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

**DRAFT Meeting Report  
for  
TSG RAN WG4  
meeting: #95e**

**Electronic Meeting, Online, 25/05/2020 to 05/06/2020**

Report generated on Monday, 2020-05-18 21:15 UTC

Contents:

1 Opening of the E-meeting 10

2 Approval of the agenda 11

3 Letters / reports from other groups / meetings 11

4 Rel15 New radio access technology 16

4.1 NE-DC, NGEN-DC, and NR-NR DC Maintenance [NR\_newRAT-Core] 16

4.2 System Parameters Maintenance [NR\_newRAT-Core] 17

4.3 SUL and LTE-NR co-existence maintenance [NR\_newRAT-Core] 25

4.4 UE RF requirements maintenance [NR\_newRAT] 25

4.4.1 DC combination including NR carrier and/or NR CA combination maintenance [NR\_newRAT-Core] 25

4.4.1.1 Maintenance for bands and band combinations in 38.101-1 [NR\_newRAT-Core] 25

4.4.1.2 Maintenance for bands and band combinations in 38.101-2 [NR\_newRAT-Core] 27

4.4.1.3 Maintenance for combinations in 38.101-3 [NR\_newRAT-Core] 28

4.4.2 [FR1] Maintenance for general requirements in 38.101-1 [NR\_newRAT-Core] 31

4.4.2.1 Power class related to UL MIMO and other related req. (MPR, SEM, etc) [NR\_newRAT-Core] 33

4.4.2.2 Other Tx requirements [NR\_newRAT-Core] 39

4.4.2.3 Maintenance for Receiver characteristics [NR\_newRAT-Core] 43

4.4.3 [FR2] Maintenance for general requirements in 38.101-2 [NR\_newRAT-Core] 47

4.4.3.1 Regulatory Tx/Rx spurious emission limits handling [NR\_newRAT-Core] 47

4.4.3.2 Maintenance for Transmitter characteristics [NR\_newRAT-Core] 50

4.4.3.3 Maintenance for Receiver characteristics [NR\_newRAT-Core] 56

4.4.4 Maintenance for general requirements in 38.101-3 [NR\_newRAT-Core] 57

4.4.4.1 [FR1] Maintenance for Transmitter characteristics within FR1 [NR\_newRAT-Core] 59

4.4.4.2 [FR1+FR2] Maintenance for Transmitter characteristics involving both FR1 and FR2 [NR\_newRAT-Core] 61

4.4.4.3 [FR1] Maintenance for Receiver characteristics within FR1 [NR\_newRAT-Core] 61

4.4.4.4 [FR1+FR2] Maintenance for Receiver characteristics involving both FR1 and FR2 [NR\_newRAT-Core] 63

4.4.5 Editorial CRs [NR\_newRAT-Core] 63

4.5 UE EMC [NR\_newRAT-Core] 66

4.6 BS RF [NR\_newRAT-Core] 72

4.6.1 General [NR\_newRAT-Core] 72

4.6.2 Editorial CRs [NR\_newRAT-Core] 75

4.6.3 Transmitter characteristics maintenance [NR\_newRAT-Core] 75

4.6.4 Receiver characteristics maintenance [NR\_newRAT-Core] 83

4.7 BS conformance testing [NR\_newRAT-Perf] 84

4.7.1 General [NR\_newRAT-Perf] 84

4.7.2 Editorial CRs [NR\_newRAT-Perf/Core] 85

4.7.3 BS specifications clean-ups (including conformance testing and core) [NR\_newRAT-Perf/Core] 85

4.7.3.1 eAAS specifications [NR\_newRAT-Perf/Core] 85

4.7.3.2 MSR specifications [NR\_newRAT-Perf/Core] 90

4.7.3.3 NR conformance testing specifications [NR\_newRAT-Perf] 92

4.7.4 Conducted conformance testing (38.141-1) [NR\_newRAT-Perf] 100

4.7.5 Radiated conformance testing (38.141-2) [NR\_newRAT-Perf] 101

4.8 BS EMC [NR\_newRAT-Core] 103

4.8.1 Editorial CRs [NR\_newRAT-Perf/Core] 103

4.8.2 Core requirements [NR\_newRAT-Core] 103

4.8.2.1 Emission requirements [NR\_newRAT-Core] 103

4.8.2.2 Immunity requirements [NR\_newRAT-Core] 104

4.8.3 Performance requirements [NR\_newRAT-Perf] 104

4.9 RRM core maintenance (38.133/36.133) [NR\_newRAT-Core] 105

4.9.1 General [NR\_newRAT-Core] 105

4.9.2 Editorial CRs [NR\_newRAT-Core] 105

4.9.3 UE measurement capability (38.133/36.133) [NR\_newRAT-Core] 107

4.9.4 RRM measurement and measurement gap (38.133/36.133) [NR\_newRAT-Core] 111

4.9.5 Connected state mobility (38.133/36.133) [NR\_newRAT-Core] 112

4.9.6 Timing (38.133/36.133) [NR\_newRAT-Core] 114

4.9.7 Signaling characteristics (38.133/36.133) [NR\_newRAT-Core] 114

4.9.8 Beam management based on SSB and/or CSI-RS (38.133) [NR\_newRAT-Core] 123

4.9.9 Other requirements [NR\_newRAT-Core] 126

4.10 RRM perf maintenance (38.133/36.133) [NR\_newRAT-Perf] 126

4.10.1 General [NR\_newRAT-Perf] 126

4.10.2 Editorial CRs [NR\_newRAT-Perf] 128

4.10.3 RRM test cases [NR\_newRAT-Perf] 128

4.11 Demodulation and CSI maintenance [NR\_newRAT-Perf] 147

4.11.1 Editorial CRs [NR\_newRAT-Perf] 147

4.11.2 UE demodulation and CSI (38.101-4) [NR\_newRAT-Perf] 148

4.11.3 BS demodulation (38.104) [NR\_newRAT-Perf] 151

4.12 Maintenance of the Positioning specs (36.171, 37.171 and 38.171) [NR\_newRAT-Perf or TEI] 154

4.13 Testability Maintenance (38.810) [FS\_NR\_test\_methods] 154

5 Rel-16 Work Items for LTE 155

5.1 LTE intra-band Carrier Aggregation for x CC DL/y CC UL including contiguous and non-contiguous spectrum (x>=y) [LTE\_CA\_R16\_intra] 155

5.1.1 Rapporteur Input (WID/TR/CR) [LTE\_CA\_R16\_intra-Core/Perf] 155

5.1.2 UE RF [LTE\_CA\_R16\_intra-Core] 156

5.2 LTE inter-band Carrier Aggregation for 2 bands DL with 1 band UL [LTE\_CA\_R16\_2BDL\_1BUL] 157

5.2.1 Rapporteur Input (WID/TR/CR) [LTE\_CA\_R16\_2BDL\_1BUL-Core/Perf] 157

5.2.2 UE RF with harmonic, close proximity and isolation issues [LTE\_CA\_R16\_2BDL\_1BUL-Core] 158

5.2.3 UE RF without specific issues [LTE\_CA\_R16\_2BDL\_1BUL-Core] 158

5.3 LTE inter-band Carrier Aggregation for 3 bands DL with 1 band UL [LTE\_CA\_R16\_3BDL\_1BUL] 158

5.3.1 Rapporteur Input (WID/TR/CR) [LTE\_CA\_R16\_3BDL\_1BUL-Core/Perf] 158

5.3.2 UE RF with harmonic, close proximity and isolation issues [LTE\_CA\_R16\_3BDL\_1BUL-Core] 158

5.3.3 UE RF without specific issues [LTE\_CA\_R16\_3BDL\_1BUL-Core] 158

5.4 LTE inter-band Carrier Aggregation for x bands DL (x=4, 5) with 1 band UL [LTE\_CA\_R16\_xBDL\_1BUL] 159

5.4.1 Rapporteur Input (WID/TR/CR) [LTE\_CA\_R16\_xBDL\_1BUL-Core] 159

5.4.2 UE RF with 4 LTE bands CA [LTE\_CA\_R16\_xBDL\_1BUL-Core] 159

5.4.3 UE RF with 5 LTE bands CA [LTE\_CA\_R16\_xBDL\_1BUL-Core] 159

5.5 LTE inter-band Carrier Aggregation for 2 bands DL with 2 band UL [LTE\_CA\_R16\_2BDL\_2BUL] 159

5.5.1 Rapporteur Input (WID/TR/CR) [LTE\_CA\_R16\_2BDL\_2BUL-Core] 159

5.5.2 UE RF with harmonic, close proximity and isolation issues [LTE\_CA\_R16\_2BDL\_2BUL-Core] 160

5.5.3 UE RF without specific issues [LTE\_CA\_R16\_2BDL\_2BUL-Core] 160

5.6 LTE inter-band Carrier Aggregation for x bands DL (x= 3, 4, 5) with 2 band UL [LTE\_CA\_R16\_xBDL\_2BUL] 161

5.6.1 Rapporteur Input (WID/TR/CR) [LTE\_CA\_R16\_xBDL\_2BUL-Core] 161

5.6.2 UE RF with MSD [LTE\_CA\_R16\_xBDL\_2BUL-Core] 161

5.6.3 UE RF without MSD [LTE\_CA\_R16\_xBDL\_2BUL-Core] 162

5.7 RRM for LTE CA basket WI-s [LTE\_CA\_R16\_xxxx] 163

5.7.1 RRM Core (36.133) [LTE\_CA\_R16\_xxxx-Core] 163

5.7.2 RRM Perf (36.133) [LTE\_CA\_R16\_xxxx-Perf] 163

5.8 Additional LTE bands for UE category M1 and/or NB1 in Rel-16 [LTE\_bands\_R16\_M1\_NB1] 163

5.8.1 RF [LTE\_bands\_R16\_M1\_NB1-Core] 163

5.8.2 Others [LTE\_bands\_R16\_M1\_NB1-Perf] 163

5.9 Additional LTE bands for UE category M2 and/or NB2 in in Rel-16 [LTE\_bands\_R16\_M2\_NB2] 164

5.9.1 RF [LTE\_bands\_R16\_M2\_NB2-Core] 164

5.9.2 Others [LTE\_bands\_R15\_M2\_NB2-Perf] 164

5.10 Additional MTC enhancements for LTE [LTE\_eMTC5] 164

5.10.1 General [LTE\_eMTC5] 164

5.10.2 Coexistence with NR [LTE\_eMTC5] 164

5.10.3 RRM core requirements (36.133) [LTE\_eMTC5-Core] 165

5.10.3.1 DL quality report in MSG3 and connected mode [LTE\_eMTC5-Core] 165

5.10.3.2 WUS [LTE\_eMTC5-Core] 166

5.10.3.3 MPDCCH performance improvement [LTE\_eMTC5-Core] 166

5.10.3.4 PUR [LTE\_eMTC5-Core] 166

5.10.3.5 Mobility enhancement [LTE\_eMTC5-Core] 168

5.10.3.6 Others [LTE\_eMTC5-Core] 170

5.10.4 Demodulation and CSI requirements (36.101/36.104) [LTE\_eMTC5-Perf] 170

5.11 Additional enhancements for NB-IoT [NB\_IOTenh3] 172

5.11.1 General [NB\_IOTenh3] 172

5.11.2 Coexistence with NR [NB\_IOTenh3] 172

5.11.3 RRM core requirements (36.133) [NB\_IOTenh3-Core] 173

5.11.3.1 Group WUS [NB\_IOTenh3-Core] 173

5.11.3.2 PUR [NB\_IOTenh3-Core] 173

5.11.3.3 Multi-carrier operations [NB\_IOTenh3-Core] 174

5.11.3.4 Others [NB\_IOTenh3-Core] 176

5.11.4 Demodulation and CSI requirements (36.101/36.104) [NB\_IOTenh3-Perf] 177

5.12 Even further Mobility enhancement in E-UTRAN [LTE\_feMob] 178

5.12.1 RRM core requirements (36.133) [LTE\_feMob-Core] 178

5.12.1.1 Conditional handover [LTE\_feMob-Core] 178

5.12.1.2 Reduction of user data interruption [LTE\_feMob-Core] 178

5.12.1.3 Others [LTE\_feMob-Core] 179

5.13 LTE-based 5G terrestrial broadcast [LTE\_terr\_bcast] 179

5.13.1 Demodulation and CSI requirements (36.101) [LTE\_terr\_bcast -Perf] 179

5.13.2 Others [LTE\_terr\_bcast -Core/Perf] 181

5.14 R16 LTE maintenance [WI code] 182

5.14.1 RF [WI code] 182

5.14.2 RRM [WI code] 183

5.14.3 Demodulation and CSI requirements [WI code] 183

6 Rel-16 non-spectrum related work items for NR 184

6.1 NR-based access to unlicensed spectrum [NR\_unlic] 184

6.1.1 System Parameters [NR\_unlic-Core] 184

6.1.2 UE RF requirements [NR\_unlic-Core] 186

6.1.2.1 Transmitter characteristics [NR\_unlic-Core] 187

6.1.2.2 Receiver characteristics [NR\_unlic-Core] 189

6.1.3 Band combination related (Analysis, TPs, etc.) [NR\_unlic-Core] 190

6.1.4 BS RF requirements [NR\_unlic-Core] 191

6.1.4.1 Transmitter characteristics [NR\_unlic-Core] 193

6.1.4.2 Receiver characteristics [NR\_unlic-Core] 194

6.1.5 RRM core requirements (38.133) [NR\_unlic-Core] 195

6.1.5.1 General (specification structure, etc) [NR\_unlic-Core] 195

6.1.5.2 Cell re-selection [NR\_unlic-Core] 196

6.1.5.3 Handover [NR\_unlic-Core] 198

6.1.5.4 RRC connection mobility control [NR\_unlic-Core] 200

6.1.5.5 SCell activation/deactivation (delay and interruption) [NR\_unlic-Core] 202

6.1.5.6 PSCell addition/release (delay and interruption) [NR\_unlic-Core] 202

6.1.5.7 Active TCI state switching [NR\_unlic-Core] 203

6.1.5.8 Interruptions due to operation in non-NR-U serving cells [NR\_unlic-Core] 204

6.1.5.9 Active BWP switching [NR\_unlic-Core] 204

6.1.5.10 RLM and link recovery procedures [NR\_unlic-Core] 206

6.1.5.11 Measurement requirements [NR\_unlic-Core] 209

6.1.5.12 Measurement capability and reporting criteria [NR\_unlic-Core] 215

6.1.5.13 Timing [NR\_unlic-Core] 216

6.1.5.14 Others [NR\_unlic-Core] 218

6.2 Cross Link Interference (CLI) handling and Remote Interference Management (RIM) for NR [NR\_CLI\_RIM] 218

6.2.1 General [NR\_CLI\_RIM-Core] 218

6.2.2 RRM core requirements maintenance (38.133) [NR\_CLI\_RIM-Core] 218

6.2.3 RRM perf. requirements (38.133) [NR\_CLI\_RIM-Perf] 219

6.2.3.1 CLI measurement accuracy [NR\_CLI\_RIM-Perf] 219

6.2.3.2 Test cases [NR\_CLI\_RIM-Perf] 219

6.2.3.3 Others [NR\_CLI\_RIM-Perf] 221

6.3 NR mobility enhancement [NR\_Mob\_enh] 221

6.3.1 General [NR\_Mob\_enh-Core] 221

6.3.2 RRM core requirements (38.133) [NR\_Mob\_enh-Core] 221

6.3.2.1 Handover with simultaneous Rx/Tx with source and target cells [NR\_Mob\_enh-Core] 221

6.3.2.2 Conditional handover [NR\_Mob\_enh-Core] 223

6.3.2.3 Conditional PSCell addition/change [NR\_Mob\_enh-Core] 224

6.3.2.4 Others [NR\_Mob\_enh-Core] 224

6.4 5G V2X with NR sidelink [5G\_V2X\_NRSL] 224

6.4.1 General [5G\_V2X\_NRSL] 224

6.4.2 System parameters [5G\_V2X\_NRSL-Core] 225

6.4.3 UE RF requirements [5G\_V2X\_NRSL-Core] 227

6.4.3.1 Transmitter characteristics [5G\_V2X\_NRSL-Core] 227

6.4.3.2 Receiver characteristics [5G\_V2X\_NRSL-Core] 230

6.4.4 Concurrent operation (scenarios, requirements, etc) [5G\_V2X\_NRSL-Core] 232

6.4.5 RRM core requirements (38.133) [5G\_V2X\_NRSL-Core] 233

6.4.5.1 Transmit timing requirements [5G\_V2X\_NRSL-Core] 233

6.4.5.2 Synchronization requirements [5G\_V2X\_NRSL-Core] 233

6.4.5.3 Measurement requirements [5G\_V2X\_NRSL-Core] 234

6.4.5.4 Interruption requirements [5G\_V2X\_NRSL-Core] 235

6.4.5.5 Others [5G\_V2X\_NRSL-Core] 237

6.5 Integrated Access and Backhaul for NR [NR\_IAB] 238

6.5.1 General [NR\_IAB-Core] 238

6.5.1.1 System parameters [NR\_IAB-Core] 238

6.5.1.2 IAB-MT class [NR\_IAB-Core] 238

6.5.1.3 IAB-MT feature list [NR\_IAB-Core] 239

6.5.1.4 Others [NR\_IAB-Core] 241

6.5.2 RF requirements [NR\_IAB-Core] 241

6.5.2.1 Conductive RF core requirements [NR\_IAB-Core] 241

6.5.2.1.1 Transmitter characteristics [NR\_IAB-Core] 241

6.5.2.1.2 Receiver characteristics [NR\_IAB-Core] 243

6.5.2.1.3 TP to TS/TR [NR\_IAB-Core] 243

6.5.2.2 Radiated RF core requirements [NR\_IAB-Core] 246

6.5.2.2.1 Transmitter characteristics [NR\_IAB-Core] 246

6.5.2.2.2 Receiver characteristics [NR\_IAB-Core] 249

6.5.2.2.3 TP to TS/TR [NR\_IAB-Core] 250

6.5.3 RRM core requirements (38.133) [NR\_IAB-Core] 253

6.5.3.1 General [NR\_IAB-Core] 253

6.5.3.2 RRC connection mobility control [NR\_IAB-Core] 254

6.5.3.3 MT timing related requirements [NR\_IAB-Core] 255

6.5.3.4 RLM requirements [NR\_IAB-Core] 256

6.5.3.5 BFR requirements [NR\_IAB-Core] 257

6.5.4 EMC core requirements [NR\_IAB-Core] 258

6.6 Multi-RAT Dual-Connectivity and Carrier Aggregation enhancements [LTE\_NR\_DC\_CA\_enh] 260

6.6.1 General [LTE\_NR\_DC\_CA\_enh-Core] 260

6.6.2 RF requirements [LTE\_NR\_DC\_CA\_enh-Core] 261

6.6.3 RRM core requirements (38.133) [LTE\_NR\_DC\_CA\_enh-Core] 265

6.6.3.1 Early Measurement reporting [LTE\_NR\_DC\_CA\_enh-Core] 265

6.6.3.1.1 NR measurements for EMR [LTE\_NR\_DC\_CA\_enh-Core] 265

6.6.3.1.2 LTE NR Inter-RAT EMR [LTE\_NR\_DC\_CA\_enh-Core] 266

6.6.3.2 Efficient and low latency serving cell configuration, activation and setup [LTE\_NR\_DC\_CA\_enh-Core] 268

6.6.3.2.1 Direct SCell activation [LTE\_NR\_DC\_CA\_enh-Core] 268

6.6.3.2.2 SCell dormancy [LTE\_NR\_DC\_CA\_enh-Core] 270

6.6.3.3 Others [LTE\_NR\_DC\_CA\_enh-Core] 273

6.7 UE power saving in NR [NR\_UE\_pow\_sav] 273

6.7.1 General [NR\_UE\_pow\_sav] 273

6.7.2 RRM core requirements (38.133) [NR\_UE\_pow\_sav-Core] 273

6.7.2.1 RRM measurement relaxation [NR\_UE\_pow\_sav-Core] 273

6.7.3 Demodulation and CSI requirements (38.101-4) [NR\_UE\_pow\_sav-Perf 277

6.8 NR Positioning Support [NR\_pos] 279

6.8.1 General [NR\_pos-Core/Perf] 279

6.8.2 RRM core requirements (38.133) [NR\_pos-Core] 280

6.8.2.1 UE requirements [NR\_pos-Core] 280

6.8.2.1.1 PRS-RSTD measurements [NR\_pos-Core] 281

6.8.2.1.2 PRS-RSRP measurements [NR\_pos-Core] 284

6.8.2.1.3 Rx-Tx time difference measurements [NR\_pos-Core] 287

6.8.2.1.4 SSB and CSI-RS RSRP/RSRQ measurements [NR\_pos-Core] 290

6.8.2.1.5 Link-level evaluations for PRS-RSTD and PRS-RSRP [NR\_pos-Core] 290

6.8.2.2 Impact on existing RRM requirements [NR\_pos-Core] 291

6.8.2.3 gNB requirements [NR\_pos-Core] 293

6.8.2.4 Others [NR\_pos-Core] 297

6.9 Physical layer enhancements for NR URLLC [NR\_L1enh\_URLLC-Core] 298

6.9.1 Demodulation and CSI requirements [NR\_L1enh\_URLLC-Perf] 298

6.9.1.1 Performance requirements with ultra-low BLER [NR\_L1enh\_URLLC-Perf] 298

6.9.1.1.1 UE demodulation and CSI requirements (38.101-4) [NR\_L1enh\_URLLC-Perf] 299

6.9.1.1.2 BS demodulation requirements (38.104) [NR\_L1enh\_URLLC-Perf] 300

6.9.1.2 Performance requirements with higher BLER [NR\_L1enh\_URLLC-Perf] 301

6.9.1.2.1 UE demodulation and CSI requirements (38.101-4) [NR\_L1enh\_URLLC-Perf] 301

6.9.1.2.2 BS demodulation requirements (38.104) [NR\_L1enh\_URLLC-Perf] 304

6.10 Single radio voice call continuity from 5G to 3G (SRVCC) [SRVCC\_NR\_to\_UMTS-Core] 306

6.10.1 RRM core requirements maintenance (38.133) [SRVCC\_NR\_to\_UMTS-Core] 306

6.10.2 RRM perf requirements (38.133) [SRVCC\_NR\_to\_UMTS-Perf] 306

6.11 Enhancements on MIMO for NR [NR\_eMIMO] 307

6.11.1 UE RF core requirements (38.101) [NR\_eMIMO-Core] 307

6.11.1.1 DMRS enhancement with PI/2 BPSK [NR\_eMIMO-Core] 307

6.11.1.2 Uplink Tx Full Power transmission [NR\_eMIMO-Core] 308

6.11.2 RRM core requirements (38.133) [NR\_eMIMO-Core] 311

6.11.2.1 L1-SINR [NR\_eMIMO-Core] 311

6.11.2.2 SCell Beam failure recovery [NR\_eMIMO-Core] 313

6.11.2.3 DL/UL beam indication with reduced latency and overhead [NR\_eMIMO-Core] 315

6.11.2.4 Others [NR\_eMIMO-Core] 315

6.11.3 Demodulation and CSI requirements (38.101-4) [NR\_eMIMO-Perf] 318

6.11.3.1 General [NR\_eMIMO-Perf] 318

6.11.3.2 Demodulation requirements [NR\_eMIMO-Perf] 318

6.11.3.3 CSI requirements [NR\_eMIMO-Perf] 320

6.12 Add support of NR DL 256QAM for FR2 [NR\_DL256QAM\_FR2] 321

6.12.1 General [NR\_DL256QAM\_FR2] 321

6.12.2 BS RF core requirements (38.104) [NR\_DL256QAM\_FR2] 321

6.12.3 UE RF core requirements (38.101-2) [NR\_DL256QAM\_FR2] 322

6.12.4 Demodulation and CSI requirements (38.101-4) [NR\_DL256QAM\_FR2-Perf] 322

6.13 RF requirements for NR frequency range 1 (FR1) [NR\_RF\_FR1] 324

6.13.1 RF core requirements [NR\_RF\_FR1] 324

6.13.1.1 Almost contiguous allocations for CP-OFDM UL for FR1 [NR\_RF\_FR1] 324

6.13.1.2 Intra-band contiguous DL CA for FR1 [NR\_RF\_FR1] 324

6.13.1.3 Intra-band contiguous UL CA for FR1 power class 3 [NR\_RF\_FR1] 325

6.13.1.4 Intra-band non-contiguous UL CA for FR1 power class 3 [NR\_RF\_FR1] 327

6.13.1.5 Switching period between case 1 and case 2 [NR\_RF\_FR1] 328

6.13.1.6 Transient period capability [NR\_RF\_FR1] 331

6.13.1.7 Time masks for ULSUP-TDM in case of UL timing misalignment [NR\_RF\_FR1] 332

6.13.2 RRM core requirements (38.133) [NR\_RF\_FR1] 332

6.13.2.1 RRM requirements for Tx switching between two uplink carriers [NR\_RF\_FR1] 332

6.14 NR RF requirement enhancements for frequency range 2 (FR2) [NR\_RF\_FR2\_req\_enh] 334

6.14.1 RF core requirements [NR\_RF\_FR2\_req\_enh] 334

6.14.1.1 FR2 MPE [NR\_RF\_FR2\_req\_enh] 334

6.14.1.2 Beam Correspondence based on configured DL RS (SSB or CSI-RS) [NR\_RF\_FR2\_req\_enh] 337

6.14.1.3 Intra-band non-cont DL CA for aggregated BW larger than 1400 MHz [NR\_RF\_FR2\_req\_enh] 340

6.14.1.4 Intra-band non-contiguous UL CA [NR\_RF\_FR2\_req\_enh] 341

6.14.1.5 Inter-band DL CA [NR\_RF\_FR2\_req\_enh] 342

6.14.1.6 Improvement of UE MPR [NR\_RF\_FR2\_req\_enh] 345

6.14.1.7 Improvement of spherical coverage requirements for PC3 [NR\_RF\_FR2\_req\_enh] 346

6.14.1.8 Multiband relaxation framework enhancement [NR\_RF\_FR2\_req\_enh] 346

6.14.1.9 FR2 Beam Squint [NR\_RF\_FR2\_req\_enh] 348

6.14.2 RRM core requirements (38.133) [NR\_RF\_FR2\_req\_enh] 349

6.14.2.1 Inter-band DL CA MRTD [NR\_RF\_FR2\_req\_enh] 349

6.15 NR RRM requirement enhancement [NR\_RRM\_Enh\_Core] 352

6.15.1 RRM core requirements (38.133) [NR\_RRM\_Enh\_Core] 352

6.15.1.1 SRS carrier switching requirements [NR\_RRM\_Enh\_Core] 352

6.15.1.2 Multiple Scell activation/deactivation [NR\_RRM\_Enh\_Core] 354

6.15.1.3 CGI reading requirements with autonomous gap [NR\_RRM\_Enh\_Core] 357

6.15.1.4 BWP switching on multiple CCs [NR\_RRM\_Enh\_Core] 361

6.15.1.5 Inter-frequency measurement requirement without MG [NR\_RRM\_Enh\_Core] 364

6.15.1.6 Mandatory MG patterns [NR\_RRM\_Enh\_Core] 366

6.15.1.7 UE-specific CBW change [NR\_RRM\_Enh\_Core] 368

6.15.1.8 Spatial relation switch for uplink [NR\_RRM\_Enh\_Core] 369

6.15.1.9 Non-simultaneous UL carrier operation in FR2 [NR\_RRM\_Enh\_Core] 371

6.15.1.10 Inter-band CA requirement for FR2 UE measurement capability of independent Rx beam and/or common beam [NR\_RRM\_Enh\_Core] 371

6.16 NR RRM requirements for CSI-RS based L3 measurement [NR\_CSIRS\_L3meas] 373

6.16.1 RRM core requirements (38.133) [NR\_CSIRS\_L3meas-Core] 373

6.16.1.1 CSI-RS measurement bandwidth [NR\_CSIRS\_L3meas-Core] 373

6.16.1.2 CSI-RS based intra-frequency and inter-frequency measurements definition [NR\_CSIRS\_L3meas-Core] 374

6.16.1.3 Measurement capability [NR\_CSIRS\_L3meas-Core] 377

6.16.1.4 Intra-frequency and inter-frequency measurement requirements [NR\_CSIRS\_L3meas-Core] 381

6.16.1.5 Others [NR\_CSIRS\_L3meas-Core] 384

6.17 NR support for high speed train scenario [NR\_HST] 385

6.17.1 RRM core requirements (38.133) [NR\_HST-Core] 385

6.17.1.1 Cell re-selection [NR\_HST-Core] 386

6.17.1.2 Cell identification delay [NR\_HST-Core] 387

6.17.1.3 RLM [NR\_HST-Core] 388

6.17.1.4 Beam management [NR\_HST-Core] 388

6.17.1.5 Inter-RAT measurement [NR\_HST-Core] 388

6.17.2 Demodulation and CSI requirements (38.101-4 / 38.104) [NR\_HST-Perf] 390

6.17.2.1 UE demodulation and CSI requirements (38.101-4) [NR\_HST-Perf] 390

6.17.2.1.1 Scenarios and transmission schemes [NR\_HST-Perf] 392

6.17.2.1.2 Requirements for HST-SFN [NR\_HST-Perf] 393

6.17.2.1.3 Requirements for HST single tap [NR\_HST-Perf] 393

6.17.2.1.4 Requirements for multi-path fading channels [NR\_HST-Perf] 394

6.17.2.1.5 Network assistance and UE capability signalling [NR\_HST-Perf] 395

6.17.2.2 BS demodulation requirements (38.104) [NR\_HST-Perf] 395

6.17.2.2.1 PUSCH requirements [NR\_HST-Perf] 396

6.17.2.2.2 PRACH requirements [NR\_HST-Perf] 401

6.17.2.2.3 UL timing adjustment requirements [NR\_HST-Perf] 403

6.18 NR performance requirement enhancement [NR\_perf\_enh-Perf] 405

6.18.1 UE demodulation and CSI requirements (38.101-4) [NR\_perf\_enh-Perf] 406

6.18.1.1 NR CA PDSCH requirements [NR\_perf\_enh-Perf] 406

6.18.1.2 PMI reporting requirements with larger number of Tx ports [NR\_perf\_enh-Perf] 408

6.18.1.3 LTE-NR co-existence for TDD [NR\_perf\_enh-Perf] 411

6.18.1.4 FR1 CA and EN-DC power imbalance requirements [NR\_perf\_enh-Perf] 411

6.18.1.5 NR CA CQI reporting requirements [NR\_perf\_enh-Perf] 413

6.18.2 BS demodulation requirements (38.104) [NR\_perf\_enh-Perf] 413

6.18.2.1 30% TP test point [NR\_perf\_enh-Perf] 413

6.18.2.2 Additional FR2 requirements [NR\_perf\_enh-Perf] 415

6.19 Over the air (OTA) base station (BS) testing TR [OTA\_BS\_testing-Perf] 415

6.19.1 General [OTA\_BS\_testing-Perf] 415

6.19.2 OTA calibration and test method procedures [OTA\_BS\_testing-Perf] 416

6.19.3 Coordinate system [OTA\_BS\_testing-Perf] 416

6.19.4 Conformance testing aspects [OTA\_BS\_testing-Perf] 416

6.19.5 MU / TT values: derivation and tables [OTA\_BS\_testing-Perf] 416

6.19.6 Annexes [OTA\_BS\_testing-Perf] 418

6.19.7 Others [OTA\_BS\_testing-Perf] 418

6.20 2-step RACH for NR [NR\_2step\_RACH-Perf] 421

6.20.1 RRM core requirements (38.133) [NR\_2step\_RACH-Core] 421

6.20.2 BS Demodulation requirements (38.104/38.141-1/38.141-2) [NR\_2step\_RACH-Perf] 423

6.20.3 Others [NR\_2step\_RACH-Perf] 425

6.21 R16 NR maintenance [WI code or TEI16] 425

6.21.1 BS RF [WI code or TEI16] 425

6.21.2 UE RF [WI code or TEI16] 425

6.21.3 RRM [WI code or TEI16] 429

6.21.4 Demodulation and CSI [WI code or TEI16] 430

7 UE feature list 430

8 Rel-16 spectrum related Work Items for NR 431

8.1 NR intra band Carrier Aggregation for xCC DL/yCC UL including contiguous and non-contiguous spectrum (x>=y) [NR\_CA\_R16\_intra] 431

