**R4-2114156 CR on TS38.133 for applicable DRX cycle in EN-DC, NR SA, NE-DC, and NR-DC**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: MediaTek inc.*

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

**R4-2114157 CR on TS38.133 for applicable DRX cycle in EN-DC, NR SA, NE-DC, and NR-DC**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: MediaTek inc.*

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

**R4-2114252 CR on measurement requirements, SCell activation and definition of reference point for UL timing 38133**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Huawei, HiSilicon*

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

**R4-2114253 CR on measurement requirements, SCell activation and definition of reference point for UL timing 38133 R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Huawei, HiSilicon*

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

**R4-2114254 CR on measurement requirements, SCell activation and definition of reference point for UL timing 38133 R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, HiSilicon*

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

**R4-2114255 CR on RSTD measurement requirements 36133**

*Type: draftCR For: Endorsement  
 36.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Huawei, HiSilicon*

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

**R4-2114256 CR on RSTD measurement requirements 36133 R16**

*Type: draftCR For: Endorsement  
 36.133 v16.10.0 CR- rev Cat: A (Rel-16)  
  
 Source: Huawei, HiSilicon*

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

**R4-2114257 CR on RSTD measurement requirements 36133 R17**

*Type: draftCR For: Endorsement  
 36.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, HiSilicon*

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

**R4-2114447 Correction to reference point defintion for UE timing in TS 38.133**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Ericsson, Nokia Shanghai Bell, Intel*

**Abstract:**

Definition of reference point for UE timing error is clarified

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

**R4-2114448 Correction to reference point defintion for UE timing in TS 38.133**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Ericsson, Nokia Shanghai Bell, Intel*

**Abstract:**

Definition of reference point for UE timing error is clarified

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

**R4-2114449 Correction to reference point defintion for UE timing in TS 38.133**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson, Nokia Shanghai Bell, Intel*

**Abstract:**

Definition of reference point for UE timing error is clarified

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

#### 5.1.8 RRM performance requirements maintenance (38.133/36.133)

================================================================================

**Email discussion: [100-e][202] NR\_RRM\_maintenance\_R15\_Perf**

**R4-2115192 Email discussion summary: [100-e][202] NR\_RRM\_maintenance\_R15\_Perf**

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

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

**R4-2111846 Draft CR to specify the number of data RBs allocated**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Anritsu Corporation*

**Abstract:**

Specify the number of data RBs allocated (66RBs). (Refer to the comment to the CR R4-2108883 in topic summary #202 R4-2108371)

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

**R4-2111847 Draft CR to specify the number of data RBs allocated**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Anritsu Corporation*

**Abstract:**

Specify the number of data RBs allocated (66RBs). (Refer to the comment to the CR R4-2108883 in topic summary #202 R4-2108371)

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

**R4-2111848 Draft CR to specify the number of data RBs allocated**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Anritsu Corporation*

**Abstract:**

Specify the number of data RBs allocated (66RBs). (Refer to the comment to the CR R4-2108883 in topic summary #202 R4-2108371)

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

**R4-2111849 Clarification of SNR values in FR2 BFD-LR Test cases**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Anritsu Corporation*

**Abstract:**

The assumptions used when choosing the SNR levels for BFD-LR test cases are not stated in the test cases.

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

**R4-2111850 Clarification of SNR values in FR2 BFD-LR Test cases**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Anritsu Corporation*

**Abstract:**

The assumptions used when choosing the SNR levels for BFD-LR test cases are not stated in the test cases.

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

**R4-2111851 Clarification of SNR values in FR2 BFD-LR Test cases**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Anritsu Corporation*

**Abstract:**

The assumptions used when choosing the SNR levels for BFD-LR test cases are not stated in the test cases.

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

**R4-2111852 Generic channel BW configuration definition for RRM CA TCs**

*Type: discussion For: Approval  
 Source: Anritsu Corporation*

**Abstract:**

We provided our views on the issue with the channel BW configuration shortage for RRM test cases.

Associated draft CR: R4-2111853-1855

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

**R4-2111853 Definition of generic channel BW configurations for RRM CA tests**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Anritsu Corporation*

**Abstract:**

Associated discussion paper: R4-2111852

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

**R4-2111854 Definition of generic channel BW configurations for RRM CA tests**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Anritsu Corporation*

**Abstract:**

Associated discussion paper: R4-2111852

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

**R4-2111855 Definition of generic channel BW configurations for RRM CA tests**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Anritsu Corporation*

**Abstract:**

Associated discussion paper: R4-2111852

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

**R4-2111856 Draft CR to update RMC and SCell SSB burst position for A.6.5.2.1**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Anritsu Corporation*

**Abstract:**

As discussed at R4-2108850 and agreed in the WF(R4-2108038), RMC for TDD15KHz and SSB burst position of SCell will be updated.

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

**R4-2111857 Draft CR to update RMC and SCell SSB burst position for A.6.5.2.1**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Anritsu Corporation*

**Abstract:**

As discussed at R4-2108850 and agreed in the WF(R4-2108038), RMC for TDD15KHz and SSB burst position of SCell will be updated.

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

**R4-2111858 Draft CR to update RMC and SCell SSB burst position for A.6.5.2.1**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Anritsu Corporation*

**Abstract:**

As discussed at R4-2108850 and agreed in the WF(R4-2108038), RMC for TDD15KHz and SSB burst position of SCell will be updated.

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

**R4-2111859 Update NR PSCell Addition and Release Delay RRM Test cases**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Anritsu Corporation*

**Abstract:**

FR2 PSCell Addition and Release delay Test cases cannot be implemented reliably with current parameter values, whilst still meeting side conditions.

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

**R4-2111860 Update NR PSCell Addition and Release Delay RRM Test cases**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Anritsu Corporation*

**Abstract:**

FR2 PSCell Addition and Release delay Test cases cannot be implemented reliably with current parameter values, whilst still meeting side conditions.

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

**R4-2111861 Update NR PSCell Addition and Release Delay RRM Test cases**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Anritsu Corporation*

**Abstract:**

FR2 PSCell Addition and Release delay Test cases cannot be implemented reliably with current parameter values, whilst still meeting side conditions.

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

**R4-2111862 Update FR2 SCell Activation and Deactivation Delay Test cases**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Anritsu Corporation*

**Abstract:**

Test cases A.5.5.3.5 and A.7.5.3.2 contain a contradiction during T1, where the SCell is stated to be powered off, but the OTA parameters table specify the SCell as on during all time periods.

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

**R4-2111863 Update FR2 SCell Activation and Deactivation Delay Test cases**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Anritsu Corporation*

**Abstract:**

Test cases A.5.5.3.5 and A.7.5.3.2 contain a contradiction during T1, where the SCell is stated to be powered off, but the OTA parameters table specify the SCell as on during all time periods.

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

**R4-2111864 Update FR2 SCell Activation and Deactivation Delay Test cases**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Anritsu Corporation*

**Abstract:**

Test cases A.5.5.3.5 and A.7.5.3.2 contain a contradiction during T1, where the SCell is stated to be powered off, but the OTA parameters table specify the SCell as on during all time periods.

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

**R4-2111865 Update inter-frequency FR1-FR2 SS-RSRP measurement accuracy Test cases**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Anritsu Corporation*

**Abstract:**

Test 1 of FR1-FR2 SS-RSRP measurement accuracy Test cases cannot be implemented reliably in RAN5 with current parameter values, whilst still meeting side conditions.

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

**R4-2111866 Update inter-frequency FR1-FR2 SS-RSRP measurement accuracy Test cases**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Anritsu Corporation*

**Abstract:**

Test 1 of FR1-FR2 SS-RSRP measurement accuracy Test cases cannot be implemented reliably in RAN5 with current parameter values, whilst still meeting side conditions.

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

**R4-2111867 Update inter-frequency FR1-FR2 SS-RSRP measurement accuracy Test cases**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Anritsu Corporation*

**Abstract:**

Test 1 of FR1-FR2 SS-RSRP measurement accuracy Test cases cannot be implemented reliably in RAN5 with current parameter values, whilst still meeting side conditions.

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

**R4-2111868 Update FR2 CSI-RS-based RLM Test cases**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Anritsu Corporation*

**Abstract:**

FR2 CSI-RS-based RLM Test cases cannot be implemented reliably in RAN5 with current parameter values, whilst still meeting side conditions.

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

**R4-2111869 Update FR2 CSI-RS-based RLM Test cases**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Anritsu Corporation*

**Abstract:**

FR2 CSI-RS-based RLM Test cases cannot be implemented reliably in RAN5 with current parameter values, whilst still meeting side conditions.

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

**R4-2111870 Update FR2 CSI-RS-based RLM Test cases**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Anritsu Corporation*

**Abstract:**

FR2 CSI-RS-based RLM Test cases cannot be implemented reliably in RAN5 with current parameter values, whilst still meeting side conditions.

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

**R4-2111871 CR to the propagation condition of NR cell for InterRAT test cases**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Anritsu Corporation*

**Abstract:**

Correction of propagation condition to TDLA30-70 for NR Cell.

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

**R4-2111872 CR to the propagation condition of NR cell for InterRAT test cases**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Anritsu Corporation*

**Abstract:**

Correction of propagation condition to TDLA30-70 for NR Cell.

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

**R4-2111873 CR to the propagation condition of NR cell for InterRAT test cases**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Anritsu Corporation*

**Abstract:**

Correction of propagation condition to TDLA30-70 for NR Cell.

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

**R4-2111877 Introduction of new BWP definition for FR2 SSB SCS240kHz conditions**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Anritsu Corporation*

**Abstract:**

Added new BW configuration (48RB) for SCS 240 kHz.

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

**R4-2111878 Introduction of new BWP definition for FR2 SSB SCS240kHz conditions**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Anritsu Corporation*

**Abstract:**

Added new BW configuration (48RB) for SCS 240 kHz.

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

**R4-2111879 Introduction of new BWP definition for FR2 SSB SCS240kHz conditions**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Anritsu Corporation*

**Abstract:**

Added new BW configuration (48RB) for SCS 240 kHz.

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

**R4-2111880 CR to EUTRA-NR Inter-RAT SFTD measurement delay**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Anritsu Corporation*

**Abstract:**

Current config2 and config3 (LTE FDD-NR TDD condition) definition of cells (asynchronous) is inconsistent with other TCs (NSA, Inter-RAT).

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

**R4-2111881 CR to EUTRA-NR Inter-RAT SFTD measurement delay**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Anritsu Corporation*

**Abstract:**

Current config2 and config3 (LTE FDD-NR TDD condition) definition of cells (asynchronous) is inconsistent with other TCs (NSA, Inter-RAT).

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

**R4-2111882 CR to EUTRA-NR Inter-RAT SFTD measurement delay**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Anritsu Corporation*

**Abstract:**

Current config2 and config3 (LTE FDD-NR TDD condition) definition of cells (asynchronous) is inconsistent with other TCs (NSA, Inter-RAT).

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

**R4-2111883 CR to General Test Parameters of SCell Activation and Deactivation Delay TCs**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Anritsu Corporation*

**Abstract:**

TRS settings for Config 1 and 3 are not specified in the general test parameters table in A.6.5.3.1 (also used for A.6.5.3.2, and A.6.5.3.3).

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

**R4-2111884 CR to General Test Parameters of SCell Activation and Deactivation Delay TCs**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Anritsu Corporation*

**Abstract:**

TRS settings for Config 1 and 3 are not specified in the general test parameters table in A.6.5.3.1 (also used for A.6.5.3.2, and A.6.5.3.3).

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

**R4-2111885 CR to General Test Parameters of SCell Activation and Deactivation Delay TCs**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Anritsu Corporation*

**Abstract:**

TRS settings for Config 1 and 3 are not specified in the general test parameters table in A.6.5.3.1 (also used for A.6.5.3.2, and A.6.5.3.3).

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

**R4-2111886 Correction of CSI reporting periodicity for L1RSRP reporting in FR2**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Anritsu Corporation*

**Abstract:**

Updated L1-RSRP reporting period to 320 slots from 640 slots

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

**R4-2111887 Correction of CSI reporting periodicity for L1RSRP reporting in FR2**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Anritsu Corporation*

**Abstract:**

Updated L1-RSRP reporting period to 320 slots from 640 slots

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

**R4-2111888 Correction of CSI reporting periodicity for L1RSRP reporting in FR2**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Anritsu Corporation*

**Abstract:**

Updated L1-RSRP reporting period to 320 slots from 640 slots

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

**R4-2111889 Correction of SSB configuration for interruption test cases in FR2**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Anritsu Corporation*

**Abstract:**

Correct SSB.1 FR2 to SSB.3 FR2

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

**R4-2111890 Correction of SSB configuration for interruption test cases in FR2**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Anritsu Corporation*

**Abstract:**

Correct SSB.1 FR2 to SSB.3 FR2

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

**R4-2111891 Correction of SSB configuration for interruption test cases in FR2**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Anritsu Corporation*

**Abstract:**

Correct SSB.1 FR2 to SSB.3 FR2

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

**R4-2111899 Correction to Radio Link Monitoring Scheduling Restrictions in FR2**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Anritsu Corporation*

**Abstract:**

Missing implementation from the previously agreed CR (R4-2108884) needs to be corrected. Only Rel-16 spec needs the correction.

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

**R4-2111900 Correction of Io in event triggered reporting test**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: F (Rel-17)  
  
 Source: Anritsu Corporation*

**Abstract:**

Missing implementation of Io value from the previously agreed CR (R4-2108888) needs to be corrected.

Only Rel-17 spec needs the correction.

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

**R4-2112475 Correction on configurations in SA FR2 tests in R15**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: MediaTek inc.*

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

**R4-2112476 Correction on configurations in SA FR2 tests in R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: MediaTek inc.*

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

**R4-2112477 Correction on configurations in SA FR2 tests in R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: MediaTek inc.*

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

**R4-2112526 Correction on the FR2 inter-frequency relative RSRP accuracy in R15**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: MediaTek inc.*

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

**R4-2112527 Correction on the FR2 inter-frequency relative RSRP accuracy in R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: MediaTek inc.*

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

**R4-2112528 Correction on the FR2 inter-frequency relative RSRP accuracy in R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: MediaTek inc.*

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

**R4-2112529 Discussion on the FR2 inter-frequency relative RSRP accuracy**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

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

**R4-2112536 Correction on configurations in SCell activation tests in R15**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: MediaTek inc.*

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

**R4-2112537 Correction on configurations in SCell activation tests in R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: MediaTek inc.*

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

**R4-2112538 Correction on configurations in SCell activation tests in R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: MediaTek inc.*

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

**R4-2112613 Draft-CR to TS 38.133: Missing CORESET RMCs in several test cases (Rel 15)**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Rohde & Schwarz*

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

**R4-2112614 Draft-CR to TS 38.133: Missing CORESET RMCs in several test cases (Rel 16)**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Rohde & Schwarz*

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

**R4-2112615 Draft-CR to TS 38.133: Missing CORESET RMCs in several test cases (Rel 17)**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Rohde & Schwarz*

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

**R4-2112616 Draft-CR to TS 38.133: Corrections to PRACH test cases (Rel 15)**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Rohde & Schwarz*

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

**R4-2112617 Draft-CR to TS 38.133: Corrections to PRACH test cases (Rel 16)**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Rohde & Schwarz*

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

**R4-2112618 Draft-CR to TS 38.133: Corrections to PRACH test cases (Rel 17)**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Rohde & Schwarz*

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

**R4-2112619 Draft-CR to TS 38.133: Corrections to re-establishment test cases (Rel 15)**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Rohde & Schwarz*

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

**R4-2112620 Draft-CR to TS 38.133: Corrections to re-establishment test cases (Rel 16)**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Rohde & Schwarz*

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

**R4-2112621 Draft-CR to TS 38.133: Corrections to re-establishment test cases (Rel 17)**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Rohde & Schwarz*

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

**R4-2112622 Draft-CR to TS 38.133: Corrections to radio link monitoring test cases (Rel 15)**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Rohde & Schwarz*

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

**R4-2112623 Draft-CR to TS 38.133: Corrections to radio link monitoring test cases (Rel 16)**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Rohde & Schwarz*

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

**R4-2112624 Draft-CR to TS 38.133: Corrections to radio link monitoring test cases (Rel 17)**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Rohde & Schwarz*

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

**R4-2112625 Draft-CR to TS 38.133: Corrections to periodic measurement test cases (Rel 15)**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Rohde & Schwarz*

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

**R4-2112626 Draft-CR to TS 38.133: Corrections to periodic measurement test cases (Rel 16)**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Rohde & Schwarz*

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

**R4-2112627 Draft-CR to TS 38.133: Corrections to periodic measurement test cases (Rel 17)**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Rohde & Schwarz*

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

**R4-2112647 Views on principles to handle FR1 FR2 test case**

*Type: discussion For: Discussion  
 Source: vivo*

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

**R4-2112692 Rel-15 Cat-F CR to Interruptions during measurements on deactivated NR SCC in FR1**

*Type: CR For: Agreement  
 38.133 v15.14.0 CR-2187 rev Cat: F (Rel-15)  
  
 Source: Qualcomm Incorporated*

Session chair: CR submitted instead of Draft CR. If agreeable, the CR will be endorsed.

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

**R4-2112697 OTA testability issue**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

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

**R4-2113145 draftCR to clarify timing reference point for UE UL timing test cases**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: (Rel-15)  
  
 Source: Intel Corporation*

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

**R4-2113146 draftCR to clarify timing reference point for UE UL timing test cases**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: (Rel-16)  
  
 Source: Intel Corporation*

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

**R4-2113147 draftCR to clarify timing reference point for UE UL timing test cases**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: Intel Corporation*

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

**R4-2113474 Correction of Link recovery test parameter tables**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

This draft CR correct the parameters for link recovery tests.

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

**R4-2113475 Correction of Link recovery test parameter tables**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

This draft CR correct the parameters for link recovery tests.

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

**R4-2113476 Correction of Link recovery test parameter tables**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

This draft CR correct the parameters for link recovery tests.

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

**R4-2113477 Correction of A3-offset setting in FR2 SA event triggered reporting tests**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson, Anritsu*

**Abstract:**

This draft CR corrects A3-offset setting in FR2 SA event triggered reporting tests

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

**R4-2113478 Correction of FR2 L1-RSRP measurement tests**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

This draft CR corrects FR2 L1-RSRP measurement tests.

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

**R4-2113479 Correction of FR2 L1-RSRP measurement tests**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

This draft CR corrects FR2 L1-RSRP measurement tests.

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

**R4-2113480 Correction of FR2 L1-RSRP measurement tests**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

This draft CR corrects FR2 L1-RSRP measurement tests.

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

**R4-2113852 Correction to interruption during measurement on deactivated SCell test cases\_R15**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Huawei, HiSilicon*

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

**R4-2113859 Maintenance CR for test cases - R15**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: ZTE Corporation*

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

**R4-2113860 Maintenance CR for test cases - R16 Cat A**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: ZTE Corporation*

**Abstract:**

This is a Cat A CR.

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

**R4-2113861 Maintenance CR for test cases - R17 Cat A**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: ZTE Corporation*

**Abstract:**

This is a Cat A CR.

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

**R4-2113957 Correction to Inter-RAT SFTD measurement test cases\_R15**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

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

**R4-2113958 Correction to Inter-RAT SFTD measurement test cases\_R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**R4-2113959 Correction to Inter-RAT SFTD measurement test cases\_R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, Hisilicon*

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

**R4-2113960 Correction to interruption due to BWP switching test cases\_R15**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

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

**R4-2113961 Correction to interruption due to BWP switching test cases\_R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**R4-2113962 Correction to interruption due to BWP switching test cases\_R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, Hisilicon*

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

**R4-2113963 Correction to PSCell addition test cases\_R15**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

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

**R4-2113964 Correction to PSCell addition test cases\_R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**R4-2113965 Correction to PSCell addition test cases\_R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, Hisilicon*

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

**R4-2113966 Correction to radio link monitoring test cases\_R15**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

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

**R4-2113967 Correction to radio link monitoring test cases\_R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**R4-2113968 Correction to radio link monitoring test cases\_R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, Hisilicon*

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

**R4-2113969 Correction to SCell activation test cases\_R15**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

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

**R4-2113970 Correction to SCell activation test cases\_R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**R4-2113971 Correction to SCell activation test cases\_R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, Hisilicon*

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

**R4-2114098 Discussion on RRM performance maintenance**

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

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

**R4-2114164 On Rel-15 TCs with mix of carriers in LTE/FR1 and FR2**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Discussion on LTE/FR1+FR2 test case design, and how to address testability in Rel-15 test cases. Follow-up on WF R4-2108038.

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

**R4-2114165 DraftCR (R15) Applicability of test cases with LTE/FR1+FR2**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

DraftCR on applicability of test cases with mix of LTE/FR1 and FR2 carriers.

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

**R4-2114166 DraftCR (R16) Applicability of test cases with LTE/FR1+FR2**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

DraftCR on applicability of test cases with mix of LTE/FR1 and FR2 carriers.

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

**R4-2114167 DraftCR (R17) Applicability of test cases with LTE/FR1+FR2**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

DraftCR on applicability of test cases with mix of LTE/FR1 and FR2 carriers.

