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| 3GPP TR 37.717-31-11 V0.9.0 (2022-05) | |
| Technical Report | |
| 3rd Generation Partnership Project;  Technical Specification Group Radio Access Networks;  Dual Connectivity (DC) of 3 bands LTE inter-band CA (3DL/1UL) and 1 NR band (1DL/1UL)  (Release 17) | |
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| ***3GPP***  Postal address  3GPP support office address  650 Route des Lucioles - Sophia Antipolis  Valbonne - FRANCE  Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16  Internet  http://www.3gpp.org |
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Contents

Foreword 16

1 Scope 18

2 References 18

3 Definitions of terms, symbols and abbreviations 18

3.1 Terms 18

3.2 Symbols 18

3.3 Abbreviations 18

4 Background 19

4.1 TR maintenance 19

5 DC of 3 LTE band (3DL/1UL) + 1 NR band: Specific Band Combination Part 19

5.1 Inter-band EN-DC 19

5.1.1 DC\_1-3\_(n)41 19

5.1.1.2 ∆TIB and ∆RIB values 19

5.1.1.3 REFSENS requirements 20

5.1.2 DC\_1-3-41\_n28 20

5.1.2.1 Configuration for EN-DC 20

5.1.2.2 ∆TIB and ∆RIB values 20

5.1.2.3 REFSENS requirements 20

5.1.3 DC\_3-7-8\_n40 21

5.1.3.1 Configurations for EN-DC 21

5.1.3.2 ∆TIB and ∆RIB values 21

5.1.3.3 Reference sensitivity exceptions 21

5.1.4 DC\_3-7-28\_n1 21

5.1.4.1 Configurations for EN-DC 21

5.1.4.2 ∆TIB and ∆RIB values 22

5.1.4.3 Reference sensitivity exceptions 22

5.1.5 DC\_5-7-66\_n66 22

5.1.5.1 Configurations for EN-DC 22

5.1.5.2 ∆TIB and ∆RIB values 22

5.1.5.3 Reference sensitivity exceptions 23

5.1.6 DC\_3-19-42\_n1 23

5.1.6.1 Configuration for EN-DC 23

5.1.6.2 ∆TIB and ∆RIB values 23

5.1.6.3 Reference sensitivity exceptions 23

5.1.7 DC\_3-21-42\_n1 23

5.1.7.1 Configuration for EN-DC 23

5.1.7.2 ∆TIB and ∆RIB values 24

5.1.7.3 Reference sensitivity exceptions 24

5.1.8 DC\_19-21-42\_n1 24

5.1.8.1 Configuration for EN-DC 24

5.1.8.2 ∆TIB and ∆RIB values 24

5.1.8.3 Reference sensitivity exceptions 25

5.1.9 DC\_2-28-66\_n66 25

5.1.9.1 Operating bands for EN-DC 25

5.1.9.2 Configuration for EN-DC 25

5.1.9.3 ∆TIB and ∆RIB values 25

5.1.10 DC\_7-28-66\_n66 26

5.1.10.1 Operating bands for EN-DC 26

5.1.10.2 Configuration for EN-DC 26

5.1.10.3 ∆TIB and ∆RIB values 26

5.1.11 DC\_2-7-28\_n66 26

5.1.11.1 Operating bands for EN-DC 26

5.1.11.2 Configuration for EN-DC 27

5.1.11.3 ∆TIB and ∆RIB values 27

5.1.12 DC\_1-8-11\_n3 27

5.1.12.1 Configurations for EN-DC 27

5.1.12.2 ∆TIB and ∆RIB values 27

5.1.12.3 Reference sensitivity exceptions 28

5.1.13 DC\_1-8-42\_n28 28

5.1.13.1 Configurations for EN-DC 28

5.1.13.2 ∆TIB and ∆RIB values 28

5.1.13.3 Reference sensitivity exceptions 28

5.1.14 DC\_1-7-32\_n28 29

5.1.14.1 Configuration for EN-DC 29

5.1.14.2 ∆TIB and ∆RIB values 29

5.1.14.3 Reference sensitivity exceptions 29

5.1.15 DC\_1-7-32\_n78 29

5.1.15.1 Configuration for EN-DC 29

5.1.15.2 ∆TIB and ∆RIB values 29

5.1.15.3 Reference sensitivity exceptions 30

5.1.16 DC\_1-20-32\_n28 30

5.1.16.1 Configuration for EN-DC 30

5.1.16.2 ∆TIB and ∆RIB values 30

5.1.16.3 Reference sensitivity exceptions 30

5.1.17 DC\_1-20-32\_n78 30

5.1.17.1 Configuration for EN-DC 30

5.1.17.2 ∆TIB and ∆RIB values 31

5.1.17.3 Reference sensitivity exceptions 31

5.1.18 DC\_3-7-32\_n78 31

5.1.18.1 Configuration for EN-DC 31

5.1.18.2 ∆TIB and ∆RIB values 31

5.1.18.3 Reference sensitivity exceptions 31

5.1.19 DC\_3-20-32\_n78 32

5.1.19.1 Configuration for EN-DC 32

5.1.19.2 ∆TIB and ∆RIB values 32

5.1.19.3 Reference sensitivity exceptions 32

5.1.20 DC\_7-20-32\_n1 32

5.1.20.1 Configuration for EN-DC 32

5.1.20.2 ∆TIB and ∆RIB values 32

5.1.20.3 Reference sensitivity exceptions 33

5.1.21 DC\_7-20-32\_n28 33

5.1.21.1 Configuration for EN-DC 33

5.1.21.2 ∆TIB and ∆RIB values 33

5.1.21.3 Reference sensitivity exceptions 33

5.1.22 DC\_1-20-32\_n3 33

5.1.23 DC\_2-4-7\_n28 34

5.1.24 DC\_2-5-7\_n66 35

5.1.25 DC\_2-5-66\_n7 36

5.1.26 DC\_2-5-66\_n66 37

5.1.27 DC\_2-7-66\_n28 38

5.1.28 DC\_3-20-32\_n1 38

5.1.29 DC\_1-3-18\_n3 39

5.1.29.1 Configuration for DC 39

5.1.29.2 ∆TIB and ∆RIB values 39

5.1.29.3 REFSENS requirements 40

5.1.30 DC\_1-3-41\_n3 40

5.1.30.1 Configuration for DC 40

5.1.30.2 ∆TIB and ∆RIB values 40

5.1.30.3 REFSENS requirements 41

5.1.31 DC\_1-3-41\_n41 41

5.1.31.1 Configuration for DC 41

5.1.31.2 ∆TIB and ∆RIB values 41

5.1.31.3 REFSENS requirements 42

5.1.32 DC\_2-5-7\_n66 and DC\_2-5-7-7\_n66 42

5.1.32.1 Configuration for DC 42

5.1.32.2 ∆TIB and ∆RIB values 42

5.1.32.3 REFSENS requirements 43

5.1.38 DC\_1-3-18\_n28 47

5.1.38.1 Configuration for EN-DC 47

5.1.38.2 ∆TIB and ∆RIB values 47

No additional MSD requirement need to be defined for this dual connectivity configuration. 47