8.1.1 Rapporteur Input (WID/TR/CR) [NR\_CA\_R16\_intra-Core /Perf] 431

8.1.2 UE RF for FR1 [NR\_CA\_R16\_intra-Core] 433

8.1.3 UE RF for FR2 [NR\_CA\_R16\_intra-Core] 434

8.2 NR inter-band Carrier Aggregation/Dual Connectivity for 2 bands DL with x bands UL (x=1, 2) [NR\_CADC\_R16\_2BDL\_xBUL] 435

8.2.1 Rapporteur Input (WID/TR/CR) [NR\_CADC\_R16\_2BDL\_xBUL-Core/Perf] 435

8.2.2 NR inter band CA without any FR2 band(s) [NR\_CADC\_R16\_2BDL\_xBUL-Core] 436

8.2.3 NR inter band CA with at least one FR2 band [NR\_CADC\_R16\_2BDL\_xBUL-Core] 440

8.3 EN-DC of 1 LTE band and 1 NR band [DC\_R16\_1BLTE\_1BNR\_2DL2UL] 441

8.3.1 Rapporteur Input (WID/TR/CR) [DC\_R16\_1BLTE\_1BNR\_2DL2UL-Core/Perf] 441

8.3.2 EN-DC without FR2 band [DC\_R16\_1BLTE\_1BNR\_2DL2UL-Core] 442

8.3.3 EN-DC with FR2 band [DC\_R16\_1BLTE\_1BNR\_2DL2UL-Core] 445

8.4 EN-DC of 2 LTE band and 1 NR band [DC\_R16\_2BLTE\_1BNR\_3DL2UL] 445

8.4.1 Rapporteur Input (WID/TR/CR) [DC\_R16\_2BLTE\_1BNR\_3DL2UL-Core/Perf] 445

8.4.2 EN-DC without FR2 band [DC\_R16\_2BLTE\_1BNR\_3DL2UL-Core] 446

8.4.3 EN-DC with FR2 band [DC\_R16\_2BLTE\_1BNR\_3DL2UL-Core] 450

8.5 EN-DC of 3 LTE band and 1 NR band [DC\_R16\_3BLTE\_1BNR\_4DL2UL] 451

8.5.1 Rapporteur Input (WID/TR/CR) [DC\_R16\_3BLTE\_1BNR\_4DL2UL-Core/Perf] 451

8.5.2 EN-DC without FR2 band [DC\_R16\_3BLTE\_1BNR\_4DL2UL-Core] 452

8.5.3 EN-DC with FR2 band [DC\_R16\_3BLTE\_1BNR\_4DL2UL-Core] 459

8.6 EN-DC of 4 LTE band and 1 NR band [DC\_R16\_4BLTE\_1BNR\_5DL2UL] 459

8.6.1 Rapporteur Input (WID/TR/CR) [DC\_R16\_4BLTE\_1BNR\_5DL2UL-Core/Perf] 459

8.6.2 EN-DC without FR2 band [DC\_R16\_4BLTE\_1BNR\_5DL2UL-Core] 460

8.6.3 EN-DC with FR2 band [DC\_R16\_4BLTE\_1BNR\_5DL2UL-Core] 461

8.7 EN-DC of x bands (x=1,2, 3, 4) LTE inter-band CA and 2 bands NR inter-band CA [DC\_R16\_xBLTE\_2BNR\_yDL2UL] 461

8.7.1 Rapporteur Input (WID/TR/CR) [DC\_R16\_xBLTE\_2BNR\_yDL2UL-Core/Per] 461

8.7.2 EN-DC including NR inter CA without FR2 band [DC\_R16\_xBLTE\_2BNR\_yDL2UL-Core] 461

8.7.3 EN-DC including NR inter CA with FR2 band [DC\_R16\_xBLTE\_2BNR\_yDL2UL-Core] 468

8.8 Band combinations for SA NR supplementary uplink (SUL), NSA NR SUL, NSA NR SUL with UL sharing from the UE perspective (ULSUP) [NR\_SUL\_combos\_R16] 472

8.8.1 Rapporteur Input (WID/TR/CR) [NR\_SUL\_combos\_R16-Core/Per] 472

8.8.2 UE RF [NR\_SUL\_combos\_R16-Core] 473

8.9 NR Inter-band Carrier Aggregation for 3 bands DL with 1 band UL [NR\_CA\_R16\_3BDL\_1BUL] 473

8.9.1 Rapporteur Input (WID/TR/CR) [NR\_CA\_R16\_3BDL\_1BUL-Core/Per] 473

8.9.2 UE RF [NR\_CA\_R16\_3BDL\_1BUL-Core] 474

8.10 NR Inter-band Carrier Aggregation for 4 bands DL with 1 band UL [NR\_CA\_R16\_4BDL\_1BUL] 476

8.10.1 Rapporteur Input (WID/TR/CR) [NR\_CA\_R16\_4BDL\_1BUL-Core/Per] 476

8.10.2 UE RF [NR\_CA\_R16\_4BDL\_1BUL-Core] 478

8.11 NR Inter-band Carrier Aggregation/Dual connectivity for 3 bands DL with 2 bands UL [NR\_CADC\_R16\_3BDL\_2BUL] 479

8.11.1 Rapporteur Input (WID/TR/CR) [NR\_CADC\_R16\_3BDL\_2BUL-Core/Per] 479

8.11.2 UE RF [NR\_CADC\_R16\_3BDL\_2BUL-Core] 479

8.12 Dual Connectivity (EN-DC) with 3 bands DL and 3 bands UL [DC\_R16\_LTE\_NR\_3DL3UL] 481

8.12.1 Rapporteur Input (WID/TR/CR) [DC\_R16\_LTE\_NR\_3DL3UL-Core/Per] 481

8.12.2 UE RF [DC\_R16\_LTE\_NR\_3DL3UL-Core] 482

8.13 Dual Connectivity (EN-DC) of LTE inter-band CA xDL/1UL bands (x=2,3,4) and NR FR1 1DL/1UL band and NR FR2 1DL/1UL band [DC\_R16\_xBLTE\_2BNR\_yDL3UL] 482

8.13.1 Rapporteur Input (WID/TR/CR) [DC\_R16\_xBLTE\_2BNR\_yDL3UL-Core/Per] 482

8.13.2 UE RF [DC\_R16\_xBLTE\_2BNR\_yDL3UL-Core] 483

8.14 29dBm UE Power Class for B41 and n41 [LTE\_NR\_B41\_Bn41\_PC29dBm] 483

8.14.1 Rapporteur Input (WID/TR/CR) [LTE\_NR\_B41\_Bn41\_PC29dBm] 483

8.14.2 UE RF (36.101, 38.101-1, 38.101-3) [LTE\_NR\_B41\_Bn41\_PC29dBm] 483

8.14.3 Others [LTE\_NR\_B41\_Bn41\_PC29dBm] 486

8.15 Power Class 2 UE for EN-DC (1 LTE FDD band +1 NR TDD band) [ENDC\_UE\_PC2\_FDD\_TDD-Core] 486

8.15.1 General [ENDC\_UE\_PC2\_FDD\_TDD-Core] 486

8.15.2 UE RF requirement [ENDC\_UE\_PC2\_FDD\_TDD-Core] 487

8.15.3 Signaling [ENDC\_UE\_PC2\_FDD\_TDD-Core] 489

8.16 Introduction of NR band n259 [NR\_n259] 489

8.16.1 UE RF (38.101-2) [NR\_n259-Core] 489

8.16.2 BS RF (38.104) [NR\_n259-Core] 490

8.16.3 RRM (38.133) [NR\_n259-Core] 491

8.16.4 Others [NR\_n259-Core/Perf] 492

8.17 Adding 25MHz and 50MHz channel bandwidth in NR band n1 [NR\_n1\_BW2] 492

8.17.1 UE RF (38.101-1) [NR\_n1\_BW2-Core] 492

8.17.2 BS RF (38.104) [NR\_n1\_BW2-Core] 492

8.17.3 RRM (38.133) [NR\_n1\_BW2-Core] 493

8.17.4 Others [NR\_n1\_BW2-Core/Perf] 493

8.18 LTE/NR spectrum sharing in band 48/n48 frequency range [NR\_n48\_LTE\_48\_coex-Core] 493

8.18.1 General (such as work plan, AH minutes) [NR\_n48\_LTE\_48\_coex-Core] 493

8.18.2 Channel raster, sync raster, and UL shift [NR\_n48\_LTE\_48\_coex-Core] 493

8.19 Adding 40 MHz channel bandwidth (15, 30 and 60kHz SCS) in NR band n3 [NR\_n3\_BW] 495

8.19.1 UE RF (38.101-1) [NR\_n3\_BW] 495

8.19.2 BS RF (38.104) [NR\_n3\_BW] 496

8.19.3 RRM (38.133) [NR\_n3\_BW] 497

8.19.4 Others [NR\_n3\_BW] 497

8.20 Adding 50 MHz channel bandwidth (15, 30 and 60kHz SCS) in NR band n65 [NR\_n65\_BW] 497

8.20.1 UE RF (38.101-1) [NR\_n65\_BW] 497

8.20.2 BS RF (38.104) [NR\_n65\_BW] 497

8.20.3 RRM (38.133) [NR\_n65\_BW] 498

8.20.4 Others [NR\_n65\_BW] 498

9 Study Items for NR 498

9.1 Study on radiated metrics and test methodology for the verification of multi-antenna reception perf. of NR UEs [FS\_NR\_MIMO\_OTA\_test] 498

9.1.1 General [FS\_NR\_MIMO\_OTA\_test] 498

9.1.2 Performance metrics [FS\_NR\_MIMO\_OTA\_test] 499

9.1.3 Testing methodologies [FS\_NR\_MIMO\_OTA\_test] 499

9.1.3.1 FR1 test methodologies [FS\_NR\_MIMO\_OTA\_test] 499

9.1.3.2 FR2 test methodologies [FS\_NR\_MIMO\_OTA\_test] 499

9.1.4 Channel Models [FS\_NR\_MIMO\_OTA\_test] 502

9.2 Study on 7-24GHz frequency range [FS\_7to24GHz\_NR] 502

9.2.1 General [FS\_7to24GHz\_NR] 502

9.2.2 Regulatory survey [FS\_7to24GHz\_NR] 503

9.2.3 Deployment scenarios [FS\_7to24GHz\_NR] 503

9.2.4 RF technology aspects [FS\_7to24GHz\_NR 504

9.2.5 NR UE [FS\_7to24GHz\_NR] 504

9.2.5.1 NR UE architecture [FS\_7to24GHz\_NR] 504

9.2.5.2 TX requirements [FS\_7to24GHz\_NR] 504

9.2.5.3 RX requirements [FS\_7to24GHz\_NR] 504

9.2.6 NR BS [FS\_7to24GHz\_NR] 504

9.2.6.1 BS types, BS requirement sets [FS\_7to24GHz\_NR] 504

9.2.6.2 NR BS architecture [FS\_7to24GHz\_NR] 504

9.2.6.3 TX requirements [FS\_7to24GHz\_NR] 504

9.2.6.4 RX requirements [FS\_7to24GHz\_NR] 505

10 Rel-17 spectrum related Work Items for NR 505

10.1 Introduction of FR2 FWA UE with maximum TRP of 23dBm for band n257 and n258 [NR\_FR2\_FWA\_Bn257\_Bn258] 506

10.1.1 UE RF (38.101-2) [NR\_FR2\_FWA\_Bn257\_Bn258] 506

10.1.2 BS RF (38.104) [NR\_FR2\_FWA\_Bn257\_Bn258] 508

10.1.3 RRM (38.133) [NR\_FR2\_FWA\_Bn257\_Bn258] 508

10.1.4 Others [NR\_FR2\_FWA\_Bn257\_Bn258] 508

10.2 Introduction of NR band n13 [NR\_n13] 508

10.2.1 UE RF (38.101-1) [NR\_n13-Core] 508

10.2.2 BS RF (38.104) [NR\_n13-Core] 509

10.2.3 RRM (38.133) [NR\_n13-Core] 509

10.2.4 Others [NR\_n13-Core/Perf] 509

11.0 Reply to ITU-R LS (RP-200042) 509

11.1 Study on IMT parameters for frequency ranges 6.425-7.125GHz and 10.0-10.5GHz [FS\_6425\_10500MHz \_NR] 509

11.1.1 UE parameters 509

11.1.2 BS parameters 510

11.1.3 Coexistence study 511

11.1.4 Antenna characteristics 513

11.2 Reply of IMT parameters for other frequency ranges requested in RP-200042 515

12 LTE maintenance (up to Rel15) [WI code or TEI] 516

12.1 BS RF [WI code or TEI] 516

12.2 UE RF [WI code or TEI] 518

12.3 RRM [WI code or TEI] 523

12.4 Demodulation and CSI [WI code or TEI] 528

13 Liaison and output to other groups 534

14 Revision of the Work Plan 535

14.1 Simplification of band combinations in RAN4 specifications 535

14.2 R17 new proposals 537

14.2.1 Basket WI approach for adding existing channel bandwidth on existing NR bands 537

14.2.2 Proposals on adding brand new channel bandwidth 538

14.2.3 Basket WIs for LTE CA, EN-DC, NR CA and NR DC 539

14.2.4 Others 543

14.3 Others 551

15 Any other business 551

15.1 Views on workload management and meeting efficiency improvement 551

15.2 Others 552

16 Close of the E-meeting 552

## 1 Opening of the E-meeting

## 2 Approval of the agenda

## 3 Letters / reports from other groups / meetings

## 4 Rel15 New radio access technology

### 4.1 NE-DC, NGEN-DC, and NR-NR DC Maintenance [NR\_newRAT-Core]

### 4.2 System Parameters Maintenance [NR\_newRAT-Core]

### 4.3 SUL and LTE-NR co-existence maintenance [NR\_newRAT-Core]

### 4.4 UE RF requirements maintenance [NR\_newRAT]

### 4.5 UE EMC [NR\_newRAT-Core]

### 4.6 BS RF [NR\_newRAT-Core]

### 4.7 BS conformance testing [NR\_newRAT-Perf]

### 4.8 BS EMC [NR\_newRAT-Core]

### 4.9 RRM core maintenance (38.133/36.133) [NR\_newRAT-Core]

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

**Email discussion: [95e][201] NR\_NewRAT\_RRM\_Core**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email title** | **WI** | **Topic areas** | **AI** |
| [95e][201] NR\_NewRAT\_RRM\_Core | R15 NR | RRM Core maintenance | 4.9 (except 4.9.2) |

**R4-2008490 Email discussion summary for [95e][201] NR\_NewRAT\_RRM\_Core** *Type: other For: Information  
 Source: Moderator (Huawei, HiSilicon)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

1st round email discussion conclusions

2nd round email discussion conclusions

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

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

**Email discussion: [95e][233] NR\_RRM\_maintenance**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email title** | **WI** | **Topic areas** | **AI** |
| [95e][233] NR\_RRM\_maintenance | Misc | TS 38.133 specification clean up before ITU submission (R4-2006217, R4-2006218)  Rel-15 NR RRM editorial CRs  Rel-16 NR RRM maintenance | 4.9.2  4.10.2  6.21.3 |

**R4-2008522 Email discussion summary for [95e][233] NR\_RRM\_maintenance** *Type: other For: Information  
 Source: Moderator (Apple)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

GTW session (May 29th)

Session chair: check possible issues with TS 38.133 spec clean up (Topic #5)

Apple: most TBD and [] resolved. V2X has some issues and are under discussion in 209/210.

LGE: V2X core part does not have issues. Perf part has some [].

1st round email discussion conclusions

2nd round email discussion conclusions

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

**R4-2006602 Correction of CFRA RSRP threshold**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0679 Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

CR implementing endorsed draftCR R4-2003395.

Parameter for RSRP CFRA threshold was changed on clause 6.3.2 of 38.331 after version 15.1.0.

**Discussion:**

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

**R4-2006603 Correction of CFRA RSRP threshold**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0680 Cat: A (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Mirror CR implementing endorsed draftCR R4-2003395.

Parameter for RSRP CFRA threshold was changed on clause 6.3.2 of 38.331 after version 15.1.0.

**Discussion:**

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

#### 4.9.1 General [NR\_newRAT-Core]

#### 4.9.2 Editorial CRs [NR\_newRAT-Core]

Session chair: AI treated under email thread [95e][233] NR\_RRM\_maintenance

**R4-2006027 [CR] Editorial corrections for 38.133 R15 Core Part**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0594 Cat: F (Rel-15)  
  
 Source: ZTE Corporation*

**Abstract:**

As instructed by the editor before, we prepared this CR but didn't submit since no editorial CRs were allowed for the previous meetings.

**Discussion:**

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

**R4-2006028 [CR] Editorial corrections for 38.133 R16 Core Part - Cat A**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0595 Cat: A (Rel-16)  
  
 Source: ZTE Corporation*

**Abstract:**

As instructed by the editor before, we prepared this CR but didn't submit since no editorial CRs were allowed for the previous meetings.

**Discussion:**

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

**R4-2006029 [CR] Editorial corrections for 38.133 R16 Core Part - Cat F**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0596 Cat: F (Rel-16)  
  
 Source: ZTE Corporation*

**Abstract:**

As instructed by the editor before, we prepared this CR but didn't submit since no editorial CRs were allowed for the previous meetings. The errors corrected in this CR don't exist in R15 so this is a Cat F CR for R16 only.

**Discussion:**

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

**R4-2006218 Rapportuer CR for TS38.133**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0633 Cat: D (Rel-15)  
  
 Source: Apple*

**Discussion:**

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

**R4-2006880 CR on TS38.133 for modification on number of cells and number of SSB to be measured for FR2 intra-freqency measurement**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0705 Cat: F (Rel-15)  
  
 Source: Mediatek Inc., Huawei, Hisilicon, Apple, Intel*

**Discussion:**

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

**R4-2006881 CR on TS38.133 for modification on number of cells and number of SSB to be measured for FR2 intra-freqency measurement**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0706 Cat: A (Rel-16)  
  
 Source: Mediatek Inc., Huawei, Hisilicon, Apple, Intel*

**Discussion:**

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

**R4-2007714 Editoral CR on TS 38.133 Rel-16 (Cat A)**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0781 Cat: A (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007715 Editoral CR on TS 38.133 Rel-15**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0782 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

#### 4.9.3 UE measurement capability (38.133/36.133) [NR\_newRAT-Core]

**R4-2006878 CR on TS38.133 for modification of the layer 3 and layer 1 measurement sharing factor when both SSB and RSSI symbol to be measured are considered**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0703 Cat: F (Rel-15)  
  
 Source: Mediatek Inc., Huawei, Hisilicon, Apple*

**Discussion:**

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

**R4-2006879 CR on TS38.133 for modification of the layer 3 and layer 1 measurement sharing factor when both SSB and RSSI symbol to be measured are considered**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0704 Cat: A (Rel-16)  
  
 Source: Mediatek Inc., Huawei, Hisilicon, Apple*

**Discussion:**

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

**R4-2007638 CR to 36.133 on NR reporting criteria**

*Type: CR For: Agreement  
 36.133 v15.9.0 CR-6862 Cat: F (Rel-15)  
  
 Source: ZTE*

**Discussion:**

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

**R4-2007639 CR to 36.133 on NR reporting criteria**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6863 Cat: F (Rel-16)  
  
 Source: ZTE*

**Discussion:**

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

**R4-2007709 CR on NR reporting criteria for EN-DC (Cat A)**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0777 Cat: A (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007710 CR on NR reporting criteria for EN-DC**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0778 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007713 Discussion on reporting criteria for EN-DC**

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

**Discussion:**

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

**R4-2007805 CR on FR2 measurement requirements outside gaps R15**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0820 Cat: F (Rel-15)  
  
 Source: Huawei, HiSilicon, MediaTek, Ericsson, Nokia, Nokia Shanghai Bell*

**Discussion:**

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

**R4-2007806 CR on FR2 measurement requirements outside gaps R16**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0821 Cat: A (Rel-16)  
  
 Source: Huawei, HiSilicon, MediaTek, Ericsson, Nokia, Nokia Shanghai Bell*

**Discussion:**

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

**R4-2007807 CR to remove RSTD requirements for NE-DC in 36.133 R15**

*Type: CR For: Agreement  
 36.133 v15.9.0 CR-6881 Cat: F (Rel-15)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

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

**R4-2007808 CR to remove RSTD requirements for NE-DC in 36.133 R16**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6882 Cat: A (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

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

**R4-2007809 CR on inter-RAT RSTD requirements for NE-DC in 38.133 R15**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0822 Cat: F (Rel-15)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

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

**R4-2007810 CR on inter-RAT RSTD requirements for NE-DC in 38.133 R16**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0823 Cat: A (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

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

**R4-2007961 NR reporting criteria**

*Type: CR For: Agreement  
 36.133 v15.9.0 CR-6903 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

NR reporting criteria

**Discussion:**

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

**R4-2007962 NR reporting criteria**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6904 Cat: A (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

NR reporting criteria

**Discussion:**

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

#### 4.9.4 RRM measurement and measurement gap (38.133/36.133) [NR\_newRAT-Core]

**R4-2006185 CR on CSSF correction for R15 TS38.133**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0619 Cat: F (Rel-15)  
  
 Source: Apple*

**Discussion:**

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

**R4-2006186 CR on CSSF correction for R16 TS38.133**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0620 Cat: A (Rel-16)  
  
 Source: Apple*

**Discussion:**

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

**R4-2007757 Correction on gap pattern applicability in TS 36.133 R15**

*Type: CR For: Agreement  
 36.133 v15.9.0 CR-6879 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007758 Correction on gap pattern applicability in TS 36.133 R16**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6880 Cat: A (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

.

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

#### 4.9.5 Connected state mobility (38.133/36.133) [NR\_newRAT-Core]

**R4-2006002 [CR] RRC release with redirection 38.133 R16**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0590 Cat: F (Rel-16)  
  
 Source: ZTE Corporation*

**Discussion:**

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

**R4-2006003 [CR] RRC release with redirection 36.133 R15**

*Type: CR For: Agreement  
 36.133 v15.9.0 CR-6825 Cat: F (Rel-15)  
  
 Source: ZTE Corporation*

**Discussion:**

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

**R4-2006004 [CR] RRC release with redirection 36.133 R16 Cat A**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6826 Cat: A (Rel-16)  
  
 Source: ZTE Corporation*

**Discussion:**

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

**R4-2006005 Discussion on RRC procedure delay in RRC release with redirection**

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

**Discussion:**

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

**R4-2006006 Discussion on RRC re-establishment requirement**

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

**Discussion:**

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

**R4-2006007 CR on RRC re-establishment requirements R15**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0591 Cat: F (Rel-15)  
  
 Source: ZTE Corporation*

**Abstract:**

We still believe that the statement “There is no requirement if the target cell does not contain the UE context” should be removed since it's confusing and actually doesn't serve any need.

**Discussion:**

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

**R4-2006008 CR on RRC re-establishment requirements R16 (Cat A)**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0592 Cat: A (Rel-16)  
  
 Source: ZTE Corporation*

**Discussion:**

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

**R4-2007981 Correction to RRC release with redirection requirements in 36.133 Rel-15**

*Type: CR For: Agreement  
 36.133 v15.9.0 CR-6905 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

Correction to RRC release with redirection requirements to align T\_prach with core spec (38.133).

**Discussion:**

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

**R4-2007982 Correction to RRC release with redirection requirements in 36.133 Rel-16**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6906 Cat: A (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Correction to RRC release with redirection requirements to align T\_prach with core spec (38.133).

**Discussion:**

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

#### 4.9.6 Timing (38.133/36.133) [NR\_newRAT-Core]

**R4-2007711 CR on UE transmit timing (Cat A)**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0779 Cat: A (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007712 CR on UE transmit timing**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0780 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

#### 4.9.7 Signaling characteristics (38.133/36.133) [NR\_newRAT-Core]

**R4-2006174 Corrections to R15 MAC-CE based TCI state switching requirements**

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

**Discussion:**

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

**R4-2006177 CR for correction to MAC-CE based TCI State switch timeline (Clause 8.10.3)**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0613 Cat: F (Rel-15)  
  
 Source: Qualcomm Incorporated, MediaTek*

**Abstract:**

This CR addresses a misalignment between RAN1 and RAN4 requirements in MAC-CE based TCI state switch

**Discussion:**

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

**R4-2006178 CR for correction to MAC-CE based TCI State switch timeline (Clause 8.10.3)**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0614 Cat: A (Rel-16)  
  
 Source: Qualcomm Incorporated, MediaTek*

**Abstract:**

This CR addresses a misalignment between RAN1 and RAN4 requirements in MAC-CE based TCI state switch

**Discussion:**

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

**R4-2006189 On issues of R15 BWP switching delay requirement**

*Type: discussion For: Discussion  
 38.133 v..  
 Source: Apple*

**Discussion:**

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

**R4-2006190 CR on BWP switching delay requirement for R15**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0623 Cat: F (Rel-15)  
  
 Source: Apple*

**Discussion:**

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

**R4-2006191 CR on BWP switching delay requirement for R16**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0624 Cat: A (Rel-16)  
  
 Source: Apple*

**Discussion:**

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

**R4-2006209 CR on Active TCI State Switching requirements - Rel15**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0628 Cat: F (Rel-15)  
  
 Source: Apple*

**Discussion:**

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

**R4-2006210 CR on Active TCI State Switching requirements - Rel16**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0629 Cat: A (Rel-16)  
  
 Source: Apple*

**Discussion:**

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

**R4-2006465 CR on TCI state switch**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0662 Cat: F (Rel-15)  
  
 Source: MediaTek inc.*

**Discussion:**

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

**R4-2006466 CR on TCI state switch**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0663 Cat: A (Rel-16)  
  
 Source: MediaTek inc.*

**Discussion:**

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

**R4-2006847 CR for SCell activation delay in FR2**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0691 Cat: F (Rel-15)  
  
 Source: MediaTek inc.*

**Discussion:**

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

**R4-2006848 CR for SCell activation delay in FR2**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0692 Cat: A (Rel-16)  
  
 Source: MediaTek inc.*

**Discussion:**

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

**R4-2006891 [CR] TCI state switch delay 38.133 R15**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0707 Cat: F (Rel-15)  
  
 Source: ZTE Corporation*

**Discussion:**

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

**R4-2006892 [CR] TCI state switch delay 38.133 R16 Cat A**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0708 Cat: A (Rel-16)  
  
 Source: ZTE Corporation*

**Discussion:**

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

**R4-2007280 CR to T parameters in 8.3.2 of 38.133**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0721 Cat: F (Rel-15)  
  
 Source: Qualcomm Incorporated*

**Discussion:**

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

**R4-2007659 CR on LTE SCell activation and deactivation delay**

*Type: CR For: Agreement  
 36.133 v15.9.0 CR-6864 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007660 CR on LTE SCell activation and deactivation delay\_r16**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6865 Cat: A (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007661 CR on SCell activation and deactivation delay**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0745 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007662 CR on SCell activation and deactivation delay\_r16**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0746 Cat: A (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007663 CR on Psharingfactor**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0747 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007664 CR on Psharingfactor\_r16**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0748 Cat: A (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007705 CR on CSI-RS based RLM requirement (Cat A)**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0773 Cat: A (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007706 CR on CSI-RS based RLM requirement**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0774 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007707 CR on interruption due to Acitve BWP switch (Cat A)**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0775 Cat: A (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007708 CR on interruption due to Acitve BWP switch**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0776 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007751 Correction onTCI state switching R15**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0798 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007752 Correction onTCI state switching R16**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0799 Cat: A (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007780 CR 38.133 (8.10.5) Corrections to RRC-based TCI state change**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0812 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

Corresponding draft CR endorsed at RAN4#94-e-Bis (R4-2004417).

**Discussion:**

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

**R4-2007781 CR 38.133 (8.10.5) Corrections to RRC-based TCI state change**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0813 Cat: A (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Mirror. Corresponding draft CR endorsed at RAN4#94-e-Bis (R4-2004417).

**Discussion:**

.

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

**R4-2007783 CR 38.133 (8.3.2) Corrections to SCell Activation delay requirements**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0815 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

Revision of endorsed draft CR from RAN4#94-e-Bis (R4-2005426). The revised version takes into account the agreement made during the GTW meeting.

**Discussion:**

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

**R4-2007784 CR 38.133 (8.3.2) Corrections to SCell Activation delay requirements**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0816 Cat: A (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Mirror. Revision of endorsed draft CR from RAN4#94-e-Bis (R4-2005426). The revised version takes into account the agreement made during the GTW meeting.

**Discussion:**

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

**R4-2007811 Discussion on SCell activation requirements**

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

**Discussion:**

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

**R4-2007812 CR on SCell activation requirements R15**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0824 Cat: F (Rel-15)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

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

**R4-2007813 CR on SCell activation requirements R16**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0825 Cat: A (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

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

**R4-2007963 Clarification on RLM**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0866 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

Clarification on RLM

**Discussion:**

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

**R4-2007964 Clarification on RLM**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0867 Cat: A (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Clarification on RLM

**Discussion:**

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

#### 4.9.8 Beam management based on SSB and/or CSI-RS (38.133) [NR\_newRAT-Core]

**R4-2006187 CR on SMTC2 configuration in SSB based CBD for R15**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0621 Cat: F (Rel-15)  
  
 Source: Apple*

**Discussion:**

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

**R4-2006188 CR on SMTC2 configuration in SSB based CBD for R16**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0622 Cat: A (Rel-16)  
  
 Source: Apple*

**Discussion:**

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

**R4-2006849 Semi-persistent or aperiodic SSB based L1-RSRP reporting on PUSCH in FR2**

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

**Discussion:**

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

**R4-2006850 CR for Semi-persistent or aperiodic SSB based L1-RSRP reporting on PUSCH in FR2**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0693 Cat: F (Rel-15)  
  
 Source: MediaTek inc.*

**Discussion:**

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

**R4-2006851 CR for Semi-persistent or aperiodic SSB based L1-RSRP reporting on PUSCH in FR2**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0694 Cat: A (Rel-16)  
  
 Source: MediaTek inc.*

**Discussion:**

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

**R4-2006852 CR on SMTC period for beam management requirements**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0695 Cat: F (Rel-15)  
  
 Source: MediaTek inc., Huawei, HiSilicon*

**Discussion:**

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

**R4-2006853 CR on SMTC period for beam management requirements**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0696 Cat: A (Rel-16)  
  
 Source: MediaTek inc., Huawei, HiSilicon*

**Discussion:**

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

**R4-2006854 CR for CSI-RS based L1-RSRP measurement period**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0697 Cat: F (Rel-15)  
  
 Source: MediaTek inc.*

**Discussion:**

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

**R4-2006855 CR for CSI-RS based L1-RSRP measurement period**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0698 Cat: A (Rel-16)  
  
 Source: MediaTek inc.*

**Discussion:**

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

**R4-2007492 Applicability of QCL**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0737 Cat: F (Rel-15)  
  
 Source: Qualcomm*

**Discussion:**

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

**R4-2007493 Applicability of QCL**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0738 Cat: F (Rel-16)  
  
 Source: Qualcomm*

**Discussion:**

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

**R4-2007814 Discussion on SSB based L1-RSRP measurement**

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

**Discussion:**

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

**R4-2007815 CR on SSB based L1-RSRP measurement R15**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0826 Cat: F (Rel-15)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

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

**R4-2007816 CR on SSB based L1-RSRP measurement R16**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0827 Cat: A (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

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

#### 4.9.9 Other requirements [NR\_newRAT-Core]

### 4.10 RRM perf maintenance (38.133/36.133) [NR\_newRAT-Perf]

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

**Email discussion: [95e][202] NR\_NewRAT\_RRM\_Perf**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email title** | **WI** | **Topic areas** | **AI** |
| [95e][202] NR\_NewRAT\_RRM\_Core | R15 NR | RRM Per. maintenance | 4.10 (except 4.10.2) |

**R4-2008491 Email discussion summary for [95e][202] NR\_NewRAT\_RRM\_Perf** *Type: other For: Information  
 Source: Moderator (Ericsson)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

1st round email discussion conclusions

2nd round email discussion conclusions

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

#### 4.10.1 General [NR\_newRAT-Perf]

**R4-2006467 CR on PDSCH RMC**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0664 Cat: F (Rel-15)  
  
 Source: MediaTek inc.*

**Discussion:**

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

**R4-2006468 CR on PDSCH RMC**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0665 Cat: A (Rel-16)  
  
 Source: MediaTek inc.*

**Discussion:**

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

**R4-2007665 CR on E-UTRAN Serving Cell Parameters**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0749 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007666 CR on E-UTRAN Serving Cell Parameters\_r16**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0750 Cat: A (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007667 CR on Modified parameters for BFD TCs with 4Rx antenna**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0751 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007668 CR on Modified parameters for BFD TCs with 4Rx antenna\_r16**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0752 Cat: A (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007753 Accuracy of carrier aggregation in NR R15**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0800 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007754 Accuracy of carrier aggregation in NR R16**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0801 Cat: A (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

.