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

**R4-2114359 Draft-CR to TS 38.133: Corrections to propagation condition for inter-RAT test cases (Rel 15)**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Rohde & Schwarz*

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

**R4-2114360 Draft-CR to TS 38.133: Corrections to propagation condition for inter-RAT test cases (Rel 16)**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Rohde & Schwarz*

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

**R4-2114361 Draft-CR to TS 38.133: Corrections to propagation condition for inter-RAT test cases (Rel 17)**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Rohde & Schwarz*

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

**R4-2114442 Correction to n261 RRM performance requirements in Rel-15**

*Type: draftCR For: Endorsement  
 38.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

The CR corrects the min SSB\_RP level and missing antenna gain for n261 in power class 1

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

**R4-2114443 Correction to n261 RRM performance requirements in Rel-16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: A (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

The CR corrects the min SSB\_RP level and missing antenna gain for n261 in power class 1

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

**R4-2114444 Correction to n261 RRM performance requirements in Rel-17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: F (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

The CR corrects the min SSB\_RP level for n261 in power class 1. The antenna gain is present in Rel-17 so Rel-17 correction is not identical to Rel-15

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

#### 5.1.10 Positioning specs maintenance (36.171, 37.171 and 38.171)

================================================================================

**Email discussion: [100-e][203] NR\_NewRAT\_Positioning**

**R4-2115193 Email discussion summary: [100-e][203] NR\_NewRAT\_Positioning**

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

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

**R4-2113443 Draft CR on 38.171 requirements for support of A-GNSS**

*Type: draftCR For: Endorsement  
 38.171 v16.1.0 CR- rev Cat: F (Rel-16)  
  
 Source: CATT*

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

**R4-2113444 Draft CR on 36.171 requirements for support of A-GNSS**

*Type: draftCR For: Endorsement  
 36.171 v16.2.0 CR- rev Cat: F (Rel-16)  
  
 Source: CATT*

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

##### 5.1.10.1 Frequency Bands for testing of A-GNSS Sensitivity

**R4-2112138 Remaining issues on testing of A-GNSS Sensitivity requirements in NR and LTE**

*Type: discussion For: Discussion  
 Source: Apple*

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

**R4-2113303 Discussion on Frequency Bands for testing of A-GNSS Sensitivity requirements in NR and LTE**

*Type: discussion For: Approval  
 Source: Xiaomi*

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

**R4-2114208 Frequency bands for testing of A-GNSS sensitivity requirements**

*Type: CR For: Agreement  
 38.171 v16.1.0 CR-0013 rev Cat: F (Rel-16)  
  
 Source: Qualcomm Incorporated*

Session chair: CR submitted instead of Draft CR. If agreeable, the CR will be endorsed.

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

**R4-2114210 Frequency bands for testing of A-GNSS sensitivity requirements**

*Type: CR For: Agreement  
 36.171 v16.2.0 CR-0022 rev Cat: F (Rel-16)  
  
 Source: Qualcomm Incorporated*

Session chair: CR submitted instead of Draft CR. If agreeable, the CR will be endorsed.

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

##### 5.1.10.2 Other

**R4-2112478 On the number of satellites for 3-GNSS scenarios**

*Type: discussion For: Discussion  
 Source: MediaTek Inc., Rohde & Schwarz*

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

**R4-2112479 CR on satellite allocation**

*Type: draftCR For: Endorsement  
 36.171 v15.1.0 CR- rev Cat: F (Rel-15)  
  
 Source: MediaTek Inc., Rohde & Schwarz*

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

**R4-2112480 CR on satellite allocation**

*Type: draftCR For: Endorsement  
 36.171 v16.2.0 CR- rev Cat: A (Rel-16)  
  
 Source: MediaTek Inc., Rohde & Schwarz*

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

**R4-2112481 CR on satellite allocation**

*Type: draftCR For: Endorsement  
 38.171 v15.3.0 CR- rev Cat: F (Rel-15)  
  
 Source: MediaTek Inc., Rohde & Schwarz*

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

**R4-2112482 CR on satellite allocation**

*Type: draftCR For: Endorsement  
 38.171 v16.1.0 CR- rev Cat: A (Rel-16)  
  
 Source: MediaTek Inc., Rohde & Schwarz*

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

### 5.2 LTE maintenance (up to Rel-15)

#### 5.2.2 Other WIs or R16 TEI

##### 5.2.2.3 RRM requirements

================================================================================

**Email discussion: [100-e][204] LTE\_RRM\_maintenance\_NWM**

**R4-2115194 Email discussion summary: [100-e][204] LTE\_RRM\_maintenance\_NWM**

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

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

###### 5.2.2.3.1 RRM core requirements

**R4-2114258 CR to eMTC RRM requirements R14**

*Type: draftCR For: Endorsement  
 36.133 v14.19.0 CR- rev Cat: F (Rel-14)  
  
 Source: Huawei, HiSilicon*

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

**R4-2114259 CR to eMTC RRM requirements R15**

*Type: draftCR For: Endorsement  
 36.133 v15.14.0 CR- rev Cat: A (Rel-15)  
  
 Source: Huawei, HiSilicon*

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

**R4-2114260 CR to eMTC RRM requirements R16**

*Type: draftCR For: Endorsement  
 36.133 v16.10.0 CR- rev Cat: A (Rel-16)  
  
 Source: Huawei, HiSilicon*

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

**R4-2114261 CR to eMTC RRM requirements R17**

*Type: draftCR For: Endorsement  
 36.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, HiSilicon*

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

**R4-2114262 CR to eDRX RRM requirements R13**

*Type: draftCR For: Endorsement  
 36.133 v13.21.0 CR- rev Cat: F (Rel-13)  
  
 Source: Huawei, HiSilicon*

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

**R4-2114263 CR to eDRX RRM requirements R14**

*Type: draftCR For: Endorsement  
 36.133 v14.19.0 CR- rev Cat: F (Rel-14)  
  
 Source: Huawei, HiSilicon*

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

**R4-2114264 CR to eDRX RRM requirements R15**

*Type: draftCR For: Endorsement  
 36.133 v15.14.0 CR- rev Cat: A (Rel-15)  
  
 Source: Huawei, HiSilicon*

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

**R4-2114265 CR to eDRX RRM requirements R16**

*Type: draftCR For: Endorsement  
 36.133 v16.10.0 CR- rev Cat: A (Rel-16)  
  
 Source: Huawei, HiSilicon*

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

**R4-2114266 CR to eDRX RRM requirements R17**

*Type: draftCR For: Endorsement  
 36.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, HiSilicon*

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

###### 5.2.2.3.2 RRM performance requirements

**R4-2114136 Correction of RMC of NB-TDD test cases R15**

*Type: draftCR For: Endorsement  
 36.133 v15.14.0 CR- rev Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

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

**R4-2114137 Correction of RMC of NB-TDD test cases R16**

*Type: draftCR For: Endorsement  
 36.133 v16.10.0 CR- rev Cat: A (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**R4-2114138 Correction of RMC of NB-TDD test cases R17**

*Type: draftCR For: Endorsement  
 36.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, Hisilicon*

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

## 6 Rel-16 maintenance for both NR and LTE

### 6.1 NR maintenance

#### 6.1.1 NR-based access to unlicensed spectrum

##### 6.1.1.5 RRM core requirements (38.133)

================================================================================

**Email discussion: [100-e][206] NR\_unlic\_RRM\_1**

**R4-2115196 Email discussion summary: [100-e][206] NR\_unlic\_RRM\_1**

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

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

###### 6.1.1.5.1 General

**R4-2112114 On remaining issue for NR-U core**

*Type: discussion For: Discussion  
 38.133 v CR- rev Cat: (Rel-16)  
  
 Source: Apple*

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

**R4-2112115 Draft CR on SSB availability for RLM and L1-RSRP R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Apple*

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

**R4-2112116 Draft CR on SSB availability for RLM and L1-RSRP R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Apple*

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

**R4-2112483 CR on availability of SSB occasions in R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: MediaTek inc.*

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

**R4-2113108 Discussion on availability of SSB occasions**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

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

**R4-2113109 CR on availability of SSB occasions in R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: MediaTek inc.*

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

###### 6.1.1.5.2 RRC connection mobility control

###### 6.1.1.5.3 SCell activation/deactivation (delay and interruption)

**R4-2114099 CR on maintenance of SCell activation requirements for NR-U R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**R4-2114100 CR on maintenance of SCell activation requirements for NR-U R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, Hisilicon*

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

###### 6.1.1.5.4 Timing

###### 6.1.1.5.5 Other requirements

**R4-2113225 Correction of NR-U inter-frequency cell identification and measurements requirements**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Correction of RRM test cases for unlicensed operation.

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

**R4-2113226 Correction of NR-U inter-frequency cell identification and measurements requirements**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Correction of RRM test cases for unlicensed operation.

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

**R4-2113461 Availability of SSB monitoring occasions**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

This contribution discusses the remaining open issues for SSB monitoring capability.

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

**R4-2113462 Draft CR: Clarification of availability of SSB monitoring occasions for RLM and BM**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

This draft clarifies the availability of SSB monitoring occasions for RLM and BM.

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

**R4-2113463 Draft CR: Clarification of availability of SSB monitoring for RLM and BM**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

This draft clarifies the availability of SSB monitoring for RLM and BM.

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

**R4-2113878 Availability of SSB occasions for RLM/BFD/L1-RSRP**

*Type: discussion For: Discussion  
 Source: ZTE Corporation*

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

**R4-2114101 CR on maintenance of measurement requirements for NR-U R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**R4-2114102 CR on maintenance of measurement requirements for NR-U R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, Hisilicon*

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

##### 6.1.1.6 RRM performance requirements (38.133)

================================================================================

**Email discussion: [100-e][207] NR\_unlic\_RRM\_2**

**R4-2115197 Email discussion summary: [100-e][207] NR\_unlic\_RRM\_2**

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

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

###### 6.1.1.6.1 General

###### 6.1.1.6.2 Measurement accuracy requirements

###### 6.1.1.6.3 Test cases

6.1.1.6.3.1 General

**R4-2113227 On remaining details of CCA model for NR-U RRM tests**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

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

**R4-2113228 Correction of CCA model for TCs with DRX**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Correction of RRM test cases for unlicensed operation.

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

**R4-2113229 Correction of CCA model for TCs with DRX**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Correction of RRM test cases for unlicensed operation.

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

**R4-2113464 Draft CR: Correction of RMC for NR-U test cases**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

This draft CR updates RMCs used for NR-U RRM test cases.

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

**R4-2113465 Draft CR: Correction of RMC for NR-U test cases**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

This draft CR updates RMCs used for NR-U RRM test cases.

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

**R4-2114103 CR on CORESET RMC for NR-U R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**R4-2114104 CR on CORESET RMC for NR-U R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, Hisilicon*

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

6.1.1.6.3.2 RRC IDLE cell re-selection

**R4-2114078 Correction to cell reselection test**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Corrections to NR-U cell reselection test.

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

**R4-2114080 Correction to cell reselection test**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Corrections to NR-U cell reselection test.

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

**R4-2114105 CR on TC of cell reselection for NR-U R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**R4-2114106 CR on TC of cell reselection for NR-U R16**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, Hisilicon*

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

6.1.1.6.3.3 HO (delay and interruptions)

**R4-2113230 Draft CR Correction of Handover TCs**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Correction of RRM test cases for unlicensed operation.

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

**R4-2113231 Draft CR Correction of Handover TCs**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Correction of RRM test cases for unlicensed operation.

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

**R4-2114077 Correction to NR-U handover test**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Corrections to NR-U handover test.

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

**R4-2114079 Correction to NR-U handover test**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Corrections to NR-U handover test.

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

**R4-2114107 CR on TC of HO for NR-U R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**R4-2114108 CR on TC of HO for NR-U R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, Hisilicon*

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

6.1.1.6.3.4 RRC Re-establishment

**R4-2113232 Draft CR RRC Re-establishment with CCA**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Correction of RRM test cases for unlicensed operation.

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

**R4-2113233 Draft CR RRC Re-establishment with CCA**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Correction of RRM test cases for unlicensed operation.

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

**R4-2114109 CR on TC of RRC Re-establishment for NR-U R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**R4-2114110 CR on TC of RRC Re-establishment for NR-U R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, Hisilicon*

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

**R4-2114433 Correction to RRC re-establishment tests for NR-U in 38.133**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

The CR corrects test case on RRC re-establishment in NR-U

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

**R4-2114434 Correction to RRC re-establishment tests for NR-U in 38.133**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

The CR corrects test case on RRC re-establishment in NR-U

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

6.1.1.6.3.5 RRC Connection Release with Redirection

**R4-2113234 Discussion on RRC connection release with redirection RRM requirements with CCA**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

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

**R4-2113235 Correction on release with redirection TCs for unlicensed operation**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Correction of RRM test cases for unlicensed operation.

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

**R4-2113236 Correction on release with redirection TCs for unlicensed operation**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Correction of RRM test cases for unlicensed operation.

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

**R4-2114111 CR on TC of RRC Release with Redirection for NR-U R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**R4-2114112 CR on TC of RRC Release with Redirection for NR-U R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, Hisilicon*

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

**R4-2114435 Correction to RRC re-direction tests for NR-U in 38.133**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

The CR corrects test case on RRC re-redirection in NR-U

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

**R4-2114436 Correction to RRC re-direction tests for NR-U in 38.133**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

The CR corrects test case on RRC re-redirection in NR-U

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

6.1.1.6.3.6 Random access

**R4-2113468 Draft CR: Correction of random access procedure test cases for NR-U**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

This draft CR updates the test cases of random access procedure in NR-U.

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

**R4-2113469 Draft CR: Correction of random access procedure test cases for NR-U**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

This draft CR updates the test cases of random access procedure in NR-U.

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

**R4-2114113 CR on TC of RA for NR-U R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**R4-2114114 CR on TC of RA for NR-U R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, Hisilicon*

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

6.1.1.6.3.7 Timing (transmit timing and TA)

**R4-2114115 CR on TC of timing requirements for NR-U R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**R4-2114116 CR on TC of timing requirements for NR-U R16**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, Hisilicon*

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

**R4-2114437 Correction to UE timing tests for NR in 38.133**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

The CR corrects test cases on UE transmit timing and timing advance

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

**R4-2114438 Correction to UE timing tests for NR in 38.133**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

The CR corrects test cases on UE transmit timing and timing advance

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

6.1.1.6.3.8 BWP switching delay and interruptions

**R4-2114117 CR on TC of BWP switch requirements for NR-U R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**R4-2114118 CR on TC of BWP switch requirements for NR-U R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, Hisilicon*

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

**R4-2114439 Correction to BWP switching tests for NR-U in 38.133**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

The CR corrects test cases on BWP switching.

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

**R4-2114440 Correction to BWP switching tests for NR-U in 38.133**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

The CR corrects test cases on BWP switching.

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

6.1.1.6.3.9 PSCell addition/release (delay and interruption)

**R4-2114119 CR on TC of PSCell addition and release for NR-U R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**R4-2114120 CR on TC of PSCell addition and release for NR-U R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, Hisilicon*

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

6.1.1.6.3.10 SCell activation/deactivation (delay and interruption)

**R4-2113237 Discussion on SCell activation/deactivation delay performance requirements with CCA**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

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

**R4-2113238 TC SCell activation/deactivation for unlicensed bands**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Correction of RRM test cases for unlicensed operation.

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

**R4-2113239 TC SCell activation/deactivation for unlicensed bands**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Correction of RRM test cases for unlicensed operation.

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

**R4-2114121 CR on TC of SCell activation for NR-U R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**R4-2114122 CR on TC of SCell activation for NR-U R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, Hisilicon*

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

**R4-2114172 DraftCR (R16) Correction of test cases for SCell (de)activation**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Maintenance of test cases for SCell (de)activation in NR-U.

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

**R4-2114173 DraftCR (R17) Correction of test cases for SCell (de)activation**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Maintenance of test cases for SCell (de)activation in NR-U.

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

6.1.1.6.3.11 Other interruptions

**R4-2114170 DraftCR (R16) Correction of test cases for interruptions**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Maintenance of interruption test cases for NR-U.

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

**R4-2114171 DraftCR (R17) Correction of test cases for interruptions**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Maintenance of interruption test cases for NR-U.

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

6.1.1.6.3.12 RLM

**R4-2113240 Discussion on RLM performance requirements with CCA**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

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

**R4-2113241 Draft CR correction RLM TCs for NR-U**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Correction of RRM test cases for unlicensed operation.

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

**R4-2113242 Draft CR correction RLM TCs for NR-U**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Correction of RRM test cases for unlicensed operation.

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

**R4-2114123 CR on RLM for NR-U R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**R4-2114124 CR on RLM for NR-U R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, Hisilicon*

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

6.1.1.6.3.13 Beam management (BFD and link recovery)

**R4-2113243 Discussion on beam failure detection and link recovery requirements with CCA**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

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

**R4-2113244 Correction of beam failure detection and link recovery TCs under CCA**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Correction of RRM test cases for unlicensed operation.

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

**R4-2113245 Correction of beam failure detection and link recovery TCs under CCA**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Correction of RRM test cases for unlicensed operation.

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

**R4-2113466 Draft CR: Correction of beam management test cases for NR-U**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

This draft CR introduces the test cases for bean failure recovery and L1-RSRP reporting in NR-U.

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

**R4-2113467 Draft CR: Correction of beam management test cases for NR-U**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

This draft CR introduces the test cases for bean failure recovery and L1-RSRP reporting in NR-U.

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

**R4-2114125 Discussion on TC for BFD and CBD for NR-U**

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

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

**R4-2114126 CR on TC of BFD and CBD for NR-U R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**R4-2114127 CR on TC of BFD and CBD for NR-U R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, Hisilicon*

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

6.1.1.6.3.14 SS-RSRP/SS-RSRQ/SS-SINR/L1-RSRP measurement procedure (intra-frequency, inter-frequency, inter-RAT)

**R4-2114128 CR on TC of inter-RAT measurement procedure for NR-U R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**R4-2114129 CR on TC of inter-RAT measurement procedure for NR-U R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, Hisilicon*

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

6.1.1.6.3.15 RSSI/CO measurement procedure (intra-frequency, inter-frequency, inter-RAT)

**R4-2113246 Correction of inter-frequency measurement procedures TCs under CCA**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Correction of RRM test cases for unlicensed operation.

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

**R4-2113247 Correction of inter-frequency measurement procedures TCs under CCA**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Correction of RRM test cases for unlicensed operation.

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

6.1.1.6.3.16 SFTD measurement procedure

**R4-2114130 CR on TC of inter-RAT SFTD measurement procedure for NR-U R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**R4-2114131 CR on TC of inter-RAT SFTD measurement procedure for NR-U R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, Hisilicon*

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

6.1.1.6.3.17 SS-RSRP/SS-RSRQ/SS-SINR/L1-RSRP measurement accuracy (intra-frequency, inter-frequency, inter-RAT)

**R4-2113470 Addition of SS-SINR/SS-RSRQ measurement accuracy tests for NR-U**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

This contribution discusses the introduction of the SS-RSRQ/SS-SINR measurement accuracy test cases for NR-U.

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

**R4-2113471 Draft CR: Addition of SS-SINR/SS-RSRQ measurement accuracy tests for NR-U**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

This draft CR introduces the SS-RSRQ/SS-SINR measurement accuracy test cases for NR-U.

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

**R4-2113472 Draft CR: Addition of SS-SINR/SS-RSRQ measurement accuracy tests for NR-U**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

This draft CR introduces the SS-RSRQ/SS-SINR measurement accuracy test cases for NR-U.

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

**R4-2114132 CR on TC of intra-frequency measurement accuracy for NR-U R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**R4-2114133 CR on TC of intra-frequency measurement accuracy for NR-U R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, Hisilicon*

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

6.1.1.6.3.18 RSSI/CO measurement accuracy (intra-frequency, inter-frequency, inter-RAT)

6.1.1.6.3.19 SFTD measurement accuracy

6.1.1.6.3.20 Other

**R4-2113248 Removal of TCI state switching TC for unlicensed bands**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Correction of RRM test cases for unlicensed operation.

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

**R4-2113249 Removal of TCI state switching TC for unlicensed bands**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Correction of RRM test cases for unlicensed operation.

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

**R4-2113879 Test case with UL CCA failure**

*Type: discussion For: Discussion  
 Source: ZTE Corporation*

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

**R4-2114134 CR on removing TCI switching TC for NR-U R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**R4-2114135 CR on removing TCI switching TC for NR-U R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, Hisilicon*

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

#### 6.1.2 Integrated Access and Backhaul for NR

##### 6.1.2.3 RRM core requirements

**R4-2114431 Side conditions in IAB-MT RRC connection mobility requirements in TS 38.174**

*Type: draftCR For: Endorsement  
 38.174 v16.3.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

The CR on side conditions (SSB Es/Iot and SSP\_RP) for IAB-MT requirements

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

##### 6.1.2.4 RRM performance requirements

**R4-2114432 Correction to IAB-MT RRM tests in TS 38.174**

*Type: draftCR For: Endorsement  
 38.174 v16.3.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

The CR to correct IAB-MT performance requirements

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

#### 6.1.3 5G V2X with NR sidelink

##### 6.1.3.2 RRM requirements (38.133)

#### 6.1.4 Multi-RAT Dual-Connectivity and Carrier Aggregation enhancements

##### 6.1.4.2 RRM core requirement (38.133/36.133)

###### 6.1.4.2.1 Early Measurement reporting

###### 6.1.4.2.2 Efficient and low latency serving cell configuration, activation and setup

**R4-2112078 On direct SCell activation**

*Type: discussion For: (not specified)  
 Source: Apple*

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

**R4-2112079 CR on direct SCell activation (R16)**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Apple*

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

**R4-2112080 CR on direct SCell activation (R17)**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Apple*

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

**R4-2114010 SCell and Direct SCell activation delay**

*Type: discussion For: Agreement  
 Source: Nokia, Nokia Shanghai Bell*

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

**R4-2114011 Draft CR for Direct SCell activation delay**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

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

**R4-2114012 Draft CR for Direct SCell activation delay**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

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

**R4-2114267 CR on direct SCell activation requirements**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, HiSilicon*

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

**R4-2114268 CR on direct SCell activation requirements R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, HiSilicon*

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

##### 6.1.4.3 RRM performance requirements (38.133)

###### 6.1.4.3.1 Early Measurement reporting

**R4-2114013 Draft CR for Idle Mode measurements of inter-RAT CA candidate cells for early reporting (TC#3)**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

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

**R4-2114014 Draft CR for Idle Mode measurements of inter-RAT CA candidate cells for early reporting (TC#3)**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

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

###### 6.1.4.3.2 Efficient and low latency serving cell configuration, activation and setup

**R4-2114168 DraftCR (R16) Clean-up of test cases for Direct SCell activation and SCell dormancy**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Maintenance of test cases for SCell dormancy and Direct SCell activation.

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

**R4-2114169 DraftCR (R17) Clean-up of test cases for Direct SCell activation and SCell dormancy**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Maintenance of test cases for SCell dormancy and Direct SCell activation.