5.1.39 DC\_1-3-18\_n41 47

5.1.39.1 Configuration for EN-DC 47

5.1.39.2 ∆TIB and ∆RIB values 48

5.1.40 DC\_2-7-28\_n7 48

5.1.41 DC\_2A-66A-71A\_n71A 49

5.1.42 DC\_2-5-66\_n77A 50

5.1.43 DC\_2-13-66\_n77A 50

5.1.44 DC\_2-48-66\_n77A 51

5.1.45 DC\_1-3-40\_n78 52

5.1.45.1 Configuration for EN-DC 52

5.1.45.2 ∆TIB and ∆RIB values 52

5.1.45.3 REFSENS requirements 52

5.1.46 DC\_1-7-40\_n78 53

5.1.46.1 Configuration for EN-DC 53

5.1.46.2 ∆TIB and ∆RIB values 53

5.1.46.3 REFSENS requirements 53

5.1.47 DC\_1-8-40\_n78 53

5.1.47.1 Configuration for EN-DC 53

5.1.47.2 ∆TIB and ∆RIB values 53

5.1.47.3 REFSENS requirements 54

5.1.48 DC\_3-7-40\_n78 54

5.1.48.1 Configuration for EN-DC 54

5.1.48.2 ∆TIB and ∆RIB values 54

5.1.48.3 REFSENS requirements 55

5.1.49 DC\_3-8-40\_n78 55

5.1.49.1 Configuration for EN-DC 55

5.1.49.2 ∆TIB and ∆RIB values 55

5.1.49.3 REFSENS requirements 55

5.1.50 DC\_7-8-40\_n78 56

5.1.50.1 Configuration for EN-DC 56

5.1.50.2 ∆TIB and ∆RIB values 56

5.1.50.3 REFSENS requirements 56

5.1.51 DC\_1-7-8\_n28 56

5.1.51.1 Configurations for EN-DC 56

5.1.51.2 ∆TIB and ∆RIB values 57

5.1.51.3 Reference sensitivity exceptions 57

5.1.52 DC\_3-7-8\_n28 57

5.1.52.1 Configurations for EN-DC 57

5.1.52.2 ∆TIB and ∆RIB values 57

5.1.52.3 Reference sensitivity exceptions 58

5.1.53 DC\_1-7-28\_n3 58

5.1.53.1 Configurations for EN-DC 58

5.1.53.2 ∆TIB and ∆RIB values 58

5.1.53.3 Reference sensitivity exceptions 58

5.1.54 DC\_3-8-40\_n1 59

5.1.54.1 Configurations for EN-DC 59

5.1.54.2 ∆TIB and ∆RIB values 59

5.1.54.3 Reference sensitivity exceptions 59

5.1.55 DC\_7-8-40\_n1 59

5.1.55.1 Configurations for EN-DC 59

5.1.55.2 ∆TIB and ∆RIB values 60

5.1.55.3 Reference sensitivity exceptions 60

5.1.56 DC\_2-28-66\_n7 60

5.1.56.1 Configurations for EN-DC 60

5.1.56.2 ∆TIB and ∆RIB values 60

5.1.56.3 Reference sensitivity exceptions 61

5.1.57 DC\_2-5-7\_n7 61

5.1.57.1 Configurations for EN-DC 61

5.1.57.2 ∆TIB and ∆RIB values 61

5.1.57.3 Reference sensitivity exceptions 61

5.1.58 DC\_2-7-66\_n7/DC\_2-7-66-66\_n7 62

5.1.58.1 Configurations for EN-DC 62

5.1.58.2 ∆TIB and ∆RIB values 62

5.1.58.3 Reference sensitivity exceptions 62

5.1.59 DC\_5-7-66\_n7/DC\_5-7-66-66\_n7 62

5.1.59.1 Configurations for EN-DC 62

5.1.59.2 ∆TIB and ∆RIB values 63

5.1.59.3 Reference sensitivity exceptions 63

5.1.60 DC\_7-28-66\_n7 63

5.1.60.1 Configurations for EN-DC 63

5.1.60.2 ∆TIB and ∆RIB values 63

5.1.60.3 Reference sensitivity exceptions 64

5.1.61 DC\_2-7-66\_n77 64

5.1.61.1 Configurations for EN-DC 64

5.1.61.2 ∆TIB and ∆RIB values 64

5.1.61.3 Reference sensitivity exceptions 64

5.1.62 DC\_1-20-40\_n78 65

5.1.62.1 Configuration for EN-DC 65

5.1.62.2 ∆TIB and ∆RIB values 65

5.1.62.3 Reference sensitivity exceptions 65

5.1.63 DC\_1-8-42\_n3 65

5.1.63.1 Configurations for EN-DC 65

5.1.63.2 ∆TIB and ∆RIB values 66

5.1.63.3 Reference sensitivity exceptions 66

5.1.64 DC\_1-3-42\_n28 66

5.1.64.1 Configurations for EN-DC 66

5.1.64.2 ∆TIB and ∆RIB values 66

5.1.64.3 Reference sensitivity exceptions 67

5.1.65 DC\_2-29-66\_n78 67

5.1.65.1 Configuration for EN-DC 67

5.1.65.2 ∆TIB and ∆RIB values 67

5.1.65.3 REFSENS requirements 67

5.1.66 DC\_7-8-32\_n1 68

5.1.66.1 Configuration for EN-DC 68

5.1.66.2 ∆TIB and ∆RIB values 68

5.1.66.3 Reference sensitivity exceptions 68

5.1.67 DC\_7-20-32\_n78 68

5.1.67.1 Configuration for EN-DC 68

5.1.67.2 ∆TIB and ∆RIB values 68

5.1.67.3 Reference sensitivity exceptions 69

5.1.68 DC\_2A-12A-66A\_n41A 69

5.1.68.2 Configuration for DC 69

5.1.69 DC\_2A-66A-71A\_n41A 70

5.1.69.2 Configuration for DC 70

5.1.70 DC\_2A-7A-12A\_n66A 71

5.1.70.2 Configuration for DC 71

5.1.71 DC\_2A\_2A-5A-7A\_n66A 72

5.1.71.2 Configuration for DC 72

5.1.72 DC\_2A-7A-71A\_n66A 73

5.1.72.2 Configuration for DC 73

5.1.73 DC\_2A-7A-12A\_n78A 74

5.1.73.2 Configuration for DC 74

5.1.74 DC\_2A-12A-66A\_n78A 75

5.1.74.2 Configuration for DC 75

5.1.75 DC\_7A-12A-66A\_n78A 76

5.1.75.2 Configuration for DC 76

5.1.76 DC\_7A-66A-71A\_n78A 77

5.1.76.2 Configuration for DC 77

5.1.77 DC\_2A-7A -71A\_n78A 78

5.1.77.2 Configuration for DC 78

5.1.78 DC\_2A-7A -66A\_n2A 79

5.1.78.2 Configuration for DC 79

5.1.79 DC\_2A-5A -7A\_n2A 80

5.1.79.2 Configuration for DC 80

5.1.80 DC\_5A-7A -66A\_n2A 81

5.1.80.2 Configuration for DC 81

5.1.81 DC\_2A-7A -71A\_n2A 82

5.1.81.2 Configuration for DC 82

5.1.82 DC\_2A-66A -71A\_n2A 83

5.1.82.2 Configuration for DC 83

5.1.83 DC\_2A-7A -12A\_n2A 84

5.1.83.2 Configuration for DC 84

5.1.84 DC\_7A-66A-71A\_n2A 85

5.1.84.2 Configuration for DC 85

5.1.85 DC\_7A-12A-66A\_n2A 86

5.1.85.2 Configuration for DC 86

5.1.86 DC\_1-28-40\_n78 87

5.1.86.1 Configuration for EN-DC 87

5.1.86.2 ∆TIB and ∆RIB values 87

5.1.86.3 REFSENS requirements 87

5.1.87 DC\_3-28-40\_n78 87

5.1.87.1 Configuration for EN-DC 87

5.1.87.2 ∆TIB and ∆RIB values 87

5.1.87.3 REFSENS requirements 88

5.1.88 DC\_1-11-18\_n3 88

5.1.88.1 Configuration for EN-DC 88

5.1.88.2 ∆TIB and ∆RIB values 88

5.1.88.3 REFSENS requirements 89

5.1.89 DC\_1-11-18\_n28 89

5.1.89.1 Configuration for EN-DC 89

5.1.89.2 ∆TIB and ∆RIB values 89

5.1.89.3 REFSENS requirements 89

5.1.90 DC\_1-11-18\_n41 90

5.1.90.1 Configuration for EN-DC 90

5.1.90.2 ∆TIB and ∆RIB values 90

5.1.90.3 REFSENS requirements 90

5.1.91 DC\_2-5-66\_n48 90

5.1.91.1 Configuration for EN-DC 90

5.1.91.2 ∆TIB and ∆RIB values 90

5.1.91.3 REFSENS requirements 91

5.1.92 DC\_2-13-48\_n77 91

5.1.92.1 Configuration for EN-DC 91

5.1.92.2 ∆TIB and ∆RIB values 91

5.1.92.3 REFSENS requirements 91

5.1.93 DC\_2-46-48\_n2 92

5.1.93.1 Configuration for EN-DC 92

5.1.93.2 ∆TIB and ∆RIB values 92

5.1.93.3 REFSENS requirements 92

5.1.94 DC\_2-48-66\_n2 92

5.1.94.1 Configuration for EN-DC 92

5.1.94.2 ∆TIB and ∆RIB values 92

5.1.94.3 REFSENS requirements 93

5.1.95 DC\_2-48-66\_n66 93

5.1.95.1 Configuration for EN-DC 93

5.1.95.2 ∆TIB and ∆RIB values 93

5.1.95.3 REFSENS requirements 94

5.1.96 DC\_13-48-66\_n77 94

5.1.96.1 Configuration for EN-DC 94

5.1.96.2 ∆TIB and ∆RIB values 94

5.1.96.3 REFSENS requirements 94

5.1.97.1 Configurations for EN-DC 94

5.1.97.2 ∆TIB and ∆RIB values 94

5.1.97.3 Reference sensitivity exceptions 95

5.1.98 DC\_1-3-38\_n28 95

5.1.98.1 Configurations for EN-DC 95

5.1.98.2 ∆TIB and ∆RIB values 95

5.1.98.3 Reference sensitivity exceptions 96

5.1.99 DC\_1-7-38\_n28 96

5.1.99.1 Configurations for EN-DC 96

5.1.99.2 ∆TIB and ∆RIB values 96

5.1.99.3 Reference sensitivity exceptions 96

5.1.100 DC\_3-7-38\_n28 97

5.1.100.1 Configurations for EN-DC 97

5.1.100.2 ∆TIB and ∆RIB values 97

5.1.100.3 Reference sensitivity exceptions 97

5.1.101 DC\_2-5-30\_n2 97

5.1.101.1 Operating bands for EN-DC 97

5.1.101.2 Configuration for DC 98

5.1.101.3 ∆TIB and ∆RIB values 98

5.1.101.4 REFSENS requirements 98

5.1.102 DC\_2-5-30\_n66 98

5.1.102.1 Operating bands for EN-DC 98

5.1.102.2 Configuration for DC 99

5.1.102.3 ∆TIB and ∆RIB values 99

5.1.102.4 REFSENS requirements 99

5.1.103 DC\_2-14-30\_n2 99

5.1.103.1 Operating bands for EN-DC 99

5.1.103.2 Configuration for DC 100

5.1.103.3 ∆TIB and ∆RIB values 100

5.1.103.4 REFSENS requirements 100

5.1.104 DC\_2-29-30\_n66 100

5.1.104.1 Operating bands for EN-DC 100

5.1.104.2 Configuration for DC 101

5.1.104.3 ∆TIB and ∆RIB values 101

5.1.104.4 REFSENS requirements 101

5.1.105 DC\_2-46-66\_n5 101

5.1.105.1 Operating bands for EN-DC 101

5.1.105.2 Configuration for DC 102

5.1.105.3 ∆TIB and ∆RIB values 102

5.1.105.4 REFSENS requirements 102

5.1.106 DC\_5-30-66\_n2 102

5.1.106.1 Operating bands for EN-DC 102

5.1.106.2 Configuration for DC 103

5.1.106.3 ∆TIB and ∆RIB values 103

5.1.106.4 REFSENS requirements 103

5.1.107 DC\_5-30-66\_n66 103

5.1.107.1 Operating bands for EN-DC 103

5.1.107.2 Configuration for DC 104

5.1.107.3 ∆TIB and ∆RIB values 104

5.1.107.4 REFSENS requirements 104

5.1.108 DC\_14-30-66\_n66 104

5.1.108.1 Operating bands for EN-DC 104

5.1.108.2 Configuration for DC 105

5.1.108.3 ∆TIB and ∆RIB values 105

5.1.108.4 REFSENS requirements 105

5.1.109 DC\_14-30-66\_n2 105

5.1.109.1 Operating bands for EN-DC 105

5.1.109.2 Configuration for DC 106

5.1.109.3 ∆TIB and ∆RIB values 106

5.1.109.4 REFSENS requirements 106

5.1.110 DC\_2-2-14-30\_n66 106

5.1.110.1 Operating bands for EN-DC 106

5.1.110.2 Configuration for DC 107

5.1.110.3 ∆TIB and ∆RIB values 107

5.1.110.4 REFSENS requirements 107

5.1.111 DC\_1-3-7\_n3 108

5.1.111.1 Operating bands for EN-DC 108

5.1.111.2 Configuration for DC 108

5.1.111.3 ∆TIB and ∆RIB values 108

5.1.111.4 REFSENS requirements 108

5.1.112 1-3-28\_n3 109

5.1.112.1 Operating bands for EN-DC 109

5.1.112.2 Configuration for DC 109

5.1.112.3 ∆TIB and ∆RIB values 109

5.1.112.4 REFSENS requirements 109

5.1.113 3-7-28\_n3 110

5.1.113.1 Operating bands for EN-DC 110

5.1.113.2 Configuration for DC 110

5.1.113.3 ∆TIB and ∆RIB values 110

5.1.113.4 REFSENS requirements 110

5.1.114 DC\_2-29-66\_n260 111

5.1.114.1 Operating bands for EN-DC 111

5.1.114.2 Configuration for DC 111

5.1.114.3 ∆TIB and ∆RIB values 111

5.1.114.4 REFSENS requirements 111

5.1.115 DC\_2-46-66\_n260 112

5.1.115.1 Operating bands for EN-DC 112

5.1.115.2 Configuration for DC 112

5.1.115.3 ∆TIB and ∆RIB values 114

5.1.115.4 REFSENS requirements 114

5.1.116 DC\_29-30-66\_n260 114

5.1.116.1 Operating bands for EN-DC 114

5.1.116.2 Configuration for DC 115

5.1.116.4 REFSENS requirements 115

5.1.117 DC\_3-20-28\_n1 116

5.1.117.1 Configurations for EN-DC 116

5.1.117.2 ∆TIB and ∆RIB values 116

5.1.117.3 Reference sensitivity exceptions 116

5.1.118 DC\_7-20-28\_n1 116

5.1.118.1 Configurations for EN-DC 116

5.1.118.2 ∆TIB and ∆RIB values 117

5.1.118.3 Reference sensitivity exceptions 117

5.1.119.1 Configuration for EN-DC 117

5.1.119.2 ∆TIB and ∆RIB values 117

5.1.119.3 REFSENS requirements 117

5.1.120.1 Configuration for EN-DC 118

5.1.120.2 ∆TIB and ∆RIB values 118

5.1.120.3 REFSENS requirements 118

5.1.121.1 Configuration for EN-DC 118

5.1.121.2 ∆TIB and ∆RIB values 118

5.1.121.3 REFSENS requirements 119

5.1.122.1 Configuration for EN-DC 119

5.1.122.2 ∆TIB and ∆RIB values 119

5.1.122.3 REFSENS requirements 119

5.1.126 DC\_7-29-66\_n78 121

5.1.126.1 Configurations for EN-DC 121

5.1.126.2 ∆TIB and ∆RIB values 122

5.1.126.3 Reference sensitivity exceptions 122

5.1.127 DC\_1-7-32\_n3 122

5.1.127.1 Configuration for EN-DC 122

5.1.127.2 ∆TIB and ∆RIB values 122

5.1.127.3 Reference sensitivity exceptions 122

5.1.128 DC\_1-7-32\_n8 123

5.1.128.1 Configuration for EN-DC 123

5.1.128.2 ∆TIB and ∆RIB values 123

5.1.128.3 Reference sensitivity exceptions 123

5.1.129 DC\_1-7-38\_n8 123

5.1.129.1 Configuration for EN-DC 123

5.1.129.2 ∆TIB and ∆RIB values 123

5.1.129.3 Reference sensitivity exceptions 124

5.1.130 DC\_1-20-28\_n3 124

5.1.130.1 Configuration for EN-DC 124

5.1.130.2 ∆TIB and ∆RIB values 124

5.1.130.3 Reference sensitivity exceptions 124

5.1.131 DC\_1-20-32\_n8 124

5.1.131.1 Configuration for EN-DC 124

5.1.131.2 ∆TIB and ∆RIB values 125

5.1.131.3 Reference sensitivity exceptions 125

5.1.132 DC\_1-28-32\_n3 125

5.1.132.1 Configuration for EN-DC 125

5.1.132.2 ∆TIB and ∆RIB values 125

5.1.132.3 Reference sensitivity exceptions 125

5.1.133 DC\_3-7-32\_n1 126

5.1.133.1 Configuration for EN-DC 126

5.1.133.2 ∆TIB and ∆RIB values 126

5.1.133.3 Reference sensitivity exceptions 126

5.1.134 DC\_3-8-20\_n1 126

5.1.134.1 Configuration for EN-DC 126

5.1.134.2 ∆TIB and ∆RIB values 126

5.1.134.3 Reference sensitivity exceptions 127

5.1.135 DC\_7-8-20\_n1 127

5.1.135.1 Configuration for EN-DC 127

5.1.135.2 ∆TIB and ∆RIB values 127

5.1.135.3 Reference sensitivity exceptions 127

5.1.136 DC\_7-8-20\_n3 127

5.1.136.1 Configuration for EN-DC 127

5.1.136.2 ∆TIB and ∆RIB values 128

5.1.136.3 Reference sensitivity exceptions 128

5.1.137 DC\_7-20-28\_n3 128

5.1.137.1 Configuration for EN-DC 128

5.1.137.2 ∆TIB and ∆RIB values 128

5.1.137.3 Reference sensitivity exceptions 128

5.1.138 DC\_7-20-32\_n1 129

5.1.138.1 Configuration for EN-DC 129

5.1.138.2 ∆TIB and ∆RIB values 129

5.1.138.3 Reference sensitivity exceptions 129

5.1.139 DC\_7-20-32\_n3 129

5.1.139.1 Configuration for EN-DC 129

5.1.139.2 ∆TIB and ∆RIB values 129

5.1.139.3 Reference sensitivity exceptions 130

5.1.140 DC\_7-20-32\_n8 130

5.1.140.1 Configuration for EN-DC 130

5.1.140.2 ∆TIB and ∆RIB values 130

5.1.140.3 Reference sensitivity exceptions 130

5.1.141 DC\_7-20-38\_n1 130

5.1.141.1 Configuration for EN-DC 130

5.1.141.2 ∆TIB and ∆RIB values 131

5.1.141.3 Reference sensitivity exceptions 131

5.1.142 DC\_7-28-32\_n1 131

5.1.142.1 Configuration for EN-DC 131

5.1.142.2 ∆TIB and ∆RIB values 131

5.1.142.3 Reference sensitivity exceptions 132

5.1.143 DC\_7-28-32\_n3 132

5.1.143.1 Configuration for EN-DC 132

5.1.143.2 ∆TIB and ∆RIB values 132

5.1.143.3 Reference sensitivity exceptions 132

5.1.144 DC\_8-20-32\_n1 132

5.1.144.1 Configuration for EN-DC 132

5.1.144.2 ∆TIB and ∆RIB values 132

5.1.144.3 Reference sensitivity exceptions 133

5.1.145 DC\_20-28-32\_n1 133

5.1.145.1 Configuration for EN-DC 133

5.1.145.2 ∆TIB and ∆RIB values 133

5.1.145.3 Reference sensitivity exceptions 133

5.1.146 DC\_20-28-32\_n3 133

5.1.146.1 Configuration for EN-DC 133

5.1.146.2 ∆TIB and ∆RIB values 134

5.1.146.3 Reference sensitivity exceptions 134

5.1.147 DC\_20-32-38\_n1 134

5.1.147.1 Configuration for EN-DC 134

5.1.147.2 ∆TIB and ∆RIB values 134

5.1.147.3 Reference sensitivity exceptions 134

5.1.148 DC\_3-7-7-28\_n1 135

5.1.148.1 Configurations for EN-DC 135

5.1.148.2 ∆TIB and ∆RIB values 135

5.1.148.3 Reference sensitivity exceptions 135

5.1.149 DC\_1-8-20\_n28 135

5.1.149.1 Configuration for EN-DC 135

5.1.149.2 ∆TIB and ∆RIB values 136

5.1.149.3 Reference sensitivity exceptions 136

5.1.150 DC\_2-5-30\_n77 136

5.1.150.1 Configuration for EN-DC 136

5.1.150.2 ∆TIB and ∆RIB values 136

5.1.150.3 Reference sensitivity exceptions 137

5.1.151 DC\_2-12-30\_n77 137

5.1.151.1 Configuration for EN-DC 137

5.1.151.2 ∆TIB and ∆RIB values 137

5.1.151.3 Reference sensitivity exceptions 137

5.1.152 DC\_2-12-66\_n77 138

5.1.152.1 Configuration for EN-DC 138

5.1.152.2 ∆TIB and ∆RIB values 138

5.1.152.3 Reference sensitivity exceptions 138

5.1.153 DC\_2-14-30\_n77 139

5.1.153.1 Configuration for EN-DC 139

5.1.153.2 ∆TIB and ∆RIB values 139

5.1.153.3 Reference sensitivity exceptions 139

5.1.154 DC\_2-14-66\_n77 139

5.1.154.1 Configuration for EN-DC 139

5.1.154.2 ∆TIB and ∆RIB values 140

5.1.154.3 Reference sensitivity exceptions 140

5.1.155 DC\_2-29-30\_n77 140

5.1.155.1 Configuration for EN-DC 140

5.1.155.2 ∆TIB and ∆RIB values 140

5.1.155.3 Reference sensitivity exceptions 141

5.1.156 DC\_2-29-66\_n77 141

5.1.156.1 Configuration for EN-DC 141

5.1.156.2 ∆TIB and ∆RIB values 141

5.1.156.3 Reference sensitivity exceptions 141

5.1.157 DC\_2-30-66\_n77 142

5.1.157.1 Configuration for EN-DC 142

5.1.157.2 ∆TIB and ∆RIB values 142

5.1.157.3 Reference sensitivity exceptions 142

5.1.158 DC\_5-30-66\_n77 143

5.1.158.1 Configuration for EN-DC 143

5.1.158.2 ∆TIB and ∆RIB values 143

5.1.158.3 Reference sensitivity exceptions 143

5.1.159 DC\_12-30-66\_n77 143

5.1.159.1 Configuration for EN-DC 143

5.1.159.2 ∆TIB and ∆RIB values 144

5.1.159.3 Reference sensitivity exceptions 144

5.1.160 DC\_14-30-66\_n77 144

5.1.160.1 Configuration for EN-DC 144

5.1.160.2 ∆TIB and ∆RIB values 144

5.1.160.3 Reference sensitivity exceptions 145

5.1.161 DC\_29-30-66\_n77 145

5.1.161.1 Configuration for EN-DC 145

5.1.161.2 ∆TIB and ∆RIB values 145

5.1.161.3 Reference sensitivity exceptions 145

5.1.162 DC\_1-3-7\_n38 146

5.1.162.1 Configurations for EN-DC 146

5.1.162.2 ∆TIB and ∆RIB values 146

5.1.162.3 Reference sensitivity exceptions 146

5.1.163 DC\_1-7-20\_n38 146

5.1.163.1 Configurations for EN-DC 146

5.1.163.2 ∆TIB and ∆RIB values 146

5.1.163.3 Reference sensitivity exceptions 147

5.1.164 DC\_3-7-20\_n38 147

5.1.164.1 Configurations for EN-DC 147

5.1.164.2 ∆TIB and ∆RIB values 147

5.1.164.3 Reference sensitivity exceptions 147

5.1.165 DC\_1-3-32\_n28 148

5.1.165.1 Configurations for EN-DC 148

5.1.165.2 ∆TIB and ∆RIB values 148

5.1.165.3 Reference sensitivity exceptions 148

5.1.166 DC\_3-7-32\_n28 148

5.1.166.1 Configurations for EN-DC 148

5.1.166.2 ∆TIB and ∆RIB values 149

5.1.166.3 Reference sensitivity exceptions 149

5.1.167 DC\_3-20-32\_n28 149

5.1.167.1 Configurations for EN-DC 149

5.1.167.2 ∆TIB and ∆RIB values 149

5.1.167.3 Reference sensitivity exceptions 150

5.1.168 DC\_3-28-32\_n1 150

5.1.168.1 Configurations for EN-DC 150

5.1.168.2 ∆TIB and ∆RIB values 150

5.1.168.3 Reference sensitivity exceptions 150

5.1.170 DC\_2-5-48\_n77 151

5.1.170.1 Configuration for EN-DC 151

5.1.170.2 ∆TIB and ∆RIB values 151

5.1.170.3 REFSENS requirements 151

5.1.171 DC\_5-48-66\_n77 152

5.1.171.1 Configuration for EN-DC 152

5.1.171.2 ∆TIB and ∆RIB values 152

5.1.171.3 REFSENS requirements 152

5.1.172 DC\_2-13-48\_n77 152

5.1.172.1 Configuration for EN-DC 152

5.1.172.2 ∆TIB and ∆RIB values 152

5.1.172.3 REFSENS requirements 153

5.1.173.1 Configuration for EN-DC 153

5.1.173.2 ∆TIB and ∆RIB values 153

5.1.173.3 REFSENS requirements 153

5.1.174 DC\_2-7-28\_n78 154

5.1.174.1 Configurations for EN-DC 154

5.1.174.2 ∆TIB and ∆RIB values 154

5.1.174.3 Reference sensitivity exceptions 154

5.1.175 DC\_5-7-66\_n78 154

5.1.175.1 Configurations for EN-DC 154

5.1.175.2 ∆TIB and ∆RIB values 155

5.1.175.3 Reference sensitivity exceptions 155

5.1.178.2 Configuration for DC 157

5.1.179.2 Configuration for DC 158

5.1.180.2 Configuration for DC 159

5.1.181.2 Configuration for DC 160

5.1.182 DC\_1-8-20\_n3 160

5.1.182.1 Configuration for EN-DC 160

5.1.182.2 ∆TIB and ∆RIB values 161

5.1.182.3 Reference sensitivity exceptions 161

5.1.183 DC\_1-8-28\_n3 161

5.1.183.1 Configuration for EN-DC 161

5.1.183.2 ∆TIB and ∆RIB values 161

5.1.183.3 Reference sensitivity exceptions 161

5.1.184 DC\_1-8-28\_n78 162

5.1.184.1 Configuration for EN-DC 162

5.1.184.2 ∆TIB and ∆RIB values 162

5.1.184.3 Reference sensitivity exceptions 162

5.1.185 DC\_1-8-32\_n3 162

5.1.185.1 Configuration for EN-DC 162

5.1.185.2 ∆TIB and ∆RIB values 162

5.1.185.3 Reference sensitivity exceptions 163

5.1.186 DC\_1-8-32\_n78 163

5.1.186.1 Configuration for EN-DC 163

5.1.186.2 ∆TIB and ∆RIB values 163

5.1.186.3 Reference sensitivity exceptions 163

5.1.187 DC\_1-20-28\_n78 163

5.1.187.1 Configuration for EN-DC 163

5.1.187.2 ∆TIB and ∆RIB values 164

5.1.187.3 Reference sensitivity exceptions 164

5.1.188 DC\_1-20-38\_n8 164

5.1.188.1 Configuration for EN-DC 164

5.1.188.2 ∆TIB and ∆RIB values 164

5.1.188.3 Reference sensitivity exceptions 164

5.1.189 DC\_3-8-28\_n78 165

5.1.189.1 Configuration for EN-DC 165

5.1.189.2 ∆TIB and ∆RIB values 165

5.1.189.3 Reference sensitivity exceptions 165

5.1.191 DC\_3-8-32\_n1 166

5.1.191.1 Configuration for EN-DC 166

5.1.191.2 ∆TIB and ∆RIB values 166

5.1.191.3 Reference sensitivity exceptions 166

5.1.192 DC\_3-8-32\_n78 167

5.1.192.1 Configuration for EN-DC 167

5.1.192.2 ∆TIB and ∆RIB values 167

5.1.192.3 Reference sensitivity exceptions 167

5.1.193 DC\_3-20-28\_n78 167

5.1.193.1 Configuration for EN-DC 167

5.1.193.2 ∆TIB and ∆RIB values 167

5.1.193.3 Reference sensitivity exceptions 168

5.1.194 DC\_7-8-32\_n78 168

5.1.194.1 Configuration for EN-DC 168

5.1.194.2 ∆TIB and ∆RIB values 168

5.1.194.3 Reference sensitivity exceptions 168

5.1.195 DC\_7-8-38\_n1 168

5.1.195.1 Configuration for EN-DC 168

5.1.195.2 ∆TIB and ∆RIB values 169

5.1.195.3 Reference sensitivity exceptions 169

5.1.196 DC\_7-20-38\_n8 169

5.1.196.1 Configuration for EN-DC 169

5.1.196.2 ∆TIB and ∆RIB values 169

5.1.196.3 Reference sensitivity exceptions 169

5.1.197 DC\_7-28-38\_n1 170

5.1.197.1 Configuration for EN-DC 170

5.1.197.2 ∆TIB and ∆RIB values 170

5.1.197.3 Reference sensitivity exceptions 170

5.1.198 DC\_8-20-28\_n78 170

5.1.198.1 Configuration for EN-DC 170

5.1.198.2 ∆TIB and ∆RIB values 170

5.1.198.3 Reference sensitivity exceptions 171

5.1.199 DC\_8-20-38\_n1 171

5.1.199.1 Configuration for EN-DC 171

5.1.199.2 ∆TIB and ∆RIB values 171

5.1.199.3 Reference sensitivity exceptions 171

5.1.200 DC\_8-32-38\_n1 171

5.1.200.1 Configuration for EN-DC 171

5.1.200.2 ∆TIB and ∆RIB values 172

5.1.200.3 Reference sensitivity exceptions 172

5.1.201 DC\_20-28-38\_n1 172

5.1.201.1 Configuration for EN-DC 172

5.1.201.2 ∆TIB and ∆RIB values 172

5.1.201.3 Reference sensitivity exceptions 172

5.1.202 DC\_28-32-38\_n1 173

5.1.202.1 Configuration for EN-DC 173

5.1.202.2 ∆TIB and ∆RIB values 173

5.1.202.3 Reference sensitivity exceptions 173

5.1.204 DC\_n77\_1-3\_8 173

5.1.204.1 Configurations for NE-DC 173

5.1.204.2 ∆TIB and ∆RIB values 173

5.1.205 DC\_2-30-(n)5 174

5.1.205.1 Configuration for EN-DC 174

5.1.205.2 ∆TIB and ∆RIB values 174

5.1.205.3 Reference sensitivity exceptions 174

5.1.206 DC\_30-66-(n)5 174

5.1.206.1 Configuration for EN-DC 174

5.1.206.2 ∆TIB and ∆RIB values 175

5.1.206.3 Reference sensitivity exceptions 175

5.1.207 DC\_2-13-66\_n2 175

5.1.207.1 Configuration for EN-DC 175

5.1.207.2 ∆TIB and ∆RIB values 176

5.1.207.3 Reference sensitivity exceptions 176

5.1.208 DC\_3-32-38\_n28 176

5.1.208.1 Configurations for EN-DC 176

5.1.208.2 Co-existence studies 176

5.1.208.3 ∆TIB and ∆RIB values 176

5.1.208.4 Reference sensitivity exceptions 177

5.1.209 DC\_3-8-32\_n28 177

5.1.209.1 Configurations for DC 177

5.1.209.2 Co-existence studies 177

5.1.209.3 ∆TIB and ∆RIB values 180

5.1.209.4 Reference sensitivity exceptions 180

REFSENS exceptions are not needed.Annex A - Change history 180

# Foreword

This Technical Report has been produced by the 3rd Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

x the first digit:

1 presented to TSG for information;

2 presented to TSG for approval;

3 or greater indicates TSG approved document under change control.

y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.

z the third digit is incremented when editorial only changes have been incorporated in the document.

In the present document, modal verbs have the following meanings:

**shall** indicates a mandatory requirement to do something

**shall not** indicates an interdiction (prohibition) to do something

The constructions "shall" and "shall not" are confined to the context of normative provisions, and do not appear in Technical Reports.

The constructions "must" and "must not" are not used as substitutes for "shall" and "shall not". Their use is avoided insofar as possible, and they are not used in a normative context except in a direct citation from an external, referenced, non-3GPP document, or so as to maintain continuity of style when extending or modifying the provisions of such a referenced document.

**should** indicates a recommendation to do something

**should not** indicates a recommendation not to do something

**may** indicates permission to do something

**need not** indicates permission not to do something

The construction "may not" is ambiguous and is not used in normative elements. The unambiguous constructions "might not" or "shall not" are used instead, depending upon the meaning intended.

**can** indicates that something is possible

**cannot** indicates that something is impossible

The constructions "can" and "cannot" are not substitutes for "may" and "need not".

**will** indicates that something is certain or expected to happen as a result of action taken by an agency the behaviour of which is outside the scope of the present document

**will not** indicates that something is certain or expected not to happen as a result of action taken by an agency the behaviour of which is outside the scope of the present document

**might** indicates a likelihood that something will happen as a result of action taken by some agency the behaviour of which is outside the scope of the present document

**might not** indicates a likelihood that something will not happen as a result of action taken by some agency the behaviour of which is outside the scope of the present document

In addition:

**is** (or any other verb in the indicative mood) indicates a statement of fact

**is not** (or any other negative verb in the indicative mood) indicates a statement of fact

The constructions "is" and "is not" do not indicate requirements.

# 1 Scope

The present document is a technical report for Dual Connectivity (DC) of 3 LTE bands (3DL/1UL) and 1 NR band (1DL/1UL) under Rel-17 time frame. The purpose is to gather the relevant background information and studies in order to address Dual Connectivity (DC) of 3 LTE band (3DL/1UL) and 1 NR band (1DL/1UL) for the Rel-17 band combinations. The co-existence analysis and RF front end requirements such as ΔRIB,c and ΔTIB,c are described based on the band combination basis since such information have no difference between the DC configurations consisting with the same E-UTRA band and the same NR band. The actual requirements are added to the corresponding technical specification.

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] RP-200664, “New WID: Dual Connectivity (EN-DC) of 3 bands LTE inter-band CA (3DL/1UL) and 1 NR band (1DL/1UL)”, RAN#88-e

# 3 Definitions of terms, symbols and abbreviations

## 3.1 Terms

For the purposes of the present document, the terms given in 3GPP TR 21.905 [1] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in 3GPP TR 21.905 [1].

**example:** text used to clarify abstract rules by applying them literally.

## 3.2 Symbols

For the purposes of the present document, the following symbols apply:

<symbol> <Explanation>

## 3.3 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TR 21.905 [1] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in 3GPP TR 21.905 [1].

<ABBREVIATION> <Expansion>

# 4 Background

The present document is a technical report for Dual Connectivity (DC) of 3 bands LTE inter-band CA and 1 NR band under Rel-17 timeframe. The document covers each band combination specific issues (i.e. one sub-clause defined per band combination)

## 4.1 TR maintenance

A single company is responsible for introducing all approved TPs in the current TR, i.e. TR editor. However, it is the responsibility of the contact person of each band combination to ensure that the TPs related to the band combination have been implemented.

# 5 DC of 3 LTE band (3DL/1UL) + 1 NR band: Specific Band Combination Part

<Editor’s note: The requirements for specific band combinations shall be described according to the same manner as specified in TS38.101-3.>

## 5.1 Inter-band EN-DC

## 5.1.1 DC\_1-3\_(n)41

5.1.1.1 Configurations for DC

Table 5.1.1.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_1A-3A\_(n)41AA | DC\_1A\_n41A  DC\_3A\_n41A |

### 5.1.1.2 ∆TIB and ∆RIB values

Table 5.1.1.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-3\_(n)41 | 1 | 0.5 |
| 3 | 0.5 |
| 41 | 0.31/0.82 |
| n41 | 0.31/0.82 |
| NOTE 1: Applicable for the frequency range of 2515-2690 MHz.  NOTE 2: Applicable for the frequency range of 2496-2515 MHz. | | |

**Table 5.1.1.2-1: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_1-3\_(n)41 | 1 | 0 |
| 3 | 0 |
| 41 | 01/0.52 |
| n41 | 01/0.52 |
| NOTE 1: Applicable for the frequency range of 2515-2690 MHz.  NOTE 2: Applicable for the frequency range of 2496-2515 MHz. | | |

### 5.1.1.3 REFSENS requirements

No additional MSD requirement need to be defined for this dual connectivity configuration.

## 5.1.2 DC\_1-3-41\_n28

### 5.1.2.1 Configuration for EN-DC

Table 5.1.2.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_1A-3A-41A\_n28A | DC\_1A\_n28A  DC\_3A\_n28A  DC\_41A\_n28A |
| DC\_1A-3A-41C\_n28A | DC\_1A\_n28A  DC\_3A\_n28A  DC\_41A\_n28A  DC\_41C\_n28A |

### 5.1.2.2 ∆TIB and ∆RIB values

Table 5.1.2.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-41\_n28 | 1 | 0.5 |
| 3 | 0.5 |
| 41 | 0.31/0.82 |
| n28 | 0.6 |
| NOTE 1: The requirement is applied for UE transmitting on the frequency range of 2545 – 2690 MHz.  NOTE 2: The requirement is applied for UE transmitting on the frequency range of 2496 – 2545 MHz. | | |

**Table 5.1.2.2-1: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-41\_n28 | 1 | 0 |
| 3 | 0 |
| 41 | 01/0.52 |
| n28 | 0.2 |
| NOTE 1: The requirement is applied for UE transmitting on the frequency range of 2545 – 2690 MHz.  NOTE 2: The requirement is applied for UE transmitting on the frequency range of 2496 – 2545 MHz. | | |

### 5.1.2.3 REFSENS requirements

No additional MSD requirement need to be defined for this dual connectivity configuration.

## 5.1.3 DC\_3-7-8\_n40

### 5.1.3.1 Configurations for EN-DC

Table 5.2B.4.4-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_3A-7A-8A\_n40A | DC\_3A\_n40A  DC\_7A\_n40A DC\_8A\_n40A |

### 5.1.3.2 ∆TIB and ∆RIB values

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔTIB,c (dB) |
| --- | --- | --- |
| DC\_3-7-8\_n40 | 3 | 0.5 |
| 7 | 0.5 |
| 8 | 0.6 |
| n40 | 0.6 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_3-7-8\_n40 | 3 | 0 |
| 7 | 0 |
| 8 | 0.2 |
| n40 | 0.5 |

### 5.1.3.3 Reference sensitivity exceptions

No further REFSENS exceptions needed.

## 5.1.4 DC\_3-7-28\_n1

### 5.1.4.1 Configurations for EN-DC

Table 5.2B.4.4-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_3A-7A-28A\_n1A | DC\_3A\_n1A  DC\_7A\_n1A DC\_28A\_n1A |

### 5.1.4.2 ∆TIB and ∆RIB values

Table 5.1.4.3-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-7-28\_n1 | 3 | 0.6 |
| 7 | 0.6 |
| 28 | 0.5 |
| n1 | 0.6 |

**Table 5.1.4.3-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_3-7-28\_n1 | 3 | 0 |
| 7 | 0 |
| 28 | 0.2 |
| n1 | 0 |

### 5.1.4.3 Reference sensitivity exceptions

REFSENS exceptions needed due to band 28 uplink harmonic into band n1 is already specified for DC\_28A\_n1A.

## 5.1.5 DC\_5-7-66\_n66

### 5.1.5.1 Configurations for EN-DC

Table 5.2B.4.4-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_5A-7A-66A\_n66A  DC\_5A-7C-66A\_n66A | DC\_5A\_n66A  DC\_7A\_n66A  DC\_66A\_n66A2 |
| NOTE 2: Only single switched UL is supported | |

### 5.1.5.2 ∆TIB and ∆RIB values

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔTIB,c (dB) |
| --- | --- | --- |
| DC\_5-7-66\_n66 | 5 | 0.3 |
| 7 | 0.5 |
| 66 | 0.5 |
| n66 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_5-7-66\_n66 | 5 | 0.3 |
| 7 | 0 |
| 66 | 0.3 |
| n66 |

### 5.1.5.3 Reference sensitivity exceptions

MSD have been defined for lower order combinations. No further MSD is needed.

## 5.1.6 DC\_3-19-42\_n1

### 5.1.6.1 Configuration for EN-DC

Table 5.2B.4.4-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_3A-19A-42A\_n1A  DC\_3A-19A-42C\_n1A | DC\_3A\_n1A  DC\_19A\_n1A  DC\_42A\_n1A |

### 5.1.6.2 ∆TIB and ∆RIB values

For DC\_3-19-42\_n1, the ΔTIB,c and ΔRIB,c values are reused from the LTE combination CA\_1-3-19-42, and are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-19-42\_n1 | 3 | 0.6 |
| 19 | 0.3 |
| 42 | 0.8 |
| n1 | 0.6 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_3-19-42\_n1 | 3 | 0.2 |
| 19 | 0 |
| 42 | 0.5 |
| n1 | 0.2 |

### 5.1.6.3 Reference sensitivity exceptions

There is no additional MSD requirement for this configuration.

## 5.1.7 DC\_3-21-42\_n1

### 5.1.7.1 Configuration for EN-DC

Table 5.2B.4.4-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_3A-21A-42A\_n1A  DC\_3A-21A-42C\_n1A | DC\_3A\_n1A  DC\_21A\_n1A  DC\_42A\_n1A |

### 5.1.7.2 ∆TIB and ∆RIB values

For DC\_3-21-42\_n1, the ΔTIB,c and ΔRIB,c values are reused from the LTE combination CA\_1-3-21-42, and are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-21-42\_n1 | 3 | 0.8 |
| 21 | 0.9 |
| 42 | 0.8 |
| n1 | 0.6 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_3-21-42\_n1 | 3 | 0.3 |
| 21 | 0.5 |
| 42 | 0.5 |
| n1 | 0.2 |

### 5.1.7.3 Reference sensitivity exceptions

There is no additional MSD requirement for this configuration.