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

#### 4.10.2 Editorial CRs [NR\_newRAT-Perf]

Session chair: AI treated under email thread [95e][233] NR\_RRM\_maintenance

**R4-2006030 [CR] Editorial corrections for 38.133 R15 Perf Part**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0597 Cat: F (Rel-15)  
  
 Source: ZTE Corporation*

**Abstract:**

As instructed by the editor before, we prepared this CR but didn't submit since no editorial CRs were allowed for the previous meetings.

**Discussion:**

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

**R4-2006031 [CR] Editorial corrections for 38.133 R16 Perf Part - Cat A**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0598 Cat: A (Rel-16)  
  
 Source: ZTE Corporation*

**Abstract:**

As instructed by the editor before, we prepared this CR but didn't submit since no editorial CRs were allowed for the previous meetings.

**Discussion:**

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

**R4-2006064 [CR] Editorial corrections for 38.133 R16 Perf Part - Cat F**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0600 Cat: F (Rel-16)  
  
 Source: ZTE Corporation*

**Abstract:**

As instructed by the editor before, we prepared this CR but didn't submit since no editorial CRs were allowed for the previous meetings. The errors corrected in this CR don't exist in R15 so this is a Cat F CR for R16 only.

**Discussion:**

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

#### 4.10.3 RRM test cases [NR\_newRAT-Perf]

**R4-2006071 CR to Intra-frequency handover from FR1 to FR1**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0601 Cat: F (Rel-15)  
  
 Source: ANRITSU LTD*

**Abstract:**

Deleted Event A3 related parameters of measurement object and report configuration in Table A.6.3.1.2.2-2

Deleted PRACH configuration index from Table A.6.3.1.1.2-2 and Table A.6.3.1.2.2-2.

**Discussion:**

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

**R4-2006072 CR to Intra-frequency handover from FR1 to FR1**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0602 Cat: A (Rel-16)  
  
 Source: ANRITSU LTD*

**Abstract:**

Deleted Event A3 related parameters of measurement object and report configuration in Table A.6.3.1.2.2-2

Deleted PRACH configuration index from Table A.6.3.1.1.2-2 and Table A.6.3.1.2.2-2.

**Discussion:**

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

**R4-2006073 CR to SA event triggered reporting tests with per-UE gaps**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0603 Cat: F (Rel-15)  
  
 Source: ANRITSU LTD*

**Abstract:**

For A.6.6.1.3/4/6 updated CSI-RS tables to match SSB parameters

**Discussion:**

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

**R4-2006074 CR to SA event triggered reporting tests with per-UE gaps**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0604 Cat: A (Rel-16)  
  
 Source: ANRITSU LTD*

**Abstract:**

For A.6.6.1.3/4/6 updated CSI-RS tables to match SSB parameters

**Discussion:**

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

**R4-2006075 CR to A.6.1.2.1 Cell reselection to higher priority E-UTRAN**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0605 Cat: F (Rel-15)  
  
 Source: ANRITSU LTD*

**Abstract:**

For A.6.1.2.1, A.6.1.2.2, update E-UTRAN PRACH configuration index is depending on duplex mode

**Discussion:**

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

**R4-2006076 CR to A.6.1.2.1 Cell reselection to higher priority E-UTRAN**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0606 Cat: A (Rel-16)  
  
 Source: ANRITSU LTD*

**Abstract:**

For A.6.1.2.1, A.6.1.2.2, update E-UTRAN PRACH configuration index is depending on duplex mode

**Discussion:**

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

**R4-2006077 Correction to General test parameters in A.6.6.1.2**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0607 Cat: F (Rel-15)  
  
 Source: ANRITSU LTD*

**Abstract:**

For A.6.6.1.2, Time offsets between serving and neighbour cells are corrected

**Discussion:**

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

**R4-2006078 Correction to General test parameters in A.6.6.1.2**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0608 Cat: A (Rel-16)  
  
 Source: ANRITSU LTD*

**Abstract:**

For A.6.6.1.2, Time offsets between serving and neighbour cells are corrected

**Discussion:**

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

**R4-2006079 CR to E-UTRAN – NR PSCell FR2 DL active BWP switch with non-DRX in synchronous ENDC**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0609 Cat: F (Rel-15)  
  
 Source: ANRITSU LTD*

**Abstract:**

For A.5.5.6.2, clarify how the BWP are switched in the section of “Test Purpose and Environment”

**Discussion:**

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

**R4-2006080 CR to E-UTRAN – NR PSCell FR2 DL active BWP switch with non-DRX in synchronous ENDC**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0610 Cat: A (Rel-16)  
  
 Source: ANRITSU LTD*

**Abstract:**

For A.5.5.6.2, clarify how the BWP are switched in the section of “Test Purpose and Environment”

**Discussion:**

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

**R4-2006081 CR to SA NR- E-UTRAN event-triggered reporting in FR1**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0611 Cat: F (Rel-16)  
  
 Source: ANRITSU LTD*

**Abstract:**

Replaces the missed upload of CR R4-1914427. Same content as the agreed Rel-15 CR R4-1914426.

**Discussion:**

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

**R4-2006179 Corrections to Inter-freq SMTC configurations in A.4.7.1.2 and A.4.7.2.2**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0615 Cat: F (Rel-15)  
  
 Source: Qualcomm Incorporated*

**Abstract:**

Correction on SMTC and timing offset configuration in A.4.7.1.2 and A.4.7.2.2

**Discussion:**

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

**R4-2006180 Corrections to Inter-freq SMTC configurations in A.4.7.1.2 and A.4.7.2.2**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0616 Cat: A (Rel-16)  
  
 Source: Qualcomm Incorporated*

**Abstract:**

Correction on SMTC and timing offset configuration in A.4.7.1.2 and A.4.7.2.2

**Discussion:**

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

**R4-2006387 Add UE Beam assumption for RRM Test cases in A.7.3, A.7.4, A.7.7**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0650 Cat: F (Rel-15)  
  
 Source: ANRITSU LTD*

**Abstract:**

Add the assumption about the type of beam used by the UE for RRM test cases in A.7.3, A.7.4 and A.7.7.

All the “FFS” beam assumptions in the previous   
R4-2005285 endorsed at RAN4#94-e-bis have been replaced with “Rough”, based on the information in R4-1904

**Discussion:**

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

**R4-2006388 Add UE Beam assumption for RRM Test cases in A.7.3, A.7.4, A.7.7**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0651 Cat: A (Rel-16)  
  
 Source: ANRITSU LTD*

**Abstract:**

Add the assumption about the type of beam used by the UE for RRM test cases in A.7.3, A.7.4 and A.7.7.

All the “FFS” beam assumptions in the previous R4-2005285 endorsed at RAN4#94-e-bis have been replaced with “Rough”, based on the information in R4-1904

**Discussion:**

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

**R4-2006389 Add UE Beam assumption for RRM Test cases in A.5.3, A.5.4, A.5.7**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0652 Cat: F (Rel-15)  
  
 Source: ANRITSU LTD*

**Abstract:**

Add the assumption about the type of beam used by the UE for RRM test cases in A.5.3, A.5.4 and A.5.7.

**Discussion:**

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

**R4-2006391 Add UE Beam assumption for RRM Test cases in A.5.3, A.5.4, A.5.7**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0653 Cat: A (Rel-16)  
  
 Source: ANRITSU LTD*

**Abstract:**

Add the assumption about the type of beam used by the UE for RRM test cases in A.5.3, A.5.4 and A.5.7.

**Discussion:**

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

**R4-2006436 Update of FR2 RLM Test cases with 2 Angles of Arrival**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0654 Cat: F (Rel-15)  
  
 Source: ANRITSU LTD*

**Abstract:**

a) Add a diagram to each test case showing how the downlink transmissions are time multiplexed

b) Update the Test Purpose and Environment

c) Align the OTA related cell specific test parameter tables in SA test cases to NSA

d) Update CSI-RS Reference Measu

**Discussion:**

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

**R4-2006437 Update of FR2 RLM Test cases with 2 Angles of Arrival**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0655 Cat: A (Rel-16)  
  
 Source: ANRITSU LTD*

**Abstract:**

a) Add a diagram to each test case showing how the downlink transmissions are time multiplexed

b) Update the Test Purpose and Environment

c) Align the OTA related cell specific test parameter tables in SA test cases to NSA

d) Update CSI-RS Reference Measu

**Discussion:**

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

**R4-2006438 Update of Tx Timing Test cases**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0656 Cat: F (Rel-15)  
  
 Source: ANRITSU LTD*

**Abstract:**

a) Update FR2 Test cases to specify SSB.4 FR2, which has one SSB per SS-burst

b) Update TDD configuration for FR2 test cases

c) Update DRX configuration

d) Update slot offset for periodicityAndOffset-p for FR2 test cases

**Discussion:**

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

**R4-2006439 Update of Tx Timing Test cases**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0657 Cat: F (Rel-16)  
  
 Source: ANRITSU LTD*

**Abstract:**

a) Update FR2 Test cases to specify SSB.4 FR2, which has one SSB per SS-burst

b) Update TDD configuration for FR2 test cases

c) Update DRX configuration

d) Update slot offset for periodicityAndOffset-p for FR2 test cases

**Discussion:**

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

**R4-2006441 Update of FR2 RLM and BFD-LR Test cases**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0658 Cat: F (Rel-15)  
  
 Source: ANRITSU LTD*

**Abstract:**

Remove the row in each test case stating Correlation Matrix and Antenna Configuration = 2x2 low, as it does not make sense for over-the-air test cases.

**Discussion:**

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

**R4-2006442 Update of FR2 RLM and BFD-LR Test cases**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0659 Cat: A (Rel-16)  
  
 Source: ANRITSU LTD*

**Abstract:**

Remove the row in each test case stating Correlation Matrix and Antenna Configuration = 2x2 low, as it does not make sense for over-the-air test cases.

**Discussion:**

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

**R4-2006443 Update of FR2 SS-RSRP Test cases**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0660 Cat: F (Rel-15)  
  
 Source: ANRITSU LTD*

**Abstract:**

Update SS-RSRP Test cases to specify SSB.3 FR2 or SSB.4 FR2, which have one SSB per SS-burst

**Discussion:**

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

**R4-2006444 Update of FR2 SS-RSRP Test cases**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0661 Cat: A (Rel-16)  
  
 Source: ANRITSU LTD*

**Abstract:**

Update SS-RSRP Test cases to specify SSB.3 FR2 or SSB.4 FR2, which have one SSB per SS-burst.

**Discussion:**

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

**R4-2006856 CR on RACH test cases with CSI-RS resouece R15**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0699 Cat: F (Rel-15)  
  
 Source: MediaTek inc.*

**Discussion:**

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

**R4-2006857 CR on RACH test cases with CSI-RS resouece R16**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0700 Cat: A (Rel-16)  
  
 Source: MediaTek inc.*

**Discussion:**

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

**R4-2006988 Correction of NR SA FR2 inter-freq measurement reporting**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0714 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

Endorsed CR R4-2005276 without further changes

**Discussion:**

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

**R4-2006989 Correction of NR SA FR2 inter-freq measurement reporting**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0715 Cat: A (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Endorsed CR R4-2005276 without further changes

**Discussion:**

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

**R4-2007176 UE Beam assumption for RRM Test cases in 38.133 Annex A**

*Type: discussion For: Endorsement  
 Source: ANRITSU LTD*

**Abstract:**

The information to choose UE Beam assumption for RRM Test cases in 38.133 Annex A was previously base on R4-1901179 at RAN4#90, but this was updated in R4-1904784 at RAN4#90bis together with chairman’s notes information in the meeting report R4-1905301.

T

**Discussion:**

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

**R4-2007391 CR: Correction of L1-RSRP measurement period**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0726 Cat: F (Rel-15)  
  
 Source: Ericsson, Huawei, HiSilicon*

**Abstract:**

This CR corrects the L1-RSRP measurement period for FR2 EN-DC and SA.

**Discussion:**

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

**R4-2007392 CR: Correction of L1-RSRP measurement period**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0727 Cat: A (Rel-16)  
  
 Source: Ericsson, Huawei, HiSilicon*

**Abstract:**

This CR corrects the L1-RSRP measurement period for FR2 EN-DC and SA.

**Discussion:**

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

**R4-2007428 CR to TS 38.133: Correction to CSI-RS configurations in A.3.14 (Rel-15)**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0728 Cat: F (Rel-15)  
  
 Source: Rohde & Schwarz*

**Discussion:**

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

**R4-2007429 CR to TS 38.133: Correction to CSI-RS configurations in A.3.14 (Rel-16)**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0729 Cat: A (Rel-16)  
  
 Source: Rohde & Schwarz*

**Discussion:**

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

**R4-2007430 CR to TS 38.133: Correction to SMTC configuration in measurement accuracy tests (Rel-15)**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0730 Cat: F (Rel-15)  
  
 Source: Rohde & Schwarz*

**Discussion:**

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

**R4-2007431 CR to TS 38.133: Correction to SMTC configuration in measurement accuracy tests (Rel-16)**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0731 Cat: A (Rel-16)  
  
 Source: Rohde & Schwarz*

**Discussion:**

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

**R4-2007432 CR to TS 38.133: Clarifications to AoA setup Annex A.5 (Rel-15)**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0732 Cat: F (Rel-15)  
  
 Source: Rohde & Schwarz*

**Discussion:**

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

**R4-2007433 CR to TS 38.133: Clarifications to AoA setup Annex A.5 (Rel-16)**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0733 Cat: A (Rel-16)  
  
 Source: Rohde & Schwarz*

**Discussion:**

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

**R4-2007434 CR to TS 38.133: Clarifications to AoA setup Annex A.7 (Rel-15)**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0734 Cat: F (Rel-15)  
  
 Source: Rohde & Schwarz*

**Discussion:**

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

**R4-2007435 CR to TS 38.133: Clarifications to AoA setup Annex A.7 (Rel-16)**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0735 Cat: A (Rel-16)  
  
 Source: Rohde & Schwarz*

**Discussion:**

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

**R4-2007669 CR on BFD TCs**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0753 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007670 CR on BFD TCs\_r16**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0754 Cat: A (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007671 CR on UL carrier RRC reconfiguration Delay TC**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0755 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007672 CR on UL carrier RRC reconfiguration Delay TC\_r16**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0756 Cat: A (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007673 CR to FR1 SCell activation delay test cases**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0757 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007674 CR to FR1 SCell activation delay test cases\_r16**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0758 Cat: A (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007675 CR to inter-frequency measurement TCs**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0759 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007676 CR to inter-frequency measurement TCs\_r16**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0760 Cat: A (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007677 CR to interruption TCs**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0761 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007678 CR to interruption TCs\_r16**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0762 Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007679 CR to FR1 SA inter-RAT measurement TCs\_r16**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0763 Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007716 CR on RRC Connection Release with Redirection (Cat A)**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0783 Cat: A (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007717 CR on RRC Connection Release with Redirection test cases**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0784 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007718 CR on RRC Re-establishment test cases (Cat A)**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0785 Cat: A (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007719 CR on RRC Re-establishment test cases**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0786 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007720 CR on Timing advance test cases for EN-DC (Cat A)**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0787 Cat: A (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007721 CR on Timing advance test cases for EN-DC**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0788 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007722 CR on Timing test cases for NR SA (Cat A)**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0789 Cat: A (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007723 CR on Timing test cases for NR SA**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0790 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

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

**R4-2007817 CR on L1-RSRP delay tests for FR2 R15**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0828 Cat: F (Rel-15)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

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

**R4-2007818 CR on L1-RSRP delay tests for FR2 R16**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0829 Cat: A (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

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

**R4-2007819 CR to L1-RSRP accuracy TC for FR2 EN-DC R15**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0830 Cat: F (Rel-15)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

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

**R4-2007820 CR to L1-RSRP accuracy TC for FR2 EN-DC R16**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0831 Cat: A (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

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

**R4-2007821 CR to L1-RSRP accuracy TC for FR2 SA R15**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0832 Cat: F (Rel-15)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

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

**R4-2007822 CR to L1-RSRP accuracy TC for FR2 SA R16**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0833 Cat: A (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

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

**R4-2007823 CR to TCI state switch TC R15**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0834 Cat: F (Rel-15)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

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

**R4-2007824 CR to TCI state switch TC R16**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0835 Cat: A (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

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

### 4.11 Demodulation and CSI maintenance [NR\_newRAT-Perf]

### 4.12 Maintenance of the Positioning specs (36.171, 37.171 and 38.171) [NR\_newRAT-Perf or TEI]

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

**Email discussion: [95e][203] NR\_NewRAT\_Positioning**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email title** | **WI** | **Topic areas** | **AI** |
| [95e][203] NR\_NewRAT\_Positioning | R15 NR | Maintenance of the Positioning specs (36.171, 37.171 and 36.171) | 4.12 |

**R4-2008492 Email discussion summary for [95e][203] NR\_NewRAT\_Positioning** *Type: other For: Information  
 Source: Moderator (Spirent)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

1st round email discussion conclusions

2nd round email discussion conclusions

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

**R4-2006243 CR for TS36.171, Introduction of BDS B1C in A-GNSS**

*Type: CR For: Agreement  
 36.171 v16.0.0 CR-0020 Cat: B (Rel-16)  
  
 Source: CATT*

**Discussion:**

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

**R4-2006244 CR for TS38.171, Introduction of BDS B1C in A-GNSS**

*Type: CR For: Agreement  
 38.171 v15.3.0 CR-0011 Cat: B (Rel-16)  
  
 Source: CATT*

**Discussion:**

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

### 4.13 Testability Maintenance (38.810) [FS\_NR\_test\_methods]

## 5 Rel-16 Work Items for LTE

### 5.1 LTE intra-band Carrier Aggregation for x CC DL/y CC UL including contiguous and non-contiguous spectrum (x>=y) [LTE\_CA\_R16\_intra]

### 5.2 LTE inter-band Carrier Aggregation for 2 bands DL with 1 band UL [LTE\_CA\_R16\_2BDL\_1BUL]

### 5.3 LTE inter-band Carrier Aggregation for 3 bands DL with 1 band UL [LTE\_CA\_R16\_3BDL\_1BUL]

### 5.4 LTE inter-band Carrier Aggregation for x bands DL (x=4, 5) with 1 band UL [LTE\_CA\_R16\_xBDL\_1BUL]

### 5.5 LTE inter-band Carrier Aggregation for 2 bands DL with 2 band UL [LTE\_CA\_R16\_2BDL\_2BUL]

### 5.6 LTE inter-band Carrier Aggregation for x bands DL (x= 3, 4, 5) with 2 band UL [LTE\_CA\_R16\_xBDL\_2BUL]

### 5.7 RRM for LTE CA basket WI-s [LTE\_CA\_R16\_xxxx]

### 5.8 Additional LTE bands for UE category M1 and/or NB1 in Rel-16 [LTE\_bands\_R16\_M1\_NB1]

### 5.9 Additional LTE bands for UE category M2 and/or NB2 in in Rel-16 [LTE\_bands\_R16\_M2\_NB2]

### 5.10 Additional MTC enhancements for LTE [LTE\_eMTC5]

#### 5.10.1 General [LTE\_eMTC5]

#### 5.10.2 Coexistence with NR [LTE\_eMTC5]

#### 5.10.3 RRM core requirements (36.133) [LTE\_eMTC5-Core]

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

**Email discussion: [95e][229] LTE\_eMTC5\_RRM**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email title** | **WI** | **Topic areas** | **AI** |
| [95e][229] LTE\_eMTC5\_RRM | R16 LTE eMTC | RRM Core requirements | 5.10.3 |

**R4-2008518 Email discussion summary for [95e][229] LTE\_eMTC5\_RRM** *Type: other For: Information  
 Source: Moderator (Ericsson)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

1st round email discussion conclusions

2nd round email discussion conclusions

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

##### 5.10.3.1 DL quality report in MSG3 and connected mode [LTE\_eMTC5-Core]

**R4-2006181 Corrections to DCQR in eMTC and introduction of 2-bit DCQR**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6838 Cat: B (Rel-16)  
  
 Source: Qualcomm Incorporated*

**Abstract:**

Corrections on endorsed CR terminology and introduction of 2-bit DCQR

**Discussion:**

.

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

**R4-2007369 2-bit reporting table on eMTC DL quality report**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

This contribution discusses the report values for 2-bit channel quality reporting table for DL channel quality report for eMTC.

**Discussion:**

.

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

**R4-2007370 Introduction of DL channel quality report for eMTC**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6857 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

This CR introduces channel quality report mapping table and reporting accuracy requirements for eMTC.

**Discussion:**

.

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

**R4-2007870 Discussion on quality reporting in Rel-16 eMTC**

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

**Discussion:**

.

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

**R4-2007871 CR on for quality reporting**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6888 Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

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

##### 5.10.3.2 WUS [LTE\_eMTC5-Core]

##### 5.10.3.3 MPDCCH performance improvement [LTE\_eMTC5-Core]

**R4-2007367 RLM for enhanced MPDCCH**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

This contribution discusses the RLM requirements due to the MPDCCH performance improvement.

**Discussion:**

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

**R4-2007368 Introduction of RLM requirements with enhanced MPDCCH**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6856 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

This CR introduces the RLM requirements due to the MPDCCH performance improvement.

**Discussion:**

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

##### 5.10.3.4 PUR [LTE\_eMTC5-Core]

**R4-2006164 Remaining issues in PUR for eMTC**

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

**Discussion:**

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

**R4-2007872 Discussion on capturing RRM requirements for PUR in Rel-16 eMTC**

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

**Discussion:**

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

**R4-2007873 CR to add additional timing requirements for PUR**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6889 Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

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

**R4-2007874 CR on RRM requirements for PUR**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6890 Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

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

**R4-2007883 Overview of the PUR agreements for Rel-16 MTC**

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

**Abstract:**

In this contribution, we walk through all the agreements that have been made in RAN4 for PUR and provide our view on how to capture them in the specification.

**Discussion:**

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

**R4-2007884 Introduction of requirements for preconfigured uplink resource transmission for cat-M1**

*Type: draftCR For: Endorsement  
 36.133 v16.5.0  
 Source: Ericsson, Nokia, Nokia Shanghai Bell*

**Abstract:**

This CR introduces the support for transmissions using preconfigured uplink resources.

**Discussion:**

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

**R4-2007919 Introduction of requirements for preconfigured uplink resource transmission for cat-M1**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6902 Cat: B (Rel-16)  
  
 Source: Ericsson, Nokia, Nokia Shanghai Bell*

**Abstract:**

This CR introduces the support for transmissions using preconfigured uplink resources.

**Discussion:**

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

##### 5.10.3.5 Mobility enhancement [LTE\_eMTC5-Core]

**R4-2006165 Remaining issues on RSS-based measurements in eMTC**

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

**Discussion:**

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

**R4-2007875 Discussion on remaining issues in RSS measurement**

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

**Discussion:**

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

**R4-2007885 Remaining discussions on RSS measurement support for Rel-16 MTC**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

In this contribution we continue the discussion on RSS based RSRP measurement adressing the open issues identified at last meeting.

**Discussion:**

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

**R4-2007886 RSS based RSRP measurement to IDLE mode for eMTC in normal coverage**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6894 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

CR to capture the RSS measurement conditions in normal coverage.

**Discussion:**

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

**R4-2007887 RSS based RSRP measurement to IDLE mode for eMTC in enhanced coverage**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6895 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

CR to capture the RSS measurement conditions in enhanced coverage.

**Discussion:**

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

**R4-2007888 RSS based RSRP measurement to CONNECTED mode for eMTC**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6896 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

CR to capture the RSS measurement conditions in CONNECTED mode.

**Discussion:**

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

**R4-2007889 Introduction of measurement accuracy requirements for RSS based RSRP measurements for cat-M1/M2**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6897 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

CR to capture the RSS measurement accuracy requirements.

**Discussion:**

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

##### 5.10.3.6 Others [LTE\_eMTC5-Core]

#### 5.10.4 Demodulation and CSI requirements (36.101/36.104) [LTE\_eMTC5-Perf]

### 5.11 Additional enhancements for NB-IoT [NB\_IOTenh3]

#### 5.11.1 General [NB\_IOTenh3]

#### 5.11.2 Coexistence with NR [NB\_IOTenh3]

#### 5.11.3 RRM core requirements (36.133) [NB\_IOTenh3-Core]

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

**Email discussion: [95e][230] NB\_IOTenh3\_RRM**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email title** | **WI** | **Topic areas** | **AI** |
| [95e][230] NB\_IOTenh3\_RRM | R16 NB-IOT | RRM Core requirements | 5.11.3 |

**R4-2008519 Email discussion summary for [95e][230] NB\_IOTenh3\_RRM** *Type: other For: Information  
 Source: Moderator (Huawei, HiSilicon)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

1st round email discussion conclusions

2nd round email discussion conclusions

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

##### 5.11.3.1 Group WUS [NB\_IOTenh3-Core]

##### 5.11.3.2 PUR [NB\_IOTenh3-Core]

**R4-2007688 CR on measurement requriements for RSRP change based TA validation**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6869 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

.

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

##### 5.11.3.3 Multi-carrier operations [NB\_IOTenh3-Core]

**R4-2006166 Remaining issues on RRM measurements in non-anchor carrier for NB-IoT**

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

**Discussion:**

.

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

**R4-2007113 On NRSRP processing in multicarrier operation**

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

**Abstract:**

Discussion on combining and filtering of NRSRP in MC operation.

**Discussion:**

.

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

**R4-2007685 CR on downlink channel quality measurement requirement for Rel-16 NB IoT**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6866 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

.

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

**R4-2007686 CR on non-anchor RRM measurement requirements in enhanced coverage for Rel-16 NB IoT**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6867 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

.

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

**R4-2007687 CR on non-anchor RRM measurement requirements in normal coverage for Rel-16 NB IoT**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6868 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

.

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

**R4-2007690 Discussion on filtering of samples between carriers for Rel-16 NB-IoT**

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

**Discussion:**

.

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

**R4-2007890 Changes on the S criterion for non-anchor carrier measurements in enhanced coverage for Rel-16 NB IoT**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6898 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Changes to the already endorsed CR to clarify the S-criterion applicability in enhanced coverage.

**Discussion:**

.

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

**R4-2007891 Changes on the S criterion for non-anchor carrier measurements in normal coverage for Rel-16 NB IoT**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6899 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Changes to the already endorsed CR to clarify the S-criterion applicability in normal coverage.

**Discussion:**

.

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

**R4-2007976 Changes on the S criterion for non-anchor carrier measurements in enhanced coverage for Rel-16 NB IoT**

*Type: draftCR For: Endorsement  
 36.133 v16.5.0  
 Source: Ericsson*

**Abstract:**

Changes to the already endorsed CR to clarify the S-criterion applicability in enhanced coverage.

**Discussion:**

.

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

**R4-2007977 Changes on the S criterion for non-anchor carrier measurements in normal coverage for Rel-16 NB IoT**

*Type: draftCR For: Endorsement  
 36.133 v16.5.0  
 Source: Ericsson*

**Abstract:**

Changes to the already endorsed CR to clarify the S-criterion applicability in normal coverage.

**Discussion:**

.

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

##### 5.11.3.4 Others [NB\_IOTenh3-Core]

**R4-2006167 On shorter DRX cycles for NB-IoT**

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

**Discussion:**

.

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

**R4-2007114 NTA\_offset setting for NR coexistence with NB-IoT**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0717 Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell, Ericsson*

**Abstract:**

CR on TA offset configuration for NB-IoT

**Discussion:**

.

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

**R4-2007689 CR on updating RRM requirement for new introduced UE specific DRX cycles for Rel-16 NB-IoT**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6870 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

.

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

**R4-2007691 Discussion on updating RRM requirement for new introduced UE specific DRX cycles for Rel-16 NB-IoT**

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

**Discussion:**

.

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

#### 5.11.4 Demodulation and CSI requirements (36.101/36.104) [NB\_IOTenh3-Perf]

### 5.12 Even further Mobility enhancement in E-UTRAN [LTE\_feMob]

#### 5.12.1 RRM core requirements (36.133) [LTE\_feMob-Core]

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

**Email discussion: [95e][231] LTE\_feMob\_RRM**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email title** | **WI** | **Topic areas** | **AI** |
| [95e][231] LTE\_feMob\_RRM | R16 LTE Mob Enh | RRM Core requirements | 5.12.1 |

**R4-2008520 Email discussion summary for [95e][231] LTE\_feMob\_RRM** *Type: other For: Information  
 Source: Moderator (Nokia)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

1st round email discussion conclusions

2nd round email discussion conclusions

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

##### 5.12.1.1 Conditional handover [LTE\_feMob-Core]

**R4-2008193 CR on 36133 LTE CHO**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6910 Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Resubmission of endorsed Draft CR R4-2005295 for LTE CHO.

**Discussion:**

.

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

##### 5.12.1.2 Reduction of user data interruption [LTE\_feMob-Core]

**R4-2006981 Sync side conditions for LTE DAPS handover**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

DAPS handover discussion

**Discussion:**

.

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

**R4-2006982 Correction to DAPS HO requirements in 36.133**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6847 Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Technically endorsed CR CR R4-2005425 with further updates to capture threshold between sync and async source and target cell

**Discussion:**

.

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

**R4-2007750 CR on DAPS handover**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6877 Cat: F (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

.

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

##### 5.12.1.3 Others [LTE\_feMob-Core]

### 5.13 LTE-based 5G terrestrial broadcast [LTE\_terr\_bcast]

#### 5.13.1 Demodulation and CSI requirements (36.101) [LTE\_terr\_bcast -Perf]

#### 5.13.2 Others [LTE\_terr\_bcast -Core/Perf]

### 5.14 R16 LTE maintenance [WI code]

#### 5.14.1 RF [WI code]

#### 5.14.2 RRM [WI code]

#### 5.14.3 Demodulation and CSI requirements [WI code]

## 6 Rel-16 non-spectrum related work items for NR

### 6.1 NR-based access to unlicensed spectrum [NR\_unlic]

#### 6.1.1 System Parameters [NR\_unlic-Core]

#### 6.1.2 UE RF requirements [NR\_unlic-Core]

#### 6.1.3 Band combination related (Analysis, TPs, etc.) [NR\_unlic-Core]

#### 6.1.4 BS RF requirements [NR\_unlic-Core]

#### 6.1.5 RRM core requirements (38.133) [NR\_unlic-Core]

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

**Email discussion: [95e][204] NR\_unlic\_RRM\_1**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email title** | **WI** | **Topic areas** | **AI** |
| [95e][204] NR\_unlic\_RRM\_1 | R16 NR-U | RRM Core: General (spec structure, applicability), HO, RRC connection mobility, Scell activation/deactivation, PSCell addition/release, Active TCI state switching | 6.1.5.1  6.1.5.3  6.1.5.4  6.1.5.5  6.1.5.6  6.1.5.7 |

**R4-2008493 Email discussion summary for [95e][204] NR\_unlic\_RRM\_1** *Type: other For: Information  
 Source: Moderator (Ericsson)*

**Abstract:**

**Discussion:**

**Decision: Revised to R4-2008524 (from R4-2008493).**

**R4-2008524 Email discussion summary for [95e][204] NR\_unlic\_RRM\_1** *Type: other For: Information  
 Source: Moderator (Ericsson)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

1st round email discussion conclusions

2nd round email discussion conclusions

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

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

**Email discussion: [95e][205] NR\_unlic\_RRM\_2**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email title** | **WI** | **Topic areas** | **AI** |
| [95e][205] NR\_unlic\_RRM\_2 | R16 NR-U | RRM Core: Cell re-selection, Interruptions, Active BWP switching, RLM, Timing | 6.1.5.2 6.1.5.8 6.1.5.9 6.1.5.10 6.1.5.13 |

**R4-2008494 Email discussion summary for [95e][205] NR\_unlic\_RRM\_2** *Type: other For: Information  
 Source: Moderator (MediaTek)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

1st round email discussion conclusions

2nd round email discussion conclusions

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

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

**Email discussion: [95e][206] NR\_unlic\_RRM\_3**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email title** | **WI** | **Topic areas** | **AI** |
| [95e][206] NR\_unlic\_RRM\_3 | R16 NR-U | RRM Core: Measurement requirements, Measurement capability and reporting criteria | 6.1.5.11 6.1.5.12 |

**R4-2008495 Email discussion summary for [95e][206] NR\_unlic\_RRM\_3** *Type: other For: Information  
 Source: Moderator (Nokia)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

1st round email discussion conclusions

2nd round email discussion conclusions

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

##### 6.1.5.1 General (specification structure, etc) [NR\_unlic-Core]

**R4-2006010 CR for spec structure to address NR-U in 38.133 v3**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0593 Cat: B (Rel-16)  
  
 Source: ZTE Corporation*

**Discussion:**

.