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

#### 6.1.5 Enhancements on MIMO for NR

##### 6.1.5.1 RRM requirements (38.133)

================================================================================

**Email discussion: [100-e][208] NR\_eMIMO\_RRM\_NWM**

**R4-2115198 Email discussion summary: [100-e][208] NR\_eMIMO\_RRM\_NWM**

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

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

###### 6.1.5.1.1 Applicability of MRTD/MTTD requirements for multi-TRxP

**R4-2112098 Draft CR to 38.133 on applicability of requirements to multi-TRxP - R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Apple*

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

**R4-2112099 Draft CR to 38.133 on applicability of requirements to multi-TRxP - R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Apple*

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

**R4-2112687 Discussion on applicability of MRTD requirements to multi-TRxP**

*Type: discussion For: Discussion  
 Source: Apple*

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

**R4-2112837 Discussion on R16 MRTD requirement for Multi-TRxP Scenario**

*Type: discussion For: Discussion  
 Source: Samsung*

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

**R4-2112838 draft CR Revision on R16 MRTD Requirement for Multi-TRxP Scenario**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Samsung*

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

**R4-2112839 draft CR Revision on R16 MRTD Requirement for Multi-TRxP Scenario (Rel-17)**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Samsung*

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

**R4-2113473 MRTD/MTTD requirements for Rel-16 multi-TRP transmission scheme**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

This contribution discusses MRTD/MTTD requirements for Rel-16 multi-TRP transmission schemes.

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

**R4-2113811 Discussion on remaining issues for NR eMIMO core requirements**

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

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

**R4-2114418 On applicability of MRTD requirements for Rel-16 NR eMIMO**

*Type: discussion For: Discussion  
 38.133 v CR- rev Cat: (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

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

###### 6.1.5.1.2 Test case for pathloss RS activation delay

**R4-2112100 Discussion on testcase for PL-RS activation**

*Type: discussion For: Discussion  
 Source: Apple*

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

**R4-2113530 Remaining Issues of Test Method for PL-RS Activation Delay**

*Type: discussion For: Discussion  
 Source: Samsung*

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

**R4-2113812 Discussion on testbility of pathloss-RS activation delay**

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

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

**R4-2113862 On defining test cases for PL RS activation delay**

*Type: other For: Approval  
 Source: ZTE Corporation*

**Abstract:**

In thie paper we discuss the feasible methods to define test cases for PL RS activation delay.

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

**R4-2113863 [CR] Test cases for applicable timing for PL RS activated by MAC-CE**

*Type: CR For: Agreement  
 38.133 v16.8.0 CR-2194 rev Cat: B (Rel-16)  
  
 Source: ZTE Corporation*

Session chair: CR submitted instead of Draft CR. If agreeable, the CR will be endorsed.

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

**R4-2113864 [CR] Test cases for applicable timing for PL RS activated by MAC-CE**

*Type: CR For: Agreement  
 38.133 v17.2.0 CR-2195 rev Cat: A (Rel-17)  
  
 Source: ZTE Corporation*

**Abstract:**

This is a Cat A CR.

Session chair: CR submitted instead of Draft CR. If agreeable, the CR will be endorsed.

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

###### 6.1.5.1.3 Others

**R4-2112534 Correction on the typo in the L1-SINR test case in R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: MediaTek inc.*

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

**R4-2112535 Correction on the typo in the L1-SINR test case in R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: MediaTek inc.*

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

##### 6.1.5.2 Others

#### 6.1.6 NR Positioning Support

##### 6.1.6.1 RRM core requirement (38.133)

================================================================================

**Email discussion: [100-e][209] NR\_pos\_1**

**R4-2115199 Email discussion summary: [100-e][209] NR\_pos\_1**

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

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

**R4-2114205 Draft CR: Corrections to NR positioning measurement requirements**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Qualcomm Incorporated*

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

**R4-2114206 Draft CR: Corrections to NR positioning measurement requirements**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Qualcomm Incorporated*

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

###### 6.1.6.1.1 PRS-RSTD measurement requirements

**R4-2111983 Discussion on PRS RSTD measurement requirements**

*Type: discussion For: Discussion  
 Source: CATT*

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

**R4-2111985 Draft CR on PRS RSTD measurement requirements**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: CATT*

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

**R4-2111986 Draft CR on PRS RSTD measurement requirements**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: CATT*

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

**R4-2112540 Remaining issues on PRS RSTD measurement requirements**

*Type: discussion For: Discussion  
 Source: vivo*

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

**R4-2112563 Draft CR to 38.133 correction to PRS RSTD measurement requirements**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: vivo*

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

**R4-2112564 Draft CR to 38.133 correction to PRS RSTD measurement requirements**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: vivo*

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

**R4-2113153 Discussion on NR PRS RSTD measurement report requirements**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

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

**R4-2113257 Discussion on the measurement period for RSTD**

*Type: discussion For: Discussion  
 Source: OPPO*

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

**R4-2113258 R16 CR to TS 38.133 on RSTD measurements**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: OPPO*

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

**R4-2113259 R17 CR to TS 38.133 on RSTD measurements**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: OPPO*

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

**R4-2114193 On per-UE measurement gaps for NR positioning**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

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

**R4-2114233 Remaining issues on NR positioning RSTD requirements**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

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

**R4-2114269 Discussion on remaining issues for RSTD measurement requirements**

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

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

**R4-2114270 CR to update RSTD measurement requirements**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, HiSilicon*

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

**R4-2114271 CR to update RSTD measurement requirements R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, HiSilicon*

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

###### 6.1.6.1.2 PRS-RSRP measurement requirements

**R4-2112541 Remaining issues on PRS-RSRP measurement requirements**

*Type: discussion For: Discussion  
 Source: vivo*

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

**R4-2112565 Draft CR to 38.133 correction on PRS-RSRP measurement requirements**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: vivo*

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

**R4-2112566 Draft CR to 38.133 correction on PRS-RSRP measurement requirements**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: vivo*

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

**R4-2114234 Remaining issues on PRS-RSRP measurement requirements**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

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

**R4-2114272 Discussion on remaining issues for PRS-RSRP measurement requirements**

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

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

**R4-2114273 CR to update PRS-RSRP measurement requirements**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, HiSilicon*

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

**R4-2114274 CR to update PRS-RSRP measurement requirements R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, HiSilicon*

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

**R4-2114452 On PRS-RSRP measurement requirements**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

On PRS-RSRP measurement requirements

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

**R4-2114453 PRS-RSRP measurement requirements**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Correction to PRS-RSRP measurement requirements.

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

**R4-2114454 PRS-RSRP measurement requirements**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

On open issues related to PRS-RSRP measurement requirements.

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

###### 6.1.6.1.3 UE Rx-Tx time difference measurement requirements

**R4-2111984 Discussion on UE Rx-Tx time difference measurement requirements**

*Type: discussion For: Discussion  
 Source: CATT*

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

**R4-2112542 Remaining issues on UE RX-TX timing difference measurement requirements**

*Type: discussion For: Discussion  
 Source: vivo*

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

**R4-2112567 Draft CR to 38.133 correction on UE Rx-Tx timing difference measurement requirements**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: vivo*

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

**R4-2112568 Draft CR to 38.133 correction on UE Rx-Tx timing difference measurement requirements**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: vivo*

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

**R4-2113260 Discussion on the measurement period for UE Rx-Tx time difference**

*Type: discussion For: Discussion  
 Source: OPPO*

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

**R4-2113261 R16 CR to TS 38.133 on UE Rx-Tx time difference measurements**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: OPPO*

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

**R4-2113262 R17 CR to TS 38.133 on UE Rx-Tx time difference measurements**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: OPPO*

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

**R4-2114194 On UE Rx-Tx measurement requirements**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

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

**R4-2114235 Remaining issues on UE Rx-Tx TD measurement requirements**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

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

**R4-2114275 Discussion on remaining issues for UE Rx-Rx time difference measurement requirements**

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

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

**R4-2114276 CR to update UE Rx-Tx time difference measurement requirements**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, HiSilicon*

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

**R4-2114277 CR to update UE Rx-Tx time difference measurement requirements R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, HiSilicon*

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

**R4-2114455 On UE Rx-Tx measurement requirements**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Correction to UE Rx-Tx measurement requirements

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

**R4-2114456 UE Rx-Tx measurement requirements**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Correction to UE Rx-Tx measurement requirements

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

**R4-2114457 UE Rx-Tx measurement requirements**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Correction to UE Rx-Tx measurement requirements

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

###### 6.1.6.1.4 Other requirements

**R4-2111987 Draft CR on ECID measurement requirements and AoA/ZoA report mapping**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: CATT*

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

**R4-2111988 Draft CR on ECID measurement requirements and AoA/ZoA report mapping**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: CATT*

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

**R4-2112543 Remaining issues on general requirements for NR positioning**

*Type: discussion For: Discussion  
 Source: vivo*

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

**R4-2112569 Draft CR to 38.133 correction on CCSF for NR measurements for positioning**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: vivo*

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

**R4-2112570 Draft CR to 38.133 correction on CCSF for NR measurements for positioning**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: vivo*

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

**R4-2113263 Discussion on general PRS measurement requirements**

*Type: discussion For: Discussion  
 Source: OPPO*

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

**R4-2114065 Discussion on other PRS requirements**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Discussion on other PRS requirements

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

**R4-2114066 Selection of positioning frequency layer for MG occasion**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

CR on other PRS requirements

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

**R4-2114067 Selection of positioning frequency layer for MG occasion**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

CR on other PRS requirements

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

**R4-2114195 On general PRS measurement requirements**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

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

**R4-2114278 Discussion on CSSF and requirement applicability for PRS measurement**

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

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

**R4-2114279 CR on CSSF and requirement applicability for PRS measurement**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, HiSilicon*

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

**R4-2114280 CR on CSSF and requirement applicability for PRS measurement R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, HiSilicon*

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

##### 6.1.6.2 RRM performance requirements (38.133)

###### 6.1.6.2.1 General

**R4-2114451 Positioning RRM performance requirements in Rel-17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: F (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

NR Positioning RRM performance requirements for Rel-16 version was agreed in R4-2108300 and Rel-17 version (cat A) in R4-2108301 (RAN4#99-e). But some requirements in cat A CR was not implemented in Rel-17

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

###### 6.1.6.2.2 UE requirements and test cases

6.1.6.2.2.1 General

**R4-2112547 Additional link level simulation results for NR positioning**

*Type: discussion For: Discussion  
 Source: vivo*

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

**R4-2114281 Additional simulation results for PRS measurement performance**

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

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

**R4-2114458 Link level simulation results for RSTD, PRS RSRP and UE Rx-Tx time difference**

*Type: other For: Information  
 Source: Ericsson*

**Abstract:**

Link level simulation results for RSTD, PRS RSRP and UE Rx-Tx time difference based on agreements in RAN4#98bis-e

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

6.1.6.2.2.2 Measurement accuracy requirements

**R4-2113156 Summary of link level simulation results for RSTD, PRS RSRP and UE Rx-Tx time difference**

*Type: other For: Information  
 Source: Intel Corporation*

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

**R4-2114203 Draft CR: Corrections to NR positioning performance requirements**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Qualcomm Incorporated*

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

**R4-2114204 Draft CR: Corrections to NR positioning performance requirements**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Qualcomm Incorporated*

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

6.1.6.2.2.3 Test cases

6.1.6.2.2.2.1 PRS RSTD

**R4-2112544 Remaining issues on PRS RSTD accuracy requirements**

*Type: discussion For: Discussion  
 Source: vivo*

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

**R4-2113154 Discussion on NR PRS RSTD measurement accuracy requirements**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

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

**R4-2113264 Discussion on PRS RSTD accuracy requirements**

*Type: discussion For: Discussion  
 Source: OPPO*

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

**R4-2114196 On PRS-RSTD measurement accuracy requirements**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

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

**R4-2114282 Discussion on accuracy requirements for RSTD measurement**

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

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

**R4-2114283 CR on accuracy requirements for RSTD measurement**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, HiSilicon*

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

**R4-2114284 CR on accuracy requirements for RSTD measurement R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, HiSilicon*

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

6.1.6.2.2.4 Other

6.1.6.2.2.2.2 PRS RSRP

**R4-2111989 Discussion on PRS RSRP accuracy requirements**

*Type: discussion For: Discussion  
 Source: CATT*

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

**R4-2111991 DraftCR on PRS-RSRP accuracy requirements**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: CATT*

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

**R4-2111992 DraftCR on PRS-RSRP accuracy requirements**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: CATT*

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

**R4-2112545 Remaining issues on PRS-RSRP accuracy requirements**

*Type: discussion For: Discussion  
 Source: vivo*

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

6.1.6.2.2.3.1 General

**R4-2113091 Draft-CR to TS 38.133: Correction to PRS configuration for positioning test cases (Rel 16)**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Rohde & Schwarz*

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

**R4-2113092 Draft-CR to TS 38.133: Correction to PRS configuration for positioning test cases (Rel 17)**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Rohde & Schwarz*

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

6.1.6.2.2.2.2 PRS RSRP

**R4-2113265 Discussion on PRS-RSRP accuracy requirements**

*Type: discussion For: Discussion  
 Source: OPPO*

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

**R4-2113869 Measurement Accuracy Requirements for PRS RSRP**

*Type: discussion For: Discussion  
 Source: ZTE Corporation*

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

**R4-2113871 [CR] accuracy requirements for PRS-RSRP**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: ZTE Corporation*

**Abstract:**

In this draft CR we propose to specify absolute and relative accuracy requirements for PRS-RSRP under extreme conditions. The change proposed in this draft CR can be merged with other CRs discussing detailed values in the table.

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

**R4-2113872 [CR] accuracy requirements for PRS-RSRP**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: ZTE Corporation*

**Abstract:**

This is a Cat A CR.

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

**R4-2114285 Discussion on accuracy requirements for PRS-RSRP measurement**

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

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

6.1.6.2.2.3.1 General

**R4-2114287 Discussion on RRM test case for UE positioning requirements**

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

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

**R4-2114288 CR to update PRS RMC for positioning tests**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, HiSilicon*

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

**R4-2114289 CR to update PRS RMC for positioning tests R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, HiSilicon*

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

6.1.6.2.2.2.3 UE Rx-Tx time difference

**R4-2111990 Discussion on UE Rx-Tx time difference accuracy requirements**

*Type: discussion For: Discussion  
 Source: CATT*

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

6.1.6.2.2.3.2 Measurement requirements

**R4-2111993 DraftCR on test case for PRS-RSRP measurement requirements for FR2 in SA**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: CATT*

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

**R4-2111994 DraftCR on test case for PRS-RSRP measurement requirements for FR2 in SA**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: CATT*

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

6.1.6.2.2.2.3 UE Rx-Tx time difference

**R4-2112546 Remaining issues on UE Rx-Tx timing difference accuracy requirements**

*Type: discussion For: Discussion  
 Source: vivo*

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

**R4-2113155 Discussion on UE RX-TX time difference measurement accuracy requirements**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

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

6.1.6.2.2.3.2 Measurement requirements

**R4-2113445 Draft CR on test case for RSTD measurement requirements in SA**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: CATT*

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

**R4-2113446 Draft CR on test case for RSTD measurement requirements in SA**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: CATT*

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

6.1.6.2.2.2.3 UE Rx-Tx time difference

**R4-2113870 Measurement Accuracy Requirements for UE Rx-Tx time difference**

*Type: discussion For: Discussion  
 Source: ZTE Corporation*

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

**R4-2114197 On UE Rx-Tx measurement accuracy requirements**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

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

**R4-2114286 Discussion on accuracy requirements for UE Rx-Tx time difference measurement**

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

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

6.1.6.2.2.3.2 Measurement requirements

**R4-2114290 CR to update TC for PRS-RSRP measurement requirements for FR1 in SA**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, HiSilicon*

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

**R4-2114291 CR to update TC for PRS-RSRP measurement requirements for FR1 in SA R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, HiSilicon*

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

6.1.6.2.2.2.3 UE Rx-Tx time difference

**R4-2114459 On UE Rx-Tx measurement accuracy requirements**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

On UE Rx-Tx measurement accuracy requirement related to remaining issues

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

**R4-2114460 UE Rx-Tx measurement accuracy requirements**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

UE Rx-Tx measurement accuracy requirement are updated to completed remaining issues

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

**R4-2114461 UE Rx-Tx measurement accuracy requirements**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

UE Rx-Tx measurement accuracy requirement are updated to completed remaining issues

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

6.1.6.2.2.3.3 Accuracy requirements

**R4-2113447 Draft CR on test case for RSTD accuracy requirements**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: CATT*

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

**R4-2113448 Draft CR on test case for RSTD accuracy requirements**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: CATT*

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

**R4-2114292 CR to update TC for RSTD measurement accuracy for FR1 and FR2 in SA**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, HiSilicon*

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

**R4-2114293 CR to update TC for RSTD measurement accuracy for FR1 and FR2 in SA R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, HiSilicon*

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

###### 6.1.6.2.3 gNB requirements

================================================================================

**Email discussion: [100-e][211] NR\_pos\_3**

**R4-2115201 Email discussion summary: [100-e][211] NR\_pos\_3**

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

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

6.1.6.2.3.1 General

**R4-2114044 Summary of link level simulation results of SRS RSRP and gNB TOA**

*Type: other For: Information  
 Source: Ericsson*

**Abstract:**

Updated link level simulation results collection

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

6.1.6.2.3.2 SRS-RSRP requirements

**R4-2114045 SRS-RSRP requirements**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

This contribution discusses SRS-RSRP measurement accuracy requirements

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

**R4-2114047 Corrections to gNB SRS-RSRP measurement in 38.133**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

This draft CR updates the SRS-RSRP measurement accuracy requirements

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

**R4-2114048 Corrections to gNB SRS-RSRP measurement in 38.133**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

This draft CR updates the SRS-RSRP measurement accuracy requirements

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

**R4-2114294 CR to update SRS-RSRP requirements**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, HiSilicon*

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

**R4-2114295 CR to update SRS-RSRP requirements R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, HiSilicon*

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

6.1.6.2.3.3 gNB Rx-Tx time difference requirements

**R4-2114046 gNB Rx-Tx time difference requirements**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

This contribution discusses gNB Rx-Tx measurement accuracy requirements

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

**R4-2114049 Corrections to gNB Rx-Tx measurement in 38.133**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

This draft CR updates the gnB Rx-Tx measurement accuracy requirements

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

**R4-2114050 Corrections to gNB Rx-Tx measurement in 38.133**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

This draft CR updates the gnB Rx-Tx measurement accuracy requirements

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

**R4-2114296 Discussion on remaining issues for gNB Rx-Tx requirements**

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

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

**R4-2114297 CR to update gNB Rx-Tx time difference requirements**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, HiSilicon*

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

**R4-2114298 CR to update gNB Rx-Tx time difference requirements R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, HiSilicon*

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

#### 6.1.7 NR RRM requirement enhancement

================================================================================

**Email discussion: [100-e][212] NR\_RRM\_Enh**

**R4-2115202 Email discussion summary: [100-e][212] NR\_RRM\_Enh**

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

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

##### 6.1.7.1 RRM core requirements

**R4-2112117 Correction on SMTC alignment for multiple SCell activation R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Apple, Qualcomm, Huawei, HiSilicon*

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

**R4-2112118 Correction on SMTC alignment for multiple SCell activation R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Apple, Qualcomm, Huawei, HiSilicon*

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

**R4-2112532 Correction on the SRS carrier switching in EN-DC and NE-DC in R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: MediaTek inc.*

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

**R4-2112533 Correction on the SRS carrier switching in EN-DC and NE-DC in R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: MediaTek inc.*

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

**R4-2112685 CR for multiple Scell activation requirements (R16)**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Apple*

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

**R4-2112686 CR for multiple Scell activation requirements (R17)**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Apple*

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

**R4-2112693 Rel-16 Cat-A CR to FR1 Multiple SCell activation requirement for SSB-less and TCI activation**

*Type: CR For: Agreement  
 38.133 v16.8.0 CR-2188 rev Cat: A (Rel-16)  
  
 Source: Qualcomm Incorporated*

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

**R4-2112694 Rel-17 Cat-A CR to FR1 Multiple SCell activation requirement for SSB-less and TCI activation**

*Type: CR For: Agreement  
 38.133 v17.2.0 CR-2189 rev Cat: A (Rel-17)  
  
 Source: Qualcomm Incorporated*

Session chair: CR submitted instead of Draft CR. If agreeable, the CR will be endorsed.

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

**R4-2112695 Rel-16 Cat-F CR to FR1 Multiple SCell activation requirement for SSB-less and TCI activation**

*Type: CR For: Agreement  
 38.133 v16.8.0 CR-2190 rev Cat: F (Rel-16)  
  
 Source: Qualcomm Incorporated*

Session chair: CR submitted instead of Draft CR. If agreeable, the CR will be endorsed.

MCC: Is the work item code NR\_RRM\_enh-Core correctly spelled on the work item code field?

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

**R4-2112696 Rel-17 Cat-A CR to FR1 Multiple SCell activation requirement for SSB-less and TCI activation**

*Type: CR For: Agreement  
 38.133 v17.2.0 CR-2191 rev Cat: A (Rel-17)  
  
 Source: Qualcomm Incorporated*

Session chair: CR submitted instead of Draft CR. If agreeable, the CR will be endorsed.

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

**R4-2113635 draftCR on TS38.133 mandatory gaps - r16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson, Mediatek Inc.*

**Abstract:**

This draft CR corrects mandatory gap signalling which should applied for NR SA and NR DC

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

**R4-2113636 draftCR on TS38.133 mandatory gaps - r17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson, Mediatek Inc.*

**Abstract:**

This draft CR corrects mandatory gap signalling which should applied for NR SA and NR DC

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

**R4-2113850 Discussion on mandatory gap pattern in R-16**

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

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

**R4-2114211 CR on RRC-based BWP switch on multiple CCs in Rel16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Resubmission of agreed CR R4-2108234 in RAN4#99e

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

**R4-2114212 CR on RRC-based BWP switch on multiple CCs in Rel17 - Cat A**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Resubmission of agreed Cat-A R17 CR R4-2111039 in RAN4#99e which was wrong allocated to Rel16.

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

##### 6.1.7.2 RRM performance requirements

**R4-2112081 On test applicability for mandatory gap patterns**

*Type: discussion For: (not specified)  
 Source: Apple*

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

**R4-2112082 CR for test applicability for mandatory gap patterns (R16)**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Apple*

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

**R4-2112083 CR for test applicability for mandatory gap patterns (R17)**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Apple*

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

**R4-2112265 On Mandatory GP Test**

*Type: discussion For: Discussion  
 Source: Qualcomm, Inc.*

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

**R4-2114015 Discussion on test cases for new mandatory GPs**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

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

**R4-2114163 On testing in R16 of R15 mandatory gaps**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Continued discussion on test case applicability in Rel-16 for test cases with Rel-15 mandatory gaps.