## 5.1.8 DC\_19-21-42\_n1

### 5.1.8.1 Configuration for EN-DC

Table 5.2B.4.4-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_19A-21A-42A\_n1A  DC\_19A-21A-42C\_n1A | DC\_19A\_n1A  DC\_21A\_n1A  DC\_42A\_n1A |

### 5.1.8.2 ∆TIB and ∆RIB values

For DC\_19-21-42\_n1, the ΔTIB,c and ΔRIB,c values are reused from the LTE combination CA\_1-19-21-42, and are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_19-21-42\_n1 | 19 | 0.3 |
| 21 | 0.4 |
| 42 | 0.8 |
| n1 | 0.3 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_19-21-42\_n1 | 19 | 0 |
| 21 | 0 |
| 42 | 0.5 |
| n1 | 0 |

### 5.1.8.3 Reference sensitivity exceptions

There is no additional MSD requirement for this configuration.

## 5.1.9 DC\_2-28-66\_n66

### 5.1.9.1 Operating bands for EN-DC

Table 5.1.9.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band |
| --- | --- | --- |
| DC\_2-28-66\_n66 | CA\_2-28-66 | n66 |

### 5.1.9.2 Configuration for EN-DC

Table 5.1.9.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-28A-66A\_n66A | DC\_2A\_n66A  DC\_28A\_n66A  DC\_66A\_n66A4 | CA\_2A-28A-66A | n66A |
| NOTE 4: Only single switched UL is supported. | | | |

### 5.1.9.3 ∆TIB and ∆RIB values

Table 5.1.9.3-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-28-66\_n66 | 2 | 0.5 |
| 28 | 0.6 |
| 66 | 0.5 |
| n66 | 0.5 |

**Table 5.1.9.3-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-28-66\_n66 | 2 | 0.3 |
| 28 | 0.2 |
| 66 | 0.3 |
| n66 | 0.3 |

## 5.1.10 DC\_7-28-66\_n66

### 5.1.10.1 Operating bands for EN-DC

Table 5.1.10.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band |
| --- | --- | --- |
| DC\_7-28-66\_n66 | CA\_7-28-66 | n66 |

### 5.1.10.2 Configuration for EN-DC

Table 5.1.10.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_7A-28A-66A\_n66A  DC\_7C-28A-66A\_n66A | DC\_7A\_n66A  DC\_28A\_n66A  DC\_66A\_n66A4 | CA\_7A-28A-66A  CA\_7C-28A-66A | n66A |
| NOTE 4: Only single switched UL is supported. | | | |

### 5.1.10.3 ∆TIB and ∆RIB values

Table 5.1.10.3-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7-28-66\_n66 | 7 | 0.5 |
| 28 | 0.6 |
| 66 | 0.5 |
| n66 | 0.5 |

**Table 5.1.10.3-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_7-28-66\_n66 | 7 | 0.5 |
| 28 | 0.2 |
| 66 | 0.5 |
| n66 | 0.5 |

## 5.1.11 DC\_2-7-28\_n66

### 5.1.11.1 Operating bands for EN-DC

Table 5.1.11.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band |
| --- | --- | --- |
| DC\_2-7-28\_n66 | CA\_2-7-28 | n66 |

### 5.1.11.2 Configuration for EN-DC

Table 5.1.11.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-7A-28A\_n66A  DC\_2A-7C-28A\_n66A | DC\_2A\_n66A  DC\_7A\_n66A  DC\_28A\_n66A | CA\_2A-7A-28A  CA\_2A-7C-28A | n66A |

### 5.1.11.3 ∆TIB and ∆RIB values

Table 5.1.11.3-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-7-28\_n66 | 2 | 0.5 |
| 7 | 0.5 |
| 28 | 0.6 |
| n66 | 0.5 |

**Table 5.1.11.3-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-7-28\_n66 | 2 | 0.3 |
| 7 | 0.5 |
| 28 | 0.2 |
| n66 | 0.5 |

## 5.1.12 DC\_1-8-11\_n3

### 5.1.12.1 Configurations for EN-DC

Table 5.1.12.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC  configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA configuration | NR configuration |
| --- | --- | --- | --- |
| DC\_1A-8A-11A\_n3A | DC\_1A\_n3A  DC\_8A\_n3A  DC\_11A\_n3A | CA\_1A-8A-11A | n3A |

### 5.1.12.2 ∆TIB and ∆RIB values

For DC\_1-8-11\_n3, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 5.1.12.2-1: ΔTIB,c

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-8-11\_n3 | 1 | 0.3 |
| 8 | 0.3 |
| 11 | 0.8 |
| n3 | 0.9 |

Table 5.1.12.2-2: ΔRIB,c

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-8-11\_n3 | 1 | 0 |
| 8 | 0 |
| 11 | 0.3 |
| n3 | 0.5 |

### 5.1.12.3 Reference sensitivity exceptions

Co-existence study for DC\_1-8-11\_n3 was covered by the studies for the fallback modes of DC\_1-8\_n3, DC\_1-11\_n3 and DC\_8-11\_n3. No additional MSD requirement need to be defined for this dual connectivity configuration.

## 5.1.13 DC\_1-8-42\_n28

### 5.1.13.1 Configurations for EN-DC

Table 5.1.13.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC  configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA configuration | NR configuration |
| --- | --- | --- | --- |
| DC\_1A-8A-42A\_n28A | DC\_1A\_n28A  DC\_8A\_n28A  DC\_42A\_n28A | CA\_1A-8A-42A | n28A |
| DC\_1A-8A-42C\_n28A | DC\_1A\_n28A  DC\_8A\_n28A  DC\_42A\_n28A  DC\_42C\_n28A | CA\_1A-8A-42C | n28A |

### 5.1.13.2 ∆TIB and ∆RIB values

For DC\_1-8-42\_n28, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 5.1.13.2-1: ΔTIB,c

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-8-42\_n28 | 1 | 0.3 |
| 8 | 0.6 |
| 42 | 0.8 |
| n28 | 0.8 |

Table 5.1.13.2-2: ΔRIB,c

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-8-42\_n28 | 1 | 0 |
| 8 | 0.2 |
| 42 | 0.5 |
| n28 | 0.5 |

### 5.1.13.3 Reference sensitivity exceptions

Co-existence study for DC\_1-8-42\_n28 was covered by the studies for the fallback modes of DC\_1-8\_n28, DC\_1-42\_n28 and DC\_8-42\_n28.

No additional MSD requirement need to be defined for this dual connectivity configuration.

## 5.1.14 DC\_1-7-32\_n28

### 5.1.14.1 Configuration for EN-DC

Table 5.1.14.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-7A-32A\_n28A | DC\_1A\_n28A  DC\_7A\_n28A |

### 5.1.14.2 ∆TIB and ∆RIB values

Table 5.1.14.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-7-32\_n28 | 1 | 0.5 |
| 7 | 0.6 |
| n28 | 0.7 |

Table 5.1.14.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1-7-32\_n28 | 1 | 0 |
| 7 | 0 |
| 32 | 0 |
| n28 | 0.2 |

### 5.1.14.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

## 5.1.15 DC\_1-7-32\_n78

### 5.1.15.1 Configuration for EN-DC

Table 5.1.15.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-7A-32A\_n78A | DC\_1A\_n78A  DC\_7A\_n78A |

### 5.1.15.2 ∆TIB and ∆RIB values

Table 5.1.15.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-7-32\_n78 | 1 | 0.2 |
| 7 | 0.2 |
| n78 | 0.5 |

Table 5.1.15.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1-7-32\_n78 | 1 | 0.6 |
| 7 | 0.6 |
| 32 | 0 |
| n78 | 0.8 |

### 5.1.15.3 Reference sensitivity exceptions

Exceptions for IMD hits on B32 are TBD.

## 5.1.16 DC\_1-20-32\_n28

### 5.1.16.1 Configuration for EN-DC

Table 5.1.16.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-20A-32A\_n28A | DC\_1A\_n28A  DC\_20A\_n28A |

### 5.1.16.2 ∆TIB and ∆RIB values

Table 5.1.16.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-20-32\_n28 | 1 | 0.3 |
| 20 | 0.6 |
| n28 | 0.7 |

Table 5.1.16.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1-20-32\_n28 | 1 | 0 |
| 20 | 0.2 |
| 32 | 0 |
| n28 | 0.2 |

### 5.1.16.3 Reference sensitivity exceptions

Exceptions for the B1 IMD5 hit from the 20A\_n28A UL are TBD.

## 5.1.17 DC\_1-20-32\_n78

### 5.1.17.1 Configuration for EN-DC

Table 5.1.17.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-20A-32A\_n78A | DC\_1A\_n78A  DC\_20A\_n78A |

### 5.1.17.2 ∆TIB and ∆RIB values

Table 5.1.17.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-20-32\_n78 | 1 | 0.3 |
| 20 | 0.3 |
| n78 | 0.8 |

Table 5.1.17.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1-20-32\_n78 | 1 | 0 |
| 20 | 0 |
| 32 | 0 |
| n78 | 0.5 |

### 5.1.17.3 Reference sensitivity exceptions

Exceptions for IMD hits on B32 are TBD.

## 5.1.18 DC\_3-7-32\_n78

### 5.1.18.1 Configuration for EN-DC

Table 5.1.18.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_3A-7A-32A\_n78A  DC\_3C-7A-32A\_n78A | DC\_3A\_n78A  DC\_3C\_n78A  DC\_7A\_n78A |

### 5.1.18.2 ∆TIB and ∆RIB values

Table 5.1.18.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-7-32\_n78 | 3 | 0.6 |
| 7 | 0.6 |
| n78 | 0.8 |

Table 5.1.18.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_3-7-32\_n78 | 3 | 0.2 |
| 7 | 0.2 |
| 32 | 0 |
| n78 | 0.5 |

### 5.1.18.3 Reference sensitivity exceptions

Exceptions for IMD hits on B32 have been solved by fallback band combinations DC\_3A-32A\_n78A and DC\_7A-32A\_n78A.

## 5.1.19 DC\_3-20-32\_n78

### 5.1.19.1 Configuration for EN-DC

Table 5.1.19.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_3A-20A-32A\_n78A | DC\_3A\_n78A  DC\_20A\_n78A |

### 5.1.19.2 ∆TIB and ∆RIB values

Table 5.1.19.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-20-32\_n78 | 3 | 0.5 |
| 20 | 0.3 |
| n78 | 0.8 |

Table 5.1.19.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_3-20-32\_n78 | 3 | 0.2 |
| 20 | 0 |
| 32 | 0 |
| n78 | 0.5 |

### 5.1.19.3 Reference sensitivity exceptions

Exceptions for IMD hits on B32 are TBD.

## 5.1.20 DC\_7-20-32\_n1

### 5.1.20.1 Configuration for EN-DC

Table 5.1.20.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_7A-20A-32A\_n1A | DC\_7A\_n1A  DC\_20A\_n1A |

### 5.1.20.2 ∆TIB and ∆RIB values

Table 5.1.20.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7-20-32\_n1 | 7 | 0.6 |
| 20 | 0.3 |
| n1 | 0.5 |

Table 5.1.20.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_7-20-32\_n1 | 7 | 0 |
| 20 | 0 |
| 32 | 0 |
| n1 | 0 |

### 5.1.20.3 Reference sensitivity exceptions

Exceptions for IMD hits on B32 are TBD.

## 5.1.21 DC\_7-20-32\_n28

### 5.1.21.1 Configuration for EN-DC

Table 5.1.21.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_7A-20A-32A\_n28A | DC\_7A\_n28A  DC\_20A\_n28A |

### 5.1.21.2 ∆TIB and ∆RIB values

Table 5.1.21.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7-20-32\_n28 | 7 | 0.3 |
| 20 | 0.5 |
| n28 | 0.7 |

Table 5.1.21.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_7-20-32\_n28 | 7 | 0 |
| 20 | 0 |
| 32 | 0 |
| n28 | 0.2 |

### 5.1.21.3 Reference sensitivity exceptions

Compared to its fallback modes, there are no additional MSD requirements for this band combination.

## 5.1.22 DC\_1-20-32\_n3

5.1.22.1 Configurations for EN-DC

Table 5.2B.4.4-1: Band configurations EN-DC (four bands)

| DC  configuration | Uplink  configuration |
| --- | --- |
| DC\_1A-20A-32A\_n3A | DC\_1A\_n3A  DC\_20A\_n3A |

5.1.22.2 ∆TIB and ∆RIB values

For DC\_1-20-32\_n3, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-20-32\_n3 | 1 | 0.5 |
| 20 | 0.3 |
| n3 | 0.5 |

**Table 7.3B.3.3.4-1: ΔRIB due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_1-20-32\_n3 | 1 | 0 |
| 20 | 0 |
| 32 | 0 |
| n3 | 0 |

5.1.22.3 REFSENS requirements

No additional MSD requirement is needed.

## 5.1.23 DC\_2-4-7\_n28

5.1.23.1 Configurations for EN-DC

Table 5.2B.4.4-1: Band configurations EN-DC (four bands)

| DC  configuration | Uplink  configuration |
| --- | --- |
| DC\_2A-4A-7A\_n28A | DC\_2A\_n28A  DC\_4A\_n28A  DC\_7A\_n28A |

5.1.23.2 ∆TIB and ∆RIB values

For DC\_2-4-7\_n28, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-4-7\_n28 | 2 | 0.5 |
| 4 | 0.5 |
| 7 | 0.5 |
| n28 | 0.6 |

**Table 7.3B.3.3.4-1: ΔRIB due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-4-7\_n28 | 2 | 0.3 |
| 4 | 0.5 |
| 7 | 0.5 |
| n28 | 0.2 |

5.1.23.3 REFSENS requirements

No additional MSD requirement is needed.

## 5.1.24 DC\_2-5-7\_n66

5.1.24.1 Configurations for EN-DC

Table 5.2B.4.4-1: Band configurations EN-DC (four bands)

| DC  configuration | Uplink  configuration |
| --- | --- |
| DC\_2A-5A-7A\_n66A  DC\_2A-5A-7C\_n66A | DC\_2A\_n66A  DC\_5A\_n66A  DC\_7A\_n66A |

5.1.24.2 ∆TIB and ∆RIB values

For DC\_2-5-7\_n66, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-5-7\_n66 | 2 | 0.5 |
| 5 | 0.3 |
| 7 | 0.5 |
| n66 | 0.5 |

**Table 7.3B.3.3.4-1: ΔRIB due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-5-7\_n66 | 2 | 0.3 |
| 5 | 0 |
| 7 | 0.5 |
| n66 | 0.5 |

5.1.24.3 REFSENS requirements

No additional MSD requirement is needed.

## 5.1.25 DC\_2-5-66\_n7

5.1.25.1 Configurations for EN-DC

Table 5.2B.4.4-1: Band configurations EN-DC (four bands)

| DC  configuration | Uplink  configuration |
| --- | --- |
| DC\_2A-5A-66A\_n7A  DC\_2A-5A-66A-66A\_n7A | DC\_2A\_n7A  DC\_5A\_n7A  DC\_66A\_n7A |

5.1.25.2 ∆TIB and ∆RIB values

For DC\_2-5-66\_n7, the ΔTIB,c and ΔRIB,c values are reused from the DC\_2-7-13\_n66, and are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-5-66\_n7 | 2 | 0.5 |
| 5 | 0.3 |
| 66 | 0.5 |
| n7 | 0.5 |

**Table 7.3B.3.3.4-1: ΔRIB due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-5-66\_n7 | 2 | 0.3 |
| 5 | 0 |
| 66 | 0.5 |
| n7 | 0.5 |

5.1.25.3 REFSENS requirements

No additional MSD requirement is needed.

## 5.1.26 DC\_2-5-66\_n66

5.1.26.1 Configurations for EN-DC

Table 5.2B.4.4-1: Band configurations EN-DC (four bands)

| DC  configuration | Uplink  configuration |
| --- | --- |
| DC\_2A-5A-66A\_n66A | DC\_2A\_n66A  DC\_5A\_n66A  DC\_66A\_n66A1 |
| NOTE1: Only single switched UL is supported | |

5.1.26.2 ∆TIB and ∆RIB values

For DC\_2-5-66\_n66, the ΔTIB,c and ΔRIB,c values are reused from the DC\_2-5\_n66, and are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-5-66\_n66 | 2 | 0.5 |
| 5 | 0.3 |
| 66 | 0.5 |
| n66 | 0.5 |

**Table 7.3B.3.3.4-1: ΔRIB due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-5-66\_n66 | 2 | 0.3 |
| 5 | 0 |
| 66 | 0.3 |
| n66 | 0.3 |

5.1.26.3 REFSENS requirements

No additional MSD requirement is needed.

## 5.1.27 DC\_2-7-66\_n28

5.1.27.1 Configurations for EN-DC

Table 5.2B.4.4-1: Band configurations EN-DC (four bands)

| DC  configuration | Uplink  configuration |
| --- | --- |
| DC\_2A-7A-66A\_n28A | DC\_2A\_n28A  DC\_7A\_n28A  DC\_66A\_n28A |

5.1.27.2 ∆TIB and ∆RIB values

For DC\_2-7-66\_n28, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-7-66\_n28 | 2 | 0.5 |
| 7 | 0.5 |
| 66 | 0.5 |
| n28 | 0.6 |

**Table 7.3B.3.3.4-1: ΔRIB due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-7-66\_n28 | 2 | 0.3 |
| 7 | 0.5 |
| 66 | 0.5 |
| n28 | 0.2 |

5.1.27.3 REFSENS requirements

No additional MSD requirement is needed.

## 5.1.28 DC\_3-20-32\_n1

5.1.28.1 Configurations for EN-DC

Table 5.2B.4.4-1: Band configurations EN-DC (four bands)

| DC  configuration | Uplink  configuration |
| --- | --- |
| DC\_3A-20A-32A\_n1A | DC\_3A\_n1A  DC\_20A\_n1A |

5.1.28.2 ∆TIB and ∆RIB values

For DC\_3-20-32\_n1, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-20-32\_n1 | 3 | 0.5 |
| 20 | 0.3 |
| n1 | 0.5 |

**Table 7.3B.3.3.4-1: ΔRIB due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_3-20-32\_n1 | 3 | 0 |
| 20 | 0 |
| 32 | 0 |
| n1 | 0 |

5.1.28.3 REFSENS requirements

No additional MSD requirement is needed.

## 5.1.29 DC\_1-3-18\_n3

### 5.1.29.1 Configuration for DC

**Table 5.1.29.1-1: Inter-band EN-DC configurations (four bands)**

| DC configuration | Uplink configuration  (NOTE 1) |
| --- | --- |
| DC\_1A-3A-18A\_n3A | DC\_1A\_n3A  DC\_3A\_n3A2  DC\_18A\_n3A |
| NOTE 2: Only single switched UL is supported | |

### 5.1.29.2 ∆TIB and ∆RIB values

For DC\_1-3-18\_n3, the ΔTIB,c and ΔRIB,c values are given in the tables below. Numbers come from LTE CA\_1A-3A-18A.

Table 5.1.29.2-1: ΔTIB,c

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-18\_n3 | 1 | 0.3 |
| 3 | 0.3 |
| 18 | 0.3 |
| n3 | 0.3 |

Table 5.1.29.2-2: ΔRIB,c

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-18\_n3 | 1 | 0 |
| 3 | 0 |
| 18 | 0 |
| n3 | 0 |

### 5.1.29.3 REFSENS requirements

There are no additional MSD requirements for this band combination.

## 5.1.30 DC\_1-3-41\_n3

### 5.1.30.1 Configuration for DC

**Table 5.1.30.1-1: Inter-band EN-DC configurations (four bands)**

| DC configuration | Uplink configuration  (NOTE 1) |
| --- | --- |
| DC\_1A-3A-41A\_n3A  DC\_1A-3A-41C\_n3A | DC\_1A\_n3A  DC\_3A\_n3A2  DC\_41A\_n3A  DC\_41C\_n3A |
| NOTE 2: Only single switched UL is supported | |

### 5.1.30.2 ∆TIB and ∆RIB values

For DC\_1-3-41\_n3, the ΔTIB,c and ΔRIB,c values are given in the tables below. Numbers come from LTE CA\_1A-3A-41A.

Table 5.1.30.2-1: ΔTIB,c

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-41\_n3 | 1 | 0.5 |
| 3 | 0.5 |
| 41 | 0.31/0.82 |
| n3 | 0.5 |
| NOTE 1: Applicable for the frequency range of 2515-2690 MHz.  NOTE 2: Applicable for the frequency range of 2496-2515 MHz. | | |

Table 5.1.30.2-2: ΔRIB,c

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-41\_n3 | 1 | 0 |
| 3 | 0 |
| 41 | 01/0.52 |
| n3 | 0 |
| NOTE 1: Applicable for the frequency range of 2515-2690 MHz.  NOTE 2: Applicable for the frequency range of 2496-2515 MHz. | | |

### 5.1.30.3 REFSENS requirements

There are no additional MSD requirements for this band combination.

## 5.1.31 DC\_1-3-41\_n41

### 5.1.31.1 Configuration for DC

**Table 5.1.31.1-1: Inter-band EN-DC configurations (four bands)**

| DC configuration | Uplink configuration  (NOTE 1) |
| --- | --- |
| DC\_1A-3A-41A\_n41A | DC\_1A\_n41A  DC\_3A\_n41A |

### 5.1.31.2 ∆TIB and ∆RIB values

For DC\_1-3-41\_n41, the ΔTIB,c and ΔRIB,c values are given in the tables below. Numbers come from LTE CA\_1A-3A-41A.

Table 5.1.31.2-1: ΔTIB,c

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-41\_n41 | 1 | 0.5 |
| 3 | 0.5 |
| 41 | 0.31/0.82 |
| n41 | 0.31/0.82 |
| NOTE 1: Applicable for the frequency range of 2515-2690 MHz.  NOTE 2: Applicable for the frequency range of 2496-2515 MHz. | | |

Table 5.1.31.2-2: ΔRIB,c

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-41\_n41 | 1 | 0 |
| 3 | 0 |
| 41 | 01/0.52 |
| n41 | 01/0.52 |
| NOTE 1: Applicable for the frequency range of 2515-2690 MHz.  NOTE 2: Applicable for the frequency range of 2496-2515 MHz. | | |

### 5.1.31.3 REFSENS requirements

There are no additional MSD requirements for this band combination.

## 5.1.32 DC\_2-5-7\_n66 and DC\_2-5-7-7\_n66

### 5.1.32.1 Configuration for DC

**Table 5.1.32.1-1: Inter-band EN-DC configurations (four bands)**

| DC configuration | Uplink configuration  (NOTE 1) |
| --- | --- |
| DC\_2A-5A-7A\_n66A  DC\_2A-5A-7C\_n66A  DC\_2A-5A-7A-7A\_n66A | DC\_2A\_n66A DC\_5A\_n66A  DC\_7A\_n66A |

### 5.1.32.2 ∆TIB and ∆RIB values

For DC\_2-5-7\_n66 and DC\_2-5-7-7\_n66, the ΔTIB,c and ΔRIB,c values are given in the tables below. Numbers come from LTE CA\_2A-5A-7A-66A.

Table 5.1.32.2-1: ΔTIB,c

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-5-7\_n66  DC\_2-5-7-7\_n66 | 2 | 0.5 |
| 5 | 0.3 |
| 7 | 0.5 |
| n66 | 0.5 |

Table 5.1.32.2-2: ΔRIB,c

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_2-5-7\_n66  DC\_2-5-7-7\_n66 | 2 | 0.3 |
| 5 | 0 |
| 7 | 0.5 |
| n66 | 0.5 |

### 5.1.32.3 REFSENS requirements

There are no additional MSD requirements for this band combination.

5.1.33 DC\_1-3-11\_n28

5.1.33.1 Configurations for EN-DC

Table 5.2B.4.4-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-3A-11A\_n28A | DC\_1A\_n28A  DC\_3A\_n28A  DC\_11A\_n28A |

5.1.33.2 ∆TIB and ∆RIB values

For DC\_1-3-11\_n28, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-11\_n28 | 1 | 0.3 |
| 3 | 0.8 |
| 11 | 0.9 |
| n28 | 0.6 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1-3-11\_n28 | 1 | 0 |
| 3 | 0.3 |
| 11 | 0.5 |
| n28 | 0.2 |

5.1.33.3 Reference sensitivity exceptions

Co-existence study for DC\_1-3-11\_n28 was covered by the studies for the fallback modes of DC\_1-3\_n28, DC\_1-11\_n28 and DC\_3-11\_n28.

No additional MSD requirement need to be defined for this dual connectivity configuration.

5.1.34 DC\_1-3-11\_n77

5.1.34.1 Configurations for EN-DC

Table 5.2B.4.4-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-3A-11A\_n77A | DC\_1A\_n77A  DC\_3A\_n77A  DC\_11A\_n77A |
| DC\_1A-3A-11A\_n77(2A) | DC\_1A\_n77A  DC\_3A\_n77A  DC\_11A\_n77A |

5.1.34.2 ∆TIB and ∆RIB values

For DC\_1-3-11\_n77, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-11\_n77 | 1 | 0.6 |
| 3 | 0.8 |
| 11 | 0.9 |
| n77 | 0.8 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1-3-11\_n77 | 1 | 0.2 |
| 3 | 0.3 |
| 11 | 0.5 |
| n77 | 0.5 |

5.1.34.3 Reference sensitivity exceptions

Co-existence study for DC\_1-3-11\_n77 was covered by the studies for the fallback modes of DC\_1-3\_n77, DC\_1-11\_n77 and DC\_3-11\_n77.