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

**R4-2006011 Discussion on approaches to address NR-U in 38.133 v3**

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

**Discussion:**

.

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

**R4-2006976 Updates to general section for NR-U in 36.133**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6846 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Technically endorsed CR R4-2005362 with additional minor updates based on agreements in RAN4#94bis-e

**Discussion:**

.

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

**R4-2006977 Updates to general section for NR-U in 38.133**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0710 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Technically endorsed CR R4-2005361 with additional minor updates based on agreements in RAN4#94bis-e

**Discussion:**

.

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

**R4-2008012 On NR-U terminology**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

NR-U terminology

**Discussion:**

.

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

##### 6.1.5.2 Cell re-selection [NR\_unlic-Core]

**R4-2006152 Remaining issues on cell reselection in NR-U**

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

**Discussion:**

.

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

**R4-2007696 CR on introduction of RRC\_IDLE state moblity requirements for NR-U**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0769 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

.

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

**R4-2007697 CR on introduction of RRC\_INACTIVE state moblity requirements for NR-U**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0770 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

.

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

**R4-2007701 Discussion on cell reselection for NR-U**

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

**Discussion:**

.

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

**R4-2007894 Remaining discussions on IDLE mode cell re-selection requirements for NR-U**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

In this contribution we discuss the remaining issues of IDLE mode requirements.

**Discussion:**

.

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

**R4-2007895 UE behaviour after measurement failure due to LBT for RRC\_IDLE state moblity requirements for NR-U**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0855 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

CR to capture the UE behaviour for the IDLE mode requirements.

**Discussion:**

.

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

**R4-2007896 UE behaviour after measurement failure due to LBT for RRC\_IDLE state inter-RAT moblity requirements for NR-U**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6900 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

CR to capture the UE behaviour for the inter-RAT requirements.

**Discussion:**

.

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

**R4-2007978 UE behaviour after measurement failure due to LBT for RRC\_IDLE state moblity requirements for NR-U**

*Type: draftCR For: Endorsement  
 38.133 v16.3.0  
 Source: Ericsson*

**Abstract:**

CR to capture the UE behaviour for the IDLE mode requirements.

**Discussion:**

.

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

##### 6.1.5.3 Handover [NR\_unlic-Core]

**R4-2006153 Remaining issues in NR-U HO requirements**

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

**Discussion:**

.

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

**R4-2007259 CR to TS 36.133: adding handover to NR-U**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6854 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This document introduces a new clause to TS 36.133, for the requirements of handover to NR-U. And propose editorial corrections for clause 5.3.4. This is the formal CR submission from the endorsed draft CR: R4-2005363.

**Discussion:**

.

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

**R4-2007260 CR to TS 38.133: adding NR-U Handover.**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0718 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This CR introduces a new clause to TS 38.133, which captures the NR-U handover agreements. This is the formal CR submission from the endorsed draft CR: R4-2005364.

**Discussion:**

.

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

**R4-2007897 Remaining discussions on handover requirements for NR-U**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

In this contribution we discuss the remaining issues of handover requirements.

**Discussion:**

.

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

**R4-2007898 Removal of editor’s note in NR-U inter-RAT handover requirements**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6901 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Changes to remove editors note in inter-RAT requirements CR.

**Discussion:**

.

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

**R4-2007899 Removal of Editor’s note in NR-U handover requirements**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0856 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Changes to remove editors note in IDLE mode requirements CR.

**Discussion:**

.

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

**R4-2007979 Removal of editor’s note in NR-U inter-RAT handover requirements**

*Type: draftCR For: Endorsement  
 36.133 v16.5.0  
 Source: Ericsson*

**Abstract:**

Changes to remove editors note in inter-RAT requirements CR.

**Discussion:**

.

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

**R4-2007980 Removal of Editor’s note in NR-U handover requirements**

*Type: draftCR For: Endorsement  
 38.133 v16.3.0  
 Source: Ericsson*

**Abstract:**

Changes to remove editors note in IDLE mode requirements CR.

**Discussion:**

.

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

##### 6.1.5.4 RRC connection mobility control [NR\_unlic-Core]

**R4-2006009 UE behavior in RRC release with re-direction in NR-U**

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

**Abstract:**

This paper discusses UE behavior when L2,max is exceeded in release with re-direction.

**Discussion:**

.

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

**R4-2006154 On RRC release with redirection in NR-U**

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

**Discussion:**

.

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

**R4-2006563 CR to TS 38.133: RRC re-establishment with CCA**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0676 Cat: B (Rel-16)  
  
 Source: Intel Corporation*

**Discussion:**

.

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

**R4-2007986 Further analysis of RRC re-establishment requirements in NR-U**

*Type: other For: Discussion  
 Source: Ericsson*

**Abstract:**

This paper provides further analysis of RRC re-establishment requirements in NR-U based on latest RAN2 LS in R2-2003973.

**Discussion:**

.

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

**R4-2007987 Further analysis of RRC release with redirection requirements in NR-U**

*Type: other For: Discussion  
 Source: Ericsson*

**Abstract:**

This paper provides further analysis of RRC release with redirection requirements in NR-U based on latest RAN2 LS in R2-2003973.

**Discussion:**

.

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

**R4-2007988 RRC release with redirection requirements in NR-U in 38.133**

*Type: draftCR For: Endorsement  
 38.133 v16.3.0  
 Source: Ericsson*

**Abstract:**

This CR contains RRC release with redirection requirements in NR-U in 38.133

**Discussion:**

.

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

**R4-2007989 RRC release with redirection requirements in NR-U in 36.133**

*Type: draftCR For: Endorsement  
 36.133 v16.5.0  
 Source: Ericsson*

**Abstract:**

This CR contains RRC release with redirection requirements in NR-U in 36.133

**Discussion:**

.

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

##### 6.1.5.5 SCell activation/deactivation (delay and interruption) [NR\_unlic-Core]

**R4-2006155 On Scell activation and deactivation requirements in NR-U**

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

**Discussion:**

.

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

**R4-2006175 Introduction of activation and deactivation delay requirements for SCells operating with CCA**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0612 Cat: B (Rel-16)  
  
 Source: Qualcomm Incorporated*

**Abstract:**

This CR introduces Scell activation/deactivation requirements for NR-U

**Discussion:**

.

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

**R4-2007968 On SCell activation delay in NR-U**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

On SCell activation delay in NR-U

**Discussion:**

.

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

##### 6.1.5.6 PSCell addition/release (delay and interruption) [NR\_unlic-Core]

**R4-2006156 Remaining issues on PSCell addition and release in NR-U**

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

**Discussion:**

.

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

**R4-2006176 Introduction of addition and release of NR PSCell operating with CCA in EN-DC**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6837 Cat: B (Rel-16)  
  
 Source: Qualcomm Incorporated*

**Abstract:**

This CR introduces PSCell addition/release requirements for NR-U

**Discussion:**

.

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

**R4-2007972 On PSCell addition in NR-U**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

On PSCell addition in NR-U

**Discussion:**

.

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

##### 6.1.5.7 Active TCI state switching [NR\_unlic-Core]

**R4-2007143 TCI state switching under NR-U**

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

**Abstract:**

Though we are waiting for RAN2 reply LS on this matter, we propose to re-think the options and discuss in RAN4 internally because declaring beam failure might not be of help to solve the problem.

**Discussion:**

.

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

**R4-2007694 CR on introduction of Active TCI state switching delay with CCA Requirements for NR-U**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0767 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

.

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

**R4-2007704 Discussion on TCI state switch for NR-U**

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

**Discussion:**

.

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

**R4-2007969 On active TCI state switching requirements in NR-U**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

On active TCI state switching requirements in NR-U

**Discussion:**

.

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

**R4-2008280 TCI state switching under NR-U**

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

**Abstract:**

Though we are waiting for RAN2 reply LS on this matter, we propose to re-think the options and discuss in RAN4 internally because declaring beam failure might not be of help to solve the problem.

**Discussion:**

.

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

##### 6.1.5.8 Interruptions due to operation in non-NR-U serving cells [NR\_unlic-Core]

##### 6.1.5.9 Active BWP switching [NR\_unlic-Core]

**R4-2006012 On BWP switch in NR-U**

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

**Discussion:**

.

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

**R4-2006157 Remaining issues on new UL BWP switching requirements in NR-U**

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

**Discussion:**

.

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

**R4-2007693 CR on introduction of Active BWP switching delay requirements for NR-U**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0766 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

.

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

**R4-2007700 Discussion on Active BWP switch delay for NR-U**

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

**Discussion:**

.

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

**R4-2007983 Analysis of open issues in BWP switching requirement due to consistent UL failure**

*Type: other For: Discussion  
 Source: Ericsson*

**Abstract:**

This paper analyzes remaining issues related to delay requirements for BWP switching in NR-U under consistent LBT failures

**Discussion:**

.

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

**R4-2007984 BWP switching interruption requirement due to consistent UL failure in 38.133**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0869 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

CR on interruption requirements on NR serving cells for BWP switching in NR-U under consistent LBT failures. This CR was endorsed in R4-2004404 in RAN4#94-ebis.

**Discussion:**

.

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

**R4-2007985 Interruption due to BWP switching at consistent UL failure in 36.133**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6907 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

CR on interruption requirements on LTE serving cells for BWP switching in NR-U under consistent LBT failures in 36.133. This CR was endorsed in R4-2004405 in RAN4#94-ebis.

**Discussion:**

.

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

##### 6.1.5.10 RLM and link recovery procedures [NR\_unlic-Core]

**R4-2006014 Discussion on RLM in NR-U**

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

**Discussion:**

.

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

**R4-2006158 On RLM requirements in NR-U**

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

**Discussion:**

.

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

**R4-2006858 Discussion on RLM requirement for NR-U**

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

**Discussion:**

.

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

**R4-2007263 CR to 38.133: clarification of RLM requirements**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0720 Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This CR removes the word "candidates" from the RLM requirements, following the recomendation in the incoming RAN1 LS: R4-2006124

**Discussion:**

.

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

**R4-2007264 Discussion on RLM requirements in NR-U**

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

**Abstract:**

This document discusses RLM requirements for NR-U

**Discussion:**

.

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

**R4-2007341 On RLM for NR-U**

*Type: discussion For: Approval  
 Source: OPPO*

**Discussion:**

.

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

**R4-2007387 Beam management in NR-U**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

This contribution discusses the BFD and CBD requirements in NR-U.

**Discussion:**

.

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

**R4-2007388 CR: Introduction of link recovery requirements with CCA**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0724 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

This draft CR introduces the BFD/CBD requirements with CCA.

**Discussion:**

.

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

**R4-2007698 CR on removing candidate in RLM requirements in Rel-15**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0771 Cat: F (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

.

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

**R4-2007699 CR on removing candidate in RLM requirements in Rel-16**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0772 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

.

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

**R4-2007703 Discussion on RLM and link recovery for NR-U**

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

**Discussion:**

.

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

**R4-2007970 On RLM in NR-U**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

On RLM in NR-U

**Discussion:**

.

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

**R4-2007971 Introduction of RLM requirements for NR-U**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0868 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Introduction of RLM requirements for NR-U

**Discussion:**

.

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

##### 6.1.5.11 Measurement requirements [NR\_unlic-Core]

**R4-2006019 Discussion on inter-RAT SFTD measurement towards NR-U**

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

**Abstract:**

This paper discusses some pending issues in inter-RAT SFTD measurement in NR-U.

**Discussion:**

.

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

**R4-2006020 CR to address NR-U in inter-RAT SFTD measurements in 36.133**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6827 Cat: B (Rel-16)  
  
 Source: ZTE Corporation*

**Abstract:**

Formal version of draft CR R4-2005376, which was endorsed in the last meeting.

**Discussion:**

.

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

**R4-2006021 L1-RSRP measurement in NR-U**

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

**Abstract:**

This paper discusses some pending issues in L1-RSRP measurement in NR-U

**Discussion:**

.

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

**R4-2006022 UE behaviour under successive UL LBT failures during event-triggered reporting**

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

**Abstract:**

This paper discusses some pending issues left from last meeting

**Discussion:**

.

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

**R4-2006023 PBCH payload reading for SSB index identification in NR-U**

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

**Discussion:**

.

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

**R4-2006025 CR to address NR-U in EN-DC SFTD measurements in 36.133**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6828 Cat: B (Rel-16)  
  
 Source: ZTE Corporation*

**Abstract:**

Formal version of draft CR R4-2004845, which was endorsed in the last meeting.

**Discussion:**

.

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

**R4-2006026 Pending issues on cell detection and serving cell measurement under NR-U**

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

**Abstract:**

This paper discusses some pending issues left from last meeting

**Discussion:**

.

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

**R4-2006159 Remaining issues on measurement requirements in NR-U**

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

**Discussion:**

.

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

**R4-2006160 On RSSI and CO measurements in NR-U**

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

**Discussion:**

.

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

**R4-2006182 Remaining issues on serving cell evaluation in RRC connected mode for NR-U**

*Type: discussion For: Discussion  
 38.133 v..  
 Source: Apple*

**Discussion:**

.

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

**R4-2006859 Discussion on SFTD measurements towards NR-U with LBT**

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

**Discussion:**

.

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

**R4-2006860 Discussion on Scheduling Restriction for NR-U**

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

**Discussion:**

.

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

**R4-2006861 Discussion on RSSI measurement for NR-U**

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

**Discussion:**

.

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

**R4-2007261 CR to TS 38.133: adding NR-U inter-frequency measurements**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0719 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This CR introduces a new clause to TS 38.133, which captures the NR-U inter-frequency measurement agreements.

**Discussion:**

.

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

**R4-2007262 CR to TS 36.133: adding inter-RAT NR-U measurements**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6855 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This CR introduces new clauses to TS 36.133, to add inter-RAT NR-U measurement requiremetns.

**Discussion:**

.

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

**R4-2007265 RSSI and Channel Occupancy Measurements in NR-U**

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

**Abstract:**

This document discusses RSSI and CO measurements in NR-U

**Discussion:**

.

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

**R4-2007266 SSB measurements in NR-U**

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

**Abstract:**

This document discusses SSB measurements in NR-U.

**Discussion:**

.

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

**R4-2007267 On the impact of UL LBT failure in measurement reporting**

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

**Abstract:**

This document discusses the effect of UL LBT failure during measurement reporting

**Discussion:**

.

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

**R4-2007268 Discussion on L1-RSRP measurements in NR-U**

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

**Abstract:**

This document discusses L1-RSRP measurements in NR-U

**Discussion:**

.

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

**R4-2007389 L1-RSRP measurements in NR-U**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

This contribution discusses the L1-RSRP measurement requirements in NR-U.

**Discussion:**

.

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

**R4-2007390 CR: Introduction of L1-RSRP measurement requirements with CCA**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0725 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

This draft CR introduces the L1-RSRP measurement requirements with CCA.

**Discussion:**

.

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

**R4-2007692 CR on introduction of intra-frequency measurements requirements for NR-U**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0765 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

.

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

**R4-2007702 Discussion on measurement requirements for NR-U**

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

**Discussion:**

.

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

**R4-2007967 On RSSI and channel occupancy measurement requirements**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

On RSSI and channel occupancy measurement requirements

**Discussion:**

.

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

**R4-2007973 On intra-frequency measurements in NR-U**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

On intra-frequency measurements in NR-U

**Discussion:**

.

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

**R4-2007974 On inter-frequency measurements in NR-U**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

On inter-frequency measurements in NR-U

**Discussion:**

.

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

**R4-2008011 On intra-frequency and inter-frequency measurements in NR-U**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

On intra-frequency and inter-frequency measurements in NR-U

**Discussion:**

.

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

##### 6.1.5.12 Measurement capability and reporting criteria [NR\_unlic-Core]

**R4-2006161 On measurement capabilities and reporting criteria in NR-U**

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

**Discussion:**

.

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

**R4-2006183 CR on UE measurements capability and reporting criteria for NR-U**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0617 Cat: B (Rel-16)  
  
 Source: Apple*

**Discussion:**

.

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

**R4-2006775 On pending issues of reporting delay in NR-U**

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

**Discussion:**

.

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

**R4-2007695 CR on introduction of reporting criteria for NR-U**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0768 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

.

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

**R4-2007975 On measurement reporting criteria for NR-U**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

On measurement reporting criteria for NR-U

**Discussion:**

.

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

##### 6.1.5.13 Timing [NR\_unlic-Core]

**R4-2006013 on uplink transmit timing requirements for NR-U**

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

**Discussion:**

.

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

**R4-2006162 Remaining issues in NR-U timing requirements**

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

**Discussion:**

.

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

**R4-2006862 Discussion on timing requirement for NR-U**

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

**Discussion:**

.

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

**R4-2006863 CR for timing requirement for NR-U**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0701 Cat: B (Rel-16)  
  
 Source: MediaTek inc.*

**Discussion:**

.

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

**R4-2007094 On the timing reference cell adaptation under DL LBT failure in reference cell**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

We provide our reasoning for the undecided texts in this contribution.

**Discussion:**

.

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

**R4-2007097 Draft CR on UE transmit timing accuracy and timing reference cell under DL LBT failure**

*Type: draftCR For: Endorsement  
 38.133 v16.3.0  
 Source: Ericsson*

**Abstract:**

A draft CR has been approved in last meeting, for which some texts were in brackets. We provide our opinion in these sentences in brackets.

**Discussion:**

.

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

##### 6.1.5.14 Others [NR\_unlic-Core]

**R4-2007787 On inter-RAT SFTD for NR-U**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

In this contribution we are providing input to remaining issues for inter-RAT SFTD in NR-U.

**Discussion:**

.

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

### 6.2 Cross Link Interference (CLI) handling and Remote Interference Management (RIM) for NR [NR\_CLI\_RIM]

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

**Email discussion: [95e][207] NR\_CLI\_RIM\_RRM**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email title** | **WI** | **Topic areas** | **AI** |
| [95e][207] NR\_CLI\_RIM\_RRM | R16 NR CLI | RRM Core maintenance | 6.2 |

**R4-2008496 Email discussion summary for [95e][207] NR\_CLI\_RIM\_RRM** *Type: other For: Information  
 Source: Moderator (LGE)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

1st round email discussion conclusions

2nd round email discussion conclusions

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

#### 6.2.1 General [NR\_CLI\_RIM-Core]

#### 6.2.2 RRM core requirements maintenance (38.133) [NR\_CLI\_RIM-Core]

**R4-2007825 CR on CLI measurement requirements**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0836 Cat: F (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

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

#### 6.2.3 RRM perf. requirements (38.133) [NR\_CLI\_RIM-Perf]

##### 6.2.3.1 CLI measurement accuracy [NR\_CLI\_RIM-Perf]

**R4-2007826 CR on CLI measurement performance requirements**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0837 Cat: F (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

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

##### 6.2.3.2 Test cases [NR\_CLI\_RIM-Perf]

**R4-2006691 Discussion on test setup for FR2**

*Type: discussion For: (not specified)  
 Source: LG Electronics Inc.*

**Discussion:**

.

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

**R4-2006692 CR for event triggered reporting tests for CLI**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0682 Cat: B (Rel-16)  
  
 Source: LG Electronics Inc.*

**Discussion:**

.

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

**R4-2007827 Discussion on AoA setup for CLI test cases**

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

**Discussion:**

.

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

**R4-2007828 CR on test cases for SRS-RSRP measurement accuracy in FR1**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0838 Cat: F (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

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

**R4-2007829 CR on test cases for SRS-RSRP measurement accuracy in FR2**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0839 Cat: F (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

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

**R4-2007830 CR on test cases for CLI-RSSI measurement accuracy in FR1**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0840 Cat: F (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

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

**R4-2007831 CR on test cases for CLI-RSSI measurement accuracy in FR2**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0841 Cat: F (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

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

**R4-2008131 On choice of CLI test setup**

*Type: discussion For: Agreement  
 38.133 v..  
 Source: Qualcomm CDMA Technologies*

**Abstract:**

More comments are provided on choice of test setup for CLI

**Discussion:**

.

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

##### 6.2.3.3 Others [NR\_CLI\_RIM-Perf]

### 6.3 NR mobility enhancement [NR\_Mob\_enh]

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

**Email discussion: [95e][208] NR\_Mob\_enh\_RRM**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email title** | **WI** | **Topic areas** | **AI** |
| [95e][208] NR\_Mob\_enh\_RRM | R16 NR Mob Enh | RRM Core requirements | 6.3 |

**R4-2008497 Email discussion summary for [95e][208] NR\_Mob\_enh\_RRM** *Type: other For: Information  
 Source: Moderator (Intel Corporation)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

1st round email discussion conclusions

2nd round email discussion conclusions

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

#### 6.3.1 General [NR\_Mob\_enh-Core]

#### 6.3.2 RRM core requirements (38.133) [NR\_Mob\_enh-Core]

##### 6.3.2.1 Handover with simultaneous Rx/Tx with source and target cells [NR\_Mob\_enh-Core]

**R4-2006163 Remaining issues on NR DAPS HO**

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

**Discussion:**

.

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

**R4-2006543 Discussion on remaining issues on DAPS handover**

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

**Discussion:**

.

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

**R4-2006544 CR to TS 38.133: DAPS handover RRM requirement**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0670 Cat: B (Rel-16)  
  
 Source: Intel Corporation*

**Discussion:**

.

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

**R4-2006545 Reply LS on simultaneous reception of DL signals in intra-frequency DAPS HO**

*Type: LS out For: Approval  
 to RAN1, cc RAN2  
 Source: Intel Corporation*

**Discussion:**

.

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

**R4-2006887 Discussion on dual active protocol stack handover**

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

**Discussion:**

.

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

**R4-2006978 Sync side conditions for NR DAPS handover**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

DAPS handover discussion

**Discussion:**

.

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

**R4-2006979 Correction to DAPS HO requirements in 38.133**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0711 Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Technically endorsed CR R4-2005307 with further updates to capture threshold between sync and async source and target cell

**Discussion:**

.

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

**R4-2007287 Discussion on remaining open issues on DAPS handover**

*Type: discussion For: Approval  
 Source: NEC*

**Abstract:**

In this TDoc, we provide our views on side condition and the applicability of existing interruption requirements for intra frequency and intra-band inter-frequency DAPS handover

**Discussion:**

.

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

**R4-2007759 Further discussion on remaining issues on DAPS handover**

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

**Discussion:**

.

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

**R4-2007760 CR on DAPS handover requirements**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0803 Cat: F (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

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

**R4-2007761 Draft LS on UE capabilities on DAPS HO**

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

**Discussion:**

.

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

**R4-2008194 CR on 38133 NR DAPS handover**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0876 Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Correction on NR DAPS handover requirements

**Discussion:**

.

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

##### 6.3.2.2 Conditional handover [NR\_Mob\_enh-Core]

**R4-2006546 CR to TS 38.133: CHO RRM requirement**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0671 Cat: B (Rel-16)  
  
 Source: Intel Corporation*

**Discussion:**

.

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

##### 6.3.2.3 Conditional PSCell addition/change [NR\_Mob\_enh-Core]

**R4-2007762 CR on conditional PSCell change requirements**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0804 Cat: F (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

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

##### 6.3.2.4 Others [NR\_Mob\_enh-Core]

**R4-2006980 Testcases for LTE and NR mobility enhancements**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

Test plan for DAPS and CHO for NR and LTE

**Discussion:**

.

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

### 6.4 5G V2X with NR sidelink [5G\_V2X\_NRSL]

#### 6.4.1 General [5G\_V2X\_NRSL]

#### 6.4.2 System parameters [5G\_V2X\_NRSL-Core]

#### 6.4.3 UE RF requirements [5G\_V2X\_NRSL-Core]

#### 6.4.5 RRM core requirements (38.133) [5G\_V2X\_NRSL-Core]

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

**Email discussion: [95e][209] 5G\_V2X\_NRSL\_RRM\_1**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email title** | **WI** | **Topic areas** | **AI** |
| [95e][209] 5G\_V2X\_NRSL\_RRM\_1 | R16 NR V2X | RRM Core requirements: General, TX timing, Synchronization requirements, Interruption requirements, Others | 6.4.5  6.4.5.1  6.4.5.2  6.4.5.4  6.4.5.5 |

**R4-2008498 Email discussion summary for [95e][209] 5G\_V2X\_NRSL\_RRM\_1** *Type: other For: Information  
 Source: Moderator (LGE)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

1st round email discussion conclusions

2nd round email discussion conclusions

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

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

**Email discussion: [95e][210] 5G\_V2X\_NRSL\_RRM\_2**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email title** | **WI** | **Topic areas** | **AI** |
| [95e][210] 5G\_V2X\_NRSL\_RRM\_2 | R16 NR V2X | RRM Core requirements: Measurement accuracy | 6.4.5.3 |

**R4-2008499 Email discussion summary for [95e][210] 5G\_V2X\_NRSL\_RRM\_2** *Type: other For: Information  
 Source: Moderator (MediaTek)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

1st round email discussion conclusions

2nd round email discussion conclusions

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

**R4-2006671 Discussion of remaining issues for NR V2X**

*Type: discussion For: Discussion  
 Source: LG Electronics Inc.*

**Abstract:**

It discusses remaining a few issues for NR V2X RRM requirements based on the agreed WF in last meeting.

**Discussion:**

.

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

**R4-2006709 CR of NR V2X editorial correction**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0687 Cat: D (Rel-16)  
  
 Source: LG Electronics Inc.*

**Abstract:**

It is editorial CR for NR V2X RRM requirements.

**Discussion:**

.

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

##### 6.4.5.1 Transmit timing requirements [5G\_V2X\_NRSL-Core]

##### 6.4.5.2 Synchronization requirements [5G\_V2X\_NRSL-Core]

**R4-2006674 Simulation results of PSBCH-RSRP measurement accuracy**

*Type: discussion For: Discussion  
 Source: LG Electronics Inc.*

**Abstract:**

It provides measurement accuracy based on simulation results for PSBCH-RSRP measurements.

**Discussion:**

.

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

##### 6.4.5.3 Measurement requirements [5G\_V2X\_NRSL-Core]

**R4-2006469 Discussion on NR V2X measurement requirement**

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

**Discussion:**

.

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

**R4-2006470 CR on L1 SL-RSRP measurements**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0666 Cat: F (Rel-16)  
  
 Source: MediaTek inc.*

**Discussion:**

.

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

**R4-2006471 Link-level simulation for NR V2X PSBCH RSRP**

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

**Discussion:**

.

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

**R4-2006685 CR of NR V2X measurement accuracy requirements(SL-RSSI and L1 SL-RSRP)**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0681 Cat: B (Rel-16)  
  
 Source: LG Electronics Inc.*

**Abstract:**

It is CR to introduce NR V2X measurement accuracy requirements(SL-RSSI, L1 SL-RSRP).

**Discussion:**

.

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

**R4-2006711 On NR V2X measurmeent requirement**

*Type: discussion For: Discussion  
 Source: Qualcomm, Inc.*

**Abstract:**

NR V2X measurmeent requirement simulation results

**Discussion:**

.

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

**R4-2007763 Simulation results of PSBCH-RSRP measurement accuracy**

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

**Discussion:**

.

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

**R4-2007764 Discussion on measurement related requirements for NR V2X**

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

**Discussion:**

.

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

**R4-2007765 CR on PSBCH-RSRP accuracy requirements for NR V2X**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0805 Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

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

##### 6.4.5.4 Interruption requirements [5G\_V2X\_NRSL-Core]

**R4-2006222 CR on interruption requirements for NR V2X**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0636 Cat: F (Rel-16)  
  
 Source: CATT*

**Discussion:**

.

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

**R4-2006472 Discussion on NR V2X interruption requirement**

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

**Discussion:**

.

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

**R4-2006473 CR on V2X interruption**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0667 Cat: F (Rel-16)  
  
 Source: MediaTek inc.*

**Discussion:**

.

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

**R4-2006706 CR of interruption for switching between NR SL and LTE SL**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0686 Cat: B (Rel-16)  
  
 Source: LG Electronics Inc.*

**Abstract:**

It is CR to introduce interruption requirement for switching between NR SL and LTE SL.

**Discussion:**

.

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

**R4-2006712 On NR V2X interruption requirement**

*Type: discussion For: Discussion  
 Source: Qualcomm, Inc.*

**Abstract:**

interruption requirement, sync source change and tx switch

**Discussion:**

.

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

**R4-2007766 Discussion on interruption related issues for NR V2X**

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

**Discussion:**

.

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

##### 6.4.5.5 Others [5G\_V2X\_NRSL-Core]

**R4-2006696 CR of NR V2X operating band group**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0683 Cat: B (Rel-16)  
  
 Source: LG Electronics Inc.*

**Abstract:**

It is CR to introduce NR V2X operating band group.

**Discussion:**

.

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

**R4-2006700 CR of Annex.B for NR V2X side conditions**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0684 Cat: B (Rel-16)  
  
 Source: LG Electronics Inc.*

**Abstract:**

It is CR to introduce NR V2X measurement conditions in Annex B.

**Discussion:**

.

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

**R4-2006702 CR of NR V2X abbreviations**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0685 Cat: B (Rel-16)  
  
 Source: LG Electronics Inc.*

**Abstract:**

It is CR to introduce NR V2X abbreviations for RRM requirements.

**Discussion:**

.

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

### 6.5 Integrated Access and Backhaul for NR [NR\_IAB]

#### 6.5.1 General [NR\_IAB-Core]

#### 6.5.2 RF requirements [NR\_IAB-Core]

#### 6.5.3 RRM core requirements (38.133) [NR\_IAB-Core]

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

**Email discussion: [95e][211] NR\_IAB\_RRM**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email title** | **WI** | **Topic areas** | **AI** |
| [95e][211] NR\_IAB\_RRM | R16 NR IAB | RRM Core requirements | 6.5.3 |

**R4-2008500 Email discussion summary for [95e][211] NR\_IAB\_RRM** *Type: other For: Information  
 Source: Moderator (Qualcomm)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

1st round email discussion conclusions

2nd round email discussion conclusions

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

##### 6.5.3.1 General [NR\_IAB-Core]

**R4-2007269 RRM requirements in IAB TR and TS**

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

**Discussion:**

.

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

**R4-2007991 TP to TS 38.174 v0.0.1: Adding references related to IAB**

*Type: pCR For: Approval  
 38.174 v0.0.1  
 Source: Ericsson*

**Abstract:**

This TP adds more references which are needed to remove TBDs in various parts of the spec

**Discussion:**

.

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

**R4-2008196 CR on 38174 RRM IAB TS**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0877 Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Correction on IAB RRM requirements

**Discussion:**

.

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

**R4-2008238 CR on 38174 RRM IAB TS**

*Type: draftCR For: Endorsement  
 38.174 v0.0.1  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Correction on IAB RRM requirements

**Discussion:**

.