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

#### 6.1.8 NR RRM requirements for CSI-RS based L3 measurement

================================================================================

**Email discussion: [100-e][213] NR\_CSIRS\_L3meas**

**R4-2115203 Email discussion summary: [100-e][213] NR\_CSIRS\_L3meas**

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

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

##### 6.1.8.1 RRM core requirements (38.133)

**R4-2111980 Discussion on core part maintenance open issues**

*Type: discussion For: Discussion  
 Source: CATT*

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

**R4-2111981 Draft CR on CSI-RS based measurement requirements**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: CATT*

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

**R4-2111982 Draft CR on CSI-RS based measurement requirements**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: CATT*

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

**R4-2112119 Draft CR on CSSF for CSI-RS L3 RRM R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Apple*

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

**R4-2112120 Draft CR on CSSF for CSI-RS L3 RRM R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Apple*

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

**R4-2112395 Remain issues on CSI-RS L3 measurement**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

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

**R4-2112396 CR on 2 windows for CSI-RS L3 measurement R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: MediaTek inc.*

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

**R4-2112397 CR on 2 windows for CSI-RS L3 measurement R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: MediaTek inc.*

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

**R4-2112515 Draft CR on requirements applicability for CSI-RS based L3 measurement**

*Type: draftCR For: Approval  
 38.133 v16.8.0 CR- rev Cat: (Rel-16)  
  
 Source: CMCC*

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

**R4-2112516 Draft CR on requirements applicability for CSI-RS based L3 measurement**

*Type: draftCR For: Approval  
 38.133 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: CMCC*

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

**R4-2112539 Remaining issues on CSI-RS L3 measurement core requirements**

*Type: discussion For: Discussion  
 Source: vivo*

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

**R4-2112879 Open issues on the CSI-RS based measurement requirements**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

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

**R4-2112880 38.133 CR on the timing offset impact to CSI-RS based measurement**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

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

**R4-2112881 38.133 Cat.A CR on the timing offset impact to CSI-RS based measurement**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

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

**R4-2112882 38.133 CR on the CSI-RS resource periodicity**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

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

**R4-2112883 38.133 Cat.A CR on the CSI-RS resource periodicity**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

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

**R4-2112884 38.133 CR on the CSI-RS based measurement requirements**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

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

**R4-2112885 38.133 Cat. A CR on the CSI-RS based measurement requirements**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

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

**R4-2114299 Discussion on remaining issues in CSI-RS core requirements**

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

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

**R4-2114300 CR on CSI-RS measurement window**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, HiSilicon*

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

**R4-2114301 CR on CSI-RS measurement window R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, HiSilicon*

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

##### 6.1.8.2 RRM performance requirements (38.133)

###### 6.1.8.2.1 General

###### 6.1.8.2.2 Measurement accuracy requirements

6.1.8.2.2.1 CSI-RSRP requirements

6.1.8.2.2.2 CSI-RSRQ requirements

6.1.8.2.2.3 CSI-SINR requirements

###### 6.1.8.2.3 Test cases

6.1.8.2.3.1 General

6.1.8.2.3.2 Intra-frequency measurement

6.1.8.2.3.3 Inter-frequency measurement

6.1.8.2.3.4 Measurement performance

#### 6.1.9 Maintenance for other WIs

##### 6.1.9.3 RRM requirements

================================================================================

**Email discussion: [100-e][205] NR\_RRM\_maintenance\_R16**

**R4-2115195 Email discussion summary: [100-e][205] NR\_RRM\_maintenance\_R16**

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

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

###### 6.1.9.3.1 RRM core

**R4-2111961 Draft CR on UE power saving requirements**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: CATT*

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

**R4-2111962 Draft CR on UE power saving requirements**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: CATT*

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

**R4-2112513 Draft CR on measurement delay requirements for Rel-16 HST requirements**

*Type: draftCR For: Approval  
 38.133 v16.8.0 CR- rev Cat: (Rel-16)  
  
 Source: CMCC*

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

**R4-2112514 Draft CR on measurement delay requirements for Rel-16 HST requirements**

*Type: draftCR For: Approval  
 38.133 v17.2.0 CR- rev Cat: (Rel-17)  
  
 Source: CMCC*

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

**R4-2113266 Draft CR to TS 38.133 on RRC\_IDLE and RRC\_INACTIVE state mobility**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: OPPO*

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

**R4-2113515 TDD UL-DL and DL-UL switching in DAPS handover**

*Type: other For: Discussion  
 Source: Ericsson*

**Abstract:**

Further clarification on DL-to-UL and UL-to-DL switching time

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

**R4-2113516 CR on TS38.133 for dual active protocol stack handover**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Add conditions for not expected to transmit / not expected to receive covering both source and target cell. Add autonomous interruption allowance if these conditions are unspecified.Correct Ntx-rx and Nrx-tx to 25600 Tc

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

**R4-2113517 CR on TS38.133 for dual active protocol stack handover**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Add conditions for not expected to transmit / not expected to receive covering both source and target cell. Add autonomous interruption allowance if these conditions are unspecified.Correct Ntx-rx and Nrx-tx to 25600 Tc

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

**R4-2113813 Discussion on remaining issues for DAPS handover requirements**

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

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

**R4-2113814 Correction to DAPS handover requirements R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, HiSilicon*

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

**R4-2113815 Correction to DAPS handover requirements R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, HiSilicon*

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

**R4-2113826 Discussion on measurement requirements for relaxed carriers and non-relaxed carriers**

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

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

**R4-2113827 Correction on measurement requiements in relaxed measurement**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, HiSilicon*

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

**R4-2113828 Correction on measurement requiements in relaxed measurement**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, HiSilicon*

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

**R4-2113884 [draft CR] maintenance for conditional PSCell change**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: ZTE Corporation*

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

**R4-2113885 [draft CR] maintenance for conditional PSCell change**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: ZTE Corporation*

**Abstract:**

This is a Cat A draft CR.

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

###### 6.1.9.3.2 RRM performance

**R4-2111963 Draft CR on cell reselection test case for UE Power saving**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: CATT*

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

**R4-2111964 Draft CR on cell reselection test case for UE Power saving**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: CATT*

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

**R4-2111965 Draft CR on cell reselection test case for HST in FR1**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: CATT*

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

**R4-2111966 Draft CR on cell reselection test case for HST in FR1**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: CATT*

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

**R4-2114149 Correction to test cases of inter-RAT cell re-selection with relaxed measurement criterion R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

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

**R4-2114150 Correction to test cases of inter-RAT cell re-selection with relaxed measurement criterion R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, Hisilicon*

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

**R4-2114441 Missing n259 RRM performance requirements in Rel-17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: F (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

The CR defines n259 RRM performance requirements, which were agreed in R4-2008911 (RAN4#95-e). But some of the requirements for n259 in Rel-17 are missing, while they are correctly implemented in Rel-16.

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

#### 6.1.10 R16 TEI

##### 6.1.10.3 RRM requirements

**R4-2112121 Discussion on scheduling restriction applicability for FR1 and FR1+FR2 inter-band CA**

*Type: discussion For: Discussion  
 38.133 v CR- rev Cat: (Rel-16)  
  
 Source: Apple*

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

**R4-2112122 Draft CR on scheduling restriction applicability for FR1 and FR1+FR2 inter-band CA R16**

*Type: draftCR For: Endorsement  
 38.133 v16.8.0 CR- rev Cat: F (Rel-16)  
  
 Source: Apple*

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

**R4-2112123 Draft CR on scheduling restriction applicability for FR1 and FR1+FR2 inter-band CA R17**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Apple*

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

**R4-2113855 draft CR to TS38.133[R16] Updating the introduction of EN-DC Interruption**

*Type: CR For: Agreement  
 38.133 v16.8.0 CR-2192 rev Cat: F (Rel-16)  
  
 Source: ZTE Corporation*

Session chair: CR submitted instead of Draft CR. If agreeable, the CR will be endorsed.

MCC: What is the CR number? It reads (nothing) on the cover page but the Tdoc is reserved for CR number 2192.

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

**R4-2113856 draft CR to TS38.133 Updating the introduction of EN-DC Interruption**

*Type: CR For: Agreement  
 38.133 v17.2.0 CR-2193 rev Cat: A (Rel-17)  
  
 Source: ZTE Corporation*

Session chair: CR submitted instead of Draft CR. If agreeable, the CR will be endorsed.

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

### 6.2 LTE maintenance and TEI

#### 6.2.3 RRM requirements

##### 6.2.3.1 RRM core requirements

**R4-2113512 TDD UL-DL and DL-UL switching in LTE DAPS handover**

*Type: other For: Discussion  
 Source: Ericsson*

**Abstract:**

Further clarification on DL-to-UL and UL-to-DL switching time

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

**R4-2113513 Correction on the synchronous condition for DAPS handover**

*Type: draftCR For: Endorsement  
 36.133 v16.10.0 CR- rev Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Add conditions for not expected to transmit / not expected to receive covering both source and target cell. Add autonomous interruption allowance if these conditions are unspecified.

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

**R4-2113514 Correction on the synchronous condition for DAPS handover**

*Type: draftCR For: Endorsement  
 36.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

Add conditions for not expected to transmit / not expected to receive covering both source and target cell. Add autonomous interruption allowance if these conditions are unspecified.

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

**R4-2113829 Clarification on asynchronous DAPS handover R16**

*Type: draftCR For: Endorsement  
 36.133 v16.10.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, HiSilicon*

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

**R4-2113830 Clarification on asynchronous DAPS handover R17**

*Type: draftCR For: Endorsement  
 36.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, HiSilicon*

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

**R4-2114070 Discussion on RSS based RSRQ for LTE-MTC**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Discussion on proceeding for RSRQ for configured RSS-based RSRP

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

**R4-2114071 Applicability of CRS-based RSRQ for RSS-based RSRP measurement configuration**

*Type: draftCR For: Endorsement  
 36.133 v16.10.0 CR- rev Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

CR to introduce CRS-based RSRQ in Rel-16.

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

**R4-2114072 Applicability of CRS-based RSRQ for RSS-based RSRP measurement configuration**

*Type: draftCR For: Endorsement  
 36.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

CR to introduce CRS-based RSRQ in Rel-16.

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

**R4-2114087 Discussions on RSS based RSRQ measurement for Rel-16 eMTC UE**

*Type: other For: Discussion  
 Source: Ericsson*

**Abstract:**

In this contribution we discuss the RSS based RSRQ measurement for release 16 eMTC based on the incoming LS and previous agreement captured in [1].

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

**R4-2114200 On RSRQ for RRS-based measurements for LTE-MTC**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

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

**R4-2114302 Discussion on remaining issues in Rel-16 eMTC RRM**

*Type: LS out For: Approval  
 to RAN1, RAN2  
 Source: Huawei, HiSilicon*

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

**R4-2114303 CR on remaining issues in Rel-16 eMTC RRM**

*Type: draftCR For: Endorsement  
 36.133 v16.10.0 CR- rev Cat: F (Rel-16)  
  
 Source: Huawei, HiSilicon*

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

**R4-2114304 CR on remaining issues in Rel-16 eMTC RRM R17**

*Type: draftCR For: Endorsement  
 36.133 v17.2.0 CR- rev Cat: A (Rel-17)  
  
 Source: Huawei, HiSilicon*

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

##### 6.2.3.2 RRM performance requirements

### 6.3 Rel-16 UE feature list maintenance

**R4-2112261 On Mandatory GP Signaling**

*Type: discussion For: Discussion  
 Source: Qualcomm, Inc.*

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

## 7 Rel-17 maintenance for both NR and LTE

## 8 Rel-17 spectrum related Work Items for NR

================================================================================

**Email discussion: [100-e][214] Spectrum\_RRM**

**R4-2115204 Email discussion summary: [100-e][214] Spectrum\_RRM**

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

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

### 8.40 Introduction of FR2 FWA UE with maximum TRP of 23dBm for band n259

#### 8.40.2 RRM performance requirements

**R4-2114465 Analysis of RRM requirements for FR2 FWA for band n259**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

The paper analyzes the RRM core and performance requirements for FR2 FWA UE with maximum TRP of 23dBm for band n259

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

**R4-2114466 RRM requirements for FR2 FWA for band n259 in 38.133**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: Ericsson*

**Abstract:**

The CR contains RRM core and performance requirements for FR2 FWA UE with maximum TRP of 23dBm for band n259

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

#### 8.40.3 Others

## 9 Rel-17 non-spectrum related work items for NR

### 9.3 RF requirements enhancement for NR frequency range 1 (FR1)

#### 9.3.3 RRM core requirements

================================================================================

**Email discussion: [100-e][215] NR\_RF\_FR1\_enh\_RRM\_NWM**

**R4-2115205 Email discussion summary: [100-e][215] NR\_RF\_FR1\_enh\_RRM\_NWM**

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

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

##### 9.3.3.1 Tx switching requirements

**R4-2112185 RRM DL interruption requirements at UE switching between two uplink carriers and two uplink bands**

*Type: discussion For: Decision  
 Source: CMCC*

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

**R4-2112229 DL interruption requirements for Rel-17 Tx switching**

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

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

**R4-2113142 Discussion on RRM requirements for UL switching in Rel-17**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

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

**R4-2113844 Discussion on DL interruption of R17 Tx switching enhancements**

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

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

### 9.4 NR RF requirement enhancements for frequency range 2 (FR2)

#### 9.4.6 RRM core requirements

================================================================================

**Email discussion: [100-e][216] NR\_RF\_FR2\_req\_enh2\_RRM**

**R4-2115206 Email discussion summary: [100-e][216] NR\_RF\_FR2\_req\_enh2\_RRM**

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

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (August 17th)**

**Issue 1-1-1: MRTD principles in FR2 inter-band CA**

* Agreements in GTW at RAN4#99-e meeting:
  + Option 1: MRTD shall not be larger than “CP length - UE Rx beam switch time - 2 x DL timing error” and the max SCS is 120kHz
  + Option 2: MRTD of 3us for inter-band CA in FR2 under CBM with a note to stating if the MRTD exceed [TBD us or CP or CP/2] a performance degradation is expected for the first N symbols of the slot
    - N is FFS
    - FFS if degradation applies to each slot
    - Example requirement:

|  |  |
| --- | --- |
| ***Frequency Range of the pair of carriers*** | ***Maximum receive timing difference (µs)*** |
| *FR1* | *33* |
| *FR2* | *8 note1* |
| *FR2* | *3 note2* |
| *Between FR1 and FR2* | *25* |
| *Note1:      This requirement applies to the UE capable of independent beam management for FR2 inter-band CA.*  *Note2:      This requirement applies to the UE capable of common beam management for FR2 inter-band CA. If the receive time difference exceeds [the cyclic prefix length of that SCS], demodulation performance degradation is expected for the first N symbols of the slot.* | |

* + Option 3: Introduce UE capability to support
    - MRTD = [260ns] and/or MRTD = [3us]
  + Further study the candidate options and investigate at least the following open issues
    - Impact of UE RX beam switching and AGC periodicity restrictions on the performance
    - Candidate RRM requirements and performance impacts for the case of MRTD larger than “CP length - UE Rx beam switch time - 2 x DL timing error” and below 3us
* Proposals
  + Option 1: MRTD shall not be larger than “CP length – UE Rx beam switch time – 2 x DL timing error” and the max SCS is 120kHz (Xiaomi, Mediatek, vivo, Qualcomm, OPPO)
  + Option 2: MRTD of 3us for inter-band CA in FR2 under CBM with a note to stating if the MRTD exceed [TBD us or CP or CP/2] a performance degradation is expected for the first N symbols of the slot (Docomo, Qualcomm, ZTE, Ericsson, Nokia, Huawei)
    - Option 2a: MRTD of 3us for inter-band CA in FR2 with a note to recommend UE which is under CBM conditions to switch its beam during the scheduled instances provided by Network (Intel)
  + Option 3: Introduce UE capability to support MRTD = [260ns] and/or MRTD = [3us] (vivo, OPPO)
  + ~~Option 4: 260us (LG)~~
  + ~~Option 5: 3us (Huawei)~~
  + ~~Option 6: Do not define any requirements for CBM UEs for FR2 inter-band CA, if there is no consensus on option 1-3. (vivo)~~
* Discussion
  + Chair: Can Option 3 be considered as a compromise?
  + Apple: How does the network know the actual MRTD? Can it use the capabilities?
    - Vivo: Network does not need to know the exact MRTD. It needs to know the range.
  + Nokia: Option 2 or 2a. Option 3 does not move us forward. Difficult for NW to know MRTD at the UE side.
  + Huawei: Option 2.
  + E///: Option 2a with some scheduling restrictions is preferred. General Option 2 leads to unspecified demodulation impact.
  + QC: Original preference is Option 1. We can support Option 2 as well. For Option 3 – UE with 3us still needs performance degradation. No need capability.
  + Xiaomi: Can consider Option 3 to move forward. Need to clarify behavior.
  + MTK: For Option 2 – different channels will have different TCI and UE will need to make switching for RX switching. In this case further degradation is expected.
  + LGE: For Option 3 with 3us we’ll need performance degradation. Can compromise to Option 2.
  + Vivo: For Option 2 the performance degradation needs to be addressed. If it is addressed then we can compromise to Option 2.
  + Intel: For Option 3 with 3us we’ll still need to specify performance degradation like in Option 2. For 260ns capability, based on NW vendors such UEs will not be scheduled at all and capability becomes useless. Prefer Option 2 or 2a. Need to control performance degradation (e.g. restrictions on PDCCH scheduling).
  + Apple: ok to work in the direction of Option 2. Typically when we say performance degradation then this means we have no requirements.
  + QC: If we go with Option 2, then we need to work on further refinement.
* Agreements:
  + MRTD for inter-band CA in FR2 under CBM is 3us
    - For the receive time difference below X us no performance degradation is expected
    - For the receive time difference equal or higher than X us a performance degradation is allowed
      * Degradation of UE demodulation and [RRM] performance is allowed.
        + Note: companies are encouraged to bring more analysis on Demodulation and RRM performance impacts.
      * FFS on the performance degradation including affected symbols, slots
      * FFS on solutions to reduce performance degradation and whether and how to introduce restrictions for UE Rx beam change
        + Option 1: Use network scheduled/controlled instances for UE Rx beam change
        + Other options not precluded
    - X is FFS
      * Option 1: CP
      * Option 2: CP/2
      * Option 3: CP length – UE Rx beam switch time – 2 x DL timing error
      * Option 4: CP length – UE Rx beam switch time
      * Other options not excluded

**Issue 1-1-2: MRTD formulation (if Option 2 in Issue 1-1-1 is agreeable)**

* Proposals
  + Option 1: N is 14, degradation applies to each slot (Docomo)
  + Option 2: Add a note to the corresponding MRTD table (Qualcomm):
    - If the receive time difference exceeds [X]us, demodulation performance degradation is expected for the first and the last OFDM symbols of slot in a band where beam management reference resource(s) is not configured.
    - X can be 385us or 350usc assuming 200ns of UE Rx beam switch time and 16.2ns of DL frame boundary estimation error.
    - If UE is scheduled to apply different beams within a slot, e.g. PDCCH-to-PDSCH, additional performance degradation is expected.
  + Option 3: Add a note (Nokia):
    - If the receive time difference exceeds [CP length - UE Rx beam switch time] of that SCS, demodulation performance degradation is expected for the first symbol of the slot in the SCells of the other band
  + Option 4: A modified option 2, MRTD of 3us for inter-band CA in FR2 under CBM with a scheduling restriction of one symbol either immediately before DL -> UL switch, or immediately after UL -> DL switch in the cell. (Ericsson)
  + Option 5: An interruption up to 1 symbol is allowed for UE Rx beam switching due to TCI state change (Huawei)
  + Option 6: Introduce the scheduled gaps for UE to switch its beam. Scheduling restrictions on SCell (or both PCell and SCell) are applied during beam switching gap (Intel)

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

##### 9.4.6.1 Inter-band DL CA requirements for CBM

**R4-2112426 Further discussion on RRM requirements for FR2 inter-band DL CA**

*Type: discussion For: Discussion  
 Source: Xiaomi*

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

###### 9.4.6.1.1 MRTD requirements

**R4-2112052 Discussions on Inter-band DL CA MRTD requirements for CBM**

*Type: discussion For: Discussion  
 38.133 v CR- rev Cat: (Rel-17)  
  
 Source: NTT DOCOMO, INC.*

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

**R4-2112339 Discussion on MRTD for FR2 inter-band CA based on CBM**

*Type: discussion For: (not specified)  
 Source: LG Electronics*

**Abstract:**

It discusses MRTD requirements for CBM based FR2 inter-band CA.

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

**R4-2112484 Discussion on CBM MRTD requirement for FR2 inter-band DL CA**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

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

**R4-2112637 Further views on RRM requirements for inter-band DL CA in NR FR2**

*Type: discussion For: Discussion  
 Source: vivo*

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

**R4-2112702 MRTD requirements for CBM based Inter-band DL CA**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

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

**R4-2113200 Discussion on MRTD requirements for inter-band DL CA in FR2**

*Type: other For: Approval  
 Source: ZTE Corporation*

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

**R4-2113267 Other RRM requirements for FR2 inter-band DL CA enhancements**

*Type: discussion For: Discussion  
 Source: OPPO*

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

**R4-2113524 Support up to 3 us MRTD**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

In this contribution we develop why at least 3us MRTD is feasible from both from a network perspective and a UE perspective, for co-located deployments.

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

**R4-2113816 Discussion on MRTD requirements for FR2 inter-band DL CA with CBM**

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

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

**R4-2114017 Discussion on FR2 inter-band DL CA MRTD requirements for CBM capable UE**

*Type: discussion For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

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

**R4-2114192 Discussion on ways to reduce performance degradation for MRTD=3us for CBM UEs**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

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

###### 9.4.6.1.2 Other RRM requirements

**R4-2112703 RRM requirements for CBM based Inter-band DL CA**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

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

**R4-2113268 MRTD requirements for FR2 inter-band DL CA enhancements**

*Type: discussion For: Discussion  
 Source: OPPO*

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

**R4-2113507 Discussion on RRM requirements for FR2 inter-band CA for CBM**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

We provide our views on RRM requirements for FR2 inter-band CA for CBM UE.