No additional MSD requirement need to be defined for this dual connectivity configuration.

5.1.35 DC\_3-8-11\_n28

5.1.35.1 Configurations for EN-DC

Table 5.2B.4.4-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_3A-8A-11A\_n28A | DC\_3A\_n28A  DC\_8A\_n28A  DC\_11A\_n28A |

5.1.35.2 ∆TIB and ∆RIB values

For DC\_3-8-11\_n28, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-8-11\_n28 | 3 | 0.8 |
| 8 | 0.6 |
| 11 | 0.9 |
| n28 | 0.6 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_3-8-11\_n28 | 3 | 0.3 |
| 8 | 0.2 |
| 11 | 0.5 |
| n28 | 0.2 |

5.1.35.3 Reference sensitivity exceptions

Co-existence study for DC\_3-8-11\_n28 was covered by the studies for the fallback modes of DC\_3-8\_n28, DC\_3-11\_n28 and DC\_8-11\_n28.

No additional MSD requirement need to be defined for this dual connectivity configuration.

5.1.36 DC\_3-8-11\_n77

5.1.36.1 Configurations for EN-DC

Table 5.2B.4.4-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_3A-8A-11A\_n77A | DC\_3A\_n77A  DC\_8A\_n77A  DC\_11A\_n77A |
| DC\_3A-8A-11A\_n77(2A) | DC\_3A\_n77A  DC\_8A\_n77A  DC\_11A\_n77A |

5.1.36.2 ∆TIB and ∆RIB values

For DC\_3-8-11\_n77, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-8-11\_n77 | 3 | 0.8 |
| 8 | 0.6 |
| 11 | 0.9 |
| n77 | 0.8 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_3-8-11\_n77 | 3 | 0.3 |
| 8 | 0.2 |
| 11 | 0.5 |
| n77 | 0.5 |

5.1.36.3 Reference sensitivity exceptions

Co-existence study for DC\_3-8-11\_n77 was covered by the studies for the fallback modes of DC\_3-8\_n77, DC\_3-11\_n77 and DC\_8-11\_n77.

No additional MSD requirement need to be defined for this dual connectivity configuration.

5.1.37 DC\_1-8-11\_n28

5.1.37.1 Configurations for EN-DC

Table 5.2B.4.4-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-8A-11A\_n28A | DC\_1A\_n28A  DC\_8A\_n28A  DC\_11A\_n28A |

5.1.37.2 ∆TIB and ∆RIB values

For DC\_1-8-11\_n28, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-8-11\_n28 | 1 | 0.3 |
| 8 | 0.6 |
| 11 | 0.4 |
| n28 | 0.6 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1-8-11\_n28 | 1 | 0 |
| 8 | 0.2 |
| 11 | 0 |
| n28 | 0.2 |

5.1.37.3 Reference sensitivity exceptions

Co-existence study for DC\_1-8-11\_n28 was covered by the studies for the fallback modes of DC\_1-8\_n28, DC\_1-11\_n28 and DC\_8-11\_n28.

No additional MSD requirement need to be defined for this dual connectivity configuration.

## 5.1.38 DC\_1-3-18\_n28

### 5.1.38.1 Configuration for EN-DC

Table 5.1.38.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_1A-3A-18A\_n28A | DC\_1A\_n28A  DC\_3A\_n28A  DC\_18A\_n28A |

### 5.1.38.2 ∆TIB and ∆RIB values

Table 5.1.38.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-18-n28 | 1 | 0.3 |
| 3 | 0.3 |
| 18 | 0.3 |
| n28 | 0.6 |

**Table 5.1.38.2-1: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-18-n28 | 1 | 0 |
| 3 | 0 |
| 18 | 0 |
| n28 | 0.2 |

5.1.38.3 REFSENS requirements

## No additional MSD requirement need to be defined for this dual connectivity configuration.

## 5.1.39 DC\_1-3-18\_n41

### 5.1.39.1 Configuration for EN-DC

Table 5.1.39.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_1A-3A-18A\_n41A | DC\_1A\_n41A  DC\_3A\_n41A  DC\_18A\_n41A |

### 5.1.39.2 ∆TIB and ∆RIB values

Table 5.1.39.2-1: ΔTIB,c due to EN-DC(four bands)

| **Inter-band DC Configuration** | **E-UTRA and NR Band** | **ΔTIB,c [dB]** |
| --- | --- | --- |
| DC\_1-3-18-n41 | 1 | 0.3 |
| 3 | 0.3 |
| 18 | 0.3 |
| n41 | 0.31 |
| NOTE 1: Applicable for the frequency range of 2515-2690 MHz. | | |

**Table 5.1.39.2-1: ΔRIB,c due to EN-DC (four bands)**

| **Inter-band DC Configuration** | **E-UTRA and NR Band** | **ΔRIB,c [dB]** |
| --- | --- | --- |
| DC\_1-3-18-n41 | 1 | 0 |
| 3 | 0 |
| 18 | 0 |
| n41 | 01 |
| NOTE 1: Applicable for the frequency range of 2515-2690 MHz. | | |

5.1.39.3 REFSENS requirements

No additional MSD requirement need to be defined for this dual connectivity configuration.

## 5.1.40 DC\_2-7-28\_n7

5.1.40.1 Configurations for EN-DC

Table 5.2B.4.4-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_2A-7A-28A\_n7A | DC\_2A\_n7A  DC\_7A\_n7A4 DC\_28A\_n7A |
| NOTE 4: Only single switched UL is supported. | |

5.1.40.2 ∆TIB and ∆RIB values

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔTIB,c (dB) |
| --- | --- | --- |
| DC\_2-7-28\_n7 | 2 | 0.5 |
| 7 | 0.5 |
| 28 | 0.3 |
| n7 | 0.5 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_2-7-28\_n7 | 2 | 0 |
| 7 | 0 |
| 28 | 0 |
| n7 | 0 |

5.1.40.3 Reference sensitivity exceptions

No further MSD is needed defined.

## 5.1.41 DC\_2A-66A-71A\_n71A

5.1.41.1 Configurations for EN-DC

Table 5.5B.4.3-1: Inter-band EN-DC configurations within FR1 (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_2A-66A-71A\_n71A | DC\_2A\_n71A  DC\_66A\_n71A |

Note that DC\_71\_n71 is not used as uplink configuration.

5.1.41.2 ∆TIB and ∆RIB values

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔTIB,c (dB) |
| --- | --- | --- |
| DC\_2-66-71\_n71 | 2 | 0.5 |
| 66 | 0.5 |
| 71 | 0.3 |
| n71 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_2-66-71\_n71 | 2 | 0.3 |
| 66 | 0.3 |
| 71 | 0 |
| n71 |

5.1.41.3 Reference sensitivity exceptions

REFSENS exceptions needed due to band 71 uplink harmonic into band 2 is already specified in Table 7.3B.2.3.1-1 of TS 38.101-3.

## 5.1.42 DC\_2-5-66\_n77A

5.1.42.1 Configurations for EN-DC

Table 5.5B.4.3-1: Inter-band EN-DC configurations within FR1 (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_2A-5A-66A\_n77A DC\_2A-2A-5A-66A\_n77A DC\_2A-5A-66A-66A\_n77A | DC\_2A\_n77A  DC\_5A\_n77A  DC\_66A\_n77A |

5.1.42.2 ∆TIB and ∆RIB values

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔTIB,c (dB) |
| --- | --- | --- |
| DC\_2-5-66\_n77  DC\_2-2-5-66\_n77  DC\_2-5-66-66\_n77 | 2 | 0.5 |
| 5 | 0.3 |
| 66 | 0.5 |
| n77 | 0.8 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_2-5-66\_n77  DC\_2-2-5-66\_n77  DC\_2-5-66-66\_n77 | 2 | 0.3 |
| 5 | 0 |
| 66 | 0.3 |
| n77 | 0.5 |

5.1.42.3 Reference sensitivity exceptions

REFSENS exception have when needed been defined for lower order combinations.

## 5.1.43 DC\_2-13-66\_n77A

5.1.43.1 Configurations for EN-DC

Table 5.5B.4.3-1: Inter-band EN-DC configurations within FR1 (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_2A-13A-66A\_n77A DC\_2A-2A-13A-66A\_n77A DC\_2A-13A-66A-66A\_n77A | DC\_2A\_n77A  DC\_13A\_n77A  DC\_66A\_n77A |

5.1.43.2 ∆TIB and ∆RIB values

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔTIB,c (dB) |
| --- | --- | --- |
| DC\_2-13-66\_n77  DC\_2-2-13-66\_n77  DC\_2-13-66-66\_n77 | 2 | 0.5 |
| 13 | 0.3 |
| 66 | 0.5 |
| n77 | 0.8 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_2-13-66\_n77  DC\_2-2-13-66\_n77  DC\_2-13-66-66\_n77 | 2 | 0.3 |
| 13 | 0 |
| 66 | 0.3 |
| n77 | 0.5 |

5.1.43.3 Reference sensitivity exceptions

REFSENS exception have when needed been defined for lower order combinations.

## 5.1.44 DC\_2-48-66\_n77A

5.1.44.1 Configurations for EN-DC

Table 5.5B.4.3-1: Inter-band EN-DC configurations within FR1 (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_2A-48A-66A\_n77A | DC\_2A\_n77A  DC\_48A\_n77A  DC\_66A\_n77A |

5.1.44.2 ∆TIB and ∆RIB values

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔTIB,c (dB) |
| --- | --- | --- |
| DC\_2-48-66\_n77 | 2 | 0.6 |
| 48 | 0.8 |
| 66 | 0.6 |
| n77 | 0.8 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_2-48-66\_n77 | 2 | 0.3 |
| 48 | 0.5 |
| 66 | 0.3 |
| n77 | 0.5 |

5.1.44.3 Reference sensitivity exceptions

REFSENS exception have when needed been defined for lower order combinations.

## 5.1.45 DC\_1-3-40\_n78

### 5.1.45.1 Configuration for EN-DC

Table 5.1.45.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_1A-3A-40A\_n78A  DC\_1A-3A-40C\_n78A | DC\_1A\_n78A  DC\_3A\_n78A  DC\_40A\_n78A |

### 5.1.45.2 ∆TIB and ∆RIB values

Table 5.1.45.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-40\_n78 | 1 | 0.6 |
| 3 | 0.6 |
| 40 | 0.35 |
| n78 | 0.85 |
| NOTE 5: Only applicable for UE supporting inter-band carrier aggregation with uplink in one NR band and without simultaneous Rx/Tx. | | |

**Table 5.1.45.2-1: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-40\_n78 | 1 | 0.2 |
| 3 | 0.2 |
| 40 | 0.45 |
| n78 | 0.55 |
| NOTE 5: Only applicable for UE supporting inter-band carrier aggregation with uplink in one NR band and without simultaneous Rx/Tx. | | |

### 5.1.45.3 REFSENS requirements

No additional MSD requirement needs to be defined for this dual connectivity configuration.

## 5.1.46 DC\_1-7-40\_n78

### 5.1.46.1 Configuration for EN-DC

Table 5.1.46.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_1A-7A-40A\_n78A  DC\_1A-7A-40C\_n78A | DC\_1A\_n78A  DC\_7A\_n78A  DC\_40A\_n78A |

### 5.1.46.2 ∆TIB and ∆RIB values

Table 5.1.46.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-7-40\_n78 | 1 | 0.6 |
| 7 | 0.5 |
| 40 | 0.35 |
| n78 | 0.85 |
| NOTE 5: Only applicable for UE supporting inter-band carrier aggregation with uplink in one NR band and without simultaneous Rx/Tx. | | |

Table 5.1.46.2-1: ΔRIB,c due to EN-DC (four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_1-7-40\_n78 | 1 | 0.2 |
| 7 | 0 |
| 40 | 0.45 |
| n78 | 0.55 |
| NOTE 5: Only applicable for UE supporting inter-band carrier aggregation with uplink in one NR band and without simultaneous Rx/Tx. | | |

### 5.1.46.3 REFSENS requirements

No additional MSD requirement needs to be defined for this dual connectivity configuration.

## 5.1.47 DC\_1-8-40\_n78

### 5.1.47.1 Configuration for EN-DC

Table 5.1.47.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_1A-8A-40A\_n78A  DC\_1A-8A-40C\_n78A | DC\_1A\_n78A  DC\_8A\_n78A  DC\_40A\_n78A |

### 5.1.47.2 ∆TIB and ∆RIB values

Table 5.1.47.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-8-40\_n78 | 1 | 0.6 |
| 8 | 0.6 |
| 40 | 0.35 |
| n78 | 0.85 |
| NOTE 5: Only applicable for UE supporting inter-band carrier aggregation with uplink in one NR band and without simultaneous Rx/Tx. | | |

Table 5.1.47.2-1: ΔRIB,c due to EN-DC (four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_1-8-40\_n78 | 1 | 0.2 |
| 8 | 0.2 |
| 40 | 0.45 |
| n78 | 0.55 |
| NOTE 5: Only applicable for UE supporting inter-band carrier aggregation with uplink in one NR band and without simultaneous Rx/Tx. | | |

### 5.1.47.3 REFSENS requirements

No additional MSD requirement needs to be defined for this dual connectivity configuration.

## 5.1.48 DC\_3-7-40\_n78

### 5.1.48.1 Configuration for EN-DC

Table 5.1.48.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_3A-7A-40A\_n78A  DC\_3A-7A-40C\_n78A | DC\_3A\_n78A  DC\_7A\_n78A  DC\_40A\_n78A |

### 5.1.48.2 ∆TIB and ∆RIB values

Table 5.1.48.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-7-40\_n78 | 3 | 0.6 |
| 7 | 0.5 |
| 40 | 0.35 |
| n78 | 0.85 |
| NOTE 5: Only applicable for UE supporting inter-band carrier aggregation with uplink in one NR band and without simultaneous Rx/Tx. | | |

Table 5.1.48.2-1: ΔRIB,c due to EN-DC (four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_3-7-40\_n78 | 3 | 0.2 |
| 7 | 0 |
| 40 | 0.45 |
| n78 | 0.55 |
| NOTE 5: Only applicable for UE supporting inter-band carrier aggregation with uplink in one NR band and without simultaneous Rx/Tx. | | |

### 5.1.48.3 REFSENS requirements

No additional MSD requirement needs to be defined for this dual connectivity configuration.

## 5.1.49 DC\_3-8-40\_n78

### 5.1.49.1 Configuration for EN-DC

Table 5.1.49.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_3A-8A-40A\_n78A  DC\_3A-8A-40C\_n78A | DC\_3A\_n78A  DC\_8A\_n78A  DC\_40A\_n78A |

### 5.1.49.2 ∆TIB and ∆RIB values

Table 5.1.49.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-8-40\_n78 | 3 | 0.6 |
| 8 | 0.6 |
| 40 | 0.35 |
| n78 | 0.85 |
| NOTE 5: Only applicable for UE supporting inter-band carrier aggregation with uplink in one NR band and without simultaneous Rx/Tx. | | |

Table 5.1.49.2-1: ΔRIB,c due to EN-DC (four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_3-8-40\_n78 | 3 | 0.2 |
| 8 | 0.2 |
| 40 | 0.45 |
| n78 | 0.55 |
| NOTE 5: Only applicable for UE supporting inter-band carrier aggregation with uplink in one NR band and without simultaneous Rx/Tx. | | |

### 5.1.49.3 REFSENS requirements

No additional MSD requirement needs to be defined for this dual connectivity configuration.

## 5.1.50 DC\_7-8-40\_n78

### 5.1.50.1 Configuration for EN-DC

Table 5.1.50.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_7A-8A-40A\_n78A  DC\_7A-8A-40C\_n78A | DC\_7A\_n78A  DC\_8A\_n78A  DC\_40A\_n78A |

### 5.1.50.2 ∆TIB and ∆RIB values

Table 5.1.50.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7-8-40\_n78 | 7 | 0.5 |
| 8 | 0.6 |
| 40 | 0.35 |
| n78 | 0.85 |
| NOTE 5: Only applicable for UE supporting inter-band carrier aggregation with uplink in one NR band and without simultaneous Rx/Tx. | | |

Table 5.1.50.2-1: ΔRIB,c due to EN-DC (four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_7-8-40\_n78 | 7 | 0 |
| 8 | 0.2 |
| 40 | 0.45 |
| n78 | 0.55 |
| NOTE 5: Only applicable for UE supporting inter-band carrier aggregation with uplink in one NR band and without simultaneous Rx/Tx. | | |

### 5.1.50.3 REFSENS requirements

No additional MSD requirement needs to be defined for this dual connectivity configuration.

## 5.1.51 DC\_1-7-8\_n28

### 5.1.51.1 Configurations for EN-DC

Table 5.1.51.1-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_1A-7A-8A\_n28A | DC\_1A\_n28A  DC\_7A\_n28A  DC\_8A\_n28A |

### 5.1.51.2 ∆TIB and ∆RIB values

Table 5.1.51.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-7-8\_n28 | 1 | 0.5 |
| 7 | 0.6 |
| 8 | 0.6 |
| n28 | 0.6 |

**Table 5.1.51.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_1-7-8\_n28 | 1 | 0 |
| 7 | 0 |
| 8 | 0.2 |
| n28 | 0.2 |

### 5.1.51.3 Reference sensitivity exceptions

REFSENS exceptions are not needed.

## 5.1.52 DC\_3-7-8\_n28

### 5.1.52.1 Configurations for EN-DC

Table 5.1.52.1-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_3A-7A-8A\_n28A | DC\_3A\_n28A  DC\_7A\_n28A  DC\_8A\_n28A |

### 5.1.52.2 ∆TIB and ∆RIB values

Table 5.1.52.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-7-8\_n28 | 3 | 0.5 |
| 7 | 0.5 |
| 8 | 0.6 |
| n28 | 0.5 |

**Table 5.1.52.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_3-7-8\_n28 | 3 | 0 |
| 7 | 0 |
| 8 | 0.2 |
| n28 | 0.1 |

### 5.1.52.3 Reference sensitivity exceptions

REFSENS exceptions are not needed.

## 5.1.53 DC\_1-7-28\_n3

### 5.1.53.1 Configurations for EN-DC

Table 5.1.53.1-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_1A-7A-28A\_n3A | DC\_1A\_n3A  DC\_7A\_n3A  DC\_28A\_n3A |

### 5.1.53.2 ∆TIB and ∆RIB values

Table 5.1.53.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-7-28\_n3 | 1 | 0.6 |
| 7 | 0.6 |
| 28 | 0.6 |
| n3 | 0.6 |

**Table 5.1.53.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_1-7-28\_n3 | 1 | 0 |
| 7 | 0 |
| 28 | 0.2 |
| n3 | 0 |

### 5.1.53.3 Reference sensitivity exceptions

REFSENS exceptions are not needed.

## 5.1.54 DC\_3-8-40\_n1

### 5.1.54.1 Configurations for EN-DC

Table 5.1.54.1-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_3A-8A-40A\_n1A  DC\_3A-8A-40C\_n1A | DC\_3A\_n1A  DC\_8A\_n1A  DC\_40A\_n1A |

### 5.1.54.2 ∆TIB and ∆RIB values

Table 5.1.54.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-8-40\_n1 | 3 | 0.5 |
| 8 | 0.5 |
| 40 | 0.6 |
| n1 | 0.5 |

**Table 5.1.54.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_3-8-40\_n1 | 3 | 0 |
| 8 | 0 |
| 40 | 0.2 |
| n1 | 0.1 |

### 5.1.54.3 Reference sensitivity exceptions

REFSENS exceptions are not needed.

## 5.1.55 DC\_7-8-40\_n1

### 5.1.55.1 Configurations for EN-DC

Table 5.1.55.1-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_7A-8A-40A\_n1A  DC\_7A-8A-40C\_n1A | DC\_7A\_n1A  DC\_8A\_n1A  DC\_40A\_n1A |

### 5.1.55.2 ∆TIB and ∆RIB values

Table 5.1.55.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7-8-40\_n1 | 7 | 0.8 |
| 8 | 0.6 |
| 40 | 0.9 |
| n1 | 0.6 |

**Table 5.1.55.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_7-8-40\_n1 | 7 | 0.3 |
| 8 | 0.2 |
| 40 | 0.8 |
| n1 | 0 |

### 5.1.55.3 Reference sensitivity exceptions

REFSENS exceptions are not needed.

### 5.1.56 DC\_2-28-66\_n7

### 5.1.56.1 Configurations for EN-DC

Table 5.1.56.1-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_2A-28A-66A\_n7A | DC\_2A\_n7A  DC\_28A\_n7A  DC\_66A\_n7A |

### 5.1.56.2 ∆TIB and ∆RIB values

Table 5.1.56.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-28-66\_n7 | 2 | 0.5 |
| 28 | 0.6 |
| 66 | 0.5 |
| n7 | 0.5 |

**Table 5.1.56.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-28-66\_n7 | 2 | 0.3 |
| 28 | 0.2 |
| 66 | 0.5 |
| n7 | 0.5 |

### 5.1.56.3 Reference sensitivity exceptions

REFSENS exceptions are not needed.

## 5.1.57 DC\_2-5-7\_n7

### 5.1.57.1 Configurations for EN-DC

Table 5.1.57.1-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_2A-5A-7A\_n7A | DC\_2A\_n7A  DC\_5A\_n7A  DC\_7A\_n7A1 |
| NOTE 1: Only single switched UL is supported. | |

### 5.1.57.2 ∆TIB and ∆RIB values

Table 5.1.57.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-5-7\_n7 | 2 | 0.5 |
| 5 | 0.3 |
| 7 | 0.5 |
| n7 | 0.5 |

**Table 5.1.57.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-5-7\_n7 | 2 | 0 |
| 5 | 0 |
| 7 | 0 |
| n7 | 0 |

### 5.1.57.3 Reference sensitivity exceptions

REFSENS exceptions are not needed.

## 5.1.58 DC\_2-7-66\_n7/DC\_2-7-66-66\_n7

### 5.1.58.1 Configurations for EN-DC

Table 5.1.58.1-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_2A-7A-66A\_n7A  DC\_2A-7A-66A-66A\_n7A | DC\_2A\_n7A  DC\_7A\_n7A1  DC\_66A\_n7A |
| NOTE 1: Only single switched UL is supported. | |

### 5.1.58.2 ∆TIB and ∆RIB values

Table 5.1.58.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-7-66\_n7  DC\_2-7-66-66\_n7 | 2 | 0.5 |
| 7 | 0.5 |
| 66 | 0.5 |
| n7 | 0.5 |

**Table 5.1.58.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-7-66\_n7  DC\_2-7-66-66\_n7 | 2 | 0.3 |
| 7 | 0.5 |
| 66 | 0.5 |
| n7 | 0.5 |

### 5.1.58.3 Reference sensitivity exceptions

REFSENS exceptions are not needed.

## 5.1.59 DC\_5-7-66\_n7/DC\_5-7-66-66\_n7

### 5.1.59.1 Configurations for EN-DC

Table 5.1.59.1-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_5A-7A-66A\_n7A  DC\_5A-7A-66A-66A\_n7A | DC\_5A\_n7A  DC\_7A\_n7A1  DC\_66A\_n7A |
| NOTE 1: Only single switched UL is supported. | |

### 5.1.59.2 ∆TIB and ∆RIB values

Table 5.1.59.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_5-7-66\_n7  DC\_5-7-66-66\_n7 | 5 | 0.3 |
| 7 | 0.5 |
| 66 | 0.5 |
| n7 | 0.5 |

**Table 5.1.59.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_5-7-66\_n7  DC\_5-7-66-66\_n7 | 5 | 0 |
| 7 | 0.5 |
| 66 | 0.5 |
| n7 | 0.5 |

### 5.1.59.3 Reference sensitivity exceptions

REFSENS exceptions are not needed.

## 5.1.60 DC\_7-28-66\_n7

### 5.1.60.1 Configurations for EN-DC

Table 5.1.60.1-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_7A-28A-66A\_n7A | DC\_7A\_n7A1  DC\_78A\_n7A  DC\_66A\_n7A |
| NOTE 1: Only single switched UL is supported. | |

### 5.1.60.2 ∆TIB and ∆RIB values

Table 5.1.60.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7-28-66\_n7 | 7 | 0.5 |
| 28 | 0.6 |
| 66 | 0.5 |
| n7 | 0.5 |

**Table 5.1.60.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_7-28-66\_n7 | 7 | 0.5 |
| 28 | 0.2 |
| 66 | 0.5 |
| n7 | 0.5 |

### 5.1.60.3 Reference sensitivity exceptions

REFSENS exceptions are not needed.