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

##### 6.5.3.2 RRC connection mobility control [NR\_IAB-Core]

**R4-2007189 Pending issues on RRC mobility control for IAB-MT**

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

**Discussion:**

.

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

**R4-2007488 Discussion regarding RRC Connection Mobility Control in IAB Networks**

*Type: discussion For: (not specified)  
 Source: Qualcomm*

**Discussion:**

.

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

**R4-2007489 TP for RRC Connection Mobility Control in IAB Networks**

*Type: discussion For: (not specified)  
 Source: Qualcomm*

**Discussion:**

.

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

**R4-2007992 Handling 4 SMTC in RRC re-establishment and redirection for IAB MT**

*Type: other For: Discussion  
 Source: Ericsson*

**Abstract:**

This paper analyzes impact of IAB-MT handling up to 4 SMTC window in RRC re-establishment and RRC release with redirection requirements for IAB MT. RAN1 feature list was agreed in R1-2003073 and sent to RAN4 in LS in R1-2003072.

**Discussion:**

.

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

**R4-2007993 TP to TS 38.174 v0.0.1: Updates to RRC re-establishment requirements for IAB MT**

*Type: pCR For: Approval  
 38.174 v0.0.1  
 Source: Ericsson*

**Abstract:**

This TP defines RRC re-establishment requirements for IAB MT

**Discussion:**

.

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

**R4-2007994 TP to TS 38.174 v0.0.1: Updates to RRC re-direction requirements for IAB MT**

*Type: pCR For: Approval  
 38.174 v0.0.1  
 Source: Ericsson*

**Abstract:**

This TP defines RRC re-direction requirements for IAB MT

**Discussion:**

.

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

##### 6.5.3.3 MT timing related requirements [NR\_IAB-Core]

**R4-2008197 discussion on Tansmit Timing requirement for IAB-MT**

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

**Abstract:**

Discussion on transmit timing requirement for IAB-MT

**Discussion:**

.

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

**R4-2008198 CR on 38174 Transmit Timing requirements for IAB-MT**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0878 Cat: F (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Correction on transmit timing requirement for IAB-MT

**Discussion:**

.

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

**R4-2008239 CR on 38174 Transmit Timing requirements for IAB-MT**

*Type: draftCR For: Endorsement  
 38.174 v0.0.1  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Correction on transmit timing requirement for IAB-MT

**Discussion:**

.

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

##### 6.5.3.4 RLM requirements [NR\_IAB-Core]

**R4-2006016 on RLM requirements for IAB MT**

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

**Discussion:**

.

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

**R4-2006017 TP for IAB RLM**

*Type: pCR For: Approval  
 38.174 v0.0.1  
 Source: ZTE Corporation*

**Discussion:**

.

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

**R4-2006433 Radio Link Monitoring requirement for IAB-MT**

*Type: discussion For: Discussion  
 Source: Samsung*

**Discussion:**

.

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

**R4-2007490 Discussion regarding RLM requirements of IAB-MTs**

*Type: discussion For: (not specified)  
 Source: Qualcomm*

**Discussion:**

.

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

**R4-2007684 Discussion on RLM requirement for IAB-MT**

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

**Discussion:**

.

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

##### 6.5.3.5 BFR requirements [NR\_IAB-Core]

**R4-2006015 on BFD and BFR requirements for IAB MT**

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

**Discussion:**

.

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

**R4-2006434 Link Recovery requirement for IAB-MT**

*Type: discussion For: Discussion  
 Source: Samsung*

**Discussion:**

.

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

**R4-2006435 TP to TS 38.174 v0.0.1: Beam Candidate Detection Requirements for IAB MT**

*Type: pCR For: Approval  
 38.174 v0.0.1  
 Source: Samsung*

**Discussion:**

.

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

**R4-2007486 TP regarding BFD requirements of IAB-MTs**

*Type: discussion For: (not specified)  
 Source: Qualcomm*

**Discussion:**

.

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

**R4-2007487 Discussion regarding BFD and CBD requirements of IAB-MTs**

*Type: discussion For: (not specified)  
 Source: Qualcomm*

**Discussion:**

.

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

**R4-2007683 Discussion on BFD and CBD requirement for IAB-MT**

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

**Discussion:**

.

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

#### 6.5.4 EMC core requirements [NR\_IAB-Core]

### 6.6 Multi-RAT Dual-Connectivity and Carrier Aggregation enhancements [LTE\_NR\_DC\_CA\_enh]

#### 6.6.1 General [LTE\_NR\_DC\_CA\_enh-Core]

#### 6.6.2 RF requirements [LTE\_NR\_DC\_CA\_enh-Core]

#### 6.6.3 RRM core requirements (38.133) [LTE\_NR\_DC\_CA\_enh-Core]

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

**Email discussion: [95e][212] LTE\_NR\_DC\_CA\_RRM\_1**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email title** | **WI** | **Topic areas** | **AI** |
| [95e][212] LTE\_NR\_DC\_CA\_RRM\_1 | R16 MR-DC | RRM Core requirements: Early Measurement reporting, Others | 6.6.3.1  6.6.3.3 |

**R4-2008501 Email discussion summary for [95e][212] LTE\_NR\_DC\_CA\_RRM\_1** *Type: other For: Information  
 Source: Moderator (Nokia)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

1st round email discussion conclusions

2nd round email discussion conclusions

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

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

**Email discussion: [95e][213] LTE\_NR\_DC\_CA\_RRM\_2**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email title** | **WI** | **Topic areas** | **AI** |
| [95e][213] LTE\_NR\_DC\_CA\_RRM\_2 | R16 MR-DC | RRM Core requirements: Efficient and low latency serving cell configuration, activation and setup | 6.6.3.2 |

**R4-2008502 Email discussion summary for [95e][213] LTE\_NR\_DC\_CA\_RRM\_2** *Type: other For: Information  
 Source: Moderator (Ericsson)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

1st round email discussion conclusions

2nd round email discussion conclusions

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

##### 6.6.3.1 Early Measurement reporting [LTE\_NR\_DC\_CA\_enh-Core]

**R4-2007281 Early measurement reporting in MR-DC**

*Type: discussion For: Discussion  
 38.133 v..  
 Source: Qualcomm Incorporated*

**Discussion:**

.

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

**R4-2007965 On measurement capability for EMR**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

On measurement capability for EMR

**Discussion:**

.

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

**R4-2007966 Response LS on clarification of UE requirements for early measurement performance and reporting**

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

**Abstract:**

Response LS on clarification of UE requirements for early measurement performance and reporting

**Discussion:**

.

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

###### 6.6.3.1.1 NR measurements for EMR [LTE\_NR\_DC\_CA\_enh-Core]

**R4-2007151 NR EMR requirements for 38.133**

*Type: discussion For: Discussion  
 38.133 v..  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

.

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

**R4-2007152 TP for NR MR-DC RRM requirements for 38.133**

*Type: discussion For: Approval  
 38.133 v..  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

.

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

**R4-2007153 Big CR Introduction of UE requirement for MR-DC early measurement reporting in 38.133**

*Type: draftCR For: Endorsement  
 38.133 v16.3.0  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

.

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

**R4-2007832 Discussion on early measurement in NR**

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

**Discussion:**

.

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

**R4-2007833 CR to introduce EMR in 38.133**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0842 Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

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

###### 6.6.3.1.2 LTE NR Inter-RAT EMR [LTE\_NR\_DC\_CA\_enh-Core]

**R4-2007154 NR inter-RAT EMR requirements for 36.133**

*Type: discussion For: Discussion  
 38.133 v..  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

.

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

**R4-2007155 TP for NR inter-RAT EMR requirements for 36.133**

*Type: discussion For: Approval  
 38.133 v..  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

.

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

**R4-2007156 Big CR Introduction of UE requirement for MR-DC early measurement reporting in 36.133**

*Type: draftCR For: Endorsement  
 38.133 v16.3.0  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

.

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

**R4-2007834 Discussion on LTE – NR inter-RAT EMR**

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

**Discussion:**

.

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

**R4-2007835 CR to introduce EMR in 36.133**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6883 Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

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

##### 6.6.3.2 Efficient and low latency serving cell configuration, activation and setup [LTE\_NR\_DC\_CA\_enh-Core]

**R4-2007655 Further discussion on clarification of UE requirements for early measurement performance and reporting**

*Type: discussion For: Discussion  
 Source: ZTE*

**Discussion:**

.

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

**R4-2007656 Reply LS on clarification of UE requirements for early measurement performance and reporting**

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

**Discussion:**

.

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

###### 6.6.3.2.1 Direct SCell activation [LTE\_NR\_DC\_CA\_enh-Core]

**R4-2006063 [CR] Delay requirements for direct SCell activation**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0599 Cat: F (Rel-16)  
  
 Source: ZTE Corporation*

**Abstract:**

Formal version of draft CR R4-2005328, which was endorsed in the last meeting.

**Discussion:**

.

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

**R4-2006885 Discussion on LTE CRS based and NR SSB based measurement in NR IDLE/INACTIVE mode**

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

**Discussion:**

.

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

**R4-2007343 On NR Measurement for EMR**

*Type: discussion For: Approval  
 Source: OPPO*

**Discussion:**

.

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

**R4-2007654 Discussion on NR EMR measurements**

*Type: discussion For: Discussion  
 Source: ZTE*

**Discussion:**

.

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

**R4-2007782 CR 38.133 (8.3.4-5) Corrections to Direct SCell activation**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0814 Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Corresponding draft CR was endorsed at RAN4#94-e-Bis (R4-2005327)

**Discussion:**

.

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

**R4-2007785 CR 38.133 (8.3.4-5) Addition of interruption windows for Direct SCell Activation**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0817 Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Interruption window for Rel-15 SCell activation was agreed at RAN4#94-e-Bis. In this CR we are providing corresponding interruption window definitions for Rel-16 Direct SCell activation.

**Discussion:**

.

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

**R4-2007836 CR on interruption requirements for direct SCell activation for 38.133**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0843 Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

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

**R4-2007837 CR on interruption requirements for direct SCell activation for 36.133**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6884 Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

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

###### 6.6.3.2.2 SCell dormancy [LTE\_NR\_DC\_CA\_enh-Core]

**R4-2006520 On Scell domancy RRM requirements**

*Type: discussion For: Approval  
 Source: vivo*

**Discussion:**

.

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

**R4-2006886 Discussion on NR SSB based measurement in LTE IDLE/INACTIVE mode**

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

**Discussion:**

.

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

**R4-2007157 SCell Dormancy requirements discussion**

*Type: discussion For: Discussion  
 38.133 v..  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

.

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

**R4-2007282 Scell BWP dormancy**

*Type: discussion For: Discussion  
 38.133 v..  
 Source: Qualcomm Incorporated*

**Discussion:**

.

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

**R4-2007288 Discussion on RRM requirements for SCell dormancy**

*Type: discussion For: Approval  
 Source: NEC*

**Abstract:**

Provided our views on UE SCell dormancy switch delay requirements, UE requirements for a SCell dormancy and interruption requirements

**Discussion:**

.

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

**R4-2007344 On LTE NR inter-RAT EMR**

*Type: discussion For: Approval  
 Source: OPPO*

**Discussion:**

.

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

**R4-2007786 On SCell dormancy**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

In this contribution we are providing input on requirements for SCell dormancy.

**Discussion:**

.

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

**R4-2007838 Discussion on SCell dormancy**

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

**Discussion:**

.

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

**R4-2007839 CR on delay requirements for SCell dormancy**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0844 Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

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

**R4-2007840 CR on interruption requirements for SCell dormancy**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0845 Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

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

**R4-2008187 Impact analysis on dormant BWP configuration**

*Type: discussion For: Discussion  
 Source: Futurewei Technologies*

**Discussion:**

.

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

**R4-2008199 Reply LS to RAN2 on dormant BWP**

*Type: LS out For: Approval  
 to RAN2, RAN1  
 Source: Futurewei Technologies*

**Discussion:**

.

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

##### 6.6.3.3 Others [LTE\_NR\_DC\_CA\_enh-Core]

### 6.7 UE power saving in NR [NR\_UE\_pow\_sav]

#### 6.7.1 General [NR\_UE\_pow\_sav]

#### 6.7.2 RRM core requirements (38.133) [NR\_UE\_pow\_sav-Core]

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

**Email discussion: [95e][214] NR\_UE\_pow\_sav\_RRM**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email title** | **WI** | **Topic areas** | **AI** |
| [95e][214] NR\_UE\_pow\_sav\_RRM | R16 NR UE Power Saving | RRM Core requirements | 6.7.2 |

**R4-2008503 Email discussion summary for [95e][214] NR\_UE\_pow\_sav\_RRM** *Type: other For: Information  
 Source: Moderator (CATT)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

1st round email discussion conclusions

2nd round email discussion conclusions

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

**R4-2006518 CR for maximum MIMO layer adaptation**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0669 Cat: F (Rel-16)  
  
 Source: vivo,CATT*

**Discussion:**

.

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

**R4-2007440 CR for maximum MIMO layer adaptation**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0736 Cat: F (Rel-16)  
  
 Source: vivo,CATT*

**Discussion:**

.

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

##### 6.7.2.1 RRM measurement relaxation [NR\_UE\_pow\_sav-Core]

**R4-2006198 On remaining issues for RRM power saving**

*Type: discussion For: Discussion  
 38.133 v..  
 Source: Apple*

**Discussion:**

.

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

**R4-2006219 Further discussion on the remaining issues for RRM measurement relaxation**

*Type: discussion For: Discussion  
 Source: CATT*

**Discussion:**

.

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

**R4-2006220 CR on measurement relaxation in idle mode for UE power saving**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0634 Cat: B (Rel-16)  
  
 Source: CATT*

**Discussion:**

.

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

**R4-2006221 CR on minimum requirement at transition period for UE power saving**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0635 Cat: B (Rel-16)  
  
 Source: CATT*

**Discussion:**

.

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

**R4-2006516 On remaining issues on NR UE power savings**

*Type: discussion For: Approval  
 Source: vivo*

**Discussion:**

.

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

**R4-2006517 LS on RRM relaxation in UE power saving**

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

**Discussion:**

.

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

**R4-2006519 Draft CR on IDLE state measurement relaxation for UE power saving**

*Type: draftCR For: Endorsement  
 38.133 v16.3.0  
 Source: vivo*

**Discussion:**

.

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

**R4-2006695 Performance Impact on measurement relaxation for power saving**

*Type: discussion For: Discussion  
 Source: LG Electronics Inc.*

**Discussion:**

.

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

**R4-2006698 LS on measurement relaxation for inter-frequency on power saving**

*Type: LS out For: Approval  
 to RAN WG2  
 Source: LG Electronics Inc.*

**Discussion:**

.

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

**R4-2006810 RRM measurement relaxation for UE power saving**

*Type: discussion For: Discussion  
 Source: CMCC*

**Discussion:**

.

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

**R4-2006884 Discussion on RRM measurement relaxation for RRC\_IDLE/INACTIVE**

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

**Discussion:**

.

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

**R4-2006993 Draft CR on IDLE state measurement relaxation for UE power saving**

*Type: draftCR For: Endorsement  
 38.133 v16.3.0  
 Source: vivo*

**Discussion:**

.

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

**R4-2007158 RRM requirements for UE Power Saving**

*Type: discussion For: Discussion  
 38.133 v..  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

.

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

**R4-2007345 On RRM measurement relaxation for power saving**

*Type: discussion For: Approval  
 Source: OPPO*

**Discussion:**

.

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

**R4-2007495 RRM measurement relaxation for power saving**

*Type: discussion For: (not specified)  
 Source: Qualcomm*

**Discussion:**

.

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

**R4-2007728 Discussion on measurement relaxation in power saving**

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

**Discussion:**

.

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

**R4-2007729 Discussion on the remaining issues in power saving**

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

**Discussion:**

.

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

**R4-2007730 CR on measurement relaxation for power saving**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0791 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

.

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

**R4-2007892 Discussions on RRM impact of NR UE power saving**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

In this contribution, we continue the discussions on RRM measurement relaxations based on latest agreements.

**Discussion:**

.

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

**R4-2007893 Measurement requirements for UEs under power saving mode**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0854 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

CR to capture the relaxed RRM measurement requirements.

**Discussion:**

.

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

#### 6.7.3 Demodulation and CSI requirements (38.101-4) [NR\_UE\_pow\_sav-Perf]

### 6.8 NR Positioning Support [NR\_pos]

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

**Email discussion: [95e][215] NR\_pos\_RRM\_1**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email title** | **WI** | **Topic areas** | **AI** |
| [95e][215] NR\_pos\_RRM\_1 | R16 NR Positioning | RRM Core requirements: General, UE requirements (PRS-RSTD, UE Rx-Tx time difference) | 6.8.1  6.8.2.1.1  6.8.2.1.3  6.8.2.1.5 |

**R4-2008504 Email discussion summary for [95e][215] NR\_pos\_RRM\_1** *Type: other For: Information  
 Source: Moderator (Huawei, HiSilicon)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

1st round email discussion conclusions

2nd round email discussion conclusions

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

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

**Email discussion: [95e][216] NR\_pos\_RRM\_2**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email title** | **WI** | **Topic areas** | **AI** |
| [95e][216] NR\_pos\_RRM\_2 | R16 NR Positioning | RRM Core requirements: UE requirements (PRS-RSRP measurements, SSB and CSI-RS RSRP/RSRQ measurements) | 6.8.2.1.2  6.8.2.1.4 |

**R4-2008505 Email discussion summary for [95e][216] NR\_pos\_RRM\_2** *Type: other For: Information  
 Source: Moderator (Intel Corporation)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

1st round email discussion conclusions

2nd round email discussion conclusions

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

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

**Email discussion: [95e][217] NR\_pos\_RRM\_3**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email title** | **WI** | **Topic areas** | **AI** |
| [95e][217] NR\_pos\_RRM\_3 | R16 NR Positioning | RRM Core requirements: Impact on existing requirements (incl. MG), gNB requirements, Others | 6.8.2.2  6.8.2.3  6.8.2.4 |

**R4-2008506 Email discussion summary for [95e][217] NR\_pos\_RRM\_3** *Type: other For: Information  
 Source: Moderator (Ericsson)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

1st round email discussion conclusions

2nd round email discussion conclusions

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

#### 6.8.1 General [NR\_pos-Core/Perf]

**R4-2006560 CR to TS 38.133: Structure for NR positioning RRM requirements**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0674 Cat: B (Rel-16)  
  
 Source: Intel Corporation*

**Discussion:**

.

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

**R4-2006561 CR to TS 38.133: PRS RSTD requirements**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0675 Cat: B (Rel-16)  
  
 Source: Intel Corporation*

**Discussion:**

.

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

**R4-2006562 Views on down scoping for NR positioning remaining issues**

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

**Discussion:**

.

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

**R4-2007271 Discussion on the SRS for positioning during the DRX inactive period**

*Type: discussion For: Discussion  
 Source: vivo*

**Discussion:**

.

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

#### 6.8.2 RRM core requirements (38.133) [NR\_pos-Core]

##### 6.8.2.1 UE requirements [NR\_pos-Core]

**R4-2007952 On new measurement gaps for NR positioning**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

On new measurement gaps for NR positioning

**Discussion:**

.

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

**R4-2007953 LS on measurement gaps for NR positioning**

*Type: LS out For: Approval  
 to RAN1,RAN2  
 Source: Ericsson*

**Abstract:**

LS on measurement gaps for NR positioning

**Discussion:**

.

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

**R4-2007955 Positioning measurement accuracy requirements structure in section 10**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0862 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Positioning measurement accuracy requirements structure in section 10

**Discussion:**

.

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

###### 6.8.2.1.1 PRS-RSTD measurements [NR\_pos-Core]

**R4-2006018 PRS-RSTD measurements for NR positioning**

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

**Abstract:**

This paper discusses the definition of intra and inter frequency RSTD measurements.

**Discussion:**

.

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

**R4-2006168 On PRS-RSTD measurements for NR positioning**

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

**Discussion:**

.

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

**R4-2006232 Discussion on RSTD measurement requirements**

*Type: discussion For: Discussion  
 Source: CATT*

**Discussion:**

.

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

**R4-2006304 Discussion of remaining issues for PRS-RSTD measurement**

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

**Discussion:**

.

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

**R4-2006556 Further discussion on NR PRS RSTD requirements**

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

**Discussion:**

.

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

**R4-2007145 Scaling of measurement period due to UE Rx beam sweeping**

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

**Abstract:**

Propose to re-use R15 beam sweeping factor.

**Discussion:**

.

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

**R4-2007841 Discussion on RSTD measurement**

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

**Discussion:**

.

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

**R4-2007842 [draft] reply LS on agreements related to NR Positioning**

*Type: LS out For: Approval  
 to RAN1  
 Source: Huawei, HiSilicon*

**Discussion:**

.

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

**R4-2007944 On PRS RSTD measurements**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

On PRS RSTD measurements

**Discussion:**

.

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

**R4-2007945 On PRS RSTD measurement report mapping**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

On PRS RSTD measurement report mapping

**Discussion:**

.

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

**R4-2007946 Measurement report mapping for PRS RSTD**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0859 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Measurement report mapping for PRS RSTD

**Discussion:**

.

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

**R4-2007949 On additional path reporting with positioning measurements**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

On additional path reporting with positioning measurements

**Discussion:**

.

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

**R4-2007950 Additional path report mapping for RSTD**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0860 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Additional path report mapping for RSTD

**Discussion:**

.

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

**R4-2007958 Reporting criteria for NR RSTD**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0863 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Reporting criteria for NR RSTD

**Discussion:**

.

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

###### 6.8.2.1.2 PRS-RSRP measurements [NR\_pos-Core]

**R4-2006169 On PRS-RSRP measurements for NR positioning**

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

**Discussion:**

.

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

**R4-2006233 Discussion on PRS-RSRP measurement requirements**

*Type: discussion For: Discussion  
 Source: CATT*

**Discussion:**

.

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

**R4-2006238 CR on PRS-RSRP measurement report mapping**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0642 Cat: B (Rel-16)  
  
 Source: CATT*

**Discussion:**

.

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

**R4-2006305 Discussion of remaining issues for PRS-RSRP measurement**

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

**Discussion:**

.

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

**R4-2007843 Discussion on PRS-RSRP measurement**

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

**Discussion:**

.

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

**R4-2007844 CR for measurement requriements for PRS-RSRP**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0846 Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

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

**R4-2007947 On PRS-RSRP measurements**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

On PRS-RSRP measurements

**Discussion:**

.

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

**R4-2007948 On PRS-RSRP measurement report mapping**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

On PRS-RSRP measurement report mapping

**Discussion:**

.

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

**R4-2007951 Additional path report mapping for UE Rx-Tx**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0861 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Additional path report mapping for UE Rx-Tx

**Discussion:**

.

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

**R4-2007960 Reporting criteria for PRS-RSRP**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0865 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Reporting criteria for PRS-RSRP

**Discussion:**

.

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

###### 6.8.2.1.3 Rx-Tx time difference measurements [NR\_pos-Core]

**R4-2006170 On UE Rx-Tx time difference measurement for NR positioning**

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

**Discussion:**

.

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

**R4-2006234 Discussion on UE Rx-Tx time difference measurement requirements**

*Type: discussion For: Discussion  
 Source: CATT*

**Discussion:**

.

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

**R4-2006237 Link level simulation assumption for UE RX-Tx time difference**

*Type: discussion For: Discussion  
 Source: CATT*

**Discussion:**

.

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

**R4-2007845 Discussion on Rx-Tx time difference measurement**

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

**Discussion:**

.

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

**R4-2007943 On UE Rx-Tx measurements**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

On UE Rx-Tx measurements

**Discussion:**

.

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

**R4-2007954 Link-level simulation assumptions for UE Rx-Tx**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

Link-level simulation assumptions for UE Rx-Tx

**Discussion:**

.

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

**R4-2007956 On criterion of pathloss measurement failure for power control of SRS for positioning**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

On criterion of pathloss measurement failure for power control of SRS for positioning

**Discussion:**

.

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

**R4-2007957 Response LS on criterion of pathloss measurement failure for power control of SRS for positioning**

*Type: LS out For: Approval  
 to RAN1  
 Source: Ericsson*

**Abstract:**

Response LS on criterion of pathloss measurement failure for power control of SRS for positioning

**Discussion:**

.

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

**R4-2007959 Reporting criteria for NR UE Rx-Tx**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0864 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Reporting criteria for NR UE Rx-Tx

**Discussion:**

.

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

**R4-2007995 Impact of NTA offset on UE Rx-Tx time difference measurement**

*Type: other For: Discussion  
 Source: Ericsson*

**Abstract:**

This paper analyzes the impact of NTA offset on UE Rx-Tx time difference measurements.

**Discussion:**

.

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

**R4-2007996 LS on impact of NTA offset on UE Rx-Tx time difference measurement**

*Type: LS out For: Approval  
 to RAN2, cc RAN1  
 Source: Ericsson*

**Abstract:**

This LS requests RAN2 to define signaling to inform LMF the NTA offset used in a cell when UE Rx-Tx time difference measurements are performed.

**Discussion:**

.

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

**R4-2007997 Analysis of UE Rx-Tx Measurement Report Mapping in NR**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

This paper analyzes UE Rx-Tx measurement report mappings in NR based on agreements in RAN4#94-ebis

**Discussion:**

.

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

**R4-2007998 UE Rx-Tx Measurement Report Mapping in NR in 38.133**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0870 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

This CR defines UE Rx-Tx measurement report mappings in NR

**Discussion:**

.

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

**R4-2006557 Further discussion on UE Rx-Tx time difference requirements**

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

**Session chair: moved from AI 6.8.2.1.2**

**Discussion:**

.

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

###### 6.8.2.1.4 SSB and CSI-RS RSRP/RSRQ measurements [NR\_pos-Core]

**R4-2007939 NR E-CID reporting criteria requirements**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0857 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

NR E-CID reporting criteria requirements

**Discussion:**

.

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

**R4-2007940 NR E-CID measurement requirements**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0858 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

NR E-CID measurement requirements

**Discussion:**

.

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

###### 6.8.2.1.5 Link-level evaluations for PRS-RSTD and PRS-RSRP [NR\_pos-Core]

**R4-2006171 Link-level simulation assumptions for UE Rx-Tx time difference measurements**

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

**Discussion:**

.

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

**R4-2006559 Link-level simulation assumptions for UE Rx-Tx time difference measurement**

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

**Discussion:**

.

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

**R4-2007941 Updated link simulation results for NR RSTD**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Updated link simulation results for NR RSTD

**Discussion:**

.

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

**R4-2007942 Updated link simulation results for PRS RSRP**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Updated link simulation results for PRS RSRP

**Discussion:**

.

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

##### 6.8.2.2 Impact on existing RRM requirements [NR\_pos-Core]

**R4-2006173 On Impact of NR positioning on existing RRM requirements**

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

**Discussion:**

.

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

**R4-2006236 Impact on existing RRM measurement**

*Type: discussion For: Discussion  
 Source: CATT*

**Discussion:**

.

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

**R4-2006306 Discussion on impact on existing RRM requirements**

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

**Discussion:**

.

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

**R4-2006555 Further discussion on UE RRM impacts due to NR Pos measurement**

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

**Discussion:**

.

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

**R4-2007144 BWP switch during gaps used for PRS measurements**

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

**Discussion:**

.

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

**R4-2007846 Impact of positioning on existing RRM requirements**

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

**Discussion:**

.

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

**R4-2007999 Impact of active BWP change on positioning measurements**

*Type: other For: Approval  
 Source: Ericsson*

**Abstract:**

This paper provides UE Rx-Tx measurement report mappings in NR

**Discussion:**

.

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

##### 6.8.2.3 gNB requirements [NR\_pos-Core]

**R4-2006024 gNB requirements for NR positioning**

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

**Abstract:**

This paper discusses some pending issues left from last meeting

**Discussion:**

.

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

**R4-2006172 on gNB requirements for NR positioning**

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

**Discussion:**

.

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

**R4-2006235 Discussion on gNB measurement requirements**

*Type: discussion For: Discussion  
 Source: CATT*

**Discussion:**

.

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

**R4-2006239 CR on UL RTOA measurement report mapping**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0643 Cat: B (Rel-16)  
  
 Source: CATT*

**Discussion:**

.

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

**R4-2006240 CR on gNB Rx-Tx time difference measurement report mapping**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0644 Cat: B (Rel-16)  
  
 Source: CATT*

**Discussion:**

.

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

**R4-2006241 CR on SRS RSRP measurement report mapping**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0645 Cat: B (Rel-16)  
  
 Source: CATT*

**Discussion:**

.

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

**R4-2006558 Further discussion on gNB measurement requirements in NR Positioning**

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

**Discussion:**

.

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

**R4-2007116 On gNB measurement accuracy requirements for NR positioning**

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

**Abstract:**

Discussion on gNB measurement accuracy requirements for NR positioning.

**Discussion:**

.

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

**R4-2007275 Optionality for positioning measurements in gNB**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Defer the decision until accuracy work has progressed.

**Discussion:**

.

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

**R4-2007277 Side conditions for gNB measurement accuracy**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Use the same SINR values for UE and gNB as side condition for the accuracy requirement.

**Discussion:**

.

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

**R4-2007278 Beam configuration for gNB measurement accuracy**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Fixed antenna beams are assumed in gNB for deriving accuracy.

**Discussion:**

.

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

**R4-2007286 PRS/SRS configurations for gNB measurement accuracy**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

PRS/SRS configurations for gNB has to declare by manufacture.

**Discussion:**

.

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

**R4-2007304 Applicability of gNB Rx-Tx accuracy under TA change**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

The requirements for UE Rx-Tx time difference measurement apply, provided the TA offset has not changed during the measurement period.

**Discussion:**

.

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

**R4-2007305 Accuracy for different BS types**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

The requirements for positioning should be independent of the test type "connected", "hybrid" or "over the air".

**Discussion:**

.

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

**R4-2007336 gNB Positioning Measurement Report Mapping**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0722 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Structure expand for gNB measurements.

**Discussion:**

.

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

**R4-2007847 Discussion on the scope gNB requirements for NR positioning**

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

**Discussion:**

.

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

**R4-2007848 Discussion on gNB positioning measurement requirements**

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

**Discussion:**

.

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

**R4-2007849 CR for gNB Rx-Tx time difference and UL-RTOA report mapping**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0847 Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

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

**R4-2007850 CR for SRS-RSRP report mapping**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0848 Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

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

**R4-2007851 CR for AoA/ZoA report mapping**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0849 Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

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

##### 6.8.2.4 Others [NR\_pos-Core]

**R4-2007117 On UE aspects for NR positioning**

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

**Abstract:**

Disussion on UE aspects for NR positioning

**Discussion:**

.

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

**R4-2007852 Discussion on criterion for inaccurate pathloss measurement**

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

**Discussion:**

.

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

**R4-2007853 [draft] reply LS on criterion of pathloss measurement failure for power control of SRS for positioning**

*Type: LS out For: Approval  
 to RAN1  
 Source: Huawei, HiSilicon*

**Discussion:**

.

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

**R4-2007854 Discussion on positioning SRS during DRX inactive time**

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

**Discussion:**

.

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

**R4-2007855 [draft] reply LS on positioning SRS during DRX inactive time**

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

**Discussion:**

.

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

### 6.9 Physical layer enhancements for NR URLLC [NR\_L1enh\_URLLC-Core]

### 6.10 Single radio voice call continuity from 5G to 3G (SRVCC) [SRVCC\_NR\_to\_UMTS-Core]

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

**Email discussion: [95e][218] SRVCC\_NR\_to\_UMTS\_RRM**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email title** | **WI** | **Topic areas** | **AI** |
| [95e][218] SRVCC\_NR\_to\_UMTS\_RRM | R16 SRVCC | RRM Core maintenance | 6.10.1  6.10.2 |

**R4-2008507 Email discussion summary for [95e][218] SRVCC\_NR\_to\_UMTS\_RRM** *Type: other For: Information  
 Source: Moderator (Huawei, HiSilicon)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

1st round email discussion conclusions

2nd round email discussion conclusions

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

#### 6.10.1 RRM core requirements maintenance (38.133) [SRVCC\_NR\_to\_UMTS-Core]

**R4-2006987 Gap applicability errors corrected for SRVCC**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0713 Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Endorsed CR R4-2003097 without further changes

**Discussion:**

.