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

**R4-2113817 Discussion on RRM requirements for FR2 inter-band DL CA with CBM**

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

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

**R4-2114018 Discussion on RRM for FR2 RF**

*Type: discussion For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

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

##### 9.4.6.2 Inter-band UL CA for IBM

**R4-2112704 Inter-band UL CA for IBM**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

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

**R4-2113508 RRM requirements of FR2 inter-band UL CA for IBM**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

We provide our views on RRM requirements of FR2 inter-band UL CA for IBM UE

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

**R4-2113818 Discussion on RRM impacts for FR2 inter-band UL CA with IBM**

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

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

**R4-2114019 Discussion on inter-band UL CA for IBM**

*Type: discussion For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

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

##### 9.4.6.3 UL gaps for self-calibration and monitoring

**R4-2112089 UL gaps for Tx power management RRM aspect**

*Type: discussion For: Discussion  
 Source: Apple*

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

**R4-2112705 UL gaps for self-calibration and monitoring**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

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

**R4-2114016 Network impact of UE FR2 UL Gap for UE Tx power enhancements**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

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

### 9.8 Enhancement for NR high speed train scenario in FR1

#### 9.8.1 General

#### 9.8.2 RRM core requirements

================================================================================

**Email discussion: [100-e][217] NR\_HST\_FR1\_enh\_RRM**

**R4-2115207 Email discussion summary: [100-e][217] NR\_HST\_FR1\_enh\_RRM**

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

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

##### 9.8.2.1 UE RRM core requirements for CA scenario

**R4-2112257 On NR FR1 HST RRM Requirements**

*Type: discussion For: Discussion  
 Source: Qualcomm, Inc.*

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

###### 9.8.2.1.1 Intra-frequency measurements

**R4-2111951 Discussion on remaining issues for intra-frequency measurement for NR FR1 HST RRM enhancement**

*Type: discussion For: Discussion  
 Source: CATT*

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

**R4-2112072 On R17 FR1 HST intra-frequency measurement**

*Type: discussion For: (not specified)  
 Source: Apple*

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

**R4-2112507 Discussion on NR HST RRM enhancement for CA**

*Type: discussion For: Discussion  
 Source: CMCC*

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

**R4-2112523 Discussion on Rel-17 HST in FR1 for intra-frequency measurement**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

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

**R4-2113269 Intra-frequency measurement requirements for Rel17 FR1 HST**

*Type: discussion For: Discussion  
 Source: OPPO*

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

**R4-2113540 Discussion on intra-frequency measurement requirements for NR FR1 HST**

*Type: discussion For: Discussion  
 Source: vivo*

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

**R4-2113831 Discussion on intra-frequency measurements for FR1 HST**

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

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

**R4-2114422 Discussion on various RRM aspects for FR1 HST CA**

*Type: discussion For: Discussion  
 38.133 v CR- rev Cat: (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

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

###### 9.8.2.1.2 Inter-frequency measurements

**R4-2111952 Discussion on remaining issues for inter-frequency measurement for NR FR1 HST RRM enhancement**

*Type: discussion For: Discussion  
 Source: CATT*

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

**R4-2112073 On R17 FR1 HST inter-frequency measurement**

*Type: discussion For: (not specified)  
 Source: Apple*

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

**R4-2112506 Discussion on NR HST RRM enhancement for inter-frequency measurement**

*Type: discussion For: Discussion  
 Source: CMCC*

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

**R4-2112524 Discussion on Rel-17 HST in FR1 for inter-frequency measurement**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

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

**R4-2113270 Inter-frequency measurement requirements for Rel17 FR1 HST**

*Type: discussion For: Discussion  
 Source: OPPO*

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

**R4-2113324 Inter-frequency measurements for HST RRM FR1**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Inter-frequency measurements for HST RRM FR1

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

**R4-2113541 Discussion on inter-frequency measurement requirements for NR FR1 HST**

*Type: discussion For: Discussion  
 Source: vivo*

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

**R4-2113832 Discussion on inter-frequency measurements for FR1 HST**

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

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

**R4-2114423 Discussion on inter-frequency measurements for FR1 HST CA**

*Type: discussion For: Discussion  
 38.133 v CR- rev Cat: (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

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

###### 9.8.2.1.3 Other

**R4-2111953 Discussion on other remaining issues for NR FR1 HST RRM enhancement**

*Type: discussion For: Discussion  
 Source: CATT*

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

**R4-2112074 On remaining issues for R17 FR1 HST**

*Type: discussion For: (not specified)  
 Source: Apple*

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

**R4-2112505 Discussion on general requirements for FR1 HST RRM**

*Type: discussion For: Discussion  
 Source: CMCC*

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

**R4-2112525 Discussion on Rel-17 HST in FR1 for general issue**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

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

**R4-2113271 General RRM requirements for Rel17 FR1 HST**

*Type: discussion For: Discussion  
 Source: OPPO*

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

**R4-2113325 Other RRM requirements enhancement for NR HST in FR1**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

other RRM requirements enhancement for NR HST in FR1

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

**R4-2113542 Discussion on R17 NR FR1 HST RRM requirements**

*Type: discussion For: Discussion  
 Source: vivo*

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

**R4-2113833 Discussion on remaining issues in FR1 HST**

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

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

#### 9.8.3 UE demodulation requirements (38.101-4)

##### 9.8.3.1 General

**R4-2113455 Summary for FR1 HST demodulation results**

*Type: other For: Information  
 Source: Ericsson*

**Abstract:**

This spread sheet summarizes the simulation results of FR1 HST demodulation requirements.

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

##### 9.8.3.2 PDSCH requirements for CA scenarios

**R4-2112103 Discussion on PDSCH CA Requirements in HST**

*Type: discussion For: Discussion  
 Source: Apple*

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

**R4-2112504 Discussion on FR1 HST UE demodulation for CA scenario**

*Type: discussion For: Discussion  
 Source: CMCC*

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

**R4-2112511 Simulation results for HST-DPS for CA scenario**

*Type: discussion For: Discussion  
 Source: CMCC*

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

**R4-2113131 Views on HST CA PDSCH performance requirements**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

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

**R4-2113192 Discussion on PDSCH requirements for CA scenarios**

*Type: other For: Approval  
 Source: ZTE Corporation*

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

**R4-2113219 Views on HST CA tests for FR1**

*Type: discussion For: Discussion  
 Source: NTT DOCOMO, INC.*

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

**R4-2113454 Update of simulation results for CA PDSCH with HST**

*Type: other For: Information  
 Source: Ericsson*

**Abstract:**

This contributions updates our simulation results for PDSCH demodulation for HST CA.

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

**R4-2113456 PDSCH demodulation requirements for CA with HST-SFN scenario**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

This contribution discusses the open issues of the PDSCH demodulation requirements for CA with HST-SFN scenario.

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

**R4-2113790 Discussion on PDSCH CA scenarios for NR UE HST FR1 performance requirements**

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

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

**R4-2113791 Simulation results on PDSCH CA scenarios for NR UE HST FR1 performance requirements**

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

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

**R4-2114536 Views on FR1 HST PDSCH CA Tests**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

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

### 9.9 NR support for high speed train scenario in FR2

#### 9.9.4 RRM core requirements

================================================================================

**Email discussion: [100-e][218] NR\_HST\_FR2\_RRM\_1**

**R4-2115208 Email discussion summary: [100-e][218] NR\_HST\_FR2\_RRM\_1**

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

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

================================================================================

**Email discussion: [100-e][219] NR\_HST\_FR2\_RRM\_2**

**R4-2115209 Email discussion summary: [100-e][219] NR\_HST\_FR2\_RRM\_2**

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

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

**R4-2112264 On NR FR2 HST RRM Requirements**

*Type: discussion For: Discussion  
 Source: Qualcomm, Inc.*

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

##### 9.9.4.1 General

**R4-2112498 Discussion on general RRM requirements for FR2 HST**

*Type: discussion For: Discussion  
 Source: CMCC*

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

**R4-2113213 General RRM requirements for HST FR2**

*Type: other For: Approval  
 Source: ZTE Corporation*

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

**R4-2113326 General requirements impacted for HST FR2**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

General requirements impacted for HST FR2

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

**R4-2114467 Detailed simulation analysis for FR2 HST**

*Type: discussion For: Discussion  
 38.133 v CR- rev Cat: (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this contribution, we provide an extended set of system simulation results including scenarios with DPS.

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

**R4-2114568 LS on UE capability and network signalling for Rel-17 NR HST RRM**

*Type: LS out For: Approval  
 to RAN2  
 Source: Nokia, Nokia Shanghai Bell*

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

##### 9.9.4.2 Number of RX beams

**R4-2111954 Discussion on number of RX beams for HST RRM in FR2**

*Type: discussion For: Discussion  
 Source: CATT*

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

**R4-2112091 Discussion on number of Rx beam for FR2 HST**

*Type: discussion For: Discussion  
 Source: Apple*

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

**R4-2113214 Discussion on RX beam number for HST FR2**

*Type: other For: Approval  
 Source: ZTE Corporation*

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

**R4-2113272 Discussion on the Rx beams in RRM requirement**

*Type: discussion For: Discussion  
 Source: OPPO*

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

**R4-2113329 Number of RX beams for HST FR2**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Number of RX beams for HST FR2

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

**R4-2113834 Discussion on number of Rx beam for FR2 HST**

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

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

**R4-2114186 Discussion on the number of RX beams for FR2 HST**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

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

##### 9.9.4.3 RRC Idle/Inactive and connected state mobility requirements

**R4-2111955 Discussion on RRC Idle/Inactive and connected state mobility requirements for HST RRM in FR2**

*Type: discussion For: Discussion  
 Source: CATT*

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

**R4-2112092 Discussion on mobility requirement for FR2 HST**

*Type: discussion For: Discussion  
 Source: Apple*

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

**R4-2112499 Discussion on mobility requirements for FR2 HST**

*Type: discussion For: Discussion  
 Source: CMCC*

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

**R4-2113215 Discussion on RRC Idle Inactive and Connected state mobility requirements for HST FR2**

*Type: other For: Approval  
 Source: ZTE Corporation*

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

**R4-2113273 Discussion on mobility requirements for FR2 HST**

*Type: discussion For: Discussion  
 Source: OPPO*

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

**R4-2113328 RRC Idle/Inactive and connected state mobility requirements for HST FR2**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

RRC Idle/Inactive and connected state mobility requirements for HST FR2

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

**R4-2113835 Discussion on RRC Idle/Inactive and connected state mobility requirements for HST in FR2**

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

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

##### 9.9.4.4 Timing requirements

**R4-2111956 Discussion on timing requirements for HST RRM in FR2**

*Type: discussion For: Discussion  
 Source: CATT*

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

**R4-2112093 Discussion on timing requirement for FR2 HST**

*Type: discussion For: Discussion  
 Source: Apple*

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

**R4-2113176 Timing requirements for FR2 HST**

*Type: discussion For: Discussion  
 Source: Samsung*

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

**R4-2113216 Discussion on Timing Requirement for HST FR2**

*Type: other For: Approval  
 Source: ZTE Corporation*

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

**R4-2113274 Discussion on timing requirements for FR2 HST**

*Type: discussion For: Discussion  
 Source: OPPO*

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

**R4-2114180 On timing adjustment at beam change**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Our views on open issues in timing adjustment at beam change in HST FR2.

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

**R4-2114187 Discussion on timing requirements for HST FR2**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

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

**R4-2114561 On HST FR2 UL Timing Requirements**

*Type: discussion For: Discussion  
 Source: Nokia Germany*

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

##### 9.9.4.5 Signalling characteristics requirements

**R4-2111957 Discussion on Signalling characteristics requirements for HST RRM in FR2**

*Type: discussion For: Discussion  
 Source: CATT*

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

**R4-2112094 Discussion on signaling characteristic requirement for FR2 HST**

*Type: discussion For: Discussion  
 Source: Apple*

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

**R4-2113330 Signalling characteristics requirements for HST FR2**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Signalling characteristics requirements for HST FR2

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

**R4-2113836 Discussion on signaling characteristics requirements for high speed train scenario in FR2**

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

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

**R4-2114188 Discussion on the TCI state switching issue in HST FR2**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

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

##### 9.9.4.6 Measurement procedure requirements

**R4-2111958 Discussion on measurement procedure requirements for HST RRM in FR2**

*Type: discussion For: Discussion  
 Source: CATT*

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

**R4-2112095 Discussion on measurement procedure requirement for FR2 HST**

*Type: discussion For: Discussion  
 Source: Apple*

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

**R4-2113327 Measurement procedure requirements for HST FR2**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Measurement procedure requirements for HST FR2

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

**R4-2113837 Discussion on RRM requirements for high speed train scenario in FR2**

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

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

**R4-2114586 Discussion on RRM measurement requirements for FR2 HST**

*Type: discussion For: Discussion  
 38.133 v CR- rev Cat: (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

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

### 9.10 Further RRM enhancement for NR and MR-DC

#### 9.10.1 General

#### 9.10.2 RRM core requirements

##### 9.10.2.1 SRS antenna port switching

================================================================================

**Email discussion: [100-e][220] NR\_RRM\_enh2\_1**

**R4-2115210 Email discussion summary: [100-e][220] NR\_RRM\_enh2\_1**

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

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (August 17th)**

**Issue 1-1-1: whether scheduling restriction requirement would be defined in RRM for SRS antenna port switching**

* Proposals
  + Option 1 (CATT, QC, CMCC): Don't define the scheduling restriction on symbols before and after SRS transmission for the cell with SRS antenna port switching and on SRS transmit symbols.
  + Option 1a (Huawei):
    - The impact of SRS AS on aggressor CC shall be considered based on the SRS AS resource instead of the fixed 6 OFDM symbols.
    - No need to define scheduling restriction on SRS AS carrier on symbols before and after SRS AS resource. Performance degradation on these symbols could be expected.
  + Option 2: Yes
    - Option 2a (Apple, MTK): RAN4 to agree that one OFDM symbol before and after the SRS antenna port switching shall be introduced as scheduling restriction for FR1, that is, UE has scheduling restriction to not transmit PUCCH/PUSCH/SRS or not receive SSB/PDCCH/PDSCH/TRS/CSI-RS for CQI on 1 data symbol before SRS transmission and 1 data symbol after SRS transmission.
    - Option 2b (vivo):
      * For FR1, specify scheduling restriction before and after the symbol(s) for SRS transmission, at least when the antenna port is switched, for the cell with SRS antenna port switching in R17.
      * RAN4 further discuss whether the scheduling restriction on the same carrier is specified in TS 38.133 or in RAN1 specs via LS to RAN1.
      * If RAN4 concludes necessity of clarifying the position of the transient period, it should be the 1 symbol before and the 1 symbol after the symbol(s) used for SRS transmission.
    - Option 2c (LG): Introduce scheduling restriction for one OFDM symbol before and after SRS antenna port switching for FR1, and no scheduling restriction after SRS antenna port switching is needed in case of the SRS resource is configured in the last symbol of the slot and the next slot is downlink.
    - Option 2d (OPPO): The scheduling restriction shall be defined before and after SRS transmission considering the 15 us SRS antenna switching time.
    - Option 2e (Ericsson): Scheduling restrictions are to be introduced for the case where there is no gap between PUSCH and SRS.
* Discussion
  + QC: We agree that signal cannot be transmitted. RF session defined transient period. Do we need additional scheduling restrictions? What about other cases with transient periods?
  + Vivo: RAN1 has some guard period. Need to have a common understanding if transient period means that we cannot have staggering first.
  + MTK: We would like to check if RF spec restricts any scheduling for the symbols. 1a can be also ok
  + LGE: RF spec does not define scheduling behavior.
  + Huawei: RF specs do not imply scheduling constraints and we suggest to specify that performance degradation is expected.
  + CMCC: It is up to NW scheduling whether to schedule UE during the transient period. We can add some clarification on performance degradation.
  + Apple: Agree with CMCC that NW can still schedule UE. 1a can be a good compromise.
  + CATT: Same view as Huawei and CMCC. Do we need to add same restriction for Demod as well?
  + Intel: Prefer Option 1
  + OPPO: Prefer Option 2a
  + Nokia: Based on RF specs the duration of transient period depends on SCS. Should we consider SCS dependency for scheduling restriction?
    - Apple: difficult to judge the exact degradation for different SCS
  + Nokia: How to capture this in spec?
    - Huawei: we have some examples for DAPS
* Agreements:
  + Do not define the scheduling restriction on symbols before and after SRS transmission for the cell with SRS antenna port switching and on SRS transmit symbols in Rel-17
    - Performance degradation on these symbols can be expected
    - FFS how to capture this in TS 38.133

**Issue 1-3-1: Interruption requirement applicability**

* Proposals
  + Option 1 (Apple, QC, MTK, Intel, OPPO): SRS antenna switching interruptions on both DL and UL applies to the band combinations signaled in *txSwitchImpactToRx* or *txSwitchWithAnotherBand*.
  + Option 2 (CATT, vivo, Xiaomi, Nokia, HW): *txSwitchImpactToRx* indicates the SRS antenna port switching impact to DL only, and *txSwitchWithAnotherBand* indicates the SRS antenna port switching impact to UL only.
* Chair: TS 38.306
  + *- txSwitchImpactToRx* indicates the entry number of the first-listed band with UL (see NOTE) in the band combination that affects this DL, which is mandatory with capability signaling;
  + *- txSwitchWithAnotherBand* indicates the entry number of the first-listed band with UL (see NOTE) in the band combination that switches together with this UL, which is mandatory with capability signaling.
* Discussion
  + Apple: Can compromise to Option 2. If both DL and UL are affected then UE can include the combination in both sets.
  + QC: If DL is interrupted then there will be impact on UL. If UL is interrupted then there will be impact on DL. So, no need to differentiate the two cases.
  + vivo: the issue is relevant to test case design and we can have a new test case design
  + OPPO: Share same concerns as QC. When we discuss interruption we typically assume interruptions on both DL and UL.
  + MTK: Same view as QC.
  + Huawei: In the test case we cannot differentiate interruptions in the test. Same time this is not the reason to change the definition.
  + Intel: Same view as QC.
  + Nokia: For test cases we can define interruptions separately.
* Chair: Common understanding that *txSwitchImpactToRx* indicates the SRS antenna port switching impact to DL only, and *txSwitchWithAnotherBand* indicates the SRS antenna port switching impact to UL only. No common understanding if interruptions should be limited to one direction (DL or UL) or both DL and UL. Recommend to continue discussion.

**Issue 1-3-3: Would the interruption requirement differentiate between sync and async cases?**

* Proposals
  + Option 1 (Apple, vivo, QC, Xiaomi, MTK, Intel, OPPO): No; one single requirement to cover the synchronous and asynchronous scenarios with or without UL TA.
    - Option 1a (Apple, OPPO): The unified interruption requirement is based on the async case for the minimum requirement.
    - Option 1b (LG): The same interruption length for both synchronous and asynchronous cases could be defined, and the interruption length should be reduced by one slot when the slot after SRS antenna post switching is downlink in synchronous case.
  + Option 2 (CATT, Ericsson): Yes, the interruption requirement can differentiate between sync and async cases.
* Discussion
  + TBA
* Agreements:
  + TBA

**Issue 1-4-1: The interruption requirement is defined based on slot level or symbol level**

* Proposals
  + Option 1 (CATT, Apple, vivo, QC, Xiaomi, MTK, Intel): based on slot level
    - Option 1a (CATT): The interruption requirements will be defined based on slot level, i.e. no requirement for the case of interruption on flexible slot. It is not necessary to further discuss on components of making interruption if the interruption requirements are defined based on slot level.
    - Option 1b (vivo): The interruption requirement is preferred to be defined based on slot level. The mis-alignment in the UL frame boundary between anchor and victim cells needs to be further discussed.
    - Option 1c (LG): Slot based interruption requirement could be used in synchronous and asynchronous case, and only UL symbols based interruption should be defined when SRS antenna port switching is configured in the flexible slot in synchronous case.
  + Option 2 (Ericsson): based on symbol level
    - Option 2a (Nokia): The transient period before and after the SRS resource will cause UL interruption of 1 OFDM symbol at 60kHz. At 15kHz or 30kHz SCS, RAN4 should discuss if and how to capture the transient periods from RF session in the RRM specifications.
* Discussion
  + TBA
* Agreements:
  + TBA

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

**R4-2111926 Further discussion on SRS antenna port switching**

*Type: discussion For: Discussion  
 Source: CATT*

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

**R4-2111927 The requirements for SRS antenna port switching**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: CATT*

**Abstract:**

Session Chair: Draft CR R4-2111927 will not be treated

**Decision: Postponed.**

**R4-2112124 Discussion on SRS antenna port switching**

*Type: discussion For: Discussion  
 38.133 v CR- rev Cat: (Rel-17)  
  
 Source: Apple*

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

**R4-2112177 Discussion on RRM requirements for SRS antenna port switching**

*Type: discussion For: Discussion  
 Source: vivo*

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

**R4-2112256 On SRS antenna switching**

*Type: discussion For: Discussion  
 Source: Qualcomm, Inc.*

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

**R4-2112414 Further discussion on RRM requirements for SRS antenna switching**

*Type: discussion For: Discussion  
 Source: Xiaomi*

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

**R4-2112512 Discussion on SRS antenna port switching**

*Type: discussion For: Discussion  
 Source: CMCC*

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

**R4-2112522 Discussion on SRS antenna port switching**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

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

**R4-2112675 Discussion on interruption due to SRS antenna port switching**

*Type: discussion For: Discussion  
 Source: LG Electronics Inc.*

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

**R4-2112877 Interruption requirements at SRS antenna port switching**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

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

**R4-2113138 Discussion about SRS antenna port switching**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

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

**R4-2113275 RRM requirements for SRS ant port switch**

*Type: discussion For: Discussion  
 Source: OPPO*

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

**R4-2114139 Discussion on requirements for SRS antenna switching**

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

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

**R4-2114174 On RRM requirements for SRS antenna port switching**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Our views on open issues in SRS antenna port switching.