### 5.1.61 DC\_2-7-66\_n77

### 5.1.61.1 Configurations for EN-DC

Table 5.2B.4.4-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_2A-7A-66A\_n77A  DC\_2A-7A-7A-66A\_n77A  DC\_2A-7A-66A\_n77(2A)  DC\_2A-7A-7A-66A\_n77(2A)  DC\_2A-7C-66A\_n77A  DC\_2A-7C-66A\_n77(2A) | DC\_2A\_n77A  DC\_7A\_n77A  DC\_66A\_n77A |

### 5.1.61.2 ∆TIB and ∆RIB values

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔTIB,c (dB) |
| --- | --- | --- |
| DC\_2-7-66\_n77 | 2 | 0.6 |
| 7 | 0.5 |
| 66 | 0.6 |
| n77 | 0.8 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_2-7-66\_n77 | 2 | 0.2 |
| 7 | 0.5 |
| 66 | 0.5 |
| n77 | 0.5 |

### 5.1.61.3 Reference sensitivity exceptions

No further REFSENS exceptions needed.

## 5.1.62 DC\_1-20-40\_n78

### 5.1.62.1 Configuration for EN-DC

Table 5.1.62.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-20A-40A\_n78A | DC\_1A\_n78A  DC\_20A\_n78A  DC\_40A\_n78A |

### 5.1.62.2 ∆TIB and ∆RIB values

It is proposed to re-use relaxation values from DC\_1-20\_n41-n78 which is very similar.

Table 5.1.62.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-20-40\_n78 | 1 | 0.5 |
| 20 | 0.3 |
| 40 | 0.59 |
| n78 | 0.89 |
| NOTE 9: Only applicable for UE supporting inter-band carrier aggregation with uplink in one E-UTRA band and without simultaneous Rx/Tx. | | |

Table 5.1.62.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1-20-40\_n78 | 1 | 0 |
| 20 | 0 |
| 40 | 09 |
| n78 | 0.89 |
| NOTE 9: Only applicable for UE supporting inter-band carrier aggregation with uplink in one E-UTRA band and without simultaneous Rx/Tx. | | |

### 5.1.62.3 Reference sensitivity exceptions

MSD have been defined for lower order combinations. No further MSD is needed.

### 5.1.63 DC\_1-8-42\_n3

#### 5.1.63.1 Configurations for EN-DC

Table 5.2B.4.4-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-8A-42A\_n3A  DC\_1A-8A-42C\_n3A | DC\_1A\_n3A  DC\_8A\_n3A  DC\_42A\_n3A  DC\_42C\_n3A |

#### 5.1.63.2 ∆TIB and ∆RIB values

For DC\_1-8-42\_n3, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-8-42\_n3 | 1 | 0.3 |
| 8 | 0.6 |
| 42 | 0.8 |
| n3 | 0.6 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1-8-42\_n3 | 1 | 0 |
| 8 | 0.2 |
| 42 | 0.5 |
| n3 | 0.2 |

#### 5.1.63.3 Reference sensitivity exceptions

Co-existence study for DC\_1-8-42\_n3 was covered by the studies for the fallback modes of DC\_1-8\_n3, DC\_1-42\_n3 and DC\_8-42\_n3.

No additional MSD requirement need to be defined for this dual connectivity configuration.

### 5.1.64 DC\_1-3-42\_n28

#### 5.1.64.1 Configurations for EN-DC

Table 5.2B.4.4-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-3A-42A\_n28A | DC\_1A\_n28A  DC\_3A\_n28A  DC\_42A\_n28A |
| DC\_1A-3A-42C\_n28A | DC\_1A\_n28A  DC\_3A\_n28A  DC\_42A\_n28A  DC\_42C\_n28A |

#### 5.1.64.2 ∆TIB and ∆RIB values

For DC\_1-3-42\_n28, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-42\_n28 | 1 | 0.6 |
| 3 | 0.6 |
| 42 | 0.8 |
| n28 | 0.8 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1-3-42\_n28 | 1 | 0.2 |
| 3 | 0.2 |
| 42 | 0.5 |
| n28 | 0.5 |

#### 5.1.64.3 Reference sensitivity exceptions

Co-existence study for DC\_1-3-42\_n28 was covered by the studies for the fallback modes of DC\_1-3\_n28, DC\_1-42\_n28 and DC\_3-42\_n28.

No additional MSD requirement need to be defined for this dual connectivity configuration.

### 5.1.65 DC\_2-29-66\_n78

#### 5.1.65.1 Configuration for EN-DC

Table 5.1.65.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_2A-29A-66A\_n78A | DC\_2A\_n78A  DC\_66A\_n78A |

#### 5.1.65.2 ∆TIB and ∆RIB values

For DC\_2A-29A-66A\_n78A, the ΔTIB,c and ΔRIB,c values are reused from the LTE combination CA\_2-13-48-66, and are given in the tables below

Table 5.1.65.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-29-66\_n78 | 2 | 0.6 |
| 66 | 0.6 |
| n78 | 0.8 |

**Table 5.1.65.2-1: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_2-29-66\_n78 | 2 | 0.3 |
| 66 | 0.3 |
| n78 | 0.5 |

#### 5.1.65.3 REFSENS requirements

No additional MSD requirement needs to be defined for this dual connectivity configuration.

### 5.1.66 DC\_7-8-32\_n1

#### 5.1.66.1 Configuration for EN-DC

Table 5.1.66.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_7A-8A-32A\_n1A | DC\_7A\_n1A  DC\_8A\_n1A |

#### 5.1.66.2 ∆TIB and ∆RIB values

Table 5.1.66.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7A-8A-32A\_n1A | 7 | 0.7 |
| 8 | 0.6 |
| 32 | N/A |
| n1 | 0.7 |

Table 5.1.66.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_7A-8A-32A\_n1A | 7 | 0 |
| 8 | 0.2 |
| 32 | 0 |
| n1 | 0 |

#### 5.1.66.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.67 DC\_7-20-32\_n78

#### 5.1.67.1 Configuration for EN-DC

Table 5.1.67.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_7A-20A-32A\_n78A | DC\_7A\_n78A  DC\_20A\_n78A |

#### 5.1.67.2 ∆TIB and ∆RIB values

Table 5.1.67.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7A-20A-32A\_n78A | 7 | 0.7 |
| 20 | 0.5 |
| 32 | N/A |
| n78 | 0.8 |

Table 5.1.67.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_7A-20A-32A\_n78A | 7 | 0 |
| 20 | 0 |
| 32 | 0 |
| n78 | 0.5 |

#### 5.1.67.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.68 DC\_2A-12A-66A\_n41A

5.1.68.1 Operating bands for EN-DC

Table 5.1.68.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-12-66\_n41 | CA\_2-12-66 | n41 |  |

### 5.1.68.2 Configuration for DC

Table 5.1.68.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-12A-66A\_n41A | DC\_2A\_n41A, DC\_12A\_n41A, DC\_66A\_n41A | CA\_2A-12A-66A | n41A |
| DC\_2A-2A-12A-66A\_n41A | DC\_2A\_n41A, DC\_12A\_n41A, DC\_66A\_n41A | CA\_2A-2A-12A-66A | n41A |

5.1.68.3 ∆TIB and ∆RIB values

For DC\_2-12-66\_n41, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values CA\_2-7-12-66 in 36.101.

**Table 5.1.68.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-12-66\_n41 | 2 | 0.3 |
| 12 | 0.5 |
| 66 | 0.3 |
| n41 | 0.5 |

**Table 5.1.68.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-12-66\_n41 | 2 | 0.5 |
| 12 | 0.8 |
| 66 | 0.5 |
| n41 | 0.5 |

5.1.68.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.69 DC\_2A-66A-71A\_n41A

5.1.69.1 Operating bands for EN-DC

Table 5.1.69.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-66-71\_n41 | CA\_2-66-71 | n41 |  |

### 5.1.69.2 Configuration for DC

Table 5.1.69.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-12A-66A\_n41A | DC\_2A\_n41A, DC\_66A\_n41A  DC\_71A\_n41A | CA\_2A-66A-71A | n41A |
| DC\_2A-2A-66A-71A\_n41A | DC\_2A\_n41A, DC\_66A\_n41A  DC\_71A\_n41A | CA\_2A-2A-66A-71A | n41A |

5.1.69.3 ∆TIB and ∆RIB values

For DC\_2-66-71\_n41, the ΔTIB,c and ΔRIB,c values are given in the tables below, based on values for DC\_2-66-n41\_n71 in 38.101-3.

**Table 5.1.69.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-66-71\_n41 | 2 | 0.5 |
| 66 | 0.5 |
| 71 | 0.8 |
| n41 | 0.81 |
| 1.32 |

**Table 5.1.69.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-66-71\_n41 | 2 | 0.3 |
| 66 | 0.3 |
| 71 | 0.5 |
| n41 | 0.51 |
| 12 |

5.1.69.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.70 DC\_2A-7A-12A\_n66A

5.1.70.1 Operating bands for EN-DC

Table 5.1.70.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-7-12\_n66 | CA\_2-7-12 | n66 |  |

### 5.1.70.2 Configuration for DC

Table 5.1.70.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-7A-12A\_n66A | DC\_2A\_n66A, DC\_7A\_n66A  DC\_12A\_n66A | CA\_2A-7A-12A | n66A |
| DC\_2A-2A-7A-12A\_n66A | DC\_2A\_n66A, DC\_7A\_n66A  DC\_12A\_n66A | CA\_2A-2A-7A-12A | n66A |

5.1.70.3 ∆TIB and ∆RIB values

For DC\_2-7-12\_n66, the ΔTIB,c and ΔRIB,c values are given in the tables below. Based on values for CA\_2-7-12-66 in 36.101.

**Table 5.1.70.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-7-12\_n66 | 2 | 0.5 |
| 7 | 0.5 |
| 12 | 0.8 |
| n66 | 0.5 |

**Table 5.1.70.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-7-12\_n66 | 2 | 0.3 |
| 7 | 0.5 |
| 12 | 0.5 |
| n66 | 0.3 |

5.1.70.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.71 DC\_2A\_2A-5A-7A\_n66A

5.1.71.1 Operating bands for EN-DC

Table 5.1.71.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-2-5-7\_n66 | CA\_2-5-7 | n66 |  |

### 5.1.71.2 Configuration for DC

Table 5.1.71.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-2A-5A-7A\_n66A | DC\_2A\_n66A, DC\_5A\_n66A  DC\_7A\_n66A | CA\_2A-2A-5A-7A | n66A |

5.1.71.3 ∆TIB and ∆RIB values

For DC\_2-5-7\_n66, the ΔTIB,c and ΔRIB,c values are given in the tables below. Based on values for DC\_2-7-13\_n66 in 38.101-3.

**Table 5.1.71.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-2-5-7\_n66 | 2 | 0.5 |
| 5 | 0.3 |
| 7 | 0.5 |
| n66 | 0.5 |

**Table 5.1.71.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-2-5-7\_n66 | 2 | 0.3 |
| 5 | 0 |
| 7 | 0.5 |
| n66 | 0.5 |

5.1.71.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.72 DC\_2A-7A-71A\_n66A

5.1.72.1 Operating bands for EN-DC

Table 5.1.72.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-7-71\_n66 | CA\_2-7-71 | n66 |  |

### 5.1.72.2 Configuration for DC

Table 5.1.72.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-7A-71A\_n66A | DC\_2A\_n66A, DC\_7A\_n66A  DC\_71A\_n66A | CA\_2A-7A-71A | n66A |
| DC\_2A-2A-7A-71A\_n66A | DC\_2A\_n66A, DC\_7A\_n66A  DC\_71A\_n66A | CA\_2A-2A-7A-71A | n66A |

5.1.72.3 ∆TIB and ∆RIB values

For DC\_2-7-71\_n66, the ΔTIB,c and ΔRIB,c values are given in the tables below, based on values for DC\_2-7-66\_n71 in 38.101-3.

**Table 5.1.72.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-7-71\_n66 | 2 | 0.5 |
| 7 | 0.5 |
| 71 | 0.3 |
| n66 | 0.5 |

**Table 5.1.72.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-7-71\_n66 | 2 | 0.3 |
| 7 | 0.5 |
| 71 | 0 |
| n66 | 0.3 |

5.1.72.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.73 DC\_2A-7A-12A\_n78A

5.1.73.1 Operating bands for EN-DC

Table 5.1.73.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-7-12\_n78 | CA\_2-7-12 | n78 |  |

### 5.1.73.2 Configuration for DC

Table 5.1.73.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-7A-12A\_n78A | DC\_2A\_n78A,  DC\_7A\_n78A DC\_12A\_n78A | CA\_2A-7A-12A | n78A |
| DC\_2A-2A-7A-12A\_n78A | DC\_2A\_n78A,  DC\_7A\_n78A DC\_12A\_n78A | CA\_2A-2A-7A-12A | n78A |

5.1.73.3 ∆TIB and ∆RIB values

For DC\_2A-7A-12A\_n78A, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for DC\_1-7-28\_n78 in 38.101-3.

**Table 5.1.73.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-7-12\_n78 | 2 | 0.6 |
| 7 | 0.6 |
| 12 | 0.6 |
| n78 | 0.8 |

**Table 5.1.73.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-7-12\_n78 | 2 | 0.2 |
| 7 | 0.2 |
| 12 | 0.2 |
| n78 | 0.5 |

5.1.73.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.74 DC\_2A-12A-66A\_n78A

5.1.74.1 Operating bands for EN-DC

Table 5.1.74.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-12-66\_n78 | CA\_2-12-66 | n78 |  |

### 5.1.74.2 Configuration for DC

Table 5.1.74.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-12A-66A\_n78A | DC\_2A\_n78A, DC\_12A\_n78A, DC\_66A\_n78A | CA\_2A-12A-66A | n78A |
| DC\_2A-2A-12A-66A\_n78A | DC\_2A\_n78A, DC\_12A\_n78A, DC\_66A\_n78A | CA\_2A-2A-12A-66A | n78A |

5.1.74.3 ∆TIB and ∆RIB values

For DC\_2-12-66\_n78, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values DC\_2-48-66\_n12 in 38.101-3.

**Table 5.1.74.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-12-66\_n78 | 2 | 0.6 |
| 12 | 0.3 |
| 66 | 0.6 |
| n78 | 0.8 |

**Table 5.1.74.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-12-66\_n78 | 2 | 0.3 |
| 12 | 0 |
| 66 | 0.3 |
| n78 | 0.5 |

5.1.74.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.75 DC\_7A-12A-66A\_n78A

5.1.75.1 Operating bands for EN-DC

Table 5.1.75.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 7-12-66\_n78 | CA\_7-12-66 | n78 |  |

### 5.1.75.2 Configuration for DC

Table 5.1.75.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_7A-12A-66A\_n78A | DC\_7A\_n78A, DC\_12A\_n78A, DC\_66A\_n78A | CA\_7A-12A-66A | n78A |

5.1.75.3 ∆TIB and ∆RIB values

For DC\_7-12-66\_n78, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for CA\_3-28-41-42 in 36.101.

**Table 5.1.75.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7-12-66\_n78 | 7 | 0.8 |
| 12 | 0.5 |
| 66 | 1 |
| n78 | 0.8 |

**Table 5.1.75.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_7-12-66\_n78 | 7 | 0.5 |
| 12 | 0.2 |
| 66 | 0.5 |
| n78 | 0.5 |

5.1.75.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.76 DC\_7A-66A-71A\_n78A

5.1.76.1 Operating bands for EN-DC

Table 5.1.76.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 7-66-71\_n78 | CA\_7-66-71 | n78 |  |

### 5.1.76.2 Configuration for DC

Table 5.1.76.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_7A-66A-71A\_n78A | DC\_7A\_n78A, DC\_66A\_n78A, DC\_71A\_n78A | CA\_7A-66A-71A | n78A |

5.1.76.3 ∆TIB and ∆RIB values

For DC\_7-66-71\_n78, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for DC\_3-7-20\_n78 in 38.101-3.

**Table 5.1.76.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7-66-71\_n78 | 7 | 0.6 |
| 66 | 0.6 |
| 71 | 0.3 |
| n78 | 0.8 |

**Table 5.1.76.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_7-66-71\_n78 | 7 | 0.2 |
| 66 | 0.2 |
| 71 | 0 |
| n78 | 0.5 |

5.1.76.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.77 DC\_2A-7A -71A\_n78A

5.1.77.1 Operating bands for EN-DC

Table 5.1.77.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-7-71\_n78 | CA\_2-7-71 | n78 |  |

### 5.1.77.2 Configuration for DC

Table 5.1.77.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-7A -71A\_n78A | DC\_2A\_n78A, DC\_7A\_n78A, DC\_71A\_n78A | CA\_2A-7A-71A | n78A |
| DC\_2A-2A-7A -71A\_n78A | DC\_2A\_n78A, DC\_7A\_n78A, DC\_71A\_n78A | CA\_2A-2A-7A-71A | n78A |

5.1.77.3 ∆TIB and ∆RIB values

For DC\_2-7-71\_n78, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for DC\_1-7-28\_n78.

**Table 5.1.77.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-7-71\_n78 | 2 | 0.6 |
| 7 | 0.6 |
| 71 | 0.6 |
| n78 | 0.8 |

**Table 5.1.77.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-7-71\_n78 | 2 | 0.2 |
| 7 | 0.2 |
| 71 | 0.2 |
| n78 | 0.5 |

5.1.77.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.78 DC\_2A-7A -66A\_n2A

5.1.78.1 Operating bands for EN-DC

Table 5.1.78.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-7-66\_n2 | CA\_2-7-66 | n2 |  |

### 5.1.78.2 Configuration for DC

Table 5.1.78.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-7A -66A\_n2A | DC\_7A\_n2A, DC\_66A\_n2A | CA\_2A-7A-66A | n2A |

5.1.78.3 ∆TIB and ∆RIB values

For DC\_2-7-66\_n2, the ΔTIB,c and ΔRIB,c values are given in the tables below, based on values for CA\_2-7-66 in 36.101.

**Table 5.1.78.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-7-66\_n2 | 2 | 0.5 |
| 7 | 0.5 |
| 66 | 0.5 |
| n2 | 0.5 |

**Table 5.1.78.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-7-66\_n2 | 2 | 0.3 |
| 7 | 0.5 |
| 66 | 0.5 |
| n2 | 0.3 |

5.1.78.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.79 DC\_2A-5A -7A\_n2A

5.1.79.1 Operating bands for EN-DC

Table 5.1.79.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-5-7\_n2 | CA\_2-5-7 | n2 |  |

### 5.1.79.2 Configuration for DC

Table 5.1.79.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-5A -7A\_n2A | DC\_5A\_n2A  DC\_7A\_n2A | CA\_2A-5A-7A | n2A |

5.1.79.3 ∆TIB and ∆RIB values

For DC\_2-5-7\_n2, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for CA\_2-5-7 in 36.101.

**Table 5.1.79.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-5-7\_n2 | 2 | 0.5 |
| 5 | 0.3 |
| 7 | 0.5 |
| n2 | 0.3 |

**Table 5.1.79.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-5-7\_n2 | 2 | 0 |
| 5 | 0 |
| 7 | 0 |
| n2 | 0 |

5.1.79.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.80 DC\_5A-7A -66A\_n2A

5.1.80.1 Operating bands for EN-DC

Table 5.1.80.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 5-7-66\_n2 | CA\_5-7-66 | n2 |  |

### 5.1.80.2 Configuration for DC

Table 5.1.80.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_5A-7A -66A\_n2A | DC\_5A\_n2A, DC\_7A\_n2A, DC\_66A\_n2A | CA\_5A-7A-66A | n2A |

5.1.80.3 ∆TIB and ∆RIB values

For DC\_5-7-66\_n2, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for DC\_2-7-13\_n66 in 38.101-3.

**Table 5.1.80.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_5-7-66\_n2 | 5 | 0.3 |
| 7 | 0.5 |
| 66 | 0.5 |
| n2 | 0.5 |

**Table 5.1.80.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_5-7-66\_n2 | 5 | 0 |
| 7 | 0.5 |
| 66 | 0.5 |
| n2 | 0.3 |

5.1.80.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.81 DC\_2A-7A -71A\_n2A

5.1.81.1 Operating bands for EN-DC

Table 5.1.81.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-7-71\_n2 | CA\_2-7-71 | n2 |  |

### 5.1.81.2 Configuration for DC

Table 5.1.81.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-7A -71A\_n2A | DC\_7A\_n2A, DC\_71A\_n2A | CA\_2A-7A-71A | n2A |

5.1.81.3 ∆TIB and ∆RIB values

For DC\_2-7-71\_n2, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for CA\_2-7\_n71 in 38.101-3.

**Table 5.1.81.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-7-71\_n2 | 2 | 0.5 |
| 7 | 0.5 |
| 71 | 0.6 |
| n2 | 0.5 |

**Table 5.1.81.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-7-71\_n2 | 2 | 0 |
| 7 | 0 |
| 71 | 0.2 |
| n2 | 0 |

5.1.81.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.82 DC\_2A-66A -71A\_n2A

5.1.82.1 Operating bands for EN-DC

Table 5.1.82.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-66-71\_n2 | CA\_2-66-71 | n2 |  |

### 5.1.82.2 Configuration for DC

Table 5.1.82.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-66A -71A\_n2A | DC\_66A\_n2A, DC\_71A\_n2A | CA\_2A-66A-71A | n2A |

5.1.82.3 ∆TIB and ∆RIB values

For DC\_2-66-71\_n2, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for CA\_2-66-71 in 36.101.

**Table 5.1.82.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-66-71\_n2 | 2 | 0.5 |
| 66 | 0.5 |
| 71 | 0.3 |
| n2 | 0.5 |

**Table 5.1.82.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-66-71\_n2 | 2 | 0.3 |
| 66 | 0.3 |
| 71 | 0 |
| n2 | 0.3 |

5.1.82.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.83 DC\_2A-7A -12A\_n2A

5.1.83.1 Operating bands for EN-DC

Table 5.1.83.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-7-12\_n2 | CA\_2-7-12 | n2 |  |

### 5.1.83.2 Configuration for DC

Table 5.1.83.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-7A -12A\_n2A | DC\_7A\_n2A, DC\_12A\_n2A | CA\_2A-7A-12A | n2A |

5.1.83.3 ∆TIB and ∆RIB values

For DC\_2-7-12\_n2, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for CA\_2-7\_12 in 36.101.

**Table 5.1.83.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-7-12\_n2 | 2 | 0.5 |
| 7 | 0.5 |
| 12 | 0.3 |
| n2 | 0.5 |

**Table 5.1.83.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-7-12\_n2 | 2 | 0 |
| 7 | 0 |
| 12 | 0 |
| n2 | 0 |

5.1.83.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.84 DC\_7A-66A-71A\_n2A

5.1.84.1 Operating bands for EN-DC

Table 5.1.84.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 7-66-71\_n2 | CA\_7-66-71 | n2 |  |

### 5.1.84.2 Configuration for DC

Table 5.1.84.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_7A-66A-71A\_n2A | DC\_7A\_n2A, DC\_66A\_n2A, DC\_71A\_n2A | CA\_7A-66A-71A | n2A |

5.1.84.3 ∆TIB and ∆RIB values

For DC\_7-66-71\_n2, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for DC\_2-7-66\_n71.

**Table 5.1.84.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7-66-71\_n2 | 7 | 0.5 |
| 66 | 0.5 |
| 71 | 0.3 |
| n2 | 0.5 |

**Table 5.1.84.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_7-66-71\_n2 | 7 | 0.5 |
| 66 | 0.5 |
| 71 | 0 |
| n2 | 0.3 |

5.1.84.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.85 DC\_7A-12A-66A\_n2A

5.1.85.1 Operating bands for EN-DC

Table 5.1.85.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 7-12-66\_n2 | CA\_7-12-66 | n2 |  |

### 5.1.85.2 Configuration for DC

Table 5.1.85.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_7A-12A-66A\_n2A | DC\_7A\_n2A, DC\_12A\_n2A, DC\_66A\_n2A | CA\_7A-12A-66A | n2A |

5.1.85.3 ∆TIB and ∆RIB values

For DC\_7-12-66\_n2, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for CA\_2-4-7-12 in 36.101.

**Table 5.1.85.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7-12-66\_n2 | 7 | 0.5 |
| 12 | 0.8 |
| 66 | 0.5 |
| n2 | 0.5 |

**Table 5.1.85.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_7-12-66\_n2 | 7 | 0.5 |
| 12 | 0.5 |
| 66 | 0.3 |
| n2 | 0.3 |

5.1.85.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

## 5.1.86 DC\_1-28-40\_n78

### 5.1.86.1 Configuration for EN-DC

Table 5.1.86.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_1A-28A-40A\_n78A | DC\_1A\_n78A  DC\_28A\_n78A  DC\_40A\_n78A |

### 5.1.86.2 ∆TIB and ∆RIB values

Proposed relaxations are same as for DC\_1-28\_n40-n78.