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

#### 6.10.2 RRM perf requirements (38.133) [SRVCC\_NR\_to\_UMTS-Perf]

**R4-2006986 SRVCC test case for event triggered reporting**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0712 Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Endorsed CR R4-2005333 without further chages

**Discussion:**

.

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

**R4-2007755 Test case for NR to UTRA FDD Inter-RAT handover**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0802 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

.

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

### 6.11 Enhancements on MIMO for NR [NR\_eMIMO]

#### 6.11.1 UE RF core requirements (38.101) [NR\_eMIMO-Core]

#### 6.11.2 RRM core requirements (38.133) [NR\_eMIMO-Core]

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

**Email discussion: [95e][219] NR\_eMIMO\_RRM**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email title** | **WI** | **Topic areas** | **AI** |
| [95e][219] NR\_eMIMO\_RRM | R16 NR eMIMO | RRM Core requirements | 6.11.2 |

**R4-2008508 Email discussion summary for [95e][219] NR\_eMIMO\_RRM** *Type: other For: Information  
 Source: Moderator (Samsung)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

1st round email discussion conclusions

2nd round email discussion conclusions

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

##### 6.11.2.1 L1-SINR [NR\_eMIMO-Core]

**R4-2006205 Discussion on requirements for L1-SINR measurements**

*Type: discussion For: Discussion  
 Source: Apple*

**Discussion:**

.

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

**R4-2006370 Discussion on L1-SINR Measurement Requirement**

*Type: discussion For: Discussion  
 Source: Samsung*

**Discussion:**

.

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

**R4-2006371 CR to TS38.133 on introduction of L1-SINR Measurement Requirement (Section 3.3 and 9)**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0646 Cat: B (Rel-16)  
  
 Source: Samsung*

**Discussion:**

.

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

**R4-2006864 Discussion on RRM requirements for L1-SINR**

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

**Discussion:**

.

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

**R4-2007483 RRM requirements for L1-SINR estimation**

*Type: discussion For: (not specified)  
 Source: Qualcomm*

**Discussion:**

.

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

**R4-2007767 Discussion on L1-SINR measurement requirements for NR eMIMO**

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

**Discussion:**

.

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

**R4-2007768 Discussion on L1-SINR measurement accuracy for NR eMIMO**

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

**Discussion:**

.

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

**R4-2007769 DraftCR on L1-SINR measurement accuracy requirements**

*Type: draftCR For: Endorsement  
 38.133 v16.3.0  
 Source: Huawei, HiSilicon*

**Discussion:**

.

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

**R4-2008091 Discussions on Rel-16 NR eMIMO L1-SINR measurements**

*Type: other For: Discussion  
 38.133 v..  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

There are still a number of open issues related to L1-SINR measurement requirements.

This contribution provides our views of the above open issue.

**Discussion:**

.

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

##### 6.11.2.2 SCell Beam failure recovery [NR\_eMIMO-Core]

**R4-2006372 Discussion on SCell Beam Failure Recovery RRM Requirement**

*Type: discussion For: Discussion  
 Source: Samsung*

**Discussion:**

.

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

**R4-2006373 CR to TS38.133 on introduction of SCell BFD and CBD (Section 8.5)**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0647 Cat: B (Rel-16)  
  
 Source: Samsung*

**Discussion:**

.

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

**R4-2006374 CR to TS38.133 on introduction of SCell BFRQ Procedure (Section 8.5)**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0648 Cat: B (Rel-16)  
  
 Source: Samsung*

**Discussion:**

.

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

**R4-2006865 Discussion on RRM requirements for BFR on SCell**

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

**Discussion:**

.

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

**R4-2007378 BFRQ on SR-like PUCCH resource**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

This contribution discusses the RRM requirements for BFRQ on SR-like PUCCH resource.

**Discussion:**

.

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

**R4-2007379 Draft CR: Correction of SCell BFRQ Procedure (Section 8.5)**

*Type: draftCR For: Endorsement  
 38.133 v16.3.0  
 Source: Ericsson*

**Abstract:**

This draft CR corrects the SCell BFRQ procedure requirements.

**Discussion:**

.

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

**R4-2007484 SCell Beam Failure Detection and Recovery**

*Type: discussion For: (not specified)  
 Source: Qualcomm*

**Discussion:**

.

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

**R4-2007770 Discussion on SCell BFD and CBD requiremetns for NR eMIMO**

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

**Discussion:**

.

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

**R4-2007771 CR on SCell BFD and CBD requirements**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0806 Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

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

##### 6.11.2.3 DL/UL beam indication with reduced latency and overhead [NR\_eMIMO-Core]

**R4-2006375 Discussion on MAC-CE based spatial relation update for aperiodic SRS**

*Type: discussion For: Approval  
 Source: Samsung*

**Discussion:**

.

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

##### 6.11.2.4 Others [NR\_eMIMO-Core]

**R4-2006065 Discussion on applicable timing for the unknown PL RS activated by MAC-CE**

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

**Discussion:**

.

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

**R4-2006206 Discussion on RRM requirements for Multi-TRP**

*Type: discussion For: Discussion  
 Source: Apple*

**Discussion:**

.

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

**R4-2006376 Discussion on MRTD/MTTD requirement to Enable Multi-TRP Transmission**

*Type: discussion For: Discussion  
 Source: Samsung*

**Discussion:**

.

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

**R4-2006377 CR to TS38.133 on introduction of multi-TRP transmission (Section 7.5 and 7.6)**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0649 Cat: B (Rel-16)  
  
 Source: Samsung*

**Discussion:**

.

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

**R4-2006866 Discussion on MRTD for multiple TRPs scenario**

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

**Discussion:**

.

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

**R4-2006867 Discussion on PL RS activation requirement via MAC CE**

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

**Discussion:**

.

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

**R4-2006868 CR for introduction of pathloss reference signal switching delay**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0702 Cat: B (Rel-16)  
  
 Source: MediaTek inc.*

**Discussion:**

.

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

**R4-2007380 MRTD/MTTD requirements for Multi-TRP deployment for MIMO+CA and MIMO+DC**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

This contribution discusses the MRTD/MTTD requirements for multi-TRP deployment.

**Discussion:**

.

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

**R4-2007485 MRTD/MTTD in CA/DC with multiple TRPs**

*Type: discussion For: (not specified)  
 Source: Qualcomm*

**Discussion:**

.

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

**R4-2007772 Discussion on MRTD and MTTD requirements for multi-TRP transmissions**

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

**Discussion:**

.

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

**R4-2008092 Discussions on Rel-16 NR eMIMO multi-TRP transmissions**

*Type: other For: Discussion  
 38.133 v..  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

The document discusses if FR1 intra-band EN-DC MRTD/MTTD and CA MRTD requirements are affected by multi-TRP transmission.

**Discussion:**

.

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

#### 6.11.3 Demodulation and CSI requirements (38.101-4) [NR\_eMIMO-Perf]

### 6.12 Add support of NR DL 256QAM for FR2 [NR\_DL256QAM\_FR2]

#### 6.12.1 General [NR\_DL256QAM\_FR2]

#### 6.12.2 BS RF core requirements (38.104) [NR\_DL256QAM\_FR2]

#### 6.12.3 UE RF core requirements (38.101-2) [NR\_DL256QAM\_FR2]

#### 6.12.4 Demodulation and CSI requirements (38.101-4) [NR\_DL256QAM\_FR2-Perf]

### 6.13 RF requirements for NR frequency range 1 (FR1) [NR\_RF\_FR1]

#### 6.13.1 RF core requirements [NR\_RF\_FR1]

#### 6.13.2 RRM core requirements (38.133) [NR\_RF\_FR1]

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

**Email discussion: [95e][220] NR\_RF\_FR1\_RRM**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email title** | **WI** | **Topic areas** | **AI** |
| [95e][220] NR\_RF\_FR1\_RRM | R16 NR FR1 RF | RRM Core requirements | 6.13.2 |

**R4-2008509 Email discussion summary for [95e][220] NR\_RF\_FR1\_RRM** *Type: other For: Information  
 Source: Moderator (Huawei, HiSilicon)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

1st round email discussion conclusions

2nd round email discussion conclusions

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

##### 6.13.2.1 RRM requirements for Tx switching between two uplink carriers [NR\_RF\_FR1]

**R4-2006035 RRM interruption requirement for switching between two uplink carriers**

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

**Discussion:**

.

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

**R4-2006211 On DL interruption for UL Tx switching**

*Type: discussion For: Discussion  
 38.133 v..  
 Source: Apple*

**Discussion:**

.

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

**R4-2006572 Interruption for Tx switching between two uplink carriers**

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

**Discussion:**

.

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

**R4-2006805 RRM requirements for switching between case1 and case 2**

*Type: discussion For: Discussion  
 Source: CMCC*

**Discussion:**

.

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

**R4-2007346 On interruption for FR1 Tx switching between two uplink carriers**

*Type: discussion For: Approval  
 Source: OPPO*

**Discussion:**

.

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

**R4-2007731 DL interruption due to Tx switching between two uplink carriers**

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

**Discussion:**

.

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

**R4-2007732 CR on DL interruption on LTE carriers at Tx switching between two uplink carriers**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6875 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

.

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

**R4-2007733 CR on DL interruption Tx switching between two uplink carriers**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0792 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

.

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

### 6.14 NR RF requirement enhancements for frequency range 2 (FR2) [NR\_RF\_FR2\_req\_enh]

#### 6.14.1 RF core requirements [NR\_RF\_FR2\_req\_enh]

#### 6.14.2 RRM core requirements (38.133) [NR\_RF\_FR2\_req\_enh]

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

**Email discussion: [95e][221] NR\_RF\_FR2\_req\_enh\_RRM**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email title** | **WI** | **Topic areas** | **AI** |
| [95e][221] NR\_RF\_FR2\_req\_enh\_RRM | R16 NR FR2 RF | RRM Core requirements | 6.14.2 |

**R4-2008510 Email discussion summary for [95e][221] NR\_RF\_FR2\_req\_enh\_RRM** *Type: other For: Information  
 Source: Moderator (Apple)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

GTW session (May 29th)

**Issue 1-1: Requirements for MRTD requirement with common beam management**

* Option 1: 260ns (Apple, Mediatek, Qualcomm, OPPO, )
* Option 2: 3 (Ericsson, NTT DCM, T-Mobile USA, Verizon, NEC)
* Option 3: 3 us for co-located deployment, 8us for non-co-located deployment (Huawei)
* Option 4: 7us (Nokia)

**Issue 1-2: If 260ns MRTD is not feasible for some scenarios in common beam management then some performance degradation for MRTD larger than a threshold (e.g. 260ns) should be discussed**

* Option 1: yes (Qualcomm, MediaTek, Apple, OPPO, )
* Option 2: no (Ericsson)

**Issue 1-3: The following revision is proposed for TS38.133**

Table 7.6.4-2: Maximum receive timing difference requirement for inter-band NR carrier aggregation

|  |  |
| --- | --- |
| Frequency Range of the pair of carriers | Maximum receive timing difference (µs) |
| FR1 | 33 |
| FR2 | 8note1 |
| Between FR1 and FR2 | 25 |
| Note1: this MRTD requirement applies to independent beam management only. | |

* Option 1: yes (Apple, Qualcomm, Mediatek, OPPO)
* Option 2: no (Huawei, Nokia, Ericsson)
* Option 3: proposal in R4-2007096 (Ericsson, NEC)

**Sub-topic 1-4: MRTD with independent beam management**

* Option 1: 4~5us (Apple, Mediatek, OPPO)
* Option 2: 8us (Ericsson, Huawei, NTT DCM, T-Mobile USA, Verizon, Qualcomm, NEC, Nokia)
* Option 3: 7us (Nokia)

**Issue 1-5: MTTD for common beam management**

* Option 1: Corresponding MTTD for inter-band FR2 NR CA with common beam management as 3.5 µs (Ericsson)
  + Ericsson needs to confirm their proposal since their comment is different from the one in their paper. [Ericsson]: Option 1 as stated here is fine. Comment updated for consistency.
* Option 2: MTTD can be derived based on the corresponding MRTD agreement (Huawei, Nokia, NTT DCM, NEC)
* Option 3: MTTD should not be defined for inter-band CA with common beam (Qualcomm, Mediatek, Apple)

**Sub-topic 1-6: MTTD for independent beam management**

* Option 1: Keep MTTD for FR2 inter-band CA unchanged (i.e. 8.5 µs) for independent beam management. (Qualcomm, Huawei, Ericsson)
  + Ericsson needs to confirm their proposal since their comment is different from the one in their paper. [Ericsson]: Option 1 as stated here is fine. Comment updated for consistency.
* Option 2: MTTD can be derived based on the corresponding MRTD agreement (MTK, OPPO, Apple, Nokia, NTT DCM, NEC)

1st round email discussion conclusions

2nd round email discussion conclusions

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

##### 6.14.2.1 Inter-band DL CA MRTD [NR\_RF\_FR2\_req\_enh]

**R4-2006212 On common beam management and MRTD for FR2 iner-band CA**

*Type: discussion For: Discussion  
 Source: Apple*

**Discussion:**

.

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

**R4-2006214 CR on MRTD for FR2 inter-band CA**

*Type: CR For: Agreement  
 38.133 v15.9.0 CR-0630 Cat: F (Rel-15)  
  
 Source: Apple*

**Discussion:**

.

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

**R4-2006215 CR on MRTD for FR2 inter-band CA**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0631 Cat: A (Rel-16)  
  
 Source: Apple*

**Discussion:**

.

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

**R4-2006571 MRTD requirements for FR2 inter-band DL CA**

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

**Discussion:**

.

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

**R4-2007095 MRTD and MTTD requirements for FR2 inter-band DL CA**

*Type: other For: Approval  
 Source: Ericsson, , NTT DOCOMO, INC.*

**Abstract:**

In this contribution, we present our proposals on the MRTD definition for FR2 inter-band CA.

**Discussion:**

.

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

**R4-2007096 Updates on MRTD and MTTD requirements for FR2 inter-band DL CA**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0716 Cat: B (Rel-16)  
  
 Source: Ericsson, NTT DOCOMO, INC.*

**Abstract:**

There is a proposal to update the MRTD and MTTD for inter-band FR2 NR CA wrt UE implemntation. We propsoe this CR to facilitate the commomn beam management based UE implementation.

**Discussion:**

.

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

**R4-2007133 MRTD for FR2 Inter-band CA**

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

**Discussion:**

.

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

**R4-2007289 Discussion on MRTD requirement for FR2 inter-band DL CA**

*Type: discussion For: Approval  
 Source: NEC*

**Abstract:**

MRTD requirements for FR2 inter-band DL CA is discussed

**Discussion:**

.

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

**R4-2007773 Discussion on MRTD requirements for FR2 inter-band DL CA**

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

**Discussion:**

.

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

**R4-2007774 CR on MRTD requirements for FR2 inter-band CA**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0807 Cat: F (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

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

**R4-2008195 MRTD for inter-band DL CA**

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

**Abstract:**

discussion on MRTD requirement for inter-band DL CA

**Discussion:**

.

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

### 6.15 NR RRM requirement enhancement [NR\_RRM\_Enh\_Core]

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

**Email discussion: [95e][222] NR\_RRM\_Enh\_RRM\_1**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email title** | **WI** | **Topic areas** | **AI** |
| [95e][222] NR\_RRM\_Enh\_RRM\_1 | R16 NR RRM Enh | RRM Core requirements: General, BWP switching, Spatial relation switch for UL, non-simultaneous UL CA | 6.15.1.4  6.15.1.8  6.15.1.9 |

**R4-2008511 Email discussion summary for [95e][222] NR\_RRM\_Enh\_RRM\_1** *Type: other For: Information  
 Source: Moderator (Intel Corporation)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

GTW session (May 29th)

**Topic #1: BWP Switching on multiple CCs**

Issue 1-1-1: Delay requirements for DCI/timer based BWP switch

* 1st round summary

|  |
| --- |
| ; N: Number of CCs with simultaneous BWP switch; K is number of CCs that can be processed simultaneously; D is incremental delay for BWP switch processing on additional CCs; FFS on D and K  *Candidate options:*   * Options for D: * Option 1(MTK, NEC, Huawei, Ericsson, ZTE): D=100us for Type 1; 200 us for Type 2 * Option 2(Apple): D = 450us for Type 1; 1.5ms for Type 2; * Option 3(Intel, Qualcomm, Vivo, OPPO): some value between option 1 and option 2. * Option 3a (Intel, Qualcomm, Vivo, OPPO): D = 200us for Type 1 and 800us for Type 2 * Option 3b (OPPO): D = 200us for Type 1 and 450us for Type 2 * Option 4 (Nokia): D = 100us for both Type 1 and Type 2 * Definition of N (Huawei, MTK): For DCI and timer-based BWP switch on multiple CCs, for UE which is capable of per-FR gap, N is the number of simultaneous BWP switching on CCs within the same frequency range; For UE which is not capable of per-FR gap, N is the number of simultaneous BWP switching on both FR.   *The options are still quite diverse. Apple raise the solution to add some limitation about the number of CCs with simultaneous switch in order to be within k0/k2 on FR2. However, some other companies still have concern about the impact to the Scell activation. Since the delay time is highly related to the UE implementation, another alternative way is to define a new UE capability and the delay time is depended on the reported UE capability.*  *Recommendations for 2nd round: Further discussion is needed. Suggest companies to agree about a compromise value. if no compromised value can be agreed, can a new UE capability be defined to solve the problem?* |

Issue 1-1-2: Delay requirements for RRC based BWP switch

* 1st round summary

|  |
| --- |
| ; Where DRRC is FFS  extended delay for RRC based BWP switching on multiple CCs is needed.  *Tentative agreement: No agreement in the 1st round.*  *Candidate options:*   * Option 1(Apple, Ericsson): DRRC = 1.5ms * Option 1a (OPPO, Ericsson):DRRC = 1.5ms for N (N ≤ 8) cells * Option 2(MTK, NEC, Huawei, Nokia, Ericsson, ZTE): DRRC = 0ms * Option 3(Vivo, Ericsson, NEC): DRRC = D (agreed value for DCI/timer based BWP switch). * Option 4(Intel, Ericsson, OPPO): if N<=3, re-use the existing requirement. if N>3, DRRC =1.5ms. where N is the total number of CCs. * Option 5 (Qualcomm, Ericsson, OPPO): DRRC = 800 us in the Delay requirements for RRC based BWP switch.   Note: Spec clarifies that RRC configures UE to switch to BWPs in activated SCells only.   * Option 6 (Ericsson): DRRC ≤ 1.5ms * Option 7(Ericsson, NEC, Intel) if N<=3, re-use the existing requirement. if N>3, DRRC =D. where N is the total number of CCs.   *The options are still quite diverse. some companies prefer no time extension since the original RRC processing delay is already quite relax. Some other companies have concern if the number of CCs is large, the time may not be enough. Ericsson further propose a compromise way. if N<=3, re-use the existing requirement. if N>3, DRRC =D. since the D is derived from issue 1-1-1, if no compromise value is agreed, it seems that RRC based delay can still be dependent on the new UE capability.*  *Recommendations for 2nd round: further discussion.* |

Issue 1-2-2: Delay requirements for Timer based BWP switch

* 1st round summary

|  |
| --- |
| *Tentative agreement: No agreement in the 1st round.*  *Candidate options:*   * Option 1 (Vivo): the switch delay of one timer based BWP switch on one FR will not be impacted by a partial overlap timer based BWP switch on the other FR. * Option 2 with update (Apple, Qualcomm, Intel): * TBWPSwitchDelayPartialOverlapTimer = TDelay + TBWPSwitchDelayTimer, where TDelay is upper bounded by timer based BWP switch delay on single CC or multiple CCs. TBWPSwitchDelayTimer is the timer based BWP switch delay on single CC or multiple CCs. * Option 3 (MTK): UE should be allowed to conduct the BWP switch for different request sequentially in a first-come-first-serve manner for non-simultaneous Timer-based BWP switch in NR-DC. * Option 4(Intel): For timer and RRC based partial overlap triggered BWP switching, the delay time is upper bounded by the multiple BWP switch delay in the first CG. * Option 5(OPPO): Clarify the assumption for UE capacity of support independent timer-based BWP switch in different FR. * Option 6(Qualcomm): RAN4 does not define any requirement to address the impact from partially overlapped and timer-based BWP switching in the other FR. * If a requirement must be defined, the same principle of existing requirement can be extended across FRs, i.e. timer-based BWP switch in one FR should be delayed by ongoing timer-based BWP switch in another FR. * Option 7: Depending on whether UE is capable of per-FR gap. * For UE capable of per-FR gap: * Option 1 (Huawei, NEC): TDelay+TBWPSwitchDelay where TDelay is the time delayed by ongoing timer-based BWP switching with in the same frequency range. * Option 2 (Ericson): UE capable of per FR gap, shall be able to perform BWP switching on any two CCs across the two CGs over partially or fully overlapping time period by including an extra margin (Tother,CG) in the total delay BWP switching delay for. * Tother,CG is defined as follows:   + Where:     - N = 2 is the number of CCs across CGs on which partial overlap BWP switching occurs during at least partially overlapping time.     - K is number of CCs that can be processed simultaneously     - D is delay.     - The values of K and D agreed for simultaneous BWP switching on multiple CCs shall be reused. * For UE not capable of per-FR gap: * Option 1 (Huawei, NEC): *TDelay+TMultipleBWPSwitchDelay,* where *TDelay*is the time delayed by ongoing timer-based BWP switching with in the same frequency range; *TMultipleBWPSwitchDelay* is *TBWPSwitchDelay+* D(N-1), N is the number of timer-based BWP switch on CCs in the other FR of which the time periods of BWP switching delay are overlapped with TNonSimultaneousTimer, and D is the incremental delay, which is same as that of simultaneous BWP switch on multiple CCs. * Option 2 (Ericsson): UE not capable of per FR gap, shall perform partial overlap BWP switching on all CCs across both CGs sequentially on first-come-first served basis.   *The main issue is that for timer based BWP switch on multiple CCs, if UE is capable of per-FR gap and the timer based BWP switch happens in two frequency range, can it be handled in parallel or sequentially? Some companies support that the processing can be in parallel, while some others prefer not to differentiate the case and define it in a simple way.*  *Recommendations for 2nd round: further discussion. Whether to define a unified requirement or separate requirement dependent on the UE capability of per -FR gap.* |

**Topic #2: UL Spatial Relation Info Switching**

Issue 2-1-1: When the UL signal has spatial relation to an unknown DL RS

* 1st round summary

|  |
| --- |
| *Tentative agreement: No agreement in the 1st round.*  *Candidate options:*   * Option 1 (MTK, Ericsson, NTT DOCOMO, ZTE, Nokia): UE transmits using previous TX beam * Option 2 (NTT DOCOMO, Nokia, Ericsson, MTK): Drop UL transmission until spatial relation info is known * Option 3 (Apple, Intel, Qualcomm, Huawei, NTT DOCOMO): Up to UE implementation and no requirement is needed to be specified   *The views are still quite diverse. In general, the case is a corner case, can we compromise to a proposal?*  *Recommendations for 2nd round: further discussion is needed.* |

Issue 2-1-3: Whether to consider DL timing tracking when associated DL-RS

* 1st round summary

|  |
| --- |
| *Tentative agreement: No agreement in the 1st round.*  *Candidate options:*   * + Sub1. Whether to consider timing tracking when associated DL-RS QCLed with a different qcl-Type1 RS?     - Option 1(Apple, Intel, NTT DOCOMO, Ericsson, Qualcomm): No     - Option 2 (MTK, Qualcomm, ZTE): Yes     - Option 3: Up to UE     - Option 4 (Nokia): The WF is not clear about whether this relates to known or unknown case. Additionally, the question is not clear to us and we would prefer more discussion on this subtopic to understand the actual scenario.     - Option 5 (Huawei, Nokia):     - When the timing of new DL RS is different with the old DL RS’s timing, UE may adjust the uplink according to the target DL RS timing. * -if the target DL RS is in the active TCI list, it means that timing information is maintained in UE side, so no time for timing tracking is considered; * if the target DL RS is in the active TCI list, we suggest that there is no requirements. But we also can agree that additional time for timing tracking is considered.   + Sub2. Whether to consider timing tracking when associated DL-RS is an unknown DL RS?     - Option 1(Apple, Intel, NTT DOCOMO, Ericsson, Qualcomm): No     - Option 2(MTK, Nokia, Qualcomm, ZTE): Yes     - Option 3: Up to UE     - Option 4 (Huawei): no requirement   + Sub3. Whether to consider timing tracking when PUSCH/PUCCH and SRS associated with different DL-RSs in one slot?     - Option 1 (Apple, Intel, NTT DOCOMO, Ericsson, Qualcomm, ZTE, Nokia): No     - Option 2 (Nokia): Yes     - Option 3 (MTK, Huawei): It should be an error configuration when PUSCH/PUCCH and SRS associated with different QCL-Type A(or C) DL-RSs in one slot. In this situation, it’s up to UE to decide whether to adjust the timing or not.     - Option 4 (Qualcomm, Nokia): It is up to UE whether to consider timing tracking when PUSCH/PUCCH and SRS associated with different DL-RSs are in one slot.   *for sub3, the majority companies agree not to define the requirement.*  *for sub1, the views are quite diverse. A compromise option is provided by huawei which further distinguish cases whether QCL-ed DL-RS is in active TCI-state or not.*  *for sub2,* *the views are quite diverse either.*  *Recommendations for 2nd round: agree not to define the requirement for sub3. Further discussion for sub 1 and sub 2. for sub-1, the case can be further distinguished: whether associated DL-RS is in active TCI-state or not.* |

1st round email discussion conclusions

2nd round email discussion conclusions

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

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

**Email discussion: [95e][223] NR\_RRM\_Enh\_RRM\_2**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email title** | **WI** | **Topic areas** | **AI** |
| [95e][223] NR\_RRM\_Enh\_RRM\_2 | R16 NR RRM Enh | RRM Core requirements: SRS carrier switching, CGI reading, Mandatory MG patterns | 6.15.1.1  6.15.1.3  6.15.1.6 |

**R4-2008512 Email discussion summary for [95e][223] NR\_RRM\_Enh\_RRM\_2** *Type: other For: Information  
 Source: Moderator (ZTE)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

GTW session (May 29th)

**Topic #3: Mandatory gap pattern**

Issue 3-1-1: Mandatory gap patterns for GP#12-GP#23

* + Option 1 (CMCC, Huawei, Mediatek)
    - GP#16, GP#17, GP#18, and GP#19
  + Option 2 (NTT DOCOMO, Ericsson)
    - GP#15, GP#17, GP#18, and GP#19
  + Option 3 (Ericsson, ZTE, NTT DOCOMO, Nokia, MTK)
    - GP#17, GP #18 and GP#19
  + Option 4 (Qualcomm, OPPO, Apple, Nokia)
    - GP#17 and GP#18

Discussion:

ZTE: At least 17 and 18 can be agreed. Potentially 19 can be agreed.

QC: patterns shall be market driven. Can compromise to GP 17 and 18.

DCM: to QC what is the exact meaning of market driven? We show benefit for GP19.

QC: we want to have more flexibility for different regions and operators. Prefer to agree on number of new patterns.

HW: we prefer to have GP19

MTK: Option 3 will be a compromise

QC: we can go with O3

Agreement: GP#17, GP #18 and GP#19 are defined as mandatory

Issue 3-2-1: Mandatory gap patterns for GP#2-GP#11

* + Option 1 (Ericsson)
    - GP#2, GP#3, GP#7, GP#8 and GP#9
  + Option 2 (ZTE, Ericsson)
    - GP#2, GP#3, GP#7, GP#8
  + Option 3 (CMCC, Huawei, Mediatek)
    - GP#2, GP#3, GP#10, and GP#11
  + Option 4 (Qualcomm, OPPO, Nokia, Apple)
    - GP#2 and GP#3

Discussion:

ZTE: GP 2 and 3 are common set.

QC: Don’t agree to introduce 7 and 8.

HW: 2/3/7/8 are related MGL 40/80. 160 also needs to be considered.

CMCC: Share same view with HW

OPPO: Support Option 4

MTK: prefer up to 4 patterns

Agreement:

GP#2, GP#3 are defined as mandatory.

Up to two additional GPs for GP#2-GP#11 will be defined as mandatory. GP is FFS between GP 7, 8, 10, 11.

**Topic #2: CGI reading**

Issue 2-1-1: Rx beam sweeping for MIB decoding in FR2

* + Option 1 (Ericsson, MediaTek, Nokia)
    - Rx beam sweeping is not assumed
  + Option 2 (Qualcomm, Huawei, ZTE, Intel, Apple)
    - Allow UE to perform Rx beam sweeping

Discussion:

Intel: Prefer to use Option 2. We can add side conditions. In real conditions beam sweeping shall be assumed

E///: The question is how we define the requirements. We do not want to add delay requirements.

MTK: to Intel – this requirement is for known case only and UE does not need beam sweeping

QC: the requirement is for max allowed time. We don’t want to force UE to do beam sweeping but still want to allow UE to improve performance.

HW: Known condition under assumption of no RX beam sweeping will be too stringent. Option 1 will limit UE behavior and in real field UE can miss CGI.

Nokia: The requirements will be defined for know cell and in this case no need to assume beam sweeping

ZTE: In practical conditions beam sweeping will be helpful.