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

##### 9.10.2.2 HO with PSCell

================================================================================

**Email discussion: [100-e][221] NR\_RRM\_enh2\_2**

**R4-2115211 Email discussion summary: [100-e][221] NR\_RRM\_enh2\_2**

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

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (August 17th)**

**Issue 2-2-1a: Condition of parallel processing without considering RACH**

* Proposals
  + Option 1a (Apple):
    - In HO with PSCell for NR-DC to NR-DC, if SMTC of target unknown PSCell is configured in targetcellSMTC-SCG-r16, sequential processing shall be assumed; otherwise, parallel processing shall be assumed.
    - In HO with PSCell for NR-DC to NR-DC, if SMTC of target unknown PSCell is not configured in either targetcellSMTC-SCG-r16 or reconfigurationWithSync,
      * UE uses the SMTC in the MO having the same SSB frequency and subcarrier spacing as target PSCell if either source PCell or source PSCell configured this MO, or
      * UE uses the SMTC in the MO from source PCell if both source PCell and source PSCell configured MOs having the same SSB frequency and subcarrier spacing as target PSCell, or
      * UE assumes 5ms as SSB periodicity for target PSCell if neither source PCell nor source PSCell configured MOs having the same SSB frequency and subcarrier spacing as the target PSCell.
    - In HO with PSCell for NR SA to EN-DC, if SMTC of target unknown PSCell is configured in targetcellSMTC-SCG-r16, sequential processing shall be assumed; otherwise, parallel processing shall be assumed.
    - In HO with PSCell for NR SA to EN-DC, if SMTC of target unknown PSCell is not configured in either targetcellSMTC-SCG-r16 or reconfigurationWithSync,
      * UE uses the SMTC in the MO having the same SSB frequency and subcarrier spacing as target PSCell, or
      * UE assumes 5ms as SSB periodicity for target PSCell if source PCell didn’t configure MO having the same SSB frequency and subcarrier spacing as the target PSCell.
    - In HO with PSCell for EN-DC to EN-DC, parallel processing shall be assumed.
    - In HO with PSCell for EN-DC to EN-DC, if SMTC of target unknown PSCell is not configured in RRCConnectionReconfiguration,
      * UE uses the SMTC in the MO having the same SSB frequency and subcarrier spacing as target NR PSCell if either source LTE PCell or source NR PSCell configured this MO, or
      * UE uses the SMTC in the MO from source LTE PCell if both source LTE PCell and source NR PSCell configured MOs having the same SSB frequency and subcarrier spacing as target NR PSCell, or
      * UE assumes 5ms as SSB periodicity for target NR PSCell if neither source LTE PCell nor source NR PSCell configured MOs having the same SSB frequency and subcarrier spacing as the target NR PSCell.
    - In HO with PSCell for NE-DC to NE-DC, parallel processing shall be assumed.
  + Option 1b (CMCC):
    - For the case that targetCellSMTC-SCG-r16 is configured, the timeline for HO with PSCell can be partially sequential
    - For other cases except the configuration of targetCellSMTC-SCG-r16, parallel processing is assumed.
  + Option 1c (Huawei):
    - For HO with PSCell in NR-DC, cell searching and fine timing tracking shall be performed sequentially when targetCellSMTC-SCG is configured.
  + Option 1d (MTK):
    - For NR-DC to NR-DC, sequential processing cell search and timing sync is needed when targetCellSMTC-SCG is configured.
    - Otherwise, parallel processing is assumed
  + Option 2a (CATT, Xiaomi, ZTE, Ericsson, Nokia):
    - Parallel processing shall be the baseline for delay requirements
  + Option 2b (vivo):
    - Take parallel processing for R17 HO with PSCell for all procedure including RACH, and for all configurations including the case that ‘targetcellSMTC-SCG-r16’ is configured
  + Option 2c (Intel):
    - After RRC processing, parallel processing including RACH can be performed for PCell HO and PSCell addition.
  + Option 2d (OPPO):
    - PCell HO and PSCell addition, without considering RA procedures and Tprocessing, are performed in parallel independently.
* Discussion
  + Chair: discuss NR-DC to NR-DC case first
  + Apple: RAN2 agreed CR last meeting and include targetcellSMTC-SCG-r16 and reconfigurationWithSync
  + MTK: Agree with Apple. Network needs to consider different combinations of targetcellSMTC-SCG-r16 and reconfigurationWithSync configurations
  + Huawei: Need to decide if we consider new Rel-16 configuration (targetCellSMTC-SCG) or not.
  + QC: Agree with Huawei. Would like to check infra vendors feedback on targetCellSMTC-SCG.
  + E///: When targetCellSMTC-SCG is used then we can use sequential processing for unknown cells
  + Nokia: Parallel processing shall be baseline
  + Vivo: Understand logic behind option 1. Prefer not to define requirement when targetcellSMTC-SCG-r16 is only configured.
  + Intel: Need feedback from network vendors if scenario is typical. When the target PSCell is known then we can assume parallel processing
* Agreements:
  + In HO with PSCell for NR-DC to NR-DC
    - Parallel processing shall be the baseline for delay requirements
    - Sequential processing shall be assumed for the following cases
      * Case 1: If SMTC of target unknown PSCell is configured in targetcellSMTC-SCG-r16 but not configured in reconfigurationWithSync.
      * Sequential processing is used for cell search and [timing sync]. FFS if additional margin shall be added.

**Issue 2-2-3: UE SW processing and RF warm-up (if needed) time for HO with PSCell**

* Proposals
  + Option 1 (CATT):
    - The value of processing time of handover and the PSCell addition can be reused separately. Tprocessing for HO with PSCell will be the maximum of the processing time of handover and the processing time of the PSCell addition.
  + Option 2 (Apple):
    - For sequential processing for HO with PSCell, the total UE processing time for HO with PSCell is the sum of UE processing timing of HO and UE processing timing of PSCell addition.
    - For parallel processing for HO with PSCell, the total UE processing time for HO with PSCell could be the maximum one between UE processing timing of HO and UE processing timing of PSCell addition
    - the UE processing time for HO with PSCell is:

|  |  |  |
| --- | --- | --- |
| UE processing margin (Tprocessing) | Target Pcell and PSCell is in the same FR as old serving cell | Target Pcell and/or target PSCell is in the different FR from old serving cell |
| Sequential processing | 40ms | 60ms |
| Parallel processing | 20ms | 40ms |

* + Option 3 (Huawei):
    - Tprocessing is the maximum one between UE processing timing of HO and UE processing timing of PSCell addition/change regardless whether *targetCellSMTC-SCG* is configured or not.
  + Option 4 (Ericsson):
    - For software processing for PSCell, the following values are to be used.
      * 20ms, when source and target cells are different NR cells in same FR,
      * 40ms, when source and target cells are different NR cells in different FRs,
      * [40ms], when there is no source PSCell i.e. when it is a matter of PSCell addition.
  + Option 5 (Nokia):
    - HO with PSCell RRM requirements can refer to existing handover requirements and PSCell addition requirements directly
  + Option 6 (OPPO):
    - For the case NR SA to EN-DC, we agree to extend the UE processing time to [30]ms assuming sequential UE processing timing of HO and PSCell addition.
    - For the case EN-DC to EN-DC, and NR-DC to NR-DC, the UE processing time to be [30]ms within the same FR of target PCell and PSCell; otherwise, otherwise the UE processing time shall be [50]ms as the legacy PSCell change requirement.
  + Option 7 (MTK):
    - The overall Tprocessing for HO with PSCell should be max(Tprocessing for PCell HO, Tprocessing for PSCell addition/change) +10ms
  + Option 8 (vivo):
    - RAN4 consider baseline for UE processing time as [30] ms for NRSA to ENDC, and the details can be further discussed. For other cases PSCell change requirement can be re-used.
  + Option 9 (Qualcomm):
    - Extending the UE processing time for NRSA to EN-DC joint handover by [FFS]ms and [FFS] can be 10ms as the starting point, i.e. Tprocessing = [30]ms.
    - For NRDC to NRDC, the UE processing time to be 20ms without FR mode switch on PSCell; otherwise, the UE processing time shall be 40ms as the legacy PSCell change requirement.
* Discussion
  + TBA
* Agreements:
  + TBA

**Issue 2-4-3: RACH occasion on NR-U CC for HO with PSCell**

* Proposals:
  + Option 1 (Ericsson):
    - RAN4 to further study whether RA for spCell on unlicensed carrier with CCA shall be prioritized over RA for spCell on licensed carrier, once CCA is successful.
  + Option 2 (CATT, Apple):
    - The NR-U scenario is out of scope of this WID, no need to discuss.
* Discussion
  + E///: we have one specific requirement.
  + Apple: Should we consider impact on DL. Suggest to limit to EN-DC to EN-DC case
  + QC: Support Option 1. Operator interest.
  + vivo: PSCell addition requirements need to be added. Prefer to handle in Rel-18.
* Agreement: Continue discussion on RACH occasion on NR-U CC for HO with PSCell in RAN4 #101e
  + Prioritize EN-DC to EN-DC scenario
  + Companies are encouraged to provide inputs on the candidate requirements
  + FFS whether to introduce requirements

**Issue 2-2-5: Ending point of the delay requirement for HO with PSCell**

* Proposals:
  + Option 1 (Apple, Xiaomi, CMCC, CATT):
    - the later timing between “timing when UE shall be capable to transmit PRACH preamble towards target PCell” and “the timing when UE shall be capable to transmit PRACH preamble towards target PSCell”.
  + Option 2 (vivo, CMCC, Intel, Huawei, MTK, Ericsson, Qualcomm):
    - Defining delay requirements for HO and PSCell addition/change separately with the ending points defined as PCell PRACH and PSCell PRACH, respectively.
  + Option 3 (OPPO):
    - The timing when UE shall be capable to transmit PRACH preamble towards target PSCell.
* Discussion
  + TBA
* Agreements:
  + TBA

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

**R4-2111928 Further discussion on HO with PSCell**

*Type: discussion For: Discussion  
 Source: CATT*

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

**R4-2111929 The requirements for HO with PSCell**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: CATT*

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

**R4-2112125 Discussion on RRM requirement for handover with PSCell**

*Type: discussion For: Discussion  
 38.133 v CR- rev Cat: (Rel-17)  
  
 Source: Apple*

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

**R4-2112178 Discussion on RRM requirements for HO with PSCell**

*Type: discussion For: Discussion  
 Source: vivo*

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

**R4-2112419 Further discussion on RRM requirements for handover with PSCell**

*Type: discussion For: Discussion  
 Source: Xiaomi*

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

**R4-2112501 Discussion on HO with PSCell**

*Type: discussion For: Discussion  
 Source: CMCC*

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

**R4-2113139 Discussion about HO with PSCell**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

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

**R4-2113202 Discussion on requirements for HO with PSCell**

*Type: other For: Approval  
 Source: ZTE Corporation*

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

**R4-2113276 RRM requirements for HO with PSCell**

*Type: discussion For: Discussion  
 Source: OPPO*

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

**R4-2114140 Discussion on requirements for HO with PSCell**

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

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

**R4-2114152 Discussion on HO with PSCell**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

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

**R4-2114175 On RRM requirements for handover with PSCell**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Our views on open issues in Handover with PSCell.

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

**R4-2114213 discussion on HO with PSCell**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

discussion on HO with PSCell

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

**R4-2114429 Views on HO w PSCell**

*Type: discussion For: Discussion  
 38.133 v CR- rev Cat: (Rel-17)  
  
 Source: Qualcomm CDMA Technologies*

**Abstract:**

Updates on requirements due to RAN2 LS and progress

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

##### 9.10.2.3 PUCCH SCell activation/deactivation

================================================================================

**Email discussion: [100-e][222] NR\_RRM\_enh2\_3**

**R4-2115212 Email discussion summary: [100-e][221] NR\_RRM\_enh2\_3**

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

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (August 17th)**

**Sub-topic 1-1 Ending point of PUCCH SCell activation for invalid TA case**

* Proposals
  + Option 1: (CATT)
    - The point when UE transmits PRACH on PUCCH Scell
  + Option 2: (NTT DOCOMO, Apple, Xiaomi, CMCC, MTK, vivo, ZTE, OPPO, Huawei, Ericsson)
    - The point when UE transmits valid CSI report on the target PUCCH SCell
  + Option 3: (Nokia)
    - The point of RACH completion
* Discussion
  + CATT: For Option 1 – the rationale is that this point corresponds to the situation when UE can use both DL and UL.
  + Nokia: From scheduling availability perspective Msg 3 is a sufficient point for gNB to be able to perform scheduling
  + QC: For this case the NW perspective the CSI feedback is needed to assess the link quality
  + Apple: RACH completion does not mean that UE can start DL/UL operation. Valid CSI is a conservative approach to let NW know that UE is ready.
  + MediaTek: Same view as QC and Apple.
  + vivo: Option 2
  + CATT: what was the rationale in LTE?
  + Nokia: There is some difference in LTE/NR and we cannot simply follow LTE.
  + CATT: can compromise to Option 2.
  + Apple/QC: NW is not precluded to schedule UE before completion of CSI feedback. To ensure that DL signals can be received CSI feedback should be provided.
  + Nokia: still have concerns
  + Chair: come back in the 2nd round to make final decision.
* Tentative agreements:
  + The point when UE transmits valid CSI report on the target PUCCH SCell

**Issue 1-2-1: How to indicate the beam information for PUCCH SCell activation for unknown cell (The procedure for beam indication for PUCCH SCell activation)?**

* Proposals
  + Moderator: The issue is discussed for both valid TA and invalid TA, and for both FR1 and FR2.
  + Option 1: (CATT, Xiaomi, vivo)
    - The downlink beam information of PUCCH SCell can only be indicated via SpCell by UE before PUCCH Scell activation.
  + Option 2: (MTK, Apple)
    - Do not define PUCCH SCell activation requirement for the unknown cell case.
  + Option 3: (Apple)
    - Using L3 measurement report of PUCCH SCell via SpCell PUSCH
  + Option 4: (NTT DOCOMO, Huawei, Apple, Qualcomm, Nokia, OPPO, Ericsson)
    - RAN4 send LS to RAN1/2 asking for the feasibility and potential solutions for transmitting the beam information of PUCCH SCell on the PCell/PSCell. Details of the LS are FFS.
* Discussion
  + TBA
* Agreements:
  + TBA

**Issue 1-2-3: Whether the beam information (L1-RSRP measurement result) of PUCCH SCell for TCI determination is needed or not for unknown cell?**

* Proposals
  + Option 1: (NTT DOCOMO)
    - If UE can report CSI of PUCCH SCell via SpCell or CBRA can be supported on PUCCH SCell, beam information (L1-RSRP measurement result) of PUCCH SCell for TCI determination is not needed.
  + Option 2: (Apple, CATT)
    - Same as the beam information indication for determining the associated SSB in PDCCH order for RA.
    - If the target PUCCH Scell is unknown cell in FR2:
      * If there is at least one active serving cell on that FR2 band (following the same conditions in TS38.133 section 8.3.2 for intra-band FR2 Scell activation), no need to indicate the beam information of PUCCH SCell to network for TCI determination.
      * Otherwise, need to indicate the beam information of PUCCH SCell to network for TCI determination.
    - If the target PUCCH Scell is unknown cell in FR1:
      * If it is contiguous to an active serving cell in the same band (following the same conditions in TS38.133 section 8.3.2 for intra-band contiguous FR1 Scell activation), no need to indicate the beam information of PUCCH SCell to network for TCI determination.
      * Otherwise, need to indicate the beam information of PUCCH SCell to network for TCI determination.
  + Option 3: (Huawei)
    - Beam information is need for unknown PUCCH SCell activation for TCI determination for both valid TA and invalid TA and both FR1 and FR2.
  + Option 4: (Ericsson)
    - Beam information is need for unknown PUCCH SCell activation for TCI determination for both valid TA and invalid TA.
* Discussion
  + TBA
* Agreements:
  + TBA

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

**R4-2111930 Further discussion on PUCCH SCell activation\_deactivation**

*Type: discussion For: Discussion  
 Source: CATT*

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

**R4-2111931 The requirements for PUCCH SCell activation\_deactivation**

*Type: draftCR For: Endorsement  
 38.133 v17.2.0 CR- rev Cat: B (Rel-17)  
  
 Source: CATT*

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

**R4-2112053 Discussions on PUCCH SCell Activation/Deactivation delay requirements**

*Type: discussion For: Discussion  
 38.133 v CR- rev Cat: (Rel-17)  
  
 Source: NTT DOCOMO, INC.*

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

**R4-2112126 Discussion on PUCCH SCell activation and deactivation**

*Type: discussion For: Discussion  
 38.133 v CR- rev Cat: (Rel-17)  
  
 Source: Apple*

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

**R4-2112420 Further discussion on SCell activation and deactication requirements for PUCCH SCell**

*Type: discussion For: Discussion  
 Source: Xiaomi*

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

**R4-2112510 Discussion on PUCCH SCell activation/deactivation**

*Type: discussion For: Discussion  
 Source: CMCC*

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

**R4-2112521 Discussion on PUCCH SCell activation and deactivation**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

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

**R4-2112638 Further views on PUCCH SCell activation and deactivation**

*Type: discussion For: Discussion  
 Source: vivo*

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

**R4-2112701 PUCCH SCell activation and deactivation**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

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

**R4-2112876 Discussion on the activation delay for deactivated PUCCH SCell**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

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

**R4-2113201 Discussion on PUCCH SCell activation and deactivation**

*Type: other For: Approval  
 Source: ZTE Corporation*

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

**R4-2113277 RRM requirements for PUCCH SCell ActivationDeactivation**

*Type: discussion For: Discussion  
 Source: OPPO*

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

**R4-2114141 Discussion on requirements for PUCCH SCell activation**

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

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

**R4-2114176 On RRM requirements for SCell (de)activation with PUCCH**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Our views on open issues in SCell activation/deactivation with PUCCH.

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

### 9.11 NR and MR-DC measurement gap enhancements

#### 9.11.1 General

#### 9.11.2 RRM core requirements

##### 9.11.2.1 Pre-configured MG pattern(s)

================================================================================

**Email discussion: [100-e][224] NR\_MG\_enh\_2**

**R4-2115214 Email discussion summary: [100-e][224] NR\_MG\_enh\_2**

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

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

**R4-2111995 Discussion on pre-configured MG pattern**

*Type: discussion For: Discussion  
 Source: CATT*

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

**R4-2112069 Further consideration on Pre-MG pattern**

*Type: discussion For: (not specified)  
 Source: Apple*

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

**R4-2112392 Discussion on pre-configured gap**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

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

**R4-2112421 Further discussion on pre-configured MG pattern for NR**

*Type: discussion For: Discussion  
 Source: Xiaomi*

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

**R4-2112509 Discussion on pre-configured MG pattern(s)**

*Type: discussion For: Discussion  
 Source: CMCC*

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

**R4-2112639 Further views on pre-configured MG patterns**

*Type: discussion For: Discussion  
 Source: vivo*

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

**R4-2113150 Discussion on pre-configured measurement gap**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

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

**R4-2113208 Views on pre-configured MG patterns**

*Type: other For: Approval  
 Source: ZTE Corporation*

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

**R4-2113278 On pre-configured MG pattern(s) for NR\_MG\_enh**

*Type: discussion For: Discussion  
 Source: OPPO*

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

**R4-2114063 Discussion on Pre-configured MG patterns**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Discussion on pre-configured MG patterns for NR

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

**R4-2114305 Discussion on pre-configured MG**

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

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

**R4-2114427 Further views on pre-configured MG pattern(s)**

*Type: discussion For: Discussion  
 38.133 v CR- rev Cat: (Rel-17)  
  
 Source: Qualcomm CDMA Technologies*

**Abstract:**

Supporting explicit indication of BWP and MG association

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

**R4-2114445 Further analysis of pre-configured measurement gap pattern**

*Type: other For: Discussion  
 Source: Ericsson*

**Abstract:**

This document further analyzes RRM requirements for pre-configured MG in NR and MR-DC

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

##### 9.11.2.2 Multiple concurrent and independent MG patterns

================================================================================

**Email discussion: [100-e][223] NR\_MG\_enh\_1**

**R4-2115213 Email discussion summary: [100-e][223] NR\_MG\_enh\_1**

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

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

**R4-2111996 Discussion on multiple concurrent and independent MG patterns**

*Type: discussion For: Discussion  
 Source: CATT*

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

**R4-2111997 Draft LS on association between multiple MG patterns and use cases**

*Type: discussion For: Discussion  
 Source: CATT*

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

**R4-2112070 On multiple concurrent and independent MG patterns**

*Type: discussion For: (not specified)  
 Source: Apple*

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

**R4-2112340 Discussion on multiple concurrent and independent MG patterns**

*Type: discussion For: (not specified)  
 Source: LG Electronics*

**Abstract:**

It discusses issues related to multiple concurrent and independent MG patterns.

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

**R4-2112393 Discussion on concurrent gaps**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

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

**R4-2112422 Further discussion on multiple concurrent and independent MG patterns for NR**

*Type: discussion For: Discussion  
 Source: Xiaomi*

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

**R4-2112502 Discussion on multiple concurrent and independent MG patterns**

*Type: discussion For: Discussion  
 Source: CMCC*

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

**R4-2112640 On multiple concurrent and independent MG patterns**

*Type: discussion For: Discussion  
 Source: vivo*

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

**R4-2113151 Discussion on multiple and independent concurrent measurement gaps**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

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

**R4-2113209 Views on multiple concurrent and independent MGs**

*Type: other For: Approval  
 Source: ZTE Corporation*

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

**R4-2113279 On multiple concurrent and independent MG patterns for NR\_MG\_enh**

*Type: discussion For: Discussion  
 Source: OPPO*

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

**R4-2113637 Discussion on Multiple concurrent MG patterns**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

This contribution discusses concurrent gaps

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

**R4-2114023 Discussion on concurrent measurement gaps**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

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

**R4-2114306 Discussion on multiple concurrent MGs**

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

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

**R4-2114426 Further views on multiple concurrent and independent MG**

*Type: discussion For: Discussion  
 38.133 v CR- rev Cat: (Rel-17)  
  
 Source: Qualcomm CDMA Technologies*

**Abstract:**

Supporting compatibility of position measurement with multiple concurrent gap

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

##### 9.11.2.3 Network Controlled Small Gap

================================================================================

**Email discussion: [100-e][225] NR\_MG\_enh\_3**

**R4-2115215 Email discussion summary: [100-e][225] NR\_MG\_enh\_3**

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

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

**R4-2111998 Discussion on Network Controlled Small Gap (NCSG)**

*Type: discussion For: Discussion  
 Source: CATT*

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

**R4-2112071 On network controlled small gap**

*Type: discussion For: (not specified)  
 Source: Apple*

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

**R4-2112394 Discussion on NCSG**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

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

**R4-2112503 Discussion on Network Controlled Small Gap**

*Type: discussion For: Discussion  
 Source: CMCC*

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

**R4-2112641 Further views on network controlled small gap patterns**

*Type: discussion For: Discussion  
 Source: vivo*

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

**R4-2113152 Discussion on NCSG**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

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

**R4-2113210 Views on NCSG**

*Type: other For: Approval  
 Source: ZTE Corporation*

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

**R4-2113280 On NCSG for NR\_MG\_enh**

*Type: discussion For: Discussion  
 Source: OPPO*

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

**R4-2114064 Discussion on Network Controlled Small Gaps for NR**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Discussion on introduction of NCSG for NR

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

**R4-2114307 Discussion on NCSG**

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

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

**R4-2114428 Further views on network controlled small gap**

*Type: discussion For: Discussion  
 38.133 v CR- rev Cat: (Rel-17)  
  
 Source: Qualcomm CDMA Technologies*

**Abstract:**

Choice of VIL and other key issues

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

**R4-2114446 Further analysis of network controlled small gap**

*Type: other For: Discussion  
 Source: Ericsson*

**Abstract:**

This document further analyzes RRM requirements for NCSG in NR and MR-DC

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

### 9.13 Solutions for NR to support non-terrestrial networks (NTN)

#### 9.13.5 RRM core requirements

================================================================================

**Email discussion: [100-e][226] NR\_NTN\_solutions\_RRM\_1**

**R4-2115216 Email discussion summary: [100-e][226] NR\_NTN\_solutions\_RRM\_1**

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

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

================================================================================

**Email discussion: [100-e][227] NR\_NTN\_solutions\_RRM\_2**

**R4-2115217 Email discussion summary: [100-e][227] NR\_NTN\_solutions\_RRM\_2**

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

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

##### 9.13.5.1 General and RRM requirements impacts

**R4-2111935 Further discussion on RRM requirements for NTN**

*Type: discussion For: Discussion  
 Source: CATT*

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

**R4-2112485 Discussion on general RRM requirements in NTN**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

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

**R4-2112706 General and RRM requirements impacts**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

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

**R4-2113140 Discussion on the general and mobility requirements for NR NTN UE**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

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

**R4-2113331 General and RRM requirements for NTN**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

General and RRM requirements for NTN

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

**R4-2114308 Discussion on general issues for NTN RRM**

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

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

##### 9.13.5.2 GNSS-related requirements

**R4-2111936 Further Discussion on GNSS-related requirements**

*Type: discussion For: Discussion  
 Source: CATT*

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

**R4-2112205 Discussion on NTN GNSS related issues**

*Type: discussion For: Discussion  
 Source: CMCC*

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

**R4-2112707 GNSS-related requirements**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

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

**R4-2113523 UE positioing and timing requirements**

*Type: other For: Discussion  
 Source: Ericsson*

**Abstract:**

Discussion about impact on total timing error budget due to prositining.