Table 5.1.86.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-28-40\_n78 | 1 | 0.5 |
| 28 | 0.5 |
| 40 | 0.36 |
| n78 | 0.86 |
| NOTE 6: Only applicable for UE supporting inter-band carrier aggregation with uplink in one E-UTRA band and without simultaneous Rx/Tx. | | |

Table 5.1.86.2-1: ΔRIB,c due to EN-DC (four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_1-28-40\_n78 | 1 | 0 |
| 28 | 0.2 |
| 40 | 0.45 |
| n78 | 0.55 |
| NOTE 5: Only applicable for UE supporting inter-band carrier aggregation with uplink in one E-UTRA band and without simultaneous Rx/Tx. | | |

### 5.1.86.3 REFSENS requirements

No additional MSD requirement need to be defined for this EN-DC configuration.

## 5.1.87 DC\_3-28-40\_n78

### 5.1.87.1 Configuration for EN-DC

Table 5.1.87.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_3A-28A-40A\_n78A | DC\_3A\_n78A  DC\_28A\_n78A  DC\_40A\_n78A |

### 5.1.87.2 ∆TIB and ∆RIB values

Proposed relaxations are same as for DC\_3-28\_n40-n78.

Table 5.1.87.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-28-40\_n78 | 3 | 0.6 |
| 28 | 0.5 |
| 40 | 0.36 |
| n78 | 0.86 |
| NOTE 6: Only applicable for UE supporting inter-band carrier aggregation with uplink in one E-UTRA band and without simultaneous Rx/Tx. | | |

Table 5.1.87.2-1: ΔRIB,c due to EN-DC (four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_3-28-40\_n78 | 3 | 0.2 |
| 28 | 0.2 |
| 40 | 0.45 |
| n78 | 0.55 |
| NOTE 5: Only applicable for UE supporting inter-band carrier aggregation with uplink in one E-UTRA band and without simultaneous Rx/Tx. | | |

### 5.1.87.3 REFSENS requirements

No additional MSD requirement need to be defined for this EN-DC configuration.

## 5.1.88 DC\_1-11-18\_n3

### 5.1.88.1 Configuration for EN-DC

Table 5.1.88.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_1A-11A-18A\_n3A | DC\_1A\_n3A  DC\_11A\_n3A  DC\_18A\_n3A |

### 5.1.88.2 ∆TIB and ∆RIB values

The ΔTIB,c and ΔRIB,c values are reused from TS 36.101 CA\_1-3-11, CA\_1-3-18, CA\_3-11-18, CA\_1-11-18 and are given in the tables below.

Table 5.1.88.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-11-18\_n3 | 1 | 0.3 |
| 11 | 0.9 |
| 18 | 0.3 |
| n3 | 0.8 |

**Table 5.1.88.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_1-11-18\_n3 | 1 | 0 |
| 11 | 0.5 |
| 18 | 0 |
| n3 | 0.3 |

### 5.1.88.3 REFSENS requirements

No additional MSD requirement needs to be defined for this dual connectivity configuration.

## 5.1.89 DC\_1-11-18\_n28

### 5.1.89.1 Configuration for EN-DC

Table 5.1.89.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_1A-11A-18A\_n28A | DC\_1A\_n28A  DC\_11A\_n28A  DC\_18A\_n28A |

### 5.1.89.2 ∆TIB and ∆RIB values

The ΔTIB,c and ΔRIB,c values are reused from TS 36.101 CA\_1-11-18, CA\_1-11-28, CA\_1-18-28 and are given in the tables below.

Table 5.1.89.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-11-18\_n28 | 1 | 0.3 |
| 11 | 0.4 |
| 18 | 0.4 |
| n28 | 0.6 |

**Table 5.1.89.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_1-11-18\_n28 | 1 | 0 |
| 11 | 0 |
| 18 | 0 |
| n28 | 0.1 |

### 5.1.89.3 REFSENS requirements

No additional MSD requirement needs to be defined for this dual connectivity configuration.

## 5.1.90 DC\_1-11-18\_n41

### 5.1.90.1 Configuration for EN-DC

Table 5.1.90.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_1A-11A-18A\_n41A | DC\_1A\_n41A  DC\_11A\_n41A  DC\_18A\_n41A |

### 5.1.90.2 ∆TIB and ∆RIB values

The ΔTIB,c and ΔRIB,c values are reused from TS 36.101 CA\_1-11-18, CA\_1-18-41 and are given in the tables below.

Table 5.1.90.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-11-18\_n41 | 1 | 0.5 |
| 11 | 0.4 |
| 18 | 0.3 |
| n41 | 0.5 |

**Table 5.1.90.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_1-11-18\_n41 | 1 | 0 |
| 11 | 0 |
| 18 | 0 |
| n41 | 0 |

### 5.1.90.3 REFSENS requirements

No additional MSD requirement needs to be defined for this dual connectivity configuration.

## 5.1.91 DC\_2-5-66\_n48

### 5.1.91.1 Configuration for EN-DC

Table 5.1.91.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_2A-5A-66A\_n48A  DC\_2A-5A-66A\_n48B  DC\_2A-5A-66A-66A\_n48A  DC\_2A-5A-66A-66A\_n48B | DC\_2A\_n48A  DC\_5A\_n48A  DC\_66A\_n48A |

### 5.1.91.2 ∆TIB and ∆RIB values

The ΔTIB,c and ΔRIB,c values are reused from TS 38.101-3 DC\_2-5-66\_n77, and are given in the tables below.

Table 5.1.91.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-5-66\_n48  DC\_2-5-66-66\_n48 | 2 | 0.5 |
| 5 | 0.3 |
| 66 | 0.5 |
| n48 | 0.8 |

**Table 5.1.91.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_2-5-66\_n48  DC\_2-5-66-66\_n48 | 2 | 0.3 |
| 5 | 0 |
| 66 | 0.3 |
| n48 | 0.5 |

### 5.1.91.3 REFSENS requirements

No additional MSD requirement needs to be defined for this dual connectivity configuration.

## 5.1.92 DC\_2-13-48\_n77

### 5.1.92.1 Configuration for EN-DC

Table 5.1.92.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_2A-13A-48A\_n77A | DC\_2A\_n77A, DC\_13A\_n77A, DC\_48A\_n77A |

### 5.1.92.2 ∆TIB and ∆RIB values

The ΔTIB,c and ΔRIB,c values are refer to TS 36.101 CA\_2-13-48, and are given in the tables below.

Table 5.1.92.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-13-48\_n77 | 2 | 0.6 |
| 13 | 0.3 |
| 48 | 0.8 |
| n77 | 0.8 |

**Table 5.1.92.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_2-13-48\_n77 | 2 | 0.2 |
| 13 | 0 |
| 48 | 0.5 |
| n77 | 0.5 |

### 5.1.92.3 REFSENS requirements

No additional MSD requirement needs to be defined for this dual connectivity configuration.

## 5.1.93 DC\_2-46-48\_n2

### 5.1.93.1 Configuration for EN-DC

Table 5.1.93.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_2A-46A-48A\_n2A  DC\_2A-46C-48A\_n2A  DC\_2A-46D-48A\_n2A  DC\_2A-46E-48A\_n2A | DC\_2A\_n2A4  DC\_48A\_n2A |
| NOTE 4: Only single switched UL is supported. | |

### 5.1.93.2 ∆TIB and ∆RIB values

The ΔTIB,c and ΔRIB,c values are refer to TS 36.101 CA\_2-46-48, and are given in the tables below

Table 5.1.93.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-46-48\_n2 | 2 | 0.6 |
| 48 | 0.8 |
| n2 | 0.6 |

**Table 5.1.93.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_2-46-48\_n2 | 2 | 0.3 |
| 48 | 0.5 |
| n2 | 0.3 |

### 5.1.93.3 REFSENS requirements

No additional MSD requirement needs to be defined for this dual connectivity configuration.

## 5.1.94 DC\_2-48-66\_n2

### 5.1.94.1 Configuration for EN-DC

Table 5.1.94.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_2A-48A-66A\_n2A  DC\_2A-48C-66A\_n2A  DC\_2A-48D-66A\_n2A  DC\_2A-48E-66A\_n2A | DC\_66A\_n2A  DC\_48A\_n2A  DC\_2A\_n2A4 |
| NOTE 4: Only single switched UL is supported. | |

### 5.1.94.2 ∆TIB and ∆RIB values

The ΔTIB,c and ΔRIB,c values are refer to TS 36.101 CA\_2-48-66, and are given in the tables below

Table 5.1.94.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-48-66\_n2 | 2 | 0.6 |
| 48 | 0.8 |
| 66 | 0.6 |
| n2 | 0.6 |

**Table 5.1.94.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_2-48-66\_n2 | 2 | 0.3 |
| 48 | 0.5 |
| 66 | 0.3 |
| n2 | 0.3 |

### 5.1.94.3 REFSENS requirements

No additional MSD requirement needs to be defined for this dual connectivity configuration.

## 5.1.95 DC\_2-48-66\_n66

### 5.1.95.1 Configuration for EN-DC

Table 5.1.95.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_2A-48A-66A\_n66A  DC\_2A-48C-66A\_n66A  DC\_2A-48D-66A\_n66A  DC\_2A-48E-66A\_n66A | DC\_66A\_n66A4  DC\_48A\_n66A  DC\_2A\_n66A |
| NOTE 4: Only single switched UL is supported. | |

### 5.1.95.2 ∆TIB and ∆RIB values

The ΔTIB,c and ΔRIB,c values are refer to TS 36.101 CA\_2-48-66 and TS 38.101-3 DC\_2-48\_n66, and are given in the tables below.

Table 5.1.95.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-48-66\_n66 | 2 | 0.6 |
| 48 | 0.8 |
| 66 | 0.6 |
| n66 | 0.6 |

**Table 5.1.95.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_2-48-66\_n66 | 2 | 0.3 |
| 48 | 0.5 |
| 66 | 0.3 |
| n66 | 0.3 |

### 5.1.95.3 REFSENS requirements

No additional MSD requirement needs to be defined for this dual connectivity configuration.

## 5.1.96 DC\_13-48-66\_n77

### 5.1.96.1 Configuration for EN-DC

Table 5.1.96.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_13A-48A-66A\_n77A | DC\_13A\_n77A, DC\_66A\_n77A, |

### 5.1.96.2 ∆TIB and ∆RIB values

The ΔTIB,c and ΔRIB,c values are refer to TS 36.101 CA\_13-48-66, and are given in the tables below.

Table 5.1.96.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_13-48-66\_n77 | 13 | 0.3 |
| 48 | 0.8 |
| 66 | 0.6 |
| n77 | 0.8 |

**Table 5.1.96.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_13-48-66\_n77 | 13 | 0 |
| 48 | 0.5 |
| 66 | 0.2 |
| n77 | 0.5 |

### 5.1.96.3 REFSENS requirements

No additional MSD requirement needs to be defined for this dual connectivity configuration.

5.1.97 DC\_1-3-20\_n7

### 5.1.97.1 Configurations for EN-DC

Table 5.2B.4.4-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-3A-20A\_n7A | DC\_1A\_n7A DC\_3A\_n7A DC\_20A\_n7A |

### 5.1.97.2 ∆TIB and ∆RIB values

For DC\_1-3-20\_n7, the same ΔTIB,c and ΔRIB,c values of DC\_1-7-20\_n3 are adopted and given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-20\_n7 | 1 | 0.3 |
| 3 | 0.5 |
| 20 | 0.3 |
| n7 | 0.5 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1-3-20\_n7 | 1 | 0 |
| 3 | 0 |
| 20 | 0 |
| n7 | 0 |

### 5.1.97.3 Reference sensitivity exceptions

Co-existence study for DC\_1-3-20\_n7 was covered by the studies for the fallback modes. No additional MSD requirement need to be defined for this dual connectivity configuration.

## 5.1.98 DC\_1-3-38\_n28

### 5.1.98.1 Configurations for EN-DC

Table 5.1.98.1-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_1A-3A-38A\_n28A  DC\_1A-3C-38A\_n28A | DC\_1A\_n28A  DC\_3A\_n28A  DC\_38A\_n28A |

### 5.1.98.2 ∆TIB and ∆RIB values

Table 5.1.98.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-38\_n28 | 1 | 0.5 |
| 3 | 0.5 |
| 38 | 0.5 |
| n28 | 0.6 |

**Table 5.1.98.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_1-3-38\_n28 | 1 | 0 |
| 3 | 0 |
| 38 | 0 |
| n28 | 0.2 |

### 5.1.98.3 Reference sensitivity exceptions

REFSENS exceptions are not needed.

## 5.1.99 DC\_1-7-38\_n28

### 5.1.99.1 Configurations for EN-DC

Table 5.1.99.1-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_1A-7A-38A\_n28AX | DC\_1A\_n28A |
| NOTE X: Band 7 and Band 38 are restricted as DL Scell. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within 6dB. | |

### 5.1.99.2 ∆TIB and ∆RIB values

Table 5.1.99.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-7-38\_n28 | 1 | 0.3 |
| 7 | 0 |
| 38 | 0 |
| n28 | 0.6 |

**Table 5.1.99.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_1-7-38\_n28 | 1 | 0 |
| 7 | 0 |
| 38 | 0.2 |
| n28 | 0.2 |

### 5.1.99.3 Reference sensitivity exceptions

REFSENS exceptions are not needed.

## 5.1.100 DC\_3-7-38\_n28

### 5.1.100.1 Configurations for EN-DC

Table 5.1.100.1-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_3A-7A-38A\_n28AX  DC\_3C-7A-38A\_n28AX | DC\_3A\_n28A |
| NOTE X: Band 7 and Band 38 are restricted as DL Scell. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within 6dB. | |

### 5.1.100.2 ∆TIB and ∆RIB values

Table 5.1.100.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-7-38\_n28 | 3 | 0.3 |
| 7 | 0 |
| 38 | 0 |
| n28 | 0.3 |

**Table 5.1.100.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_3-7-38\_n28 | 3 | 0 |
| 7 | 0 |
| 38 | 0.2 |
| n28 | 0.2 |

### 5.1.100.3 Reference sensitivity exceptions

REFSENS exceptions are not needed.

## 5.1.101 DC\_2-5-30\_n2

### 5.1.101.1 Operating bands for EN-DC

Table 5.1.101.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-5-30\_n2 | CA\_2-5-30 | n2 |  |

### 5.1.101.2 Configuration for DC

Table 5.1.101.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-5A-30A\_n2A | DC\_2A\_n2A1  DC\_5A\_n2A DC\_30A\_n2A | CA\_2A-5A-30A | n2A |
| NOTE 1: Only single switched UL is supported | | | |

### 5.1.101.3 ∆TIB and ∆RIB values

For DC\_2-5-30\_n2, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for CA\_2-5-30 in 36.101.

**Table 5.1.101.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-5-30\_n2 | 2 | 0.5 |
| 5 | 0.3 |
| 30 | 0.3 |
| n2 | 0.5 |

**Table 5.1.101.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-5-30\_n2 | 2 | 0.4 |
| 5 | 0 |
| 30 | 0.5 |
| n2 | 0.4 |

### 5.1.101.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

## 5.1.102 DC\_2-5-30\_n66

### 5.1.102.1 Operating bands for EN-DC

Table 5.1.102.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-5-30\_n66 | CA\_2-5-30 | n66 |  |

### 5.1.102.2 Configuration for DC

Table 5.1.102.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-5A-30A\_n66A | DC\_2A\_n66A DC\_5A\_n66A DC\_30A\_n66A | CA\_2A-5A-30A | n66 |
| DC\_2A-2A-5A-30A\_n66A | DC\_2A\_n66A DC\_5A\_n66A DC\_30A\_n66A | CA\_2A-2A-5A-30A | n66 |

### 5.1.102.3 ∆TIB and ∆RIB values

For DC\_2-5-30\_n66, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for CA\_2-5-30-66 in 36.101.

**Table 5.1.102.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-5-30\_n66 | 2 | 0.5 |
| 5 | 0.3 |
| 30 | 0.3 |
| n66 | 0.5 |

**Table 5.1.102.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-5-30\_n66 | 2 | 0.4 |
| 5 | 0 |
| 30 | 0.5 |
| n66 | 0.4 |

### 5.1.102.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

## 5.1.103 DC\_2-14-30\_n2

### 5.1.103.1 Operating bands for EN-DC

Table 5.1.103.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-14-30\_n2 | CA\_2-14-30 | n2 |  |

### 5.1.103.2 Configuration for DC

Table 5.1.103.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-14A-30A\_n2A | DC\_2A\_n2A1  DC\_14A\_n2A DC\_30A\_n2A | CA\_2A-14A-30A | n2A |
| NOTE 1: Only single switched UL is supported | | | |

### 5.1.103.3 ∆TIB and ∆RIB values

For DC\_2-14-30\_n2, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for CA\_2-14-30 in 36.101.

**Table 5.1.103.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-14-30\_n2 | 2 | 0.5 |
| 14 | 0.3 |
| 30 | 0.5 |
| n2 | 0.5 |

**Table 5.1.103.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-14-30\_n2 | 2 | 0.3 |
| 14 | 0 |
| 30 | 0.3 |
| n2 | 0.3 |

### 5.1.103.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

## 5.1.104 DC\_2-29-30\_n66

### 5.1.104.1 Operating bands for EN-DC

Table 5.1.104.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-29-30\_n66 | CA\_2-29-30 | n66 |  |

### 5.1.104.2 Configuration for DC

Table 5.1.104.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-29A-30A\_n66A | DC\_2A\_n66A  DC\_30A\_n66A | CA\_2A-29A-30A | n66 |
| DC\_2A-2A-29A-30A\_n66A | DC\_2A\_n66A  DC\_30A\_n66A | CA\_2A-2A-29A-30A | n66 |

### 5.1.104.3 ∆TIB and ∆RIB values

For DC\_2-29-30\_n66, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for CA\_2-29-30-66 in 36.101.

**Table 5.1.104.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-29-30\_n66 | 2 | 0.5 |
| 30 | 0.3 |
| n66 | 0.5 |

**Table 5.1.104.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-29-30\_n66 | 2 | 0.4 |
| 29 | 0 |
| 30 | 0.5 |
| n66 | 0.4 |

### 5.1.104.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

## 5.1.105 DC\_2-46-66\_n5

### 5.1.105.1 Operating bands for EN-DC

Table 5.1.105.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-46-66\_n5 | CA\_2-46-66 | n5 |  |

### 5.1.105.2 Configuration for DC

Table 5.1.105.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-46A-66A\_n5A | DC\_2A\_n5A  DC\_66A\_n5A | CA\_2A-46A-66A | n5 |
| DC\_2A-46C-66A\_n5A | DC\_2A\_n5A DC\_66A\_n5A | CA\_2A-46C-66A | n5 |
| DC\_2A-46D-66A\_n5A | DC\_2A\_n5A  DC\_66A\_n5A | CA\_2A-46D-66A | n5 |

### 5.1.105.3 ∆TIB and ∆RIB values

For DC\_2-46-66\_n5, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for CA\_2-5-46-66 in 36.101.

**Table 5.1.105.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-46-66\_n5 | 2 | 0.5 |
| 66 | 0.5 |
| n5 | 0.3 |

**Table 5.1.105.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-46-66\_n5 | 2 | 0.3 |
| 46 | 0 |
| 66 | 0.3 |
| n5 | 0 |

### 5.1.105.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

## 5.1.106 DC\_5-30-66\_n2

### 5.1.106.1 Operating bands for EN-DC

Table 5.1.106.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 5-30-66\_n2 | CA\_5-30-66 | n2 |  |

### 5.1.106.2 Configuration for DC

Table 5.1.106.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_5A-30A-66A\_n2A | DC\_5A\_n2A DC\_30A\_n2A DC\_66A\_n2A | CA\_5A-30A-66A | n2A |
| DC\_5A-30A-66A-66A\_n2A | DC\_5A\_n2A DC\_30A\_n2A DC\_66A\_n2A | CA\_5A-30A-66A-66A | n2A |

### 5.1.106.3 ∆TIB and ∆RIB values

For DC\_5-3A-66\_n2, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for CA\_2-5-30-66 in 36.101.

**Table 5.1.106.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_5-30-66\_n2 | 5 | 0.3 |
| 30 | 0.3 |
| 66 | 0.5 |
| n2 | 0.5 |

**Table 5.1.106.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_5-30-66\_n2 | 5 | 0 |
| 30 | 0.5 |
| 66 | 0.4 |
| n2 | 0.4 |

### 5.1.106.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

## 5.1.107 DC\_5-30-66\_n66

### 5.1.107.1 Operating bands for EN-DC

Table 5.1.107.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 5-30-66\_n66 | CA\_5-30-66 | n66 |  |

### 5.1.107.2 Configuration for DC

Table 5.1.107.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_5A-30A-66A\_n66A | DC\_5A\_n66A DC\_30A\_n66A  DC\_66A\_n66A1 | CA\_5A-30A-66A | n66A |
| NOTE 1: Only single switched UL is supported | | | |

### 5.1.107.3 ∆TIB and ∆RIB values

For DC\_5-30-66\_n66, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for CA\_5-30-66 in 36.101.

**Table 5.1.107.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_5-30-66\_n66 | 5 | 0.3 |
| 30 | 0.3 |
| 66 | 0.5 |
| n66 | 0.5 |

**Table 5.1.107.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_5-30-66\_n66 | 5 | 0 |
| 30 | 0.5 |
| 66 | 0.4 |
| n66 | 0.4 |

### 5.1.107.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

## 5.1.108 DC\_14-30-66\_n66

### 5.1.108.1 Operating bands for EN-DC

Table 5.1.108.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 14-30-66\_n66 | CA\_14-30-66 | n66 |  |

### 5.1.108.2 Configuration for DC

Table 5.1.108.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_14A-30A-66A\_n66A | DC\_14A\_n66A DC\_30A\_n66A  DC\_66A\_n66A1 | CA\_14A-30A-66A | n66A |
| NOTE 1: Only single switched UL is supported | | | |

### 5.1.108.3 ∆TIB and ∆RIB values

For DC\_14-30-66\_n66, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for CA\_14-30-66 in 36.101.

**Table 5.1.108.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_14-30-66\_n66 | 14 | 0.5 |
| 30 | 0.3 |
| 66 | 0.5 |
| n66 | 0.5 |

**Table 5.1.108.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_14-30-66\_n66 | 14 | 0 |
| 30 | 0.5 |
| 66 | 0.4 |
| n66 | 0.4 |

### 5.1.108.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

## 5.1.109 DC\_14-30-66\_n2

### 5.1.109.1 Operating bands for EN-DC

Table 5.1.109.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 14-30-66-66\_n2 | CA\_14-30-66 | n2 |  |

### 5.1.109.2 Configuration for DC

Table 5.1.109.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_14A-30A-66A\_n2A | DC\_14A\_n2A, DC\_30A\_n2A DC\_66A\_n2A | CA\_14A-30A-66A | n2A |
| DC\_14A-30A-66A-66A\_n2A | DC\_14A\_n2A, DC\_30A\_n2A DC\_66A\_n2A | CA\_14A-30A-66A-66A | n2A |

### 5.1.109.3 ∆TIB and ∆RIB values

For DC\_14-30-66\_n2, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values CA\_2-14-30-66 in 36.101.

**Table 5.1.109.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_14-30-66-n2 | 14 | 0.3 |
| 30 | 0.3 |
| 66 | 0.5 |
| n2 | 0.5 |

**Table 5.1.109.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_14-30-66-n2 | 14 | 0 |
| 30 | 0.5 |
| 66 | 0.4 |
| n2 | 0.4 |

### 5.1.109.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

## 5.1.110 DC\_2-2-14-30\_n66

### 5.1.110.1 Operating bands for EN-DC

Table 5.1.110.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-14-30\_n66 | CA\_2-14-30 | n66 |  |

### 5.1.110.2 Configuration for DC

Table 5.1.110.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-14A-30A\_n66A | DC\_2A\_n66A  DC\_14A\_n66A DC\_30A\_n66A  DC\_66A\_n66A1 | CA\_2A-14A-30A | n66A |
| DC\_2A-2A-14A-30A\_n66A | DC\_2A\_n66A DC\_14A\_n66A DC\_30A\_n66A DC\_66A\_n66A1 | CA\_2A-2A-14A-30A | n66A |
| NOTE 1: Only single switched UL is supported | | | |

### 5.1.110.3 ∆TIB and ∆RIB values

For DC\_2-2-14-30\_n66, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values CA\_2-14-30-66 in 36.101.

**Table 5.1.110.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-14-30\_n66 | 2 | 0.5 |
| 14 | 0.3 |
| 30 | 0.3 |
| n66 | 0.5 |

**Table 5.1.110.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-14-30\_n66 | 2 | 0.4 |
| 14 | 0 |
| 30 | 0.5 |
| n66 | 0.4 |

### 5.1.110.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

## 5.1.111 DC\_1-3-7\_n3

### 5.1.111.1 Operating bands for EN-DC

Table 5.1.111.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 1-3-7\_n3 | CA\_1-3-7 | n3 |  |

### 5.1.111.2 Configuration for DC

Table 5.1.111.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_1A-3A-7A\_n3A | DC\_1A\_n3A  DC\_3A\_n3A1  DC\_7A\_n3A | CA\_1A-3A-7A | n3A |
| DC\_1A-3A-7C\_n3A | DC\_1A\_n3A  DC\_3A\_n3A1  DC\_7A\_n3A  DC\_7C\_n3A | CA\_1A-3A-7C | n3A |
| NOTE 1: Only single switched UL is supported | | | |

### 5.1.111.3 ∆TIB and ∆RIB values

For DC\_1-3-7\_n3, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for CA\_1-3-7 in 36.101.