Apple: Agree with Option 2

Nokia: can compromise to Option 2 and consider 2 cases with good and bad conditions

Candidate options for discussion in the 2nd round:

Rx beam sweeping for MIB decoding in FR2

* + Option 1
    - Rx beam sweeping is not assumed
  + Option 2
    - Allow UE to perform Rx beam sweeping
  + Option 3
    - Rx beam sweeping is up to UE implementation. Requirements allow UEs with and without Rx beam sweeping.
  + Option 4
    - Rx beam sweeping is up to UE capability. Define requirements for both UE with and without Rx beam sweeping.
  + Option 5
    - Do not define the MIB decoding requirements in FR2 in Rel-16

Session chair: will come back in this meeting to check the status

Issue 2-2-1: SIB1 decoding delay requirements

* + Option 1a (Ericsson, Nokia)
    - [4] samples with -6dB SNR
      * Soft combing of 4 samples is assumed
  + Option 1b (ZTE, Ericsson, Nokia)
    - [6] samples with -6dB SNR
      * SIB1 decoding is up to UE implementation
  + Option 2 (MediaTek, Qualcomm, Huawei)
    - [7] samples with -3dB SNR
      * One shot decoding is assumed

Agreement:

Reference receiver

No IC receiver assumed for requirements definition

Soft combining

Option 1: No soft combining (MTK, QC, HW, Apple)

Option 2: Soft combining (ZTE, E///, Nokia)

[-X dB] SNR and [6] samples

Issue 2-4-1: Margin for interruptions during each autonomous gap for SIB1 decoding

* + Option 1 (Ericsson, ZTE)
    - 2\*RF tuning time + 1 slot (victim cell SCS)
  + Option 2 (Qualcomm)
    - 2\* BWP switching time + 1 slot (victim cell SCS)
  + Option 3 (Huawei, Mediatek)
    - 2\* 2ms + 1 slot (victim cell SCS)

Issue 2-3-1: Whether to define known cell condition for CGI reading in FR1

* + Option 1: Yes (Mediatek, Huawei, Nokia, ZTE)
  + Option 2: No (Qualcomm, Ericsson)

Issue 2-3-3: value of X

* + Option 1: (Nokia, Ericsson, ZTE)
    - X = 5 for FR2
  + Option 2 (Mediatek, Huawei, Ericsson)
    - X=3 for FR2

1st round email discussion conclusions

2nd round email discussion conclusions

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

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

**Email discussion: [95e][224] NR\_RRM\_Enh\_RRM\_3**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email title** | **WI** | **Topic areas** | **AI** |
| [95e][224] NR\_RRM\_Enh\_RRM\_3 | R16 NR RRM Enh | RRM Core requirements: Multiple Scell activation/deactivation, Inter-frequency measurements, UE-specific BW change, inter-band CA | 6.15.1.2  6.15.1.5  6.15.1.7  6.15.1.10 |

**R4-2008513 Email discussion summary for [95e][224] NR\_RRM\_Enh\_RRM\_3** *Type: other For: Information  
 Source: Moderator (Apple)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

GTW session (May 29th)

**Topic #1: Multiple Scell activation**

Issue 1-1: Whether or not to further down select multiple Scell activation cases for requirements from R4-2005347?

|  |
| --- |
| *Tentative agreements:*  Based on the 1st round discussion, 6 companies supported option 1 while 1 company supported option 2. The tentative agreement based on majority view is Option 1.  *Candidate options:*   * Option 1(Apple, MediaTek, Huawei, Ericsson, NEC, Nokia): No * Option 2 (Qualcomm): Yes, and following scope is applied   + RAN4 to not define any requirements for a case where all to-be-activated SCells are unknown without active serving cell on the same band   + RAN4 to not define any requirements for a case where to-be-activated SCells belong to different scenario groups, e.g. combinatorial cases of issue 1-10-x and issue 1-10-y in R4-2005405   *Recommendations for 2nd round:*  The tentative agreement shall be finally confirmed in the 2nd round and the agreement will be captured in the WF. |

Discussion:

HW/Apple prefer “RAN4 to not define any requirements for a case where all to-be-activated SCells are unknown without active serving cell on the same band”

Agreement

RAN4 to not define any requirements for a case where any to-be-activated SCells are unknown without active serving cell or known to-be-activated SCells on the same band

Issue 1-2: Scaling for unknown intra-band contiguous being-activated SCell

|  |
| --- |
| *Tentative agreements:*  No agreement has been made in the 1st round due to the diverse proposals. Apple added a new option 2b for companies to compromise.  *Candidate options:*   * Option 1 (Apple, Huawei, MTK): FR1 unknown SCells that are contiguous to FR1 known cell or FR1 active serving cell still needs to be accounted for in N and can be scaled by N. * Option 2 (Nokia, QC): The FR1 unknown SCells which are contiguous to the FR1 known cell or FR1 active serving cell on the same band should not be counted when deriving the scaling factor N. * Option 2a (Ericsson, NEC): An unknown SCell in FR1 that is contiguous to an active serving cell, or to a known SCell being activated by the same MAC PDU, is not accounted for in, or scaled by, N when either of the following is fulfilled:   + A single SSB is used in the unknown SCell   + Multiple SSBs are used in the unknown SCell, and TCI state indication for PDCCH is provided by the same MAC PDU used for SCell activation   + Otherwise the SCell is accounted for in, and scaled by, N. * Option 2b (Apple): An unknown SCell in FR1 that is contiguous to an active serving cell, or to a known SCell being activated by the same MAC PDU, is not accounted for in, or scaled by, N when the following conditions are fulfilled:   + A single SSB is used in the unknown SCell; or multiple SSBs are used in the unknown SCell and TCI state indication for PDCCH is provided by the same MAC PDU used for SCell activation; and   + its ssb-PositionInBurst is same as the one of FR1 known cell or FR1 active serving cell, and   + its SSB DL Tx beam is same as the corresponding SSB DL Tx beam at the same SSB position of FR1 known cell or FR1 active serving cell, and   + its SMTC offset is same as the one of FR1 known cell or FR1 active serving cell   Otherwise the SCell is accounted for in, and scaled by, N.  *Recommendations for 2nd round:*  Encourage companies to discuss how to compromise to the final solution, and the agreements will be captured in the WF.  Moderator suggestion: could we use option 2b as a starting point to discuss the compromised solution? |

Discussion

Apple/NEC/Ericsson/Nokia/MTK: Can agree with Option 2b

Huawei: need to check on Option 2b

Tentative agreement

* Option 2b: An unknown SCell in FR1 that is contiguous to an active serving cell, or to a known SCell being activated by the same MAC PDU, is not accounted for in, or scaled by, N when the following conditions are fulfilled:
  + A single SSB is used in the unknown SCell; or multiple SSBs are used in the unknown SCell and TCI state indication for PDCCH is provided by the same MAC PDU used for SCell activation; and
  + its ssb-PositionInBurst is same as the one of FR1 known cell or FR1 active serving cell, and
  + its SSB DL Tx beam is same as the corresponding SSB DL Tx beam at the same SSB position of FR1 known cell or FR1 active serving cell, and
  + its SMTC offset is same as the one of FR1 known cell or FR1 active serving cell

Otherwise the SCell is accounted for in, and scaled by, N.

Issue 1-3: “cell detection time” in delay extension due to searcher limitation

|  |
| --- |
| *Tentative agreements:*  Based on the 1st round discussion, 6 companies supported option 1 while 2 company supported option 2. The tentative agreement based on majority view is Option 1. However, Huawei proposed new option 3 for compromising.  *Candidate options:*   * Option 1 (Apple, MediaTek, Ericsson, NEC, QC, Nokia): “cell detection time” in delay extension due to searcher limitation means “1\*TRS” for FR1 unknown SCells and “8\*TRS” for the FR2 unknown SCell * Option 2 (NEC, Huawei): “cell detection time” in delay extension due to searcher limitation means “TFirstSSB\_MAX + TSMTC\_MAX + Trs” for FR1 unknown SCell and “TFirstSSB + 23\*Trs” for the FR2 unknown Scell * Option 3 (Huawei): “cell detection time” in delay extension due to searcher limitation means “1\*TRS” for FR1 unknown SCells and “8\*TRS” for the FR2 unknown SCell. And meanwhile AGC time is scaled by the number of bands with unknown SCell but without known or active serving cell.   *Recommendations for 2nd round:*  The tentative agreement and the new option 3 for compromising shall be finally confirmed in the 2nd round and the agreement will be captured in the WF. |

Agreement: “Cell detection time” in delay extension due to searcher limitation means “1\*TRS” for FR1 unknown SCells and “8\*TRS” for the FR2 unknown SCell

Issue 1-4: Interruption for multiple SCell activation

|  |
| --- |
| *Tentative agreements:*  Based on the 1st round discussion, 6 companies supported option 1 while 1 company supported option 2. The tentative agreement based on majority view is Option 1.  *Candidate options:*   * Option 1 (Apple, MTK, Huawei, Ericsson, NEC, Nokia): single interruption due to RF tuning/retuning shall be assumed when one single MAC CE command is received for multiple SCell activation. * Option 2 (Qualcomm): For interruptions on other serving cells when multiple SCells are being activated   + In case of N Scells, that are inter-band or intra-band non-contiguous, being activated, there will be N independent interruptions on other cells.   + In case of multiple intra-band contiguous cells being activated, there will be one interruption on other active cells.   *Recommendations for 2nd round:*  The tentative agreement shall be finally confirmed in the 2nd round and the agreement will be captured in the WF. |

Discussion

QC: suggest to have relaxation for FR2 inter-band CA

Apple: FR2 inter-band CA is out of scope

Agreement:

Single interruption due to RF tuning/retuning shall be assumed when one single MAC CE command is received for multiple SCell activation.

Issue 1-5-1: activation delay for FR1 known SCell with Scell\_meas\_cycle≤160ms

|  |
| --- |
| *Tentative agreements:*  Based on the 1st round discussion, 4 companies supported option 2 while 1 company supported option 3. The tentative agreement based on majority view is Option 2.  *Candidate options:*   * Option 2 (MediaTek, Huawei, Apple, Qualcomm):   + TFirstSSB\_MAX + Trs + 5ms, if on the same band UE also has at least one parallel to-be-activated SCell which is FR1 known Scell with the SCell measurement cycle larger than 160ms but does not have any parallel to-be-activated SCell which is FR1 unknown SCell.   + TFirstSSB\_MAX + TSMTC\_MAX + Trs + 5ms, if on the same band UE also has at least one parallel to-be-activated SCell which is FR1 unknown Scell   + TFirstSSB\_MAX+ 5ms, for all other cases * Option 3 (Nokia):   + TFirstSSB\_MAX + Trs + 5ms, if multiple SCells to be activated are all FR1 known SCells and at least one of them is with Scell measurement cycle larger than 160ms   + TFirstSSB\_MAX + TSMTC\_MAX + 2\*Trs + 5ms, if the multiple SCells to be activated are all FR1 and at least one of the SCells is unknown SCell.   + TFirstSSB+ 5ms, otherwise.   *Recommendations for 2nd round:*  The tentative agreement shall be finally confirmed in the 2nd round and the agreement will be captured in the WF. |

Agreement:

* Option 2:
  + TFirstSSB\_MAX + Trs + 5ms, if on the same band UE also has at least one parallel to-be-activated SCell which is FR1 known Scell with the SCell measurement cycle larger than 160ms but does not have any parallel to-be-activated SCell which is FR1 unknown SCell.
  + TFirstSSB\_MAX + TSMTC\_MAX + Trs + 5ms, if on the same band UE also has at least one parallel to-be-activated SCell which is FR1 unknown Scell
  + TFirstSSB\_MAX+ 5ms, for all other cases

**Topic #2: Inter-frequency measurement without MG**

Issue 2-2: Scheduling restriction when the target SSB has a different SCS grid

|  |
| --- |
| *Tentative agreements:*  None. Based on the 1st round discussion, 5 companies supported option 1 while 5 company supported option 2.  *Candidate options:*   * + Option 1 (vivo, Qualcomm, MediaTek, OPPO, Intel): * When the target SSB has a different SCS grid as that of UE’s serving cell, UE is allowed to have scheduling restriction in the entire SMTC duration.   + Option 2 (CMCC, Huawei, Apple, Ericsson, ZTE): * No additional scheduling restriction is specified for the case the target SSB has a different SCS grid as that of UE’s serving cell.   *Recommendations for 2nd round:*  Need to further discuss between option 1 and option 2. The agreement will be captured in the WF. |

Discussion

Apple: different SCS grid means same SCS but different channel raster

Huawei: such scenario with different grids can happen

CMCC: such scenario is not typical but it cannot be precluded. But this is not a new issues and it can already happen in intra-band case.

Intel: in Rel-15 the center frequency of serving and neighbor cell are the same

MTK: In Rel-16 we are ok to handle the scenario with different SCS grids but need scheduling restriction

QC: Complexity is different depending on whether this is same SCS grid or different

ZTE: same view as HW

Agreement

Do not define requirements for scenarios when the target SSB has a different SCS grid

**Topic #4: Inter-band CA requirement for FR2 UE measurement capability of IBM/CMB**

Issue 4-2: Interruption requirement for inter-band FR2 CA with using common beam management

|  |
| --- |
| *Tentative agreements:*  None. Based on 1st round discussion, 4 companies supported option 3, 1 company supported option 4, and 3 companies supported option 5 (newly added option based on comments).  *Candidate options:*  Based on the 1st round comments, we add one more option (option 5) for further discussion:   * + Option 3 (Qualcomm, MTK, Apple, Intel (if MRTD is 260ns)):   For a FR2 inter-band CA combination with using common beam management, the existing interruption requirements of intra-band CA can be applied.   * + Option 4 (Huawei):   For FR2 inter-band CA with common beam management, the interruption requirements can be defined as the current interruption with adding a SMTC duration which is the longest SMTC duration among all the serving cells in this FR2 band pair.   * + Option 5 (Ericsson, NTT DOCOMO, Nokia)   We need feedback on the RF architectures of common beam UEs for example in different band combinations. Then it is straightforward to decide on the suitable interrupt requirements.  *Recommendations for 2nd round:*  Continue discussion in the 2nd round. Agreements will be captured in the WF. |

Issue 4-4-1: whether scheduling restriction is needed with independent beam

|  |
| --- |
| *Tentative agreements:*  None.  *Candidate options:*   * + Option 1 (MTK): * For both IBM and CBM UEs which do not support simultaneousRxTxInterBandCA, scheduling restriction due to RLM/BFD/CBD/L1-RSRP measurements on PUCCH/PUSCH/SRS shall be applied. (this bullet is also supported by Qualcomm) * RAN4 to specify the scheduling restriction applies on one FR2 band due to SS-RSRP/SS-RSRQ/SS-SINR measurements being performed on another FR2 band.   + Option 2 (NTT DOCOMO, Ericsson, Huawei, Qualcomm, Intel (except the point Apple raised, i.e. mixed numerology also needs to be considered)): * There are no scheduling restrictions on one FR2 band due to RLM/BFD/CBD/L1-RSRP measurements being performed on another FR2 band. The scheduling availability requirements for FR2 inter-band CA scenario shall be introduced to clarify there is no scheduling restriction if UE uses independent beam.   + Option 3 (Nokia):   The requirements applicable for UE capable of both CBM and IBM when operating in IBM mode, apply to an IBM capable UE configured to operate in CBM mode.  Use the discussion from simultaneousRxTxInterbandCA for addressing collision between UL/DL Tx.  Support of different numerologies is a UE capability issue.   * + Option 4 (Apple): * For both IBM and CBM UEs which do not support simultaneousRxTxInterBandCA, scheduling restriction due to RLM/BFD/CBD/L1-RSRP measurements on PUCCH/PUSCH/SRS shall be applied. * For IBM UEs which do not support *simultaneousRxDataSSB-DiffNumerology*, RAN4 to specify the scheduling restriction applies on one FR2 band due to SS-RSRP/SS-RSRQ/SS-SINR measurements and SSB based RLM/BFD/CBD/L1-RSRP measurement being performed on another FR2 band, when the aforementioned SSB has different SCS from PDCCH/PDSCH on another FR2 band. * For IBM UEs which do not support *supportedSubCarrierSpacingDL*, RAN4 to specify the scheduling restriction applies on one FR2 band due to CSI-RSRP/CSI-RSRQ/CSI-SINR measurements and CSI-RS based RLM/BFD/CBD/L1-RSRP measurement being performed on another FR2 band, when the aforementioned CSI-RS has different SCS from PDCCH/PDSCH on another FR2 band.   *Recommendations for 2nd round:*  Continue discussion in the 2nd round. Agreements will be captured in the WF.  Moderator suggestion: as commented by some companies, it can be regarded as error cases that network configures simultaneous UL/DL or mixed numerology if the UE does not have such capability of *simultaneousRxTxInterBandCA* or *simultaneousRxDataSSB-DiffNumerology* or *supportedSubCarrierSpacingDL.* Could we preclude those error cases in condition for requirement applicability in spec? Then without those error cases, option 2 might be more agreeable. |

Issue 4-5-1: measurement restriction requirement with CBM

|  |
| --- |
| *Tentative agreements:*  Based on 1st round discussion, 8 companies supported option 1, and 1 company supported option 4.  The tentative agreement based on majority view is: option 1.  *Candidate options:*   * + Option 1 (MTK, Qualcomm, Huawei, Apple, Ericsson, QC, Intel, NTT DOCOMO): * For CBM UEs in FR2 inter-band CA, the existing measurement restriction requirements for FR2 is applied for the RLM/BFD/CBD/L1-RSRP measurements being performed on different FR2 bands.   + Option 4 (Nokia): * When defining UE measurement restriction requirements, the UE capable of IBM but operating in CBM mode should be accounted. * A UE capable of both IBM and CBM is operated in CBM mode would not cause inter-band measurement restrictions.   *Recommendations for 2nd round:*  The tentative agreement shall be finally confirmed in the 2nd round. Agreement will be captured in WF |

Issue 4-5-2: measurement restriction requirement with IBM

|  |
| --- |
| *Tentative agreements:*  None. Based on 1st round discussion, 6 companies supported option 1, and 2 company supported option 2, and 1 company suggested to wait conclusions in issue 4-4-1.  *Candidate options:*   * + Option 1 (Ericsson, MTK, Huawei, Qualcomm, NTT DOCOMO, Nokia):   No measurement restrictions are specified between bands for IBM UE   * + Option 2 (Apple, Intel):  1. For IBM UEs which do not support *simultaneousRxDataSSB-DiffNumerology*, RAN4 to specify the measurement restriction when the SSB for RLM, BFD, CBD or L1- RSRP measurement on one FR2 band has different SCS from the CSI-RS for RLM, BFD, CBD or L1- RSRP measurement on another FR2 band, and the aforementioned SSB is in the same OFDM symbol as the aforementioned CSI-RS. 2. For IBM UEs which do not support *supportedSubCarrierSpacingDL*, RAN4 to specify the measurement restriction when the CSI-RS for RLM, BFD, CBD or L1- RSRP measurement on one FR2 band has different SCS from the CSI-RS for RLM, BFD, CBD or L1- RSRP measurement on another FR2 band, and the aforementioned CSI-RSs are in the same OFDM symbol.   *Recommendations for 2nd round:*  Continue discussion in 2nd round. Agreement will be captured in WF.  Moderator suggestion: since this is similar issue as in issue 4-4-1, could we wait for conclusion from issue 4-4-1 to determine which option shall be used? |

1st round email discussion conclusions

2nd round email discussion conclusions

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

#### 6.15.1 RRM core requirements (38.133) [NR\_RRM\_Enh\_Core]

##### 6.15.1.1 SRS carrier switching requirements [NR\_RRM\_Enh\_Core]

**R4-2006474 Discussion on Interruption at SRS carrier switch**

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

**Discussion:**

.

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

**R4-2006713 On SRS carrier switching requirement**

*Type: discussion For: Discussion  
 Source: Qualcomm, Inc.*

**Abstract:**

SRS carrier switching requirement

**Discussion:**

.

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

**R4-2007104 Interruption requirements due to SRS carrier switching**

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

**Discussion:**

.

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

**R4-2007347 On remaining issues for SRS carrier switching**

*Type: discussion For: Approval  
 Source: OPPO*

**Discussion:**

.

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

**R4-2007644 Remaining open issues on NR SRS carrier switching RRM requirements**

*Type: discussion For: Discussion  
 Source: ZTE*

**Discussion:**

.

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

**R4-2007645 CR to 38.133 on SRS carrier switching interruption requirements**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0741 Cat: B (Rel-16)  
  
 Source: ZTE*

**Discussion:**

.

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

**R4-2007646 CR to 38.133 on impact to measurement requirements due to LTE SRS carrier switching**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0742 Cat: F (Rel-16)  
  
 Source: ZTE*

**Discussion:**

.

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

**R4-2007742 Discussion on SRS carrier switching interruption**

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

**Discussion:**

.

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

**R4-2007743 CR on impact on NR RRM measurement due to LTE SRS carrier switching**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0797 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

.

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

**R4-2007744 CR on impact on LTE RRM measurement due to NR SRS carrier switching**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6876 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

.

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

**R4-2007756 CR on NR SRS carrier switching interruption in TS 36.133**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6878 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

.

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

##### 6.15.1.2 Multiple Scell activation/deactivation [NR\_RRM\_Enh\_Core]

**R4-2006192 On remaining issues for multiple SCell activations**

*Type: discussion For: Discussion  
 38.133 v..  
 Source: Apple*

**Discussion:**

.

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

**R4-2006193 On activation delay requirements for multiple SCell activation**

*Type: discussion For: Approval  
 38.133 v..  
 Source: Apple*

**Discussion:**

.

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

**R4-2006194 CR on multiple SCell activation deactivation requirement for R16**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0625 Cat: B (Rel-16)  
  
 Source: Apple*

**Discussion:**

.

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

**R4-2006195 CR on multiple SCell activation interruption requirement for R16**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0626 Cat: B (Rel-16)  
  
 Source: Apple*

**Discussion:**

.

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

**R4-2006196 CR on multiple NR SCell activation interruption requirement for R16 TS36.133**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6839 Cat: B (Rel-16)  
  
 Source: Apple*

**Discussion:**

.

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

**R4-2006475 Discussion on Multiple SCell activation**

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

**Discussion:**

.

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

**R4-2007105 Multiple SCells Activation Delay Requirements**

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

**Discussion:**

.

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

**R4-2007284 Multiple SCell activation in NR**

*Type: discussion For: Discussion  
 38.133 v..  
 Source: Qualcomm Incorporated*

**Discussion:**

.

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

**R4-2007290 Discussion on remaining open issues in delay extension of multiple SCell activation**

*Type: discussion For: Approval  
 Source: NEC*

**Abstract:**

We provided our views on some of the remaining open issues on delay extension of SCell activation during multiple SCell activation.

**Discussion:**

.

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

**R4-2007790 On activation of multiple SCells**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

In this contribution we are providing input on simultaneous activation of multiple SCells.

**Discussion:**

.

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

**R4-2007856 Discussion on multiple SCell activation**

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

**Discussion:**

.

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

**R4-2007857 CR on Multiple SCell activation/deactivation delay requirements**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0850 Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

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

**R4-2007858 CR on Multiple SCell activation/deactivation interruption requirements 38133**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0851 Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

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

**R4-2007859 CR on Multiple SCell activation/deactivation interruption requirements 36133**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6885 Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

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

##### 6.15.1.3 CGI reading requirements with autonomous gap [NR\_RRM\_Enh\_Core]

**R4-2006476 Discussion on CGI reading requirement for NR**

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

**Discussion:**

.

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

**R4-2006714 On CGI reading requirement**

*Type: discussion For: Discussion  
 Source: Qualcomm, Inc.*

**Abstract:**

CGI reading requirement on MIB and SIB

**Discussion:**

.

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

**R4-2006715 CR: CGI reading**

*Type: draftCR For: Endorsement  
 38.133 v16.3.0  
 Source: Qualcomm, Inc.*

**Discussion:**

.

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

**R4-2006970 Further considerations for CGI decoding in NR**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Discussion on CGI reading based onm WF

**Discussion:**

.

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

**R4-2006971 LTE CGI measurements with autonomous gaps for 38.133**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0709 Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

InterRAT reading of LTE CGI with NR sevring cell

**Discussion:**

.

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

**R4-2006972 NR CGI measurements with autonomous gaps for 36.133**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6845 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

InterRAT reading of NR CGI with LTE sevring cell

**Discussion:**

.

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

**R4-2007640 Remaining open issues on NR CGI reading with autonomous gaps**

*Type: discussion For: Discussion  
 Source: ZTE*

**Discussion:**

.

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

**R4-2007641 CR to 38.133 on CGI reading of NR cell**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0739 Cat: B (Rel-16)  
  
 Source: ZTE*

**Discussion:**

.

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

**R4-2007642 CR to 38.133 on interruption requirements for CGI reading**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0740 Cat: B (Rel-16)  
  
 Source: ZTE*

**Discussion:**

.

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

**R4-2007643 Reply LS on CGI reading with autonomous gaps**

*Type: LS out For: Approval  
 to RAN2  
 Source: ZTE*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007860 Discussion on NR CGI reading requirements**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007861 Discussion on scope and requirements for LTE CGI reading**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007862 CR to 36.133 on interruption requirements for CGI reading**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6886 Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007863 CR to 36.133 on CGI reading of LTE cell**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6887 Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2008188 discussion on CGI reading with autonomous gap**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

discussion on CGI reading with autonomous gap

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2008189 Draft Response LS on CGI reading with autonomous gaps**

*Type: LS out For: Approval  
 to RAN2  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Draft Response LS on T321 timer value for CGI reading with autonomous gaps

**Discussion:**

.

**Decision:** The document was **not treated**.

##### 6.15.1.4 BWP switching on multiple CCs [NR\_RRM\_Enh\_Core]

**R4-2006203 Discussion on requirements for BWP switching on multiple CCs**

*Type: discussion For: Discussion  
 Source: Apple*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006477 Discussion on BWP switch on multiple CC**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006522 Remaining issues on BWP switching on mulitple CCs**

*Type: discussion For: Approval  
 Source: vivo*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006551 Discussion on RRM requirements for BWP switching on multiple CCs**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007291 Discussion on requirements for BWP switch delay on multiple CC**

*Type: discussion For: Approval  
 Source: NEC*

**Abstract:**

We provided our views on delay requirements for BWP switching on multiple CC.

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007348 On RRM requirements for BWP switching on multiple CCs**

*Type: discussion For: Approval  
 Source: OPPO*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007498 Delay requirement for simultaneous switching of multiple BWPs**

*Type: discussion For: (not specified)  
 Source: Qualcomm*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007680 CR on introduction of RRM requirements for BWP switching delay on multiple CCs**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0764 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007681 Discussion on partial overlap BWP switching on multiple CCs**

*Type: discussion For: Discussion  
 Source: Huawei, Hisilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007682 Discussion on simultaneous BWP switching on multiple CCs**

*Type: discussion For: Discussion  
 Source: Huawei, Hisilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007788 On simultaneous BWP switching on multiple CCs**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

In this contribution we are providing input on simultaneously triggered BWP switching on multiple component carriers.

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007990 Analysis of open issues for partially overlapped BWP triggering on multiple CCs**

*Type: other For: Discussion  
 Source: Ericsson*

**Abstract:**

This paper provides further analysis of non-smultaneous BWP switching delay on multiple CCs

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2008190 discussion on BWP switch on multiple CCs**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Discussion on delay requirements for BWP switch considering multiple CCs.

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2008191 CR on 36133 interruption requirements for BWP switching on multiple CCs**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6909 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

CR on 36133 interruption requirements for BWP switching on multiple CCs

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2008192 CR on 38133 interruption requirements for BWP switching on multiple CCs**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0875 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

CR on 38133 interruption requirements for BWP switching on multiple CCs

**Discussion:**

.

**Decision:** The document was **not treated**.

##### 6.15.1.5 Inter-frequency measurement requirement without MG [NR\_RRM\_Enh\_Core]

**R4-2006521 Remaining issues for inter-frequency measurement without gap**

*Type: discussion For: Approval  
 Source: vivo*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006716 On Inter-frequency without gap requirement**

*Type: discussion For: Discussion  
 Source: Qualcomm, Inc.*

**Abstract:**

Inter-frequency without gap requirement

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006806 RRM requirements on inter-frequency measurement without gap**

*Type: discussion For: Discussion  
 Source: CMCC*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006807 CR on introducing inter-frequency measurements without measurement gap (9.1.5, 9.1.6, 9.3.1, 9.3.4, 9.3.5)**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0690 Cat: B (Rel-16)  
  
 Source: CMCC*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006888 Discussion on inter-frequency measurement requirement without gap**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007349 On remaining issues for inter-frequency measurement without MG**

*Type: discussion For: Approval  
 Source: OPPO*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007745 [Draft] LS on inter-frequency measurement requirement without MG**

*Type: LS out For: Approval  
 to RAN2, RAN1  
 Source: Huawei, Hisilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007746 Discussion on inter-frequency measurement without gap**

*Type: discussion For: Discussion  
 Source: Huawei, Hisilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

##### 6.15.1.6 Mandatory MG patterns [NR\_RRM\_Enh\_Core]

**R4-2006717 On Mandatory gap patterns requirement**

*Type: discussion For: Discussion  
 Source: Qualcomm, Inc.*

**Abstract:**

Mandatory gap patterns requirement

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006718 CR: mandatory gap pattern**

*Type: draftCR For: Endorsement  
 38.133 v16.3.0  
 Source: Qualcomm, Inc.*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006767 Further discussion on mandating gap patterns for Rel-16 NR**

*Type: discussion For: Approval  
 Source: CMCC*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006874 Discussion on mandatory MG patterns**

*Type: discussion For: Discussion  
 38.133 v..  
 Source: NTT DOCOMO, INC.*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006974 Further discussion on additional mandatory gap patterns for release 16**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Discussion around WF in R4-2005345

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006975 Further LS on mandatory of measurement gap patterns**

*Type: LS out For: Approval  
 to RAN WG2  
 Source: Ericsson*

**Abstract:**

LS to inform RAN2 which gap patterns to specify as mandatory in R16

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007159 Discussion on Mandatory Gap Patterns**

*Type: discussion For: Discussion  
 38.133 v..  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007350 On remaining issues for mandatory MG patterns**

*Type: discussion For: Approval  
 Source: OPPO*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007647 LS on mandatory of measurement gap patterns**

*Type: LS out For: Approval  
 to RAN2  
 Source: ZTE*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007648 Remaining open issues on mandatary gap patterns**

*Type: discussion For: Discussion  
 Source: ZTE*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007747 Discussion on mandatory gap pattern in R-16**

*Type: discussion For: Discussion  
 Source: Huawei, Hisilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007748 [Draft] LS on mandantory gap patterns**

*Type: LS out For: Approval  
 to RAN2  
 Source: Huawei, Hisilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

##### 6.15.1.7 UE-specific CBW change [NR\_RRM\_Enh\_Core]

**R4-2006197 CR on UE behavior for UE specific CBW change**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0627 Cat: F (Rel-16)  
  
 Source: Apple*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006547 CR to TS 38.133: RRM requirement for UE-specific CBW change delay**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0672 Cat: B (Rel-16)  
  
 Source: Intel Corporation*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006548 CR to TS 38.133: RRM requirement for interruption due to UE-specific CBW change**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0673 Cat: B (Rel-16)  
  
 Source: Intel Corporation*

**Discussion:**

.

**Decision:** The document was **not treated**.

##### 6.15.1.8 Spatial relation switch for uplink [NR\_RRM\_Enh\_Core]

**R4-2006204 Discussion on requirements for UL spatial relation info switch**

*Type: discussion For: Discussion  
 Source: Apple*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006478 Discussion on active spatial relation switch**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006479 CR on active spatial relation switch**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0668 Cat: B (Rel-16)  
  
 Source: MediaTek inc.*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006554 Discussion on requirements for spatial relation info switch for UL**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006875 Discussion on spatial relation switch for uplink**

*Type: discussion For: Discussion  
 38.133 v..  
 Source: NTT DOCOMO, INC.*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007160 Discussion on UL spatial relation switch**

*Type: discussion For: Discussion  
 38.133 v..  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007496 Spatial relation switch for uplink**

*Type: discussion For: (not specified)  
 Source: Qualcomm*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007749 Discussion on spatial relation switch for uplink channels and SRS**

*Type: discussion For: Discussion  
 Source: Huawei, Hisilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007789 On spatial relation switching delay requirements**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

In this contribution we are providing input on spatial relation switching requirements.

**Discussion:**

.

**Decision:** The document was **not treated**.

##### 6.15.1.9 Non-simultaneous UL carrier operation in FR2 [NR\_RRM\_Enh\_Core]

##### 6.15.1.10 Inter-band CA requirement for FR2 UE measurement capability of independent Rx beam and/or common beam [NR\_RRM\_Enh\_Core]

**R4-2006869 Discussion on Inter-band CA requirement for FR2**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006876 Discussion on inter-band CA requirement for FR2**

*Type: discussion For: Discussion  
 38.133 v..  
 Source: NTT DOCOMO, INC.*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006973 RRM requirements for interband FR2 operation**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Discussion around WF in R4-2005353

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007161 FR2 inter-band CA requirement**

*Type: discussion For: Discussion  
 38.133 v..  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007497 RRM requirements with common and independent beams in FR2 inter band CA**

*Type: discussion For: (not specified)  
 Source: Qualcomm*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007775 Discussion on RRM requirements of FR2 inter-band CA scenario**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007776 CR on interruption requirements for FR2 inter-band CA**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0808 Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007777 CR on scaling factor CSSFoutside\_gap for FR2 inter-band CA**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0809 Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007778 CR on scheduling availability requirements for FR2 inter-band CA**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0810 Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007779 CR on measurement restriction requirements for FR2 inter-band CA**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0811 Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007802 CR on SCell activation requirements for FR2 inter-band CA**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0819 Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

### 6.16 NR RRM requirements for CSI-RS based L3 measurement [NR\_CSIRS\_L3meas]

================================================================================

**Email discussion: [95e][225] NR\_CSIRS\_L3meas\_RRM\_1**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email title** | **WI** | **Topic areas** | **AI** |
| [95e][225] NR\_CSIRS\_L3meas\_RRM\_1 | R16 NR CSI-RS L3 Measurements | RRM Core requirements: CSI-RS measurement bandwidth; CSI-RS intra/inter-frequency measurement definition; Others | 6.16.1 6.16.1.1 6.16.1.2  6.16.1.5 |

**R4-2008514 Email discussion summary for [95e][225] NR\_CSIRS\_L3meas\_RRM\_1** *Type: other For: Information  
 Source: Moderator (CATT)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

1st round email discussion conclusions

2nd round email discussion conclusions

================================================================================

================================================================================

**Email discussion: [95e][226] NR\_CSIRS\_L3meas\_RRM\_2**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email title** | **WI** | **Topic areas** | **AI** |
| [95e][226] NR\_CSIRS\_L3meas\_RRM\_2 | R16 NR CSI-RS L3 Measurements | RRM Core requirements: Measurement capability; Intra/Inter-frequency measurement requirements | 6.16.1.3  6.16.1.4 |

**R4-2008515 Email discussion summary for [95e][226] NR\_CSIRS\_L3meas\_RRM\_2** *Type: other For: Information  
 Source: Moderator (OPPO)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

1st round email discussion conclusions

2nd round email discussion conclusions

================================================================================

#### 6.16.1 RRM core requirements (38.133) [NR\_CSIRS\_L3meas-Core]

**R4-2006216 On remaining issues for CSI-RS based L3 measurements**

*Type: discussion For: Discussion  
 Source: Apple*

**Discussion:**

.