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

**R4-2114309 Discussion on GNSS for NTN RRM**

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

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

**R4-2114416 NTN – GNSS requirements**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

In this contribution we focus on the impact of GNSS accuracy on the UE requirements.

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

##### 9.13.5.3 Mobility requirements

**R4-2111937 Discussion on mobility requirements for NTN**

*Type: discussion For: Discussion  
 Source: CATT*

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

**R4-2112127 Discussion on mobility for NR NTN**

*Type: discussion For: Discussion  
 38.133 v CR- rev Cat: (Rel-17)  
  
 Source: Apple*

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

**R4-2112423 Further discussion on mobility requirements for NR NTN**

*Type: discussion For: Discussion  
 Source: Xiaomi*

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

**R4-2112680 Discussion on mobility related measurement for NR NTN**

*Type: discussion For: Discussion  
 Source: LG Electronics Inc.*

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

**R4-2112708 Mobility requirements**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

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

**R4-2113281 Discussion on mobility requirements for NR NTN**

*Type: discussion For: Discussion  
 Source: OPPO*

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

**R4-2113333 Mobility requirements for NTN**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Mobility requirements for NTN

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

**R4-2113842 Discussion on mobility requirements in NTN**

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

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

##### 9.13.5.4 Timing requirements

**R4-2111740 Discussion on timing requirements for NR NTN**

*Type: discussion For: (not specified)  
 Source: FGI, Asia Pacific Telecom, III, ITRI*

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

**R4-2111938 Further discussion on timing requirements for NTN**

*Type: discussion For: Discussion  
 Source: CATT*

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

**R4-2112128 Discussion on timing requirements for NR NTN**

*Type: discussion For: Discussion  
 38.133 v CR- rev Cat: (Rel-17)  
  
 Source: Apple*

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

**R4-2112206 Discussion on NTN timing requirements**

*Type: discussion For: Discussion  
 Source: CMCC*

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

**R4-2112424 Further discussion on timing requirements for NR NTN**

*Type: discussion For: Discussion  
 Source: Xiaomi*

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

**R4-2112486 Discussion on timing requirements in NTN**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

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

**R4-2112682 Discussion on timing requirements for NR NTN**

*Type: discussion For: Discussion  
 Source: LG Electronics Inc.*

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

**R4-2112709 Timing requirements**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

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

**R4-2113141 Discussion on the timing requirements for NR NTN UE**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

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

**R4-2113203 Discussion on timing requirements for NTN**

*Type: other For: Approval  
 Source: ZTE Corporation*

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

**R4-2113282 Discussion on timing requirements for NR NTN**

*Type: discussion For: Discussion  
 Source: OPPO*

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

**R4-2113453 Reply LS on NTN UL time and frequency synchronization requirements**

*Type: LS out For: Approval  
 to RAN1  
 Source: CATT*

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

**R4-2113521 Timing requirements**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

RRM timing requirements for UE.

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

**R4-2113522 Reply LS to RAN1: LS on NTN UL time and frequency synchronization requirements (Timing)**

*Type: LS out For: Approval  
 to RAN1  
 Source: Ericsson*

**Abstract:**

Draft Reply LS to RAN1 regarding UE timing requirements.

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

**R4-2113819 Discussion on NTN timing related requirements**

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

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

**R4-2114417 NTN - interaction between closed and open loop TA adjustments**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

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

**R4-2114420 NTN UL Timing Accuracy**

*Type: discussion For: Discussion  
 Source: THALES*

**Abstract:**

The goal of this contribution is therefore to further clarify NTN UL timing synchronization requirements to be considered by NTN RAN4 work.

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

##### 9.13.5.5 Measurement procedure requirements

**R4-2111939 Discussion on measurement procedure requirements for NTN**

*Type: discussion For: Discussion  
 Source: CATT*

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

**R4-2112189 Discussion on NTN RRM measurement requirements**

*Type: discussion For: Discussion  
 Source: CMCC*

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

**R4-2112425 Further discussion on measurement requirements for NR NTN**

*Type: discussion For: Discussion  
 Source: Xiaomi*

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

**R4-2112487 Discussion on measurement requirements in NTN**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

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

**R4-2112710 Measurement procedure requirements**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

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

**R4-2112894 Discussion on measurement procedure for NR NTN**

*Type: discussion For: (not specified)  
 Source: LG Electronics UK*

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

**R4-2113332 Measurement requirements for NTN**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Measurement requirements for NTN

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

**R4-2113843 Discussion on measurement requirements in NTN**

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

**Decision:** The document was **not treated**.

### 9.14 UE Power Saving Enhancements

================================================================================

**Email discussion: [100-e][228] NR\_UE\_pow\_sav\_enh\_RRM**

**R4-2115218 Email discussion summary: [100-e][228] NR\_UE\_pow\_sav\_enh\_RRM**

*Type: other For: Information  
 Source: Moderator (MediaTek)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

#### 9.14.1 General

**R4-2112179 LS on criteria for RLM/BFD relaxation**

*Type: LS out For: Approval  
 to RAN2, cc RAN1  
 Source: vivo*

**Decision:** The document was **not treated**.

#### 9.14.2 UE measurements relaxation for RLM and/or BFD

**R4-2111959 Further discussion on RLM/BFD relaxation for UE power saving enhancement**

*Type: discussion For: Discussion  
 Source: CATT*

**Decision:** The document was **not treated**.

**R4-2112090 UE measurements relaxation for RLM and/or BFD**

*Type: discussion For: Discussion  
 Source: Apple*

**Decision:** The document was **not treated**.

**R4-2112180 Discussion on R17 RLM and BFD relaxation for NR**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision:** The document was **not treated**.

**R4-2112204 Discussion on RLMBFD relaxation for NR power saving enhancement**

*Type: discussion For: Discussion  
 Source: CMCC*

**Decision:** The document was **not treated**.

**R4-2112259 On Power Saving RRM Requirement**

*Type: discussion For: Discussion  
 Source: Qualcomm, Inc.*

**Decision:** The document was **not treated**.

**R4-2112413 Further discussion on UE measurements relaxation for RLM and/or BFD**

*Type: discussion For: Discussion  
 Source: Xiaomi*

**Decision:** The document was **not treated**.

**R4-2112878 Discussion about RLM/BFD measurement relaxation**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **not treated**.

**R4-2113137 Discussions on UE power saving for RLM and BM**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision:** The document was **not treated**.

**R4-2113820 Further discussion on RLM/BFD measurement relaxation**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

**R4-2113887 On RLM and RLF relaxation for UE power saving**

*Type: discussion For: Discussion  
 Source: ZTE Corporation*

**Decision:** The document was **not treated**.

**R4-2114081 Discussions on UE power saving for RLM and BM**

*Type: other For: Discussion  
 Source: Ericsson*

**Abstract:**

Discussions on remaining issues of UE power saving requirements.

**Decision:** The document was **not treated**.

**R4-2114153 Evaluation on Rel-17 RLM/BFD measurement relaxation**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

**Decision:** The document was **not treated**.

### 9.15 NR Sidelink enhancement

#### 9.15.8 RRM core requirements

================================================================================

**Email discussion: [100-e][229] NR\_SL\_enh\_RRM**

**R4-2115219 Email discussion summary: [100-e][229] NR\_SL\_enh\_RRM**

*Type: other For: Information  
 Source: Moderator (LG Electronics)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

**R4-2111960 Further considerations on RRM requirements for Sidelink enhancement**

*Type: discussion For: Discussion  
 Source: CATT*

**Decision:** The document was **not treated**.

**R4-2112260 On NR SL RRM Requirement Scope**

*Type: discussion For: Discussion  
 Source: Qualcomm, Inc.*

**Decision:** The document was **not treated**.

**R4-2112338 RRM requirements for NR SL enhancement**

*Type: discussion For: (not specified)  
 Source: LG Electronics*

**Abstract:**

It discusses RRM core requirements for Rel-17 NR SL enhancement.

**Decision:** The document was **not treated**.

**R4-2112418 Discussion on RRM requirements for NR sidelink enhancement**

*Type: discussion For: Discussion  
 Source: Xiaomi*

**Decision:** The document was **not treated**.

**R4-2112555 Further discussion on RRM impacts for sidelink enhancement**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision:** The document was **not treated**.

**R4-2113283 Discussion on RRM core requirements for NR SL**

*Type: discussion For: Discussion  
 Source: OPPO*

**Decision:** The document was **not treated**.

**R4-2113821 Discussion on RRM impacts for R17 NR V2X enhancement**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

**R4-2114082 Discussions on Sidelink RRM requirements**

*Type: other For: Discussion  
 Source: Ericsson*

**Abstract:**

Discussions on sidelink RRM requirements.

**Decision:** The document was **not treated**.

### 9.16 Extending current NR operation to 71GHz

#### 9.16.7 RRM core requirements

================================================================================

**Email discussion: [100-e][230] NR\_ext\_to\_71GHz\_RRM\_1**

**R4-2115220 Email discussion summary: [100-e][230] NR\_ext\_to\_71GHz\_RRM\_1**

*Type: other For: Information  
 Source: Moderator (Qualcomm)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

================================================================================

**Email discussion: [100-e][231] NR\_ext\_to\_71GHz\_RRM\_2**

**R4-2115221 Email discussion summary: [100-e][231] NR\_ext\_to\_71GHz\_RRM\_2**

*Type: other For: Information  
 Source: Moderator (Intel)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

##### 9.16.7.1 General and RRM requirements impacts

**R4-2112488 Discussion on RRM requirements in FR2-2**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

**Decision:** The document was **not treated**.

**R4-2112548 Further discussion on RRM impacts for extending NR operation to 71GHz**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision:** The document was **not treated**.

**R4-2112683 Discussion on RRM measurement requirements for extension to 71GHz**

*Type: discussion For: Discussion  
 Source: LG Electronics Inc.*

**Decision:** The document was **not treated**.

**R4-2113220 Discussion on RRM requirements for extension to 71 GHz**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **not treated**.

**R4-2113334 General and RRM requirements for extending NR operation to 71GHz**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

General and RRM requirements for extending NR operation to 71GHz

**Decision:** The document was **not treated**.

**R4-2114142 Discussion on general RRM impacts for extending NR operation to 71GHz**

*Type: discussion For: Discussion  
 Source: Huawei, Hisilicon*

**Decision:** The document was **not treated**.

**R4-2114189 Discussion on general aspects for NR 52.6 – 71 GHz RRM**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision:** The document was **not treated**.

##### 9.16.7.2 Timing requirements

**R4-2112135 UE transmit timing for NR operation in 52.6GHz - 71GHz**

*Type: discussion For: Discussion  
 Source: Apple*

**Decision:** The document was **not treated**.

**R4-2112559 Disscussion on timing for 52.6-71GHz**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision:** The document was **not treated**.

**R4-2113221 Discussion on RRM timing requirements for extension to 71 GHz**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **not treated**.

**R4-2113518 Timing requirements**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

Analysis of UE TDD ON/OFF and other timing requirements.

**Decision:** The document was **not treated**.

**R4-2113519 Reply LS to RAN1: LS on beam switching gap for 60 GHz band**

*Type: LS out For: Approval  
 to RAN1  
 Source: Ericsson*

**Abstract:**

Feedback to RAN1 on TDD ON/OFF switch time.

**Decision:** The document was **not treated**.

**R4-2114143 Discussion on timing requirements for exntending NR operation to 71GHz**

*Type: discussion For: Discussion  
 Source: Huawei, Hisilicon*

**Decision:** The document was **not treated**.

**R4-2114573 Impact of higher SCS on timing accuracy requirements**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

**Abstract:**

In this paper, we discuss the impact of 480/960kHz SCS on UE transmit timing accuracy requirements

**Decision:** The document was **not treated**.

##### 9.16.7.3 Interruption requirements

**R4-2112560 Disscussion on interruption for 52.6-71GHz**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision:** The document was **not treated**.

**R4-2113222 Discussion on interruption requirements for extension to 71 GHz**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **not treated**.

**R4-2113336 Interruption requirements for extending NR operation to 71GHz**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Interruption requirements for extending NR operation to 71GHz

**Decision:** The document was **not treated**.

**R4-2114144 Discussion on interruption requirements for extending NR operation to 71GHz**

*Type: discussion For: Discussion  
 Source: Huawei, Hisilicon*

**Decision:** The document was **not treated**.

**R4-2114190 Interruption requirements for NR 52.6 – 71 GHz**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision:** The document was **not treated**.

**R4-2114572 Impact of higher SCS on interruptions requirements**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

**Abstract:**

In this paper, we discuss the impact of 480/960kHz SCS on some of the interruption requirements in NR-SA mode

**Decision:** The document was **not treated**.

##### 9.16.7.4 Active BWP switching delay requirements

**R4-2112136 Active BWP switch delay for NR operation in 52.6GHz - 71GHz**

*Type: discussion For: Discussion  
 Source: Apple*

**Decision:** The document was **not treated**.

**R4-2112561 Disscussion on BWP swiching delay for 52.6-71GHz**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision:** The document was **not treated**.

**R4-2113223 Discussion on Active BWP switching delay requirements for extension to 71 GHz**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **not treated**.

**R4-2113335 Active BWP switching requirements for extending NR operation to 71GHz**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Active BWP switching requirements for extending NR operation to 71GHz

**Decision:** The document was **not treated**.

**R4-2114145 Discussion on BWP switching requirements for extending NR operation to 71GHz**

*Type: discussion For: Discussion  
 Source: Huawei, Hisilicon*

**Decision:** The document was **not treated**.

**R4-2114191 Discussion on BWP switching delay for NR 52.6 – 71 GHz**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision:** The document was **not treated**.

##### 9.16.7.5 Measurement gap interruption requirements

**R4-2112562 Disscussion on measurement gap interruption for 52.6-71GHz**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision:** The document was **not treated**.

**R4-2113224 Discussion on measurement gap requirements for extension to 71 GHz**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **not treated**.

**R4-2113337 Measurement gap interruption requirements for extending NR operation to 71GHz**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Measurement gap interruption requirements for extending NR operation to 71GHz

**Decision:** The document was **not treated**.

**R4-2114146 Discussion on measurement gap interruption requirements for extending NR operation to 71GHz**

*Type: discussion For: Discussion  
 Source: Huawei, Hisilicon*

**Decision:** The document was **not treated**.

### 9.17 Enhancements to Integrated Access and Backhaul (IAB) for NR

#### 9.17.3 RRM core requirements

================================================================================

**Email discussion: [100-e][232] NR\_IAB\_enh\_RRM**

**R4-2115222 Email discussion summary: [100-e][232] NR\_IAB\_enh\_RRM**

*Type: other For: Information  
 Source: Moderator (ZTE)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

**R4-2112869 Discussion on RAN3 LS for inter-donor migration**

*Type: other For: Approval  
 Source: Samsung*

**Decision:** The document was **not treated**.

**R4-2113149 Further discussion on RRM requirements for eIAB**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision:** The document was **not treated**.

**R4-2113875 On eIAB RRM**

*Type: discussion For: Discussion  
 Source: ZTE Corporation*

**Decision:** The document was **not treated**.

**R4-2114147 Discussion on RRM requirements for eIAB**

*Type: discussion For: Discussion  
 Source: Huawei, Hisilicon*

**Decision:** The document was **not treated**.

**R4-2114463 Analysis of RRM requirements for enhanced IAB**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

The paper analyzes the impact of RRM on IAB enhancement

**Decision:** The document was **not treated**.

**R4-2114464 LS response on Inter-donor migration**

*Type: LS out For: Approval  
 to RAN3, cc RAN1, RAN2  
 Source: Ericsson*

**Abstract:**

The paper analyzes and provides response to RAN3 LS in R3-212981

**Decision:** The document was **not treated**.

**R4-2114546 Considerations on Rel. 17 IAB enhanced RRM Core Requirements**

*Type: discussion For: Discussion  
 Source: Nokia Germany*

**Abstract:**

In the paper, we mainly focus on the discussion of the RRM impact of Case #6 timing. Additionally, CA/DC and interference management are treated briefly.

**Decision:** The document was **not treated**.

### 9.19 Further enhancements on MIMO for NR

#### 9.19.3 RRM core requirements

================================================================================

**Email discussion: [100-e][233] NR\_feMIMO\_RRM**

**R4-2115223 Email discussion summary: [100-e][233] NR\_feMIMO\_RRM**

*Type: other For: Information  
 Source: Moderator (Samsung)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

##### 9.19.3.1 General and RRM requirements impacts

**R4-2112181 Discussion on FeMIMO RRM impacts**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision:** The document was **not treated**.

**R4-2112530 Discussion on general and RRM requirements impacts in R17 feMIMO**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

**Decision:** The document was **not treated**.

**R4-2112601 Discussion on feMIMO general and RRM requirements impacts**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **not treated**.

**R4-2113307 Impact to RRM requirements for further enhancements on MIMO**

*Type: discussion For: Discussion  
 Source: Samsung*

**Decision:** The document was **not treated**.

**R4-2113509 Reply LS to RAN3 on TCI state updates for L1/L2 centric inter-cell mobility**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

We provide our views on the response to be sent to RAN3 LS R3-212879

**Decision:** The document was **not treated**.

**R4-2113822 Discussion on beam management requirements for R17 NR FeMIMO**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

##### 9.19.3.2 Multi-beam operation enhancement

**R4-2112109 Discussion on RRM requirements for L1/L2 Centric Mobility and Unified TCI**

*Type: discussion For: Discussion  
 Source: Apple*

**Decision:** The document was **not treated**.

**R4-2112182 Discussion on RRM impacts from Multi-beam operation enhancements**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision:** The document was **not treated**.

**R4-2112531 Discussion on multi-beam operation enhancement in R17 feMIMO**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

**Decision:** The document was **not treated**.

**R4-2113136 Discussions on Rel-17 Multi-beam operation enhancement impact on RRM**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision:** The document was **not treated**.

**R4-2113510 Discussion on RRM requirements for multi-beam operation in FeMIMO**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

We discuss RRM requirements for multi-beam operation in FeMIMO

**Decision:** The document was **not treated**.

**R4-2113823 Discussion on multi-beam operation enhancements for R17 NR FeMIMO**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

**R4-2114419 On L1/L2 centric non-serving cell measurements**

*Type: discussion For: Discussion  
 38.133 v CR- rev Cat: (Rel-17)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This paper has discussed L1-RSRP measurements within and outside SMTC windows

**Decision:** The document was **not treated**.

**R4-2114430 Views on RRM impacts of feMIMO multi-beam operation enhancement**

*Type: discussion For: Discussion  
 38.133 v CR- rev Cat: (Rel-17)  
  
 Source: Qualcomm CDMA Technologies*

**Abstract:**

Views on feMIMO scope, impacts

**Decision:** The document was **not treated**.

##### 9.19.3.3 Link recovery procedure for FR2 serving cells

**R4-2113511 Discussion on TRP specific link recovery procedures in FeMIMO**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

We discuss link recovery requirements for multi-beam operation of FeMIMO

**Decision:** The document was **not treated**.

**R4-2113543 Discussion on Link recovery procedure for FR2 serving cells**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision:** The document was **not treated**.

**R4-2113824 Discussion on link recovery requirements for R17 NR FeMIMO**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

### 9.20 Support of reduced capability NR devices

#### 9.20.3 RRM core requirements

================================================================================

**Email discussion: [100-e][234] NR\_redcap\_RRM\_1**

**R4-2115224 Email discussion summary: [100-e][234] NR\_redcap\_RRM\_1**

*Type: other For: Information  
 Source: Moderator (Ericsson)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

================================================================================

**Email discussion: [100-e][235] NR\_redcap\_RRM\_2**

**R4-2115225 Email discussion summary: [100-e][235] NR\_redcap\_RRM\_2**

*Type: other For: Information  
 Source: Moderator (vivo)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

##### 9.20.3.1 General and RRM requirements impacts

**R4-2112129 Impact of RedCap on RRM requirements**

*Type: discussion For: Discussion  
 38.133 v CR- rev Cat: (Rel-17)  
  
 Source: Apple*

**Decision:** The document was **not treated**.

**R4-2112191 Discussion on RRM impacts for reduced capability NR devices**

*Type: discussion For: Discussion  
 Source: CMCC*

**Decision:** The document was **not treated**.

**R4-2112643 Considerations on RRM impacts of Redcap**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision:** The document was **not treated**.