**Table 5.1.111.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-7\_n3 | 1 | 0.6 |
| 3 | 0.6 |
| 7 | 0.6 |
| n3 | 0.6 |

**Table 5.1.111.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_1-3-7\_n3 | 1 | 0 |
| 3 | 0 |
| 7 | 0 |
| n3 | 0 |

### 5.1.111.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

## 5.1.112 1-3-28\_n3

### 5.1.112.1 Operating bands for EN-DC

Table 5.1.112.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 1-3-28\_n3 | CA\_1-3-28 | n3 |  |

### 5.1.112.2 Configuration for DC

Table 5.1.112.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_1A-3A-28A\_n3A | DC\_1A\_n3A  DC\_3A\_n3A1  DC\_28A\_n3A | CA\_1A-3A-28A | n3A |
| NOTE 1: Only single switched UL is supported | | | |

### 5.1.112.3 ∆TIB and ∆RIB values

For DC\_1-3-28\_n3, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for CA\_1-3-28 in 36.101.

**Table 5.1.112.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-28\_n3 | 1 | 0.3 |
| 3 | 0.3 |
| 28 | 0.6 |
| n3 | 0.3 |

**Table 5.1.112.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_1-3-28\_n3 | 1 | 0 |
| 3 | 0 |
| 28 | 0.2 |
| n3 | 0 |

### 5.1.112.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

## 5.1.113 3-7-28\_n3

### 5.1.113.1 Operating bands for EN-DC

Table 5.1.113.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 3-7-28\_n3 | CA\_3-7-28 | n3 |  |

### 5.1.113.2 Configuration for DC

Table 5.1.113.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_3A-7A-28A\_n3A | DC\_3A\_n3A1  DC\_7A\_n3A  DC\_28A\_n3A | CA\_3A-7A-28A | n3A |
| DC\_3A-7C-28A\_n3A | DC\_3A\_n3A1  DC\_7A\_n3A  DC\_7C\_n3A  DC\_28A\_n3A | CA\_3A-7C-28A | n3A |
| NOTE 1: Only single switched UL is supported | | | |

### 5.1.113.3 ∆TIB and ∆RIB values

For DC\_3-7-28\_n3, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for CA\_3-7-28 in 36.101.

**Table 5.1.113.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-7-28\_n3 | 3 | 0.5 |
| 7 | 0.5 |
| 28 | 0.3 |
| n3 | 0.5 |

**Table 5.1.113.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_3-7-28\_n3 | 3 | 0 |
| 7 | 0 |
| 28 | 0 |
| n3 | 0 |

### 5.1.113.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

## 5.1.114 DC\_2-29-66\_n260

### 5.1.114.1 Operating bands for EN-DC

Table 5.1.114.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-29-66\_n260 | CA\_2-29-66 | n260 |  |

### 5.1.114.2 Configuration for DC

Table 5.1.114.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-29A-66A\_n260A  DC\_2A-29A-66A\_n260G  DC\_2A-29A-66A\_n260H  DC\_2A-29A-66A\_n260I  DC\_2A-29A-66A\_n260J  DC\_2A-29A-66A\_n260K  DC\_2A-29A-66A\_n260L  DC\_2A-29A-66A\_n260M | DC\_2A\_n260A  DC\_66A\_n260A  DC\_2A\_n260G  DC\_66A\_n260G  DC\_2A\_n260H  DC\_66A\_n260H  DC\_2A\_n260I  DC\_66A\_n260I  DC\_2A\_n260J  DC\_66A\_n260J  DC\_2A\_n260K  DC\_66A\_n260K  DC\_2A\_n260L  DC\_66A\_n260L  DC\_2A\_n260M DC\_66A\_n260M | CA\_2A-29A-66A | n260A  n260G  n260H  n260I  n260J  n260K  n260L  n260M |

### 5.1.114.3 ∆TIB and ∆RIB values

For DC\_2-29-66\_n260, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for CA\_2-29-66 in 36.101.

**Table 5.1.114.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-29-66\_n260 | 2 | 0.5 |
| 66 | 0.5 |
| n260 | 0 |

**Table 5.1.114.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-29-66\_n260 | 2 | 0.3 |
| 29 | 0 |
| 66 | 0.3 |
| n260 | 0 |

### 5.1.114.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

## 5.1.115 DC\_2-46-66\_n260

### 5.1.115.1 Operating bands for EN-DC

Table 5.1.115.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-46-66\_n260 | CA\_2-46-66 | n260 |  |

### 5.1.115.2 Configuration for DC

Table 5.1.115.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-46A-66A\_n260A DC\_2A-46A-66A\_n260G  DC\_2A-46A-66A\_n260H  DC\_2A-46A-66A\_n260I  DC\_2A-46A-66A\_n260J  DC\_2A-46A-66A\_n260K  DC\_2A-46A-66A\_n260L  DC\_2A-46A-66A\_n260M | DC\_2A\_n260A  DC\_66A\_n260A  DC\_2A\_n260G  DC\_66A\_n260G  DC\_2A\_n260H  DC\_66A\_n260H  DC\_2A\_n260I  DC\_66A\_n260I  DC\_2A\_n260J  DC\_66A\_n260J DC\_2A\_n260K  DC\_66A\_n260K  DC\_2A\_n260L  DC\_66A\_n260L  DC\_2A\_n260M  DC\_66A\_n260M | CA\_2A-46A-66A | n260A  n260G  n260H  n260I  n260J  n260K  n260L  n260M |
| DC\_2A-46C-66A\_n260A DC\_2A-46C-66A\_n260G  DC\_2A-46C-66A\_n260H  DC\_2A-46C-66A\_n260I  DC\_2A-46C-66A\_n260J  DC\_2A-46C-66A\_n260K  DC\_2A-46C-66A\_n260L  DC\_2A-46C-66A\_n260M | DC\_2A\_n260A  DC\_66A\_n260A  DC\_2A\_n260G  DC\_66A\_n260G  DC\_2A\_n260H  DC\_66A\_n260H  DC\_2A\_n260I  DC\_66A\_n260I  DC\_2A\_n260J  DC\_66A\_n260J DC\_2A\_n260K  DC\_66A\_n260K  DC\_2A\_n260L  DC\_66A\_n260L  DC\_2A\_n260M  DC\_66A\_n260M | CA\_2A-46C-66A | n260A  n260G  n260H  n260I  n260J  n260K  n260L  n260M |
| DC\_2A-46D-66A\_n260A DC\_2A-46D-66A\_n260G  DC\_2A-46D-66A\_n260H  DC\_2A-46D-66A\_n260I  DC\_2A-46D-66A\_n260J  DC\_2A-46D-66A\_n260K  DC\_2A-46D-66A\_n260L  DC\_2A-46D-66A\_n260M | DC\_2A\_n260A  DC\_66A\_n260A  DC\_2A\_n260G  DC\_66A\_n260G  DC\_2A\_n260H  DC\_66A\_n260H  DC\_2A\_n260I  DC\_66A\_n260I  DC\_2A\_n260J  DC\_66A\_n260J DC\_2A\_n260K  DC\_66A\_n260K  DC\_2A\_n260L  DC\_66A\_n260L  DC\_2A\_n260M  DC\_66A\_n260M | CA\_2A-46D-66A | n260A  n260G  n260H  n260I  n260J  n260K  n260L  n260M |
| DC\_2A-46E-66A\_n260A DC\_2A-46E-66A\_n260G  DC\_2A-46E-66A\_n260H  DC\_2A-46E-66A\_n260I  DC\_2A-46E-66A\_n260J  DC\_2A-46E-66A\_n260K  DC\_2A-46E-66A\_n260L  DC\_2A-46E-66A\_n260M | DC\_2A\_n260A  DC\_66A\_n260A  DC\_2A\_n260G  DC\_66A\_n260G  DC\_2A\_n260H  DC\_66A\_n260H  DC\_2A\_n260I DC\_66A\_n260I  DC\_2A\_n260J  DC\_66A\_n260J DC\_2A\_n260K  DC\_66A\_n260K  DC\_2A\_n260L  DC\_66A\_n260L  DC\_2A\_n260M  DC\_66A\_n260M | CA\_2A-46E-66A | n260A  n260G  n260H  n260I  n260J  n260K  n260L  n260M |

### 5.1.115.3 ∆TIB and ∆RIB values

For DC\_2-46-66\_n260, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for CA\_2-46-66 in 36.101.

**Table 5.1.115.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-46-66\_n260 | 2 | 0.5 |
| 66 | 0.5 |
| n260 | 0 |

**Table 5.1.115.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-46-66\_n260 | 2 | 0 |
| 46 | 0 |
| 66 | 0 |
| n260 | 0 |

### 5.1.115.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

## 5.1.116 DC\_29-30-66\_n260

### 5.1.116.1 Operating bands for EN-DC

Table 5.1.116.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 29-30-66\_n260 | CA\_29-30-66 | n260 |  |

### 5.1.116.2 Configuration for DC

Table 5.1.116.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_29A-30-66A\_n260A  DC\_29A-30-66A\_n260G  DC\_29A-30-66A\_n260H  DC\_29A-30-66A\_n260I  DC\_29A-30-66A\_n260J  DC\_29A-30-66A\_n260K  DC\_29A-30-66A\_n260L  DC\_29A-30-66A\_n260M | DC\_30A\_n260A  DC\_66A\_n260A  DC\_30A\_n260G  DC\_66A\_n260G  DC\_30A\_n260H  DC\_66A\_n260H  DC\_30A\_n260I  DC\_66A\_n260I  DC\_30A\_n260J  DC\_66A\_n260J  DC\_30A\_n260K  DC\_66A\_n260K  DC\_30A\_n260L  DC\_66A\_n260L  DC\_30A\_n260M  DC\_66A\_n260 M | CA\_29A-30A-66A | n260A  n260G  n260H  n260I  n260J  n260K  n260L  n260M |

5.1.116.3 ∆TIB and ∆RIB values

For DC\_29-30-66\_n260, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for CA\_29-30-66 in 36.101.

**Table 5.1.116.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_29-30-66\_n260 | 30 | 0.3 |
| 66 | 0.5 |
| n260 | 0 |

**Table 5.1.116.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_29-30-66\_n260 | 29 | 0 |
| 30 | 0.5 |
| 66 | 0.4 |
| n260 | 0 |

### 5.1.116.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

## 5.1.117 DC\_3-20-28\_n1

### 5.1.117.1 Configurations for EN-DC

Table 5.1.117.1-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_3A-20A-28A\_n1A | DC\_3A\_n1A  DC\_20A\_n1A  DC\_28A\_n1A |
|  | |

### 5.1.117.2 ∆TIB and ∆RIB values

Table 5.1.117.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-20-28\_n1 | 3 | 0.3 |
| 20 | 0.6 |
| 28 | 0.6 |
| n1 | 0.3 |

**Table 5.1.117.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_3-20-28\_n1 | 3 | 0 |
| 20 | 0.2 |
| 28 | 0.2 |
| n1 | 0 |

### 5.1.117.3 Reference sensitivity exceptions

REFSENS exceptions are not needed.

## 5.1.118 DC\_7-20-28\_n1

### 5.1.118.1 Configurations for EN-DC

Table 5.1.118.1-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_7A-20A-28A\_n1A | DC\_7A\_n1A  DC\_20A\_n1A  DC\_28A\_n1A |
|  | |

### 5.1.118.2 ∆TIB and ∆RIB values

Table 5.1.118.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7-20-28\_n1 | 7 | 0.6 |
| 20 | 0.6 |
| 28 | 0.6 |
| n1 | 0.5 |

**Table 5.1.118.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_7-20-28\_n1 | 7 | 0 |
| 20 | 0.2 |
| 28 | 0.2 |
| n1 | 0 |

### 5.1.118.3 Reference sensitivity exceptions

REFSENS exceptions are not needed.

### 5.1.119.1 Configuration for EN-DC

Table 5.1.119.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_1A-3A-5A\_n77A  DC\_1A-3A-5A\_n77(2A) | DC\_1A\_n77A  DC\_3A\_n77A  DC\_5A\_n77A |

### 5.1.119.2 ∆TIB and ∆RIB values

The ΔTIB,c and ΔRIB,c values are reused from TS 36.101 CA\_1-3-5 and TS 38.101-3 DC\_1-3\_n77,DC\_1-5\_n78 and DC\_3-5\_n78.

Table 5.1.119.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-5\_n77 | 1 | 0.6 |
| 3 | 0.6 |
| 5 | 0.6 |
| n77 | 0.8 |

**Table 5.1.119.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-5\_n77 | 1 | 0.2 |
| 3 | 0.2 |
| 5 | 0.2 |
| n77 | 0.5 |

### 5.1.119.3 REFSENS requirements

No additional MSD requirement needs to be defined for this dual connectivity configuration.

### 5.1.120.1 Configuration for EN-DC

Table 5.1.120.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_1A-3A-7A\_n77A  DC\_1A-3A-7A\_n77(2A)  DC\_1A-3A-7A-7A\_n77A  DC\_1A-3A-7A-7A\_n77(2A) | DC\_1A\_n77A  DC\_3A\_n77A  DC\_7A\_n77A |

### 5.1.120.2 ∆TIB and ∆RIB values

The ΔTIB,c and ΔRIB,c values are reused from TS 36.101 CA\_1-3-7 and TS 38.101-3 DC\_1-3\_n77,DC\_1-7\_n78 and DC\_3-7\_n77.

Table 5.1.120.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-7\_n77 | 1 | 0.6 |
| 3 | 0.6 |
| 7 | 0.6 |
| n77 | 0.8 |

**Table 5.1.120.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-7\_n77 | 1 | 0.2 |
| 3 | 0.2 |
| 7 | 0.2 |
| n77 | 0.5 |

### 5.1.120.3 REFSENS requirements

No additional MSD requirement needs to be defined for this dual connectivity configuration.

### 5.1.121.1 Configuration for EN-DC

Table 5.1.121.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_1A-5A-7A\_n77A  DC\_1A-5A-7A\_n77(2A)  DC\_1A-5A-7A-7A\_n77A  DC\_1A-5A-7A-7A\_n77(2A) | DC\_1A\_n77A  DC\_5A\_n77A  DC\_7A\_n77A |

### 5.1.121.2 ∆TIB and ∆RIB values

The ΔTIB,c and ΔRIB,c values are reused from TS 36.101 CA\_1-5-7 and TS 38.101-3 DC\_1-5\_n78,DC\_1-7\_n78 and DC\_5-7\_n78.

Table 5.1.121.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-5-7\_n77 | 1 | 0.6 |
| 5 | 0.6 |
| 7 | 0.6 |
| n77 | 0.8 |

**Table 5.1.121.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_1-5-7\_n77 | 1 | 0.2 |
| 5 | 0.2 |
| 7 | 0.2 |
| n77 | 0.5 |

### 5.1.121.3 REFSENS requirements

No additional MSD requirement needs to be defined for this dual connectivity configuration.

### 5.1.122.1 Configuration for EN-DC

Table 5.1.122.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_3A-5A-7A\_n77A  DC\_3A-5A-7A\_n77(2A)  DC\_3A-5A-7A-7A\_n77A  DC\_3A-5A-7A-7A\_n77(2A) | DC\_3A\_n77A  DC\_5A\_n77A  DC\_7A\_n77A |

### 5.1.122.2 ∆TIB and ∆RIB values

The ΔTIB,c and ΔRIB,c values are reused from TS 36.101 CA\_3-5-7 and TS 38.101-3 DC\_3-5\_n78,DC\_3-7\_n77 and DC\_5-7\_n78.

Table 5.1.122.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-5-7\_n77 | 3 | 0.6 |
| 5 | 0.6 |
| 7 | 0.6 |
| n77 | 0.8 |

**Table 5.1.122.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_3-5-7\_n77 | 3 | 0.2 |
| 5 | 0.2 |
| 7 | 0.2 |
| n77 | 0.5 |

### 5.1.122.3 REFSENS requirements

No additional MSD requirement needs to be defined for this dual connectivity configuration.

5.1.123 DC\_1-7-38\_n3

5.1.123.1 Configurations for EN-DC

Table 5.2B.4.4-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-7A-38A\_n3A | DC\_1A\_n3A |

5.1.123.2 ∆TIB and ∆RIB values

For DC\_1-7-38\_n3, same ΔTIB,c and ΔRIB,c values as LTE CA\_1-3-7-38 are reused and given in the tables below

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-7-38\_n3 | 1 | 0.6 |
| n3 | 0.6 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1-7-38\_n3 | 1 | 0 |
| 7 | 0 |
| 38 | 0 |
| n3 | 0 |

5.1.123.3 Reference sensitivity exceptions

Co-existence study for DC\_1-7-38\_n3 was covered by the studies for the fallback modes. No additional MSD requirement need to be defined for this dual connectivity configuration.

5.1.124 DC\_1-20-38\_n3

5.1.124.1 Configurations for EN-DC

Table 5.2B.4.4-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-20A-38A\_n3A | DC\_1A\_n3A  DC\_20A\_n3A |

5.1.124.2 ∆TIB and ∆RIB values

For DC\_1-20-38\_n3, same ΔTIB,c and ΔRIB,c values as LTE CA\_1-3-20-38 are reused and given in the tables below

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-20-38\_n3 | 1 | 0.3 |
| 20 | 0.3 |
| 38 | 0.3 |
| n3 | 0.3 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1-20-38\_n3 | 1 | 0 |
| 20 | 0 |
| 38 | 0 |
| n3 | 0 |

5.1.124.3 Reference sensitivity exceptions

Co-existence study for DC\_1-20-38\_n3 was covered by the studies for the fallback modes. No additional MSD requirement need to be defined for this dual connectivity configuration.

5.1.125 DC\_7-20-38\_n3

5.1.125.1 Configurations for EN-DC

Table 5.2B.4.4-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_7A-20A-38A\_n3A | DC\_20A\_n3A |

5.1.125.2 ∆TIB and ∆RIB values

For DC\_7-20-38\_n3, same ΔTIB,c and ΔRIB,c values as LTE CA\_3-7-28-38 are reused and given in the tables below

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7-20-38\_n3 | 7 | 0.5 |
| 20 | 0.5 |
| 38 | 0.5 |
| n3 | 0.5 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_7-20-38\_n3 | 7 | 0 |
| 20 | 0 |
| 38 | 0.2 |
| n3 | 0 |

5.1.125.3 Reference sensitivity exceptions

Co-existence study for DC\_7-20-38\_n3 was covered by the studies for the fallback modes. No additional MSD requirement need to be defined for this dual connectivity configuration.

### 5.1.126 DC\_7-29-66\_n78

### 5.1.126.1 Configurations for EN-DC

Table 5.2B.4.4-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_7A-29A-66A\_n78A | DC\_7A\_n78A  DC\_66A\_n78A |

### 5.1.126.2 ∆TIB and ∆RIB values

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔTIB,c (dB) |
| --- | --- | --- |
| DC\_7-29-66\_n78 | 7 | 0.5 |
| 66 | 0.6 |
| n78 | 0.8 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_7-29-66\_n78 | 7 | 0.5 |
| 66 | 0.5 |
| n78 | 0.5 |

### 5.1.126.3 Reference sensitivity exceptions

No further REFSENS exceptions needed.

### 5.1.127 DC\_1-7-32\_n3

#### 5.1.127.1 Configuration for EN-DC

Table 5.1.127.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-7A-32A\_n3A | DC\_1A\_n3A  DC\_7A\_n3A |

#### 5.1.127.2 ∆TIB and ∆RIB values

Table 5.1.127.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1A-7A-32A\_n3A | 1 | 0.6 |
| 7 | 0.6 |
| n3 | 0.6 |

Table 5.1.127.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1A-7A-32A\_n3A | 1 | 0 |
| 7 | 0 |
| 32 | 0 |
| n3 | 0 |

#### 5.1.127.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.128 DC\_1-7-32\_n8

#### 5.1.128.1 Configuration for EN-DC

Table 5.1.128.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-7A-32A\_n8A | DC\_1A\_n8A  DC\_7A\_n8A |

#### 5.1.128.2 ∆TIB and ∆RIB values

Table 5.1.128.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1A-7A-32A\_n8A | 1 | 0.7 |
| 7 | 0.7 |
| n8 | 0.6 |

Table 5.1.128.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1A-7A-32A\_n8A | 1 | 0 |
| 7 | 0 |
| 32 | 0 |
| n8 | 0.2 |

#### 5.1.128.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.129 DC\_1-7-38\_n8

#### 5.1.129.1 Configuration for EN-DC

Table 5.1.129.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-7A-38A\_n8A | DC\_1A\_n8A |

#### 5.1.129.2 ∆TIB and ∆RIB values

Table 5.1.129.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1A-7A-38A\_n8A | 1 | 0.5 |
| n8 | 0.5 |

Table 5.1.129.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1A-7A-38A\_n8A | 1 | 0 |
| 7 | 0 |
| 38 | 0.2 |
| n8 | 0 |

#### 5.1.129.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.130 DC\_1-20-28\_n3

#### 5.1.130.1 Configuration for EN-DC

Table 5.1.130.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-20A-28A\_n3A | DC\_1A\_n3A  DC\_20A\_n3A  DC\_28A\_n3A |

#### 5.1.130.2 ∆TIB and ∆RIB values

Table 5.1.130.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1A-20A-28A\_n3A | 1 | 0.3 |
| 20 | 0.6 |
| 28 | 0.6 |
| n3 | 0.3 |

Table 5.1.130.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1A-20A-28A\_n3A | 1 | 0 |
| 20 | 0.2 |
| 28 | 0.2 |
| n3 | 0 |

#### 5.1.130.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.131 DC\_1-20-32\_n8

#### 5.1.131.1 Configuration for EN-DC

Table 5.1.131.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-20A-32A\_n8A | DC\_1A\_n8A  DC\_20A\_n8A |

#### 5.1.131.2 ∆TIB and ∆RIB values

Table 5.1.131.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1A-20A-32A\_n8A | 1 | 0.5 |
| 20 | 0.4 |
| n8 | 0.4 |

Table 5.1.131.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1A-20A-32A\_n8A | 1 | 0 |
| 20 | 0 |
| 32 | 0 |
| n8 | 0 |

#### 5.1.131.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.132 DC\_1-28-32\_n3

#### 5.1.132.1 Configuration for EN-DC

Table 5.1.132.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-28A-32A\_n3A | DC\_1A\_n3A  DC\_28A\_n3A |

#### 5.1.132.2 ∆TIB and ∆RIB values

Table 5.1.132.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1A-28A-32A\_n3A | 1 | 0.5 |
| 28 | 0.6 |
| n3 | 0.5 |

Table 5.1.132.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1A-28A-32A\_n3A | 1 | 0 |
| 28 | 0.2 |
| 32 | 0 |
| n3 | 0 |

#### 5.1.132.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.133 DC\_3-7-32\_n1

#### 5.1.133.1 Configuration for EN-DC

Table 5.1.133.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_3A-7A-32A\_n1A | DC\_3A\_n1A  DC\_7A\_n1A |

#### 5.1.133.2 ∆TIB and ∆RIB values

Table 5.1.133.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3A-7A-32A\_n1A | 3 | 0.6 |
| 7 | 0.6 |
| n1 | 0.6 |

Table 5.1.133.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_3A-7A-32A\_n1A | 3 | 0 |
| 7 | 0 |
| 32 | 0 |
| n1 | 0 |

#### 5.1.133.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.134 DC\_3-8-20\_n1

#### 5.1.134.1 Configuration for EN-DC

Table 5.1.134.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_3A-8A-20A\_n1A | DC\_3A\_n1A  DC\_8A\_n1A  DC\_20A\_n1A |

#### 5.1.134.2 ∆TIB and ∆RIB values

Table 5.1.134.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3A-8A-20A\_n1A | 3 | 0.3 |
| 8 | 0.4 |
| 20 | 0.4 |
| n1 | 0.3 |

Table 5.1.134.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_3A-8A-20A\_n1A | 3 | 0 |
| 8 | 0 |
| 20 | 0 |
| n1 | 0 |

#### 5.1.134.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.135 DC\_7-8-20\_n1

#### 5.1.135.1 Configuration for EN-DC

Table 5.1.135.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_7A-8A-20A\_n1A | DC\_7A\_n1A  DC\_8A\_n1A  DC\_20A\_n1A |

#### 5.1.135.2 ∆TIB and ∆RIB values

Table 5.1.135.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7A-8A-20A\_n1A | 7 | 0.6 |
| 8 | 0.6 |
| 20 | 0.6 |
| n1 | 0.5 |

Table 5.1.135.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_7A-8A-20A\_n1A | 7 | 0 |
| 8 | 0.2 |
| 20 | 0.2 |
| n1 | 0 |

#### 5.1.135.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.136 DC\_7-8-20\_n3

#### 5.1.136.1 Configuration for EN-DC

Table 5.1.136.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_7A-8A-20A\_n3A | DC\_7A\_n3A  DC\_8A\_n3A  DC\_20A\_n3A |

#### 5.1.136.2 ∆TIB and ∆RIB values

Table 5.1.136.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7A-8A-20A\_n3A | 7 | 0.5 |
| 8 | 0.6 |
| 20 | 0.4 |
| n3 | 0.5 |

Table 5.1.136.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_7A-8A-20A\_n3A | 7 | 0 |
| 8 | 0.2 |
| 20 | 0 |
| n3 | 0 |

#### 5.1.136.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.137 DC\_7-20-28\_n3

#### 5.1.137.1 Configuration for EN-DC

Table 5.1.137.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_7A-20A-28A\_n3A | DC\_7A\_n3A  DC\_20A\_n3A  DC\_28A\_n3A |

#### 5.1.137.2 ∆TIB and ∆RIB values

Table 5.1.137.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7A-20A-28A\_n3A | 7 | 0.5 |
| 20 | 0.6 |
| 28 | 0.5 |
| n3 | 0.5 |

Table 5.1.137.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_7A-20A-28A\_n3A | 7 | 0 |
| 20 | 0.2 |
| 28 | 0.1 |
| n3 | 0 |

#### 5.1.137.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.138 DC\_7-20-32\_n1

#### 5.1.138.1 Configuration for EN-DC

Table 5.1.138.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_7A-20A-32A\_n1A | DC\_7A\_n1A  DC\_20A\_n1A |

#### 5.1.138.2 ∆TIB and ∆RIB values

Table 5.1.138.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7A-20A-32A\_n1A | 7 | 0.7 |
| 20 | 0.3 |
| n1 | 0.7 |

Table 5.1.138.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_7A-20A-32A\_n1A | 7 | 0 |
| 20 | 0 |
| 32 | 0 |
| n1 | 0 |

#### 5.1.138.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.139 DC\_7-20-32\_n3

#### 5.1.139.1 Configuration for EN-DC

Table 5.1.139.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_7A-20A-32A\_n3A | DC\_7A\_n3A  DC\_20A\_n3A |

#### 5.1.139.2 ∆TIB and ∆RIB values

Table 5.1.139.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7A-20A-32A\_n3A | 7 | 0.7 |
| 20 | 0.3 |
| n3 | 0.3 |

Table 5.1.139.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_7A-20A-32A\_n3A | 7 | 0 |
| 20 | 0 |
| 32 | 0 |
| n3 | 0 |

#### 5.1.139.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.140 DC\_7-20-32\_n8

#### 5.1.140.1 Configuration for EN-DC

Table 5.1.140.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_7A-20A-32A\_n8A | DC\_7A\_n8A  DC\_20A\_n8A |

#### 5.1.140.2 ∆TIB and ∆RIB values

Table 5.1.140.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7A-20A-32A\_n8A | 7 | 0.7 |
| 20 | 0.6 |
| n8 | 0.6 |

Table 5.1.140.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_7A-20A-32A\_n8A | 7 | 0 |
| 20 | 0.2 |
| 32 | 0 |
| n8 | 0.2 |

#### 5.1.140.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.141 DC\_7-20-38\_n1

#### 5.1.141.1 Configuration for EN-DC

Table 5.1.141.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_7A-20A-38A\_n1A | DC\_20A\_n8A |

#### 5.1.141.2 ∆TIB and ∆RIB values

Table 5.1.141.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7A-20A-38A\_n1A | 20 | 0.3 |
| n1 | 0.5 |

Table 5.1.141.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_7A-20A-38A\_n1A | 7 | 0 |
| 20 | 0 |
| 38 | 0 |
| n1 | 0 |

#### 5.1.141.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.142 DC\_7-28-32\_n1

#### 5.1.142.1 Configuration for EN-DC

Table 5.1.142.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_7A-28A-32A\_n1A | DC\_7A\_n1A  DC\_28A\_n1A |

#### 5.1.142.2 ∆TIB and ∆RIB values

Table 5.1.142.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7A-28A-32A\_n1A | 7 | 0.7 |
| 28 | 0.6 |
| n1 | 0.7 |

Table 5.1.142.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_7A-28A-32A\_n1A | 7 | 0 |
| 28 | 0.2 |
| 32 | 0 |
| n1 | 0 |

#### 5.1.142.3 Reference sensitivity exceptions

### 5.1.143 DC\_7-28-32\_n3

#### 5.1.143.1 Configuration for EN-DC

Table 5.1.143.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_7A-28A-32A\_n3A | DC\_7A\_n3A  DC\_28A\_n3A |

#### 5.1.143.2 ∆TIB and ∆RIB values

Table 5.1.143.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7A-28A-32A\_n3A | 7 | 0.7 |
| 28 | 0.3 |
| n3 | 0.7 |

Table 5.1.143.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_7A-28A-32A\_n3A | 7 | 0 |
| 28 | 0 |
| 32 | 0 |
| n3 | 0 |

#### 5.1.143.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.144 DC\_8-20-32\_n1

#### 5.1.144.1 Configuration for EN-DC

Table 5.1.144.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_8A-20A-32A\_n1A | DC\_8A\_n1A  DC\_20A\_n1A |

#### 5.1.144.2 ∆TIB and ∆RIB values

Table 5.1.144.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_8A-20A-32A\_n1A | 8 | 0.4 |
| 20 | 0.4 |
| 32 | N/A |
| n1 | 0.5 |

Table 5.1.144.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_8A-20A-32A\_n1A | 8 | 0 |
| 20 | 0 |
| 32 | 0 |
| n1 | 0 |

#### 5.1.144.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.145 DC\_20-28-32\_n1

#### 5.1.145.1 Configuration for EN-DC

Table 5.1.145.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_20A-28A-32A\_n1A | DC\_20A\_n1A  DC\_28A\_n1A |

#### 5.1.145.2 ∆TIB and ∆RIB values

Table 5.1.145.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_20A-28A-32A\_n1A | 20 | 0.6 |
| 28 | 0.6 |
| n1 | 0.5 |

Table 5.1.145.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_20A-28A-32A\_n1A | 20 | 0.2 |
| 28 | 0.2 |
| 32 | 0 |
| n1 | 0 |

#### 5.1.145.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.146 DC\_20-28-32\_n3

#### 5.1.146.1 Configuration for EN-DC

Table 5.1.146.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_20A-28A-32A\_n3A | DC\_20A\_n3A  DC\_28A\_n3A |

#### 5.1.146.2 ∆TIB and ∆RIB values

Table 5.1.146.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_20A-28A-32A\_n3A | 20 | 0.5 |
| 28 | 0.6 |
| n3 | 0.5 |

Table 5.1.146.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_20A-28A-32A\_n3A | 20 | 0.3 |
| 28 | 0.2 |
| 32 | 0 |
| n3 | 0.3 |

#### 5.1.146.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.147 DC\_20-32-38\_n1

#### 5.1.147.1 Configuration for EN-DC

Table 5.1.147.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_20A-32A-38A\_n1A | DC\_20A\_n1A  DC\_38A\_n1A |

#### 5.1.147.2 ∆TIB and ∆RIB values

Table 5.1.147.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_20A-32A-38A\_n1A | 20 | 0.3 |
| 38 | 0.5 |
| n1 | 0.5 |

Table 5.1.147.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_20A-32A-38A\_n1A | 20 | 0 |
| 32 | 0 |
| 38 | 0 |
| n1 | 0 |

#### 5.1.147.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

## 5.1.148 DC\_3-7-7-28\_n1

### 5.1.148.1 Configurations for EN-DC

Table 5.1.148.1-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_3A-7A-7A-28A\_n1A | DC\_3A\_n1A  DC\_7A\_n1A DC\_28A\_n1A |

### 5.1.148.2 ∆TIB and ∆RIB values

Table 5.1.148.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-7-7-28\_n1 | 3 | 0.6 |
| 7 | 0.6 |
| 28 | 0.5 |
| n1 | 0.6 |

**Table 5.1.148.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_3-7-7-28\_n1 | 3 | 0 |
| 7 | 0 |
| 28 | 0.2 |
| n1 | 0 |

### 5.1.148.3 Reference sensitivity exceptions

REFSENS exceptions have already been specified for DC\_3-7-28\_n1.

### 5.1.149 DC\_1-8-20\_n28

#### 5.1.149.1 Configuration for EN-DC

Table 5.1.149.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-8A-20A\_n28A6,19 | DC\_1A\_n28A  DC\_8A\_n28A  DC\_20A\_n28A |
| NOTE 6: The frequency range in band n28 is restricted for this band combination to 703-733 MHz for the UL and 758 – 788 MHz for the DL.  NOTE 19: The implementation with 3 low-band antennas is targeted for FWA form factor for this band combination in Release 17. | |

#### 5.1.149.2 ∆TIB and ∆RIB values

Table 5.1.149.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1A-8A-20A\_n28A | 1 | 0.3 |
| 8 | 0.6 |
| 20 | 0.6 |
| n28 | 0.6 |

Table 5.1.149.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1A-8A-20A\_n28A | 1 | 0 |
| 8 | 0.2 |
| 20 | 0.2 |
| n28 | 0.2 |

#### 5.1.149.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

## 5.1.150 DC\_2-5-30\_n77

### 5.1.150.1 Configuration for EN-DC

Table 5.1.150.1-1: Band combinations EN-DC (four bands)

| EN-DC configuration | Uplink EN-DC  configuration  (NOTE 1) |
| --- | --- |
| DC\_2A-5A-30A\_n77A  DC\_2A-2A-5A-30A\_n77A | DC\_2A\_n77A  DC\_5A\_n77A  DC\_30A\_n77A |

### 5.1.150.2 ∆TIB and ∆RIB values

For DC\_2-5-30\_n77, the ΔTIB,c and ΔRIB,c values are derived from the worst-case values from DC\_2-5\_n77, DC\_2-30\_n77, and DC\_5-30\_n77, and are given in the tables below.

Table 5.1.150.2-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔTIB,c (dB) |
| --- | --- | --- |
| DC\_2-5-30\_n77  DC\_2-2-5-30\_n77 | 2 | 0.6 |
|  | 5 | 0.6 |
|  | 30 | 0.3 |
|  | n77 | 0.8 |

Table 5.1.150.2-2: ΔRIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_2-5-30\_n77  DC\_2-2-5-30\_n77 | 2 | 0.2 |
|  | 5 | 0.2 |
|  | 30 | 0 |
|  | n77 | 0.5 |

### 5.1.150.3 Reference sensitivity exceptions

There are no additional MSD requirements for this configuration. The MSD requirements are covered by the fallback configurations.

## 5.1.151 DC\_2-12-30\_n77

### 5.1.151.1 Configuration for EN-DC

Table 5.1.151.1-1: Band combinations EN-DC (four bands)

| EN-DC configuration | Uplink EN-DC  configuration  (NOTE 1) |
| --- | --- |
| DC\_2A-12A-30A\_n77A  DC\_2A-2A-12A-30A\_n77A | DC\_2A\_n77A  DC\_12A\_n77A  DC\_30A\_n77A |

### 5.1.151.2 ∆TIB and ∆RIB values

For DC\_2-12-30\_n77, the ΔTIB,c and ΔRIB,c values are derived from the worst-case values from DC\_2-12\_n77, DC\_2-30\_n77, and DC\_12-30\_n77, and are given in the tables below.

Table 5.1.151.2-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔTIB,c (dB) |
| --- | --- | --- |
| DC\_2-12-30\_n77  DC\_2-2-12-30\_n77 | 2 | 0.6 |
|  | 12 | 0.5 |
|  | 30 | 0.3 |
|  | n77 | 0.8 |

Table 5.1.151.2-2: ΔRIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_2-12-30\_n77  DC\_2-2-12-30\_n77 | 2 | 0.2 |
|  | 12 | 0.2 |
|  | 30 | 0 |
|  | n77 | 0.5 |

### 5.1.151.3 Reference sensitivity exceptions

There are no additional MSD requirements for this configuration. The MSD requirements are covered by the fallback configurations.

## 5.1.152 DC\_2-12-66\_n77

### 5.1.152.1 Configuration for EN-DC

Table 5.1.152.1-1: Band combinations EN-DC (four bands)

| EN-DC configuration | Uplink EN-DC  configuration  (NOTE 1) |
| --- | --- |
| DC\_2A-12A-66A\_n77A  DC\_2A-2A-12A-66A\_n77A  DC\_2A-12A-66A-66A\_n77A | DC\_2A\_n77A  DC\_12A\_n77A  DC\_66A\_n77A |

### 5.1.152.2 ∆TIB and ∆RIB values

For DC\_2-12-66\_n77, the ΔTIB,c and ΔRIB,c values are derived from the worst-case values from DC\_2-12\_n77, DC\_2-66\_n77, and DC\_12-66\_n77, and are given in the tables below.

Table 5.1.152.2-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔTIB,c (dB) |
| --- | --- | --- |
| DC\_2-12-66\_n77  DC\_2-2-12-66\_n77  DC\_2-12-66-66\_n77 | 2 | 0.6 |
|  | 12 | 0.8 |
|  | 66 | 0.6 |
|  | n77 | 0.8 |

Table 5.1.152.2-2: ΔRIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_2-12-66\_n77  DC\_2-2-12-66\_n77  DC\_2-12-66-66\_n77 | 2 | 0.2 |
|  | 12 | 0.5 |
|  | 66 | 0.5 |
|  | n77 | 0.5 |

### 5.1.152.3 Reference sensitivity exceptions

There are no additional MSD requirements for this configuration. The MSD requirements are covered by the fallback configurations.

## 5.1.153 DC\_2-14-30\_n77

### 5.1.153.1 Configuration for EN-DC

Table 5.1.153.1-1: Band combinations EN-DC (four bands)

| EN-DC configuration | Uplink EN-DC  configuration  (NOTE 1) |
| --- | --- |
| DC\_2A-14A-30A\_n77A  DC\_2A-2A-14A-30A\_n77A | DC\_2A\_n77A  DC\_14A\_n77A  DC\_30A\_n77A |

### 5.1.153.2 ∆TIB and ∆RIB values

For DC\_2-14-30\_n77, the ΔTIB,c and ΔRIB,c values are derived from the worst-case values from DC\_2-14\_n77, DC\_2-30\_n77, and DC\_14-30\_n77, and are given in the tables below.

Table 5.1.153.2-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔTIB,c (dB) |
| --- | --- | --- |
| DC\_2-14-30\_n77  DC\_2-2-14-30\_n77 | 2 | 0.6 |
|  | 14 | 0.5 |
|  | 30 | 0.3 |
|  | n77 | 0.8 |

Table 5.1.153.2-2: ΔRIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_2-14-30\_n77  DC\_2-2-14-30\_n77 | 2 | 0.2 |
|  | 14 | 0.2 |
|  | 30 | 0 |
|  | n77 | 0.5 |

### 5.1.153.3 Reference sensitivity exceptions

There are no additional MSD requirements for this configuration. The MSD requirements are covered by the fallback configurations.

## 5.1.154 DC\_2-14-66\_n77

### 5.1.154.1 Configuration for EN-DC

Table 5.1.154.1-1: Band combinations EN-DC (four bands)

| EN-DC configuration | Uplink EN-DC  configuration  (NOTE 1) |
| --- | --- |
| DC\_2A-14A-66A\_n77A  DC\_2A-2A-14A-66A\_n77A  DC\_2A-14A-66A-66A\_n77A | DC\_2A\_n77A  DC\_14A\_n77A  DC\_66A\_n77A |

### 5.1.154.2 ∆TIB and ∆RIB values

For DC\_2-14-66\_n77, the ΔTIB,c and ΔRIB,c values are derived from the worst-case values from DC\_2-14\_n77, DC\_2-66\_n77, and DC\_14-66\_n77, and are given in the tables below.

Table 5.1.154.2-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔTIB,c (dB) |
| --- | --- | --- |
| DC\_2-14-66\_n77  DC\_2-2-14-66\_n77  DC\_2-14-66-66\_n77 | 2 | 0.6 |
|  | 14 | 0.6 |
|  | 66 | 0.6 |
|  | n77 | 0.8 |

Table 5.1.154.2-2: ΔRIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_2-14-66\_n77  DC\_2-2-14-66\_n77  DC\_2-14-66-66\_n77 | 2 | 0.2 |
|  | 14 | 0.2 |
|  | 66 | 0.5 |
|  | n77 | 0.5 |

### 5.1.154.3 Reference sensitivity exceptions

There are no additional MSD requirements for this configuration. The MSD requirements are covered by the fallback configurations.

## 5.1.155 DC\_2-29-30\_n77

### 5.1.155.1 Configuration for EN-DC

Table 5.1.155.1-1: Band combinations EN-DC (four bands)

| EN-DC configuration | Uplink EN-DC  configuration  (NOTE 1) |
| --- | --- |
| DC\_2A-29A-30A\_n77A  DC\_2A-2A-29A-30A\_n77A | DC\_2A\_n77A  DC\_30A\_n77A |

### 5.1.155.2 ∆TIB and ∆RIB values

For DC\_2-29-30\_n77, the ΔTIB,c and ΔRIB,c values are derived from the worst-case values from DC\_2-29\_n77, DC\_2-30\_n77, and DC\_29-30\_n77, and are given in the tables below.

Table 5.1.155.2-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔTIB,c (dB) |
| --- | --- | --- |
| DC\_2-29-30\_n77  DC\_2-2-29-30\_n77 | 2 | 0.6 |
|  | 30 | 0.3 |
|  | n77 | 0.8 |

Table 5.1.155.2-2: ΔRIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_2-29-30\_n77  DC\_2-2-29-30\_n77 | 2 | 0.2 |
|  | 29 | 0.2 |
|  | 30 | 0 |
|  | n77 | 0.5 |

### 5.1.155.3 Reference sensitivity exceptions

There are no additional MSD requirements for this configuration. The MSD requirements are covered by the fallback configurations.

## 5.1.156 DC\_2-29-66\_n77

### 5.1.156.1 Configuration for EN-DC

Table 5.1.156.1-1: Band combinations EN-DC (four bands)

| EN-DC configuration | Uplink EN-DC  configuration  (NOTE 1) |
| --- | --- |
| DC\_2A-29A-66A\_n77A | DC\_2A\_n77A  DC\_66A\_n77A |

### 5.1.156.2 ∆TIB and ∆RIB values

For DC\_2-29-66\_n77, the ΔTIB,c and ΔRIB,c values are derived from the worst-case values from DC\_2-29\_n77, DC\_2-66\_n77, and DC\_29-66\_n77, and are given in the tables below.

Table 5.1.156.2-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔTIB,c (dB) |
| --- | --- | --- |
| DC\_2-29-66\_n77 | 2 | 0.6 |
|  | 66 | 0.6 |
|  | n77 | 0.8 |

Table 5.1.156.2-2: ΔRIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_2-29-66\_n77 | 2 | 0.2 |
|  | 29 | 0.5 |
|  | 66 | 0.5 |
|  | n77 | 0.5 |

### 5.1.156.3 Reference sensitivity exceptions

There are no additional MSD requirements for this configuration. The MSD requirements are covered by the fallback configurations.

## 5.1.157 DC\_2-30-66\_n77

### 5.1.157.1 Configuration for EN-DC

Table 5.1.157.1-1: Band combinations EN-DC (four bands)

| EN-DC configuration | Uplink EN-DC  configuration  (NOTE 1) |
| --- | --- |
| DC\_2A-30A-66A\_n77A  DC\_2A-2A-30A-66A\_n77A  DC\_2A-30A-66A-66A\_n77A | DC\_2A\_n77A  DC\_30A\_n77A  DC\_66A\_n77A |

### 5.1.157.2 ∆TIB and ∆RIB values

For DC\_2-30-66\_n77, the ΔTIB,c and ΔRIB,c values are derived from the worst-case values from DC\_2-30\_n77, DC\_2-66\_n77, and DC\_30-66\_n77, and are given in the tables below.

Table 5.1.157.2-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔTIB,c (dB) |
| --- | --- | --- |
| DC\_2-30-66\_n77  DC\_2-2-30-66\_n77  DC\_2-30-66-66\_n77 | 2 | 0.6 |
|  | 30 | 0.3 |
|  | 66 | 0.6 |
|  | n77 | 0.8 |

Table 5.1.157.2-2: ΔRIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_2-30-66\_n77  DC\_2-2-30-66\_n77  DC\_2-30-66-66\_n77 | 2 | 0.2 |
|  | 30 | 0.5 |
|  | 66 | 0.4 |
|  | n77 | 0.5 |

### 5.1.157.3 Reference sensitivity exceptions

There are no additional MSD requirements for this configuration. The MSD requirements are covered by the fallback configurations.

## 5.1.158 DC\_5-30-66\_n77

### 5.1.158.1 Configuration for EN-DC

Table 5.1.158.1-1: Band combinations EN-DC (four bands)

| EN-DC configuration | Uplink EN-DC  configuration  (NOTE 1) |
| --- | --- |
| DC\_5A-30A-66A\_n77A  DC\_5A-30A-66A-66A\_n77A | DC\_5A\_n77A  DC\_30A\_n77A  DC\_66A\_n77A |

### 5.1.158.2 ∆TIB and ∆RIB values

For DC\_5-30-66\_n77, the ΔTIB,c and ΔRIB,c values are derived from the worst-case values from DC\_5-30\_n77, DC\_5-66\_n77, and DC\_30-66\_n77, and are given in the tables below.

Table 5.1.158.2-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔTIB,c (dB) |
| --- | --- | --- |
| DC\_5-30-66\_n77  DC\_5-30-66-66\_n77 | 5 | 0.6 |
|  | 30 | 0.3 |
|  | 66 | 0.6 |
|  | n77 | 0.8 |

Table 5.1.158.2-2: ΔRIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_5-30-66\_n77  DC\_5-30-66-66\_n77 | 5 | 0.2 |
|  | 30 | 0.5 |
|  | 66 | 0.4 |
|  | n77 | 0.5 |

### 5.1.158.3 Reference sensitivity exceptions

There are no additional MSD requirements for this configuration. The MSD requirements are covered by the fallback configurations.

## 5.1.159 DC\_12-30-66\_n77

### 5.1.159.1 Configuration for EN-DC

Table 5.1.159.1-1: Band combinations EN-DC (four bands)

| EN-DC configuration | Uplink EN-DC  configuration  (NOTE 1) |
| --- | --- |
| DC\_12A-30A-66A\_n77A  DC\_12A-30A-66A-66A\_n77A | DC\_12A\_n77A  DC\_30A\_n77A  DC\_66A\_n77A |

### 5.1.159.2 ∆TIB and ∆RIB values

For DC\_12-30-66\_n77, the ΔTIB,c and ΔRIB,c values are derived from the worst-case values from DC\_12-30\_n77, DC\_12-66\_n77, and DC\_30-66\_n77, and are given in the tables below.

Table 5.1.159.2-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔTIB,c (dB) |
| --- | --- | --- |
| DC\_12-30-66\_n77  DC\_12-30-66-66\_n77 | 12 | 0.8 |
|  | 30 | 0.3 |
|  | 66 | 0.6 |
|  | n77 | 0.8 |

Table 5.1.159.2-2: ΔRIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_12-30-66\_n77  DC\_12-30-66-66\_n77 | 12 | 0.5 |
|  | 30 | 0.5 |
|  | 66 | 0.5 |
|  | n77 | 0.5 |

### 5.1.159.3 Reference sensitivity exceptions

There are no additional MSD requirements for this configuration. The MSD requirements are covered by the fallback configurations.

## 5.1.160 DC\_14-30-66\_n77

### 5.1.160.1 Configuration for EN-DC

Table 5.1.160.1-1: Band combinations EN-DC (four bands)

| EN-DC configuration | Uplink EN-DC  configuration  (NOTE 1) |
| --- | --- |
| DC\_14A-30A-66A\_n77A  DC\_14A-30A-66A-66A\_n77A | DC\_14A\_n77A  DC\_30A\_n77A  DC\_66A\_n77A |

### 5.1.160.2 ∆TIB and ∆RIB values

For DC\_14-30-66\_n77, the ΔTIB,c and ΔRIB,c values are derived from the worst-case values from DC\_14-30\_n77, DC\_14-66\_n77, and DC\_30-66\_n77, and are given in the tables below.

Table 5.1.160.2-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔTIB,c (dB) |
| --- | --- | --- |
| DC\_14-30-66\_n77  DC\_14-30-66-66\_n77 | 14 | 0.6 |
|  | 30 | 0.3 |
|  | 66 | 0.6 |
|  | n77 | 0.8 |

Table 5.1.160.2-2: ΔRIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_14-30-66\_n77  DC\_14-30-66-66\_n77 | 14 | 0.2 |
|  | 30 | 0.5 |
|  | 66 | 0.5 |
|  | n77 | 0.5 |

### 5.1.160.3 Reference sensitivity exceptions

There are no additional MSD requirements for this configuration. The MSD requirements are covered by the fallback configurations.

## 5.1.161 DC\_29-30-66\_n77

### 5.1.161.1 Configuration for EN-DC

Table 5.1.161.1-1: Band combinations EN-DC (four bands)

| EN-DC configuration | Uplink EN-DC  configuration  (NOTE 