**Decision:** The document was **not treated**.

##### 6.16.1.1 CSI-RS measurement bandwidth [NR\_CSIRS\_L3meas-Core]

**R4-2006223 Discussion on the remaining issues on CSI-RS measurement configuration and definition for RRM measurement requirement**

*Type: discussion For: Discussion  
 Source: CATT*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006949 Discussion on CSI-RS parameters for RRM core requirements**

*Type: discussion For: Discussion  
 38.133 v..  
 Source: NTT DOCOMO, INC.*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007098 Discussion on CSI-RS measurement bandwidth**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007649 Further discussion on configuration of CSI-RS based L3 measurement**

*Type: discussion For: Discussion  
 Source: ZTE*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007803 Discussion on CSI-RS L3 measurement period requirements**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

##### 6.16.1.2 CSI-RS based intra-frequency and inter-frequency measurements definition [NR\_CSIRS\_L3meas-Core]

**R4-2006224 LS on CSI-RS based intra-frequency and inter-frequency Measurement definition**

*Type: LS out For: Approval  
 to RAN2  
 Source: CATT*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006553 Discussion about CSI-RS L3 measurement bandwidth and definition**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006573 Definition of Intra and inter frequency for CSI-RS RRM**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006763 Further discussion on the definition of CSI-RS based intra-frequency measurements**

*Type: discussion For: Discussion  
 Source: CMCC*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006950 Discussion on the definition of CSI-RS based intra-frequency and inter-frequency measurement**

*Type: discussion For: Discussion  
 38.133 v..  
 Source: NTT DOCOMO, INC.*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007099 CSI-RS based intra-frequency measurements definition**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007292 Definition of Intra and Inter-frequency CSI-RS based L3 measurements**

*Type: discussion For: Approval  
 Source: NEC*

**Abstract:**

We provided our views on the definition of Intra and Inter-frequency CSI-RS based L3 measurements

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007351 On remaining issues for definition of intra-f CSI-RS L3 measurement**

*Type: discussion For: Approval  
 Source: OPPO*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007651 Further discussion on definition of CSI-RS based RRM measurements**

*Type: discussion For: Discussion  
 Source: ZTE*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007734 Definition for the CSI-RS based intra-frequency and inter-frequency measurement**

*Type: discussion For: Discussion  
 Source: Huawei, Hisilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007735 [DRAFT] Reply LS on clarification about CSI-RS measurement**

*Type: LS out For: Approval  
 to RAN2, cc RAN1  
 Source: Huawei, Hisilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007737 CR on CSI-RS based L3 measurement framework and introduction**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0793 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007738 CR on CSI-RS based intra-f and inter-f measurement definition**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0794 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2008143 More comments on CSI-RS based intra-frequency and inter-frequency measurements definition**

*Type: discussion For: Discussion  
 38.133 v..  
 Source: Qualcomm CDMA Technologies*

**Discussion:**

.

**Decision:** The document was **not treated**.

##### 6.16.1.3 Measurement capability [NR\_CSIRS\_L3meas-Core]

**R4-2006225 Further discussion on CSI-RS based UE measurement capabilities**

*Type: discussion For: Discussion  
 Source: CATT*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006227 CR on CSI-RS based UE measurement capabilities**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0637 Cat: B (Rel-16)  
  
 Source: CATT*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006552 Discussion about CSI-RS L3 measurement capability and requirements**

*Type: discussion For: Discussion  
 Source: Intel Corporation*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006574 Discussion on measurement capability for CSI-RS RRM**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006764 Further discussion on CSI-RS measurement capability**

*Type: discussion For: Discussion  
 Source: CMCC*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006766 38.133 CR on UE measurement capability for CSI-RS measurement**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0688 Cat: B (Rel-16)  
  
 Source: CMCC*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007100 Discussion on the CSI-RS based measurement capability**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007352 On Measurement capability for CSI-RS L3 measurement**

*Type: discussion For: Approval  
 Source: OPPO*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007353 Draft CR on CSI-RS based L3 measurement capability(9.1.3)**

*Type: draftCR For: Endorsement  
 38.133 v16.3.0  
 Source: OPPO*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007354 Draft CR on CSI-RS based L3 measurement capability(9.2.3)**

*Type: draftCR For: Endorsement  
 38.133 v16.3.0  
 Source: OPPO*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007355 Draft CR on CSI-RS based L3 measurement capability(9.3.3)**

*Type: draftCR For: Endorsement  
 38.133 v16.3.0  
 Source: OPPO*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007650 Further discussion on UE measurement capability of CSI-RS based RRM measurements**

*Type: discussion For: Discussion  
 Source: ZTE*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007864 On CSI-RS measurement capability**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007865 CR on CSI-RS measurement capability - number of cells and beams**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0852 Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007866 CR on CSI-RS measurement capability - number of layers**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0853 Cat: B (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007867 On time window for CSI-RS measurement**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2008237 More comments on CSI-RS measurement capabilities and requirements**

*Type: discussion For: Discussion  
 38.133 v..  
 Source: Qualcomm CDMA Technologies*

**Abstract:**

CSI-RS L3, capabilities and requirements

**Discussion:**

.

**Decision:** The document was **not treated**.

##### 6.16.1.4 Intra-frequency and inter-frequency measurement requirements [NR\_CSIRS\_L3meas-Core]

**R4-2006226 Discussion on CSI-RS based measurement requirements**

*Type: discussion For: Discussion  
 Source: CATT*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006228 CR on Carrier-specific scaling factor for CSI-RS measurement**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0638 Cat: B (Rel-16)  
  
 Source: CATT*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006229 CR on CSI-RS based intra-frequency measurement requirement**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0639 Cat: B (Rel-16)  
  
 Source: CATT*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006230 CR on CSI-RS based inter-frequency measurement requirement**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0640 Cat: B (Rel-16)  
  
 Source: CATT*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006575 Cell identification requirements for CSI-RS RRM**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006765 Discussion on CSI-RS measurement requirements**

*Type: discussion For: Discussion  
 Source: CMCC*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006841 Discussion on CSI-RS L3 measurement requirement**

*Type: discussion For: Discussion  
 Source: LG Electronics Inc.*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006951 Discussion on measurement requirements of CSI-RS based L3 measurement**

*Type: discussion For: Discussion  
 38.133 v..  
 Source: NTT DOCOMO, INC.*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007101 CSI-RS based intra-frequency measurement requirements**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007356 On measurement requirement for CSI-RS based L3 measurements**

*Type: discussion For: Approval  
 Source: OPPO*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007357 Draft CR on intra-frequency CSI-RS L3 measurement(9.2.1, 9.2.4)**

*Type: draftCR For: Endorsement  
 38.133 v16.3.0  
 Source: OPPO*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007358 Draft CR on intra-frequency CSI-RS L3 measurement requirement(9.2.5)**

*Type: draftCR For: Endorsement  
 38.133 v16.3.0  
 Source: OPPO*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007359 Draft CR on inter-frequency CSI-RS L3 measurements(section 9.3.1, 9.3.6)**

*Type: draftCR For: Endorsement  
 38.133 v16.3.0  
 Source: OPPO*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007360 Draft CR on inter-frequency CSI-RS L3 measurements requirement(section 9.3.4, 9.3.5)**

*Type: draftCR For: Endorsement  
 38.133 v16.3.0  
 Source: OPPO*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007736 Discussion on CSI-RS based L3 measurement requirements**

*Type: discussion For: Discussion  
 Source: Huawei, Hisilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007739 CR on CSI-RS based measurement requirements**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0795 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

##### 6.16.1.5 Others [NR\_CSIRS\_L3meas-Core]

**R4-2006576 Synchronization assumption for L3 CSI-RS measurement**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007102 Pre-emption on CSI-RS based measurements**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007103 Simulation results for CSI-RS based measurements**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007868 On synchronization assumption for CSI-RS measurement requirements**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

### 6.17 NR support for high speed train scenario [NR\_HST]

#### 6.17.1 RRM core requirements (38.133) [NR\_HST-Core]

================================================================================

**Email discussion: [95e][227] NR\_HST\_RRM**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email title** | **WI** | **Topic areas** | **AI** |
| [95e][227] NR\_HST\_RRM | R16 NR HST | RRM Core requirements | 6.17.1 |

**R4-2008516 Email discussion summary for [95e][227] NR\_HST\_RRM** *Type: other For: Information  
 Source: Moderator (CMCC)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

1st round email discussion conclusions

2nd round email discussion conclusions

================================================================================

**R4-2006719 On HST RRM requirement**

*Type: discussion For: Discussion  
 Source: Qualcomm, Inc.*

**Abstract:**

HST RRM requirement inter-RAT

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006770 Further discussion on RRM for NR high speed scenario**

*Type: discussion For: Approval  
 Source: CMCC*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006772 Discussion on SS-SINR measurement for NR HST**

*Type: discussion For: Discussion  
 Source: CMCC*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006965 LS on supporting Rel-16 NR HST RRM enhanced requirements from Rel-15 UEs**

*Type: LS out For: Approval  
 to RAN2  
 Source: CMCC*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007272 Discussion on remaining RRM issues in NR HST**

*Type: discussion For: Discussion  
 Source: vivo*

**Discussion:**

.

**Decision:** The document was **not treated**.

##### 6.17.1.1 Cell re-selection [NR\_HST-Core]

**R4-2006774 38.133 CR on cell re-selection requirements for Rel-16 NR HST**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0689 Cat: B (Rel-16)  
  
 Source: CMCC*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007162 NR HST Serving cell and idle mode**

*Type: discussion For: Discussion  
 38.133 v..  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2008040 CR for Measurement and evaluation of serving cell in HST**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0872 Cat: F (Rel-16)  
  
 Source: Nokia Corporation*

**Discussion:**

.

**Decision:** The document was **not treated**.

##### 6.17.1.2 Cell identification delay [NR\_HST-Core]

**R4-2006231 CR on cell identification requirements for NR HST**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0641 Cat: B (Rel-16)  
  
 Source: CATT*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006983 Requirement applicability in NR high speed**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Further considattions on note related to requirement applicability in NR high speed

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007163 Connected mode HST operation with long DRX**

*Type: discussion For: Discussion  
 38.133 v..  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2008090 Discussions on SS-SINR measurements for Rel-16 high speed train**

*Type: other For: Discussion  
 38.133 v..  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

At the RAN4#94-e-bis meeting, link simulation results for SS-SINR were provided and discussed in [2]. Further discussions and link simulation results for SS-SINR are provided in this document. Based on our discussions and simulation results, we attempt to

**Discussion:**

.

**Decision:** The document was **not treated**.

##### 6.17.1.3 RLM [NR\_HST-Core]

**R4-2008058 CR to TS 38.133: NR HST RLM requirements**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0873 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This CR updates the RLM requirements for NR HST according to the WF on RRM for NR HST (R4-2005358) which was agreed at the last meeting.

**Discussion:**

.

**Decision:** The document was **not treated**.

##### 6.17.1.4 Beam management [NR\_HST-Core]

**R4-2008065 CR to TS 38.133: NR HST beam management requirements**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0874 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

This CR updates the beam management requirements for NR HST according to the WF on RRM for NR HST (R4-2005358) which was agreed at the last meeting.

**Discussion:**

.

**Decision:** The document was **not treated**.

##### 6.17.1.5 Inter-RAT measurement [NR\_HST-Core]

**R4-2006771 Further discussion on inter-RAT measurement requirements for NR HST**

*Type: discussion For: Approval  
 Source: CMCC*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006773 36.133 CR on cell identification in connected mode for EUTRAN-NR measurement for Rel-16 NR HST**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6840 Cat: B (Rel-16)  
  
 Source: CMCC*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006984 InterRAT requirements for high speed train**

*Type: discussion For: Discussion  
 Source: Ericsson*

**Abstract:**

Discussion on necessary InterRAT requirements for high speed train

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006985 Cell re-selection for EUTRAN-NR high speed in TS36.133**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6848 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Requirements for reselection from LTE to NR for HST

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007164 Idle mode inter-RAT measurements requirements**

*Type: discussion For: Discussion  
 38.133 v..  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007165 Connected mode inter-RAT measurements**

*Type: discussion For: Discussion  
 38.133 v..  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007273 CR on cell re-selection requirement for NR-EUTRAN measurement in TS38.133**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0723 Cat: B (Rel-16)  
  
 Source: vivo*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007740 Discussion on the RRM requirements in NR HST**

*Type: discussion For: Discussion  
 Source: Huawei, Hisilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007741 Cell identification in connected mode for NR-EUTRAN measurement in HST**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0796 Cat: B (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

#### 6.17.2 Demodulation and CSI requirements (38.101-4 / 38.104) [NR\_HST-Perf]

### 6.18 NR performance requirement enhancement [NR\_perf\_enh-Perf]

### 6.19 Over the air (OTA) base station (BS) testing TR [OTA\_BS\_testing-Perf]

### 6.20 2-step RACH for NR [NR\_2step\_RACH-Perf]

#### 6.20.1 RRM core requirements (38.133) [NR\_2step\_RACH-Core]

================================================================================

**Email discussion: [95e][228] NR\_2step\_RACH\_RRM**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email title** | **WI** | **Topic areas** | **AI** |
| [95e][228] NR\_2step\_RACH\_RRM | R16 2-step RACH for NR | RRM Core requirements | 6.20.1 |

**R4-2008517 Email discussion summary for [95e][228] NR\_2step\_RACH\_RRM** *Type: other For: Information  
 Source: Moderator (ZTE)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

1st round email discussion conclusions

2nd round email discussion conclusions

================================================================================

**R4-2006601 CR to TS 38.133: introducing 2-step RACH core requirements**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0678 Cat: B (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell, ZTE*

**Abstract:**

The CR introduces the 2-step RACH core requirements section on TS 38.133.

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006605 On RRM core requirements for 2-step RA type**

*Type: discussion For: Discussion  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Discussion paper on the RRM core requirements for 2-step RA type

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007293 Discussion on RRM Requirements for 2-step RACH**

*Type: discussion For: Approval  
 Source: NEC*

**Abstract:**

RRM requirements for 2-Step RACH are discussed

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007491 RRM core requirements for 2-step RACH**

*Type: discussion For: (not specified)  
 Source: Qualcomm*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007652 Remaining open issues on RRM requirements for 2-step RACH**

*Type: discussion For: Discussion  
 Source: ZTE*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007653 CR to 38.133 on UE transmit timing requirements for 2-step RACH**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0743 Cat: B (Rel-16)  
  
 Source: ZTE*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007869 discussion on 2-step RA requirements**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2008000 On defining 2-step RA and 4-step RA in exisitng RRM requirements**

*Type: other For: Discussion  
 Source: Ericsson*

**Abstract:**

This paper analyzes the impact of 2-step RACH on existing RRM requirements (Handover, RRC re-establishment, RRC release with redirection, PSCell addition)

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2008001 Applicability of 2-step RA and 4-step RA in RRM requirements in 38.133**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0871 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

This CR defines the impact of 2-step RACH on existing RRM requirements (Handover, RRC re-establishment, RRC release with redirection, PSCell addition)

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2008002 Applicability of 2-step RA and 4-step RA in RRM requirements in 36.133**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6908 Cat: B (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

This CR defines the impact of 2-step RACH on existing RRM requirements (Handover, RRC release with redirection, PSCell addition)

**Discussion:**

.

**Decision:** The document was **not treated**.

#### 6.20.2 BS Demodulation requirements (38.104/38.141-1/38.141-2) [NR\_2step\_RACH-Perf]

#### 6.20.3 Others [NR\_2step\_RACH-Perf]

### 6.21 R16 NR maintenance [WI code or TEI16]

#### 6.21.1 BS RF [WI code or TEI16]

#### 6.21.2 UE RF [WI code or TEI16]

#### 6.21.3 RRM [WI code or TEI16]

Session chair: AI treated under email thread [95e][233] NR\_RRM\_maintenance

**R4-2006217 Rapportuer CR for TS38.133**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0632 Cat: D (Rel-16)  
  
 Source: Apple*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006616 On potential enhancement for TCI switching**

*Type: discussion For: Discussion  
 38.133 v..  
 Source: Apple*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007657 CR to 38.133 on intra frequency measurements without gaps**

*Type: CR For: Agreement  
 38.133 v16.3.0 CR-0744 Cat: F (Rel-16)  
  
 Source: ZTE*

**Discussion:**

.

**Decision:** The document was **not treated**.

***NeedForGap***

**R4-2006882 Reply LS on NeedForGap capability**

*Type: LS out For: Approval  
 to RAN2  
 Source: MediaTek inc.*

**Session chair: moved from AI 13**

**Discussion:**

**Decision:** The document was **not treated**.

**R4-2006883 Discussion on NeedForGap capability**

*Type: discussion For: Discussion  
 Source: MediaTek inc.*

**Session chair: moved from AI 13**

**Discussion:**

**Decision:** The document was **not treated**.

#### 6.21.4 Demodulation and CSI [WI code or TEI16]

## 7 UE feature list

## 8 Rel-16 spectrum related Work Items for NR

### 8.1 NR intra band Carrier Aggregation for xCC DL/yCC UL including contiguous and non-contiguous spectrum (x>=y) [NR\_CA\_R16\_intra]

### 8.2 NR inter-band Carrier Aggregation/Dual Connectivity for 2 bands DL with x bands UL (x=1, 2) [NR\_CADC\_R16\_2BDL\_xBUL]

### 8.3 EN-DC of 1 LTE band and 1 NR band [DC\_R16\_1BLTE\_1BNR\_2DL2UL]

### 8.4 EN-DC of 2 LTE band and 1 NR band [DC\_R16\_2BLTE\_1BNR\_3DL2UL]

### 8.5 EN-DC of 3 LTE band and 1 NR band [DC\_R16\_3BLTE\_1BNR\_4DL2UL]

### 8.6 EN-DC of 4 LTE band and 1 NR band [DC\_R16\_4BLTE\_1BNR\_5DL2UL]

### 8.7 EN-DC of x bands (x=1,2, 3, 4) LTE inter-band CA and 2 bands NR inter-band CA [DC\_R16\_xBLTE\_2BNR\_yDL2UL]

### 8.8 Band combinations for SA NR supplementary uplink (SUL), NSA NR SUL, NSA NR SUL with UL sharing from the UE perspective (ULSUP) [NR\_SUL\_combos\_R16]

### 8.9 NR Inter-band Carrier Aggregation for 3 bands DL with 1 band UL [NR\_CA\_R16\_3BDL\_1BUL]

### 8.10 NR Inter-band Carrier Aggregation for 4 bands DL with 1 band UL [NR\_CA\_R16\_4BDL\_1BUL]

### 8.11 NR Inter-band Carrier Aggregation/Dual connectivity for 3 bands DL with 2 bands UL [NR\_CADC\_R16\_3BDL\_2BUL]

### 8.12 Dual Connectivity (EN-DC) with 3 bands DL and 3 bands UL [DC\_R16\_LTE\_NR\_3DL3UL]

### 8.13 Dual Connectivity (EN-DC) of LTE inter-band CA xDL/1UL bands (x=2,3,4) and NR FR1 1DL/1UL band and NR FR2 1DL/1UL band [DC\_R16\_xBLTE\_2BNR\_yDL3UL]

### 8.14 29dBm UE Power Class for B41 and n41 [LTE\_NR\_B41\_Bn41\_PC29dBm]

### 8.15 Power Class 2 UE for EN-DC (1 LTE FDD band +1 NR TDD band) [ENDC\_UE\_PC2\_FDD\_TDD-Core]

### 8.16 Introduction of NR band n259 [NR\_n259]

### 8.17 Adding 25MHz and 50MHz channel bandwidth in NR band n1 [NR\_n1\_BW2]

### 8.18 LTE/NR spectrum sharing in band 48/n48 frequency range [NR\_n48\_LTE\_48\_coex-Core]

### 8.19 Adding 40 MHz channel bandwidth (15, 30 and 60kHz SCS) in NR band n3 [NR\_n3\_BW]

### 8.20 Adding 50 MHz channel bandwidth (15, 30 and 60kHz SCS) in NR band n65 [NR\_n65\_BW]

## 9 Study Items for NR

### 9.1 Study on radiated metrics and test methodology for the verification of multi-antenna reception perf. of NR UEs [FS\_NR\_MIMO\_OTA\_test]

### 9.2 Study on 7-24GHz frequency range [FS\_7to24GHz\_NR]

## 10 Rel-17 spectrum related Work Items for NR

### 10.1 Introduction of FR2 FWA UE with maximum TRP of 23dBm for band n257 and n258 [NR\_FR2\_FWA\_Bn257\_Bn258]

#### 10.1.1 UE RF (38.101-2) [NR\_FR2\_FWA\_Bn257\_Bn258]

#### 10.1.2 BS RF (38.104) [NR\_FR2\_FWA\_Bn257\_Bn258]

#### 10.1.3 RRM (38.133) [NR\_FR2\_FWA\_Bn257\_Bn258]

================================================================================

**Email discussion: [95e][234] NR\_FR2\_FWA\_Bn257\_Bn258\_RRM**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email title** | **WI** | **Topic areas** | **AI** |
| [95e][234] NR\_FR2\_FWA\_Bn257\_Bn258\_RRM | R17 FR2 FWA UE with max 23dBm TRP | RRM Core requirements | 10.1.3 |

**R4-2008523 Email discussion summary for [95e][234] NR\_FR2\_FWA\_Bn257\_Bn258\_RRM**

*Type: other For: Information  
 Source: Moderator (Huawei, HiSilicon)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

1st round email discussion conclusions

2nd round email discussion conclusions

================================================================================

**R4-2007804 Discussion on RRM impact due to introduction of new FR2 FWA UE**

*Type: discussion For: Discussion  
 Source: Huawei, HiSilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007134 RRM Requirements for the new FWA device with 23dBm TRP**

*Type: other For: Approval  
 Source: Qualcomm Incorporated*

**Discussion:**

**Session chair: moved from AI 6.13.2.**

**Decision:** The document was **not treated**.

#### 10.1.4 Others [NR\_FR2\_FWA\_Bn257\_Bn258]

### 10.2 Introduction of NR band n13 [NR\_n13]

#### 10.2.1 UE RF (38.101-1) [NR\_n13-Core]

#### 10.2.2 BS RF (38.104) [NR\_n13-Core]

#### 10.2.3 RRM (38.133) [NR\_n13-Core]

#### 10.2.4 Others [NR\_n13-Core/Perf]

### 11.0 Reply to ITU-R LS (RP-200042)

### 11.1 Study on IMT parameters for frequency ranges 6.425-7.125GHz and 10.0-10.5GHz [FS\_6425\_10500MHz \_NR]

### 11.2 Reply of IMT parameters for other frequency ranges requested in RP-200042

## 12 LTE maintenance (up to Rel15) [WI code or TEI]

### 12.1 BS RF [WI code or TEI]

### 12.2 UE RF [WI code or TEI]

### 12.3 RRM [WI code or TEI]

================================================================================

**Email discussion: [95e][232] LTE\_RRM\_maintenance**

|  |  |  |  |
| --- | --- | --- | --- |
| **Email title** | **WI** | **Topic areas** | **AI** |
| [95e][232] LTE\_RRM\_maintenance | Misc | TS 36.133 specification clean up before ITU submission (R4-2006966,  R4-2006967) R15/R16 LTE RRM maintenance | 5.14.2 12.3 |

**R4-2008521 Email discussion summary for [95e][232] LTE\_RRM\_maintenance** *Type: other For: Information  
 Source: Moderator (Ericsson)*

**Abstract:**

**Discussion:**

**Decision: Return to.**

GTW session (May 29th)

Session chair: check possible issues with spec clean up for 36.133

E///: there is one issue with euCA which we will continue discussion. Besides that no [] or FFS expected.

1st round email discussion conclusions

2nd round email discussion conclusions

================================================================================

**R4-2006966 Finalisation of requirements in 36.133 R15**

*Type: CR For: Agreement  
 36.133 v15.9.0 CR-6841 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

Remove square brackets and TBDs ready for ITU submission

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006967 Finalisation of requirements in 36.133 R16**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6842 Cat: F (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Remove square brackets and TBDs ready for ITU submission

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006968 Editorial correction of E-UTRAN FDD – UTRAN TDD Measurements**

*Type: CR For: Agreement  
 36.133 v15.9.0 CR-6843 Cat: F (Rel-15)  
  
 Source: Ericsson*

**Abstract:**

Correction of title and spelling errors in testcase A.8.7.A in 36.133

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006969 Editorial correction of E-UTRAN FDD – UTRAN TDD Measurements**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6844 Cat: A (Rel-16)  
  
 Source: Ericsson*

**Abstract:**

Correction of title and spelling errors in testcase A.8.7.A in 36.133

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007118 Correction of subclause references in clause 5**

*Type: CR For: Agreement  
 36.133 v13.18.0 CR-6849 Cat: F (Rel-13)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Abstract:**

Subclause referencing for handover clause corrected.

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007146 Number of carriers to measure in euCA**

*Type: discussion For: Discussion  
 36.133 v..  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007147 CR on Number of carriers to monitor for IDLE mode measurements**

*Type: CR For: Agreement  
 36.133 v15.9.0 CR-6850 Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007148 CR on Number of carriers to monitor for IDLE mode measurements**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6851 Cat: A (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007149 CR clarifying S-measure thresholds for EMR carriers**

*Type: CR For: Agreement  
 36.133 v15.9.0 CR-6852 Cat: F (Rel-15)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007150 CR clarifying S-measure thresholds for EMR carriers**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6853 Cat: A (Rel-16)  
  
 Source: Nokia, Nokia Shanghai Bell*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007424 CR to TS 36.133: Change of SR-ConfigIndex in eMTC RLM DRX test cases (Rel-13)**

*Type: CR For: Agreement  
 36.133 v13.18.0 CR-6858 Cat: F (Rel-13)  
  
 Source: Rohde & Schwarz*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007425 CR to TS 36.133: Change of SR-ConfigIndex in eMTC RLM DRX test cases (Rel-14)**

*Type: CR For: Agreement  
 36.133 v14.14.0 CR-6859 Cat: A (Rel-14)  
  
 Source: Rohde & Schwarz*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007426 CR to TS 36.133: Change of SR-ConfigIndex in eMTC RLM DRX test cases (Rel-15)**

*Type: CR For: Agreement  
 36.133 v15.9.0 CR-6860 Cat: A (Rel-15)  
  
 Source: Rohde & Schwarz*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007427 CR to TS 36.133: Change of SR-ConfigIndex in eMTC RLM DRX test cases (Rel-16)**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6861 Cat: A (Rel-16)  
  
 Source: Rohde & Schwarz*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007724 CR on NB-IoT cell reselection margin in enhanced coverage in Rel-13**

*Type: CR For: Agreement  
 36.133 v13.18.0 CR-6871 Cat: F (Rel-13)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007725 CR on NB-IoT cell reselection margin in enhanced coverage in Rel-14 (Cat A)**

*Type: CR For: Agreement  
 36.133 v14.14.0 CR-6872 Cat: A (Rel-14)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007726 CR on NB-IoT cell reselection margin in enhanced coverage in Rel-15 (Cat A)**

*Type: CR For: Agreement  
 36.133 v15.9.0 CR-6873 Cat: A (Rel-15)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007727 CR on NB-IoT cell reselection margin in enhanced coverage in Rel-16 (Cat A)**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6874 Cat: A (Rel-16)  
  
 Source: Huawei, Hisilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007876 Correction to eMTC inter-frequency reselection margin R14**

*Type: CR For: Agreement  
 36.133 v14.14.0 CR-6891 Cat: F (Rel-14)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007877 Correction to eMTC inter-frequency reselection margin R15**

*Type: CR For: Agreement  
 36.133 v15.9.0 CR-6892 Cat: A (Rel-15)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2007878 Correction to eMTC inter-frequency reselection margin R16**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6893 Cat: A (Rel-16)  
  
 Source: Huawei, HiSilicon*

**Discussion:**

.

**Decision:** The document was **not treated**.

**R4-2006082 CR to parameter for Cat-M RRM A.7.3.55**

*Type: CR For: Agreement  
 36.133 v13.18.0 CR-6829 Cat: F (Rel-13)  
  
 Source: ANRITSU LTD*

Session chair: moved from AI 4.10

**Discussion:**

**Decision:** The document was **not treated**.

**R4-2006083 CR to parameter for Cat-M RRM A.7.3.55**

*Type: CR For: Agreement  
 36.133 v14.14.0 CR-6830 Cat: A (Rel-14)  
  
 Source: ANRITSU LTD*

Session chair: moved from AI 4.10

**Discussion:**

**Decision:** The document was **not treated**.

**R4-2006084 CR to parameter for Cat-M RRM A.7.3.55**

*Type: CR For: Agreement  
 36.133 v15.9.0 CR-6831 Cat: A (Rel-15)  
  
 Source: ANRITSU LTD*

Session chair: moved from AI 4.10

**Discussion:**

**Decision:** The document was **not treated**.

**R4-2006085 CR to parameter for Cat-M RRM A.7.3.55**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6832 Cat: A (Rel-16)  
  
 Source: ANRITSU LTD*

Session chair: moved from AI 4.10

**Discussion:**

**Decision:** The document was **not treated**.

**R4-2006086 CR to RRM MPDSCH Repetitions in CE ModeA test case**

*Type: CR For: Agreement  
 36.133 v13.18.0 CR-6833 Cat: F (Rel-13)  
  
 Source: ANRITSU LTD*

Session chair: moved from AI 4.10

**Abstract:**

For A.8.1.26, change RMC R.11 HD-FDD -> R.25 HD-FDD

**Discussion:**

**Decision:** The document was **not treated**.

**R4-2006087 CR to RRM MPDSCH Repetitions in CE ModeA test case**

*Type: CR For: Agreement  
 36.133 v14.14.0 CR-6834 Cat: A (Rel-14)  
  
 Source: ANRITSU LTD*

Session chair: moved from AI 4.10

**Abstract:**

For A.8.1.26, change RMC R.11 HD-FDD -> R.25 HD-FDD

**Discussion:**

**Decision:** The document was **not treated**.

**R4-2006088 CR to RRM MPDSCH Repetitions in CE ModeA test case**

*Type: CR For: Agreement  
 36.133 v15.9.0 CR-6835 Cat: A (Rel-15)  
  
 Source: ANRITSU LTD*

Session chair: moved from AI 4.10

**Abstract:**

For A.8.1.26, change RMC R.11 HD-FDD -> R.25 HD-FDD

**Discussion:**

**Decision:** The document was **not treated**.

**R4-2006089 CR to RRM MPDSCH Repetitions in CE ModeA test case**

*Type: CR For: Agreement  
 36.133 v16.5.0 CR-6836 Cat: A (Rel-16)  
  
 Source: ANRITSU LTD*

Session chair: moved from AI 4.10

**Abstract:**

For A.8.1.26, change RMC R.11 HD-FDD -> R.25 HD-FDD

**Discussion:**

**Decision:** The document was **not treated**.

### 12.4 Demodulation and CSI [WI code or TEI]

## 13 Liaison and output to other groups

## 14 Revision of the Work Plan

### 14.1 Simplification of band combinations in RAN4 specifications

### 14.2 R17 new proposals

#### 14.2.1 Basket WI approach for adding existing channel bandwidth on existing NR bands

#### 14.2.2 Proposals on adding brand new channel bandwidth

#### 14.2.3 Basket WIs for LTE CA, EN-DC, NR CA and NR DC

#### 14.2.4 Others

### 14.3 Others

## 15 Any other business

### 15.1 Views on workload management and meeting efficiency improvement

### 15.2 Others

## 16 Close of the E-meeting

## BACKUP

**R4-20AAAAA Way forward on XXXX**

*Type: other For: Approval  
 Source: TBA*

**Abstract:**

**Discussion:**

**Decision: Return to.**