**R4-2113148 Further discussion on RRM requirements for RedCap UE in Rel-17**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision:** The document was **not treated**.

**R4-2113284 General RRM requirements for Redcap UE**

*Type: discussion For: Discussion  
 Source: OPPO*

**Decision:** The document was **not treated**.

**R4-2113845 Discussion on general RRM requirements impacts for RedCap UE**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

**R4-2113865 On general aspects of RedCap RRM**

*Type: discussion For: Discussion  
 Source: ZTE Corporation*

**Decision:** The document was **not treated**.

**R4-2113947 General and RRM requirements impacts**

*Type: discussion For: Decision  
 38.133 v CR- rev Cat: (Rel-17)  
  
 Source: MediaTek Inc.*

**Decision:** The document was **not treated**.

**R4-2114068 On scope of RRM core requirements for RedCap**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Discussion on RRM core requirements for NR\_redcap

**Decision:** The document was **not treated**.

**R4-2114084 Discussions on scope and general requirements for RedCap**

*Type: other For: Discussion  
 Source: Ericsson*

**Abstract:**

Discussions on scope and general requirements for RedCap

**Decision:** The document was **not treated**.

##### 9.20.3.2 UE complexity reduction

**R4-2112130 Discussion on UE complexity reduction for RedCap**

*Type: discussion For: Discussion  
 38.133 v CR- rev Cat: (Rel-17)  
  
 Source: Apple*

**Decision:** The document was **not treated**.

**R4-2112415 Discussion on RRM requirements for UE complexity reduction for RedCap**

*Type: discussion For: Discussion  
 Source: Xiaomi*

**Decision:** The document was **not treated**.

**R4-2112644 Considerations on UE complexity reduction for Redcap**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision:** The document was **not treated**.

**R4-2113285 UE complexity reduction for Redcap UE**

*Type: discussion For: Discussion  
 Source: OPPO*

**Decision:** The document was **not treated**.

**R4-2113846 Discussion on RRM requirements due to UE complexity reduction**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

**R4-2113847 Simulation assumption for measurement accuracy for RedCap UE with 1 RX**

*Type: other For: Approval  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

**R4-2113866 On complexity reduction for RedCap UEs**

*Type: discussion For: Discussion  
 Source: ZTE Corporation*

**Decision:** The document was **not treated**.

**R4-2113955 UE complexity reduction**

*Type: discussion For: Decision  
 38.133 v CR- rev Cat: (Rel-17)  
  
 Source: MediaTek Inc.*

**Decision:** The document was **not treated**.

**R4-2114083 Discussion on UE complexity reduction**

*Type: other For: Discussion  
 Source: Ericsson*

**Abstract:**

In this contribution, we will further discuss on UE complexity reduction for RedCap UE.

**Decision:** The document was **not treated**.

**R4-2114575 RRM impact of complexity reduction features**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

**Abstract:**

In this paper we discuss the RRM impact of UE complexity reduction features for RedCap UE

**Decision:** The document was **not treated**.

##### 9.20.3.3 Extended DRX enhancements

**R4-2112131 Discussion on RRM requirement with eDRX for RedCap**

*Type: discussion For: Discussion  
 38.133 v CR- rev Cat: (Rel-17)  
  
 Source: Apple*

**Decision:** The document was **not treated**.

**R4-2112416 Discussion on RRM requirements for extended DRX enhancements for RedCap**

*Type: discussion For: Discussion  
 Source: Xiaomi*

**Decision:** The document was **not treated**.

**R4-2112645 Considerations for eDRX enhancement for Redcap**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision:** The document was **not treated**.

**R4-2113286 Extended DRX enhancements for Redcap UE**

*Type: discussion For: Discussion  
 Source: OPPO*

**Decision:** The document was **not treated**.

**R4-2113848 Discussion on Extended DRX enhancements for RedCap UE**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

**R4-2113867 On Extended DRX enhancements for RedCap UEs**

*Type: discussion For: Discussion  
 Source: ZTE Corporation*

**Decision:** The document was **not treated**.

**R4-2113956 Extended DRX enhacnements**

*Type: discussion For: Decision  
 38.133 v CR- rev Cat: (Rel-17)  
  
 Source: MediaTek Inc.*

**Decision:** The document was **not treated**.

**R4-2114085 Discussions on eDRX requirements for RedCap**

*Type: other For: Discussion  
 Source: Ericsson*

**Abstract:**

RAN4 to start discussing the measurement requirements for UE configured with eDRX as agreed in [1]. In this contribution, we discuss and provide our view on this topic.

**Decision:** The document was **not treated**.

**R4-2114574 eDRX enhancements for RedCap UE**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

**Abstract:**

In this paper we discuss eDRX enhancements for RedCap UE

**Decision:** The document was **not treated**.

##### 9.20.3.4 RRM measurement relaxations

**R4-2112132 Discussion on RRM measurement relaxations for RedCap**

*Type: discussion For: Discussion  
 38.133 v CR- rev Cat: (Rel-17)  
  
 Source: Apple*

**Decision:** The document was **not treated**.

**R4-2112417 Discussion on RRM measurement relaxations for RedCap UE**

*Type: discussion For: Discussion  
 Source: Xiaomi*

**Decision:** The document was **not treated**.

**R4-2112646 Considerations for RRM relaxation for Redcap**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision:** The document was **not treated**.

**R4-2113287 RRM measurement relaxations for Reduced Capability UE**

*Type: discussion For: Discussion  
 Source: OPPO*

**Decision:** The document was **not treated**.

**R4-2113849 Discussion on RRM measurement relaxations for RedCap UE**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

**R4-2113868 Discussions on RRM measurement relaxations for RedCap UEs**

*Type: discussion For: Discussion  
 Source: ZTE Corporation*

**Decision:** The document was **not treated**.

**R4-2113972 RRM measurements relaxation**

*Type: discussion For: Decision  
 38.133 v CR- rev Cat: (Rel-17)  
  
 Source: MediaTek Inc.*

**Decision:** The document was **not treated**.

**R4-2114069 On RRM measurement relaxation for neighbouring cells**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Discussion on RRM relaxation for NR\_redcap

**Decision:** The document was **not treated**.

**R4-2114086 Discussions on relaxed mesurment requirements for RedCap**

*Type: other For: Discussion  
 Source: Ericsson*

**Abstract:**

RAN4 to start discussing relaxed measurement requirements for RedCap as agreed in [1]. In this contribution, we discuss and provide our view on this topic.

**Decision:** The document was **not treated**.

**R4-2114576 RRM relaxations enhancements for RedCap UE**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

**Abstract:**

In this paper we discuss RRM relaxations enhancements for RedCap UE

**Decision:** The document was **not treated**.

### 9.21 Positioning enhancements for NR

================================================================================

**Email discussion: [100-e][236] NR\_pos\_enh\_RRM\_1**

**R4-2115226 Email discussion summary: [100-e][236] NR\_pos\_enh\_RRM\_1**

*Type: other For: Information  
 Source: Moderator (Ericsson)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

================================================================================

**Email discussion: [100-e][237] NR\_pos\_enh\_RRM\_2**

**R4-2115227 Email discussion summary: [100-e][237] NR\_pos\_enh\_RRM\_2**

*Type: other For: Information  
 Source: Moderator (CATT)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

#### 9.21.1 General

**R4-2112549 Reply LS on PRS processing samples**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision:** The document was **not treated**.

#### 9.21.2 RRM core requirements

##### 9.21.2.1 General and RRM requirements impacts

**R4-2111999 Discssion on PRS processing samples**

*Type: discussion For: Discussion  
 Source: CATT*

**Decision:** The document was **not treated**.

**R4-2112550 Further discussion on general RRM requirements impacts for positioning enhancement**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision:** The document was **not treated**.

##### 9.21.2.2 UE Rx/Tx and/or gNB Rx/Tx timing delay mitigation

**R4-2112000 Discussion on UE Rx/Tx and/or gNB Rx/Tx timing delay mitigation**

*Type: discussion For: Discussion  
 Source: CATT*

**Decision:** The document was **not treated**.

**R4-2112551 Discussion on timing delay mitigation**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision:** The document was **not treated**.

**R4-2112598 Discussion on UE Rx/Tx and/or gNB Rx/Tx timing delay mitigation**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **not treated**.

**R4-2113157 Discussion on timing delay mitigating for NR positioning enhancement**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision:** The document was **not treated**.

**R4-2113874 UE Rx/Tx and gNB Rx/Tx timing delay mitigation**

*Type: discussion For: Discussion  
 Source: ZTE Corporation*

**Decision:** The document was **not treated**.

**R4-2114051 Reply LS on on UE/TRP Tx/Rx Timing Errors**

*Type: discussion For: Approval  
 Source: Ericsson*

**Abstract:**

This contribution discusses UE/TRP Tx/Rx Timing Errors based on incoming LS from RAN1 and proposes a reply LS

**Decision:** The document was **not treated**.

**R4-2114198 On UE Rx/Tx timing error mitigation**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

**Decision:** The document was **not treated**.

**R4-2114310 Discussion on timing error mitigation for positioning**

*Type: LS out For: Approval  
 to RAN1  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

##### 9.21.2.3 Latency reduction of positioning measurement

**R4-2112001 Discussion on latency reduction of positioning measurement**

*Type: discussion For: Discussion  
 Source: CATT*

**Decision:** The document was **not treated**.

**R4-2112508 Discussion on latency reduction of positioning measurement**

*Type: discussion For: Discussion  
 Source: CMCC*

**Decision:** The document was **not treated**.

**R4-2112552 Discussion on latency reduction of positioning measurement**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision:** The document was **not treated**.

**R4-2112599 Discussion on latency reduction of positioning measurement**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **not treated**.

**R4-2113158 Discussion on latency reduction for NR positioning enhancement**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision:** The document was **not treated**.

**R4-2113876 On latency reduction of positioning measurement**

*Type: discussion For: Discussion  
 Source: ZTE Corporation*

**Decision:** The document was **not treated**.

**R4-2114052 Reply LS on PRS processing samples**

*Type: discussion For: Approval  
 Source: Ericsson*

**Abstract:**

This contribution discusses PRS processing samples based on incoming LS from RAN1 and proposes a reply LS

**Decision:** The document was **not treated**.

**R4-2114199 On latency reduction of NR positioning measurements**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

**Decision:** The document was **not treated**.

**R4-2114311 Discussion on latency reduction for positioning**

*Type: LS out For: Approval  
 to RAN1  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

##### 9.21.2.4 Measurement in RRC\_INACTIVE state

**R4-2112002 Discussion on measurement in RRC\_INACTIVE state**

*Type: discussion For: Discussion  
 Source: CATT*

**Decision:** The document was **not treated**.

**R4-2112553 Discussion on measurement in RRC\_INACTIVE state**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision:** The document was **not treated**.

**R4-2112600 Discussion on measurement in RRC\_INACTIVE state**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **not treated**.

**R4-2113877 Positioning measurements in RRC\_INACTIVE state**

*Type: discussion For: Discussion  
 Source: ZTE Corporation*

**Decision:** The document was **not treated**.

**R4-2114053 On positioning in RRC\_inactive**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

This contribution discusses positioning in RRC\_inactive

**Decision:** The document was **not treated**.

**R4-2114312 Discussion on PRS measurement in RRC\_INACTIVE**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

##### 9.21.2.5 Impact on existing UE positioning and RRM requirements

**R4-2112554 Discussion on impact to existing UE positioning and RRM requirements**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision:** The document was **not treated**.

**R4-2113880 Impact on existing UE positioning and RRM requirements**

*Type: discussion For: Discussion  
 Source: ZTE Corporation*

**Decision:** The document was **not treated**.

**R4-2114313 Discussion on new MGP for positioning**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

**R4-2114462 Impact on RRM and positioning requirements**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

The paper analyzes the impact of RRM on positioning requirements and vice versa

**Decision:** The document was **not treated**.

##### 9.21.2.6 Enhancements of A-GNSS positioning

**R4-2112003 Discussion on enhancements of A-GNSS positioning**

*Type: discussion For: Discussion  
 Source: CATT*

**Decision:** The document was **not treated**.

**R4-2113873 On A-GNSS positioning enhancement**

*Type: discussion For: Discussion  
 Source: ZTE Corporation*

**Decision:** The document was **not treated**.

**R4-2114314 Discussion on A-GNSS enhancement in Rel-17 positioning**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

### 9.22 Multi-Radio Dual-Connectivity enhancements

#### 9.22.1 General

#### 9.22.2 RRM core requirements

================================================================================

**Email discussion: [100-e][238] LTE\_NR\_DC\_enh2\_RRM**

**R4-2115228 Email discussion summary: [100-e][238] LTE\_NR\_DC\_enh2\_RRM**

*Type: other For: Information  
 Source: Moderator (Huawei)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

##### 9.22.2.1 General and RRM requirements impacts

**R4-2113143 Discussion on RRM aspects of MR-DC enhancements in Rel-17**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision:** The document was **not treated**.

**R4-2113838 General RRM requirements impacts due to Multi-Radio Dual-Connectivity enhancements**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

##### 9.22.2.2 Efficient activation/de-activation mechanism for SCells

**R4-2112075 On efficient activation/de-activation mechanism for SCells**

*Type: discussion For: (not specified)  
 Source: Apple*

**Decision:** The document was **not treated**.

**R4-2112642 On temporary RS for efficient SCell activation in NR CA**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision:** The document was **not treated**.

**R4-2112698 Efficient activation and deactivation mechanism for SCells**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

**Decision:** The document was **not treated**.

**R4-2113839 Discussion on efficient activation/de-activation mechanism for Scells**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

**R4-2113883 On temporary RS for efficient SCell activation**

*Type: discussion For: Discussion  
 Source: ZTE Corporation*

**Decision:** The document was **not treated**.

**R4-2114020 Discussion on efficient activation/de-activation mechanism for Scells**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **not treated**.

**R4-2114154 Discussion on temporary RS**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

**Decision:** The document was **not treated**.

**R4-2114177 On efficient activation/deactivation mechanism for SCells**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Our views on open issues in Efficient activation/deactivation mechanism for SCells

**Decision:** The document was **not treated**.

##### 9.22.2.3 Efficient activation/de-activation mechanism for one SCG

**R4-2112076 On efficient activation/de-activation mechanism for one SCG**

*Type: discussion For: (not specified)  
 Source: Apple*

**Decision:** The document was **not treated**.

**R4-2112699 Efficient activation and deactivation mechanism for one SCG**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

**Decision:** The document was **not treated**.

**R4-2113840 Discussion on efficient activation/de-activation mechanism for one SCG**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

**R4-2114021 Discussion on Efficient activation/de-activation mechanism for one SCG**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **not treated**.

**R4-2114178 On efficient activation/deactivation mechanism for one SCG**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Our views on open issues in Efficient activation/deactivation mechanism for SCG.

**Decision:** The document was **not treated**.

##### 9.22.2.4 Conditional PSCell change and addition

**R4-2112077 On conditional PSCell change and addition**

*Type: discussion For: (not specified)  
 Source: Apple*

**Decision:** The document was **not treated**.

**R4-2112700 Conditional PSCell change and addition**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

**Decision:** The document was **not treated**.

**R4-2113841 Discussion on conditional PSCell change and addition**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

**R4-2113886 Conditional PSCell change and addition**

*Type: discussion For: Discussion  
 Source: ZTE Corporation*

**Decision:** The document was **not treated**.

**R4-2114022 Discussion on conditional PSCell change and addition**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **not treated**.

**R4-2114179 On conditional PSCell change and addition**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Our views on open issues in Conditional PSCell change and addition.

**Decision:** The document was **not treated**.

### 9.23 Enhanced IIoT and URLLC support

#### 9.23.1 General

#### 9.23.2 RRM core requirements

================================================================================

**Email discussion: [100-e][239] NR\_IIOT\_URLLC\_enh\_RRM**

**R4-2115229 Email discussion summary: [100-e][239] NR\_IIOT\_URLLC\_enh\_RRM**

*Type: other For: Information  
 Source: Moderator (Nokia)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

##### 9.23.2.1 General and RRM requirements impacts

**R4-2112556 RRM impacts overview for IIoT/URLLC support for NR**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision:** The document was **not treated**.

**R4-2113144 Further discussion on RRM requirements for IIoT and URLLC in Rel-17**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Decision:** The document was **not treated**.

**R4-2114027 Discussion of RRM impact for PUCCH carrier switching**

*Type: discussion For: (not specified)  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **not treated**.

**R4-2114315 Discussion on RRM impacts of PUCCH carrier switching**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

##### 9.23.2.2 Propagation delay compensation enhancements

**R4-2112214 Discussion on propagation delay enhancement**

*Type: discussion For: Discussion  
 Source: CMCC*

**Decision:** The document was **not treated**.

**R4-2112557 Discussion on propagation delay compensation enhancements**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision:** The document was **not treated**.

**R4-2113520 Propagation Delay Compensation Enhancements for Time Synchronization**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

Analysis of different propagation delay methods using delay budgets. In particular TA based and RTT based methods.

**Decision:** The document was **not treated**.

**R4-2113981 Propagation delay compensation enhancements**

*Type: discussion For: Decision  
 Source: MediaTek Inc.*

**Decision:** The document was **not treated**.

**R4-2114029 Status of Propagation delay compensation enhancements and expected RAN4 impacts**

*Type: discussion For: (not specified)  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **not treated**.

**R4-2114316 Discussion on RRM impacts of PDC enhancements**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

##### 9.23.2.3 Reference point for Te requirements

**R4-2112215 Discussion on reference point of UE transmit timing error**

*Type: discussion For: Discussion  
 Source: CMCC*

**Decision:** The document was **not treated**.

**R4-2112558 Discussion on reference point for Te requirements**

*Type: discussion For: Discussion  
 Source: vivo*

**Decision:** The document was **not treated**.

**R4-2113288 Reference point for Te requirements for NR\_IIOT\_URLLC\_enh**

*Type: discussion For: Discussion  
 Source: OPPO*

**Decision:** The document was **not treated**.

**R4-2113882 Discussion on the reference point for Te requirements**

*Type: discussion For: Discussion  
 Source: ZTE Corporation*

**Decision:** The document was **not treated**.

**R4-2113982 Reference point for Te requirements**

*Type: discussion For: Decision  
 38.133 v CR- rev Cat: (Rel-17)  
  
 Source: MediaTek Inc.*

**Decision:** The document was **not treated**.

**R4-2114009 Further discussion of the reference point for UE transmit timing requirement**

*Type: discussion For: Approval  
 Source: Nokia, Nokia Shanghai Bell*

**Decision:** The document was **not treated**.

**R4-2114317 Discussion on reference point for Te requirements**

*Type: LS out For: Approval  
 to RAN1  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

**R4-2114450 LS response on UE transmit timing error**

*Type: LS out For: Approval  
 to RAN1  
 Source: Ericsson, Intel*

**Abstract:**

This document further analyze the remaining issue of the reference point definition for UE timing error requirements. It is continuation of LS response to RAN1 in R4-2105850.

**Decision:** The document was **not treated**.

### 9.24 NR Sidelink Relay

================================================================================

**Email discussion: [100-e][240] NR\_SL\_relay\_RRM**

**R4-2115230 Email discussion summary: [100-e][240] NR\_SL\_relay\_RRM**

*Type: other For: Information  
 Source: Moderator (OPPO)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

#### 9.24.1 General and work plan

**R4-2113289 Work Plan for NR Sidelink Relay RRM**

*Type: discussion For: Discussion  
 Source: OPPO*

**Decision:** The document was **not treated**.

#### 9.24.2 RRM core requirements

**R4-2112258 On NR SL relay RRM Requirement Scope**

*Type: discussion For: Discussion  
 Source: Qualcomm, Inc.*

**Decision:** The document was **not treated**.

**R4-2113290 RRM requirements for NR Sidelink Relay**

*Type: discussion For: Discussion  
 Source: OPPO*

**Decision:** The document was **not treated**.

**R4-2113825 Discussion on RRM impacts for R17 NR sidelink relay**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Decision:** The document was **not treated**.

**R4-2113881 Initial discussions on RRM requirements for sidelink relay**

*Type: discussion For: Discussion  
 Source: ZTE Corporation*

**Decision:** The document was **not treated**.

## 10 Rel-17 Study Items for NR

## 11 Rel-17 Work Items for LTE

### 11.8 Additional enhancements for NB-IoT and LTE-MTC

#### 11.8.4 RRM core requirements

================================================================================

**Email discussion: [100-e][241] NB\_IOTenh4\_LTE\_eMTC6\_RRM**

**R4-2115231 Email discussion summary: [100-e][241] NB\_IOTenh4\_LTE\_eMTC6\_RRM**

*Type: other For: Information  
 Source: Moderator (Huawei)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

**GTW session (TBA)**

**1st round email discussion conclusions**

**New tdocs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Comments** |
|  |  |  |  |

**Existing tdocs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tdoc number** | **Title** | **Source** | **Recommendation** | **Comments** |
|  |  |  |  |  |

**2nd round email discussion conclusions**

**WF/LS for approval**

================================================================================

##### 11.8.4.1 Neighbour cell measurement in RRC Connected state for NB-IoT

**R4-2114088 Discussions on RRM requirements for release 17 WI on eMTC and NB-IoT**

*Type: other For: Discussion  
 Source: Ericsson*

**Abstract:**

In this contribution we discuss and provide our view on the open issues identified in [1].

**Decision:** The document was **not treated**.

**R4-2114148 Discussion on RRM requirements for Rel-17 NB-IoT**

*Type: discussion For: Discussion  
 Source: Huawei, Hisilicon*

**Decision:** The document was **not treated**.

**R4-2114201 On NB-IoT neighbor cell measurements in RRC\_CONNECTED**

*Type: discussion For: Discussion  
 Source: Qualcomm Incorporated*

**Decision:** The document was **not treated**.

#### 11.8.5 Others

## 12 Liaison and output to other groups

## 13 Revision of the Work Plan

## 14 Any other business

### 14.1 Celebration of RAN4#100 meeting

## 15 Close of the E-meeting

Report prepared by: MCC

**R4-21AAAAA Way forward on XXXX**

*Type: other For: Approval  
 Source: TBA*

**Abstract:**

**Discussion:**

**Decision: Return to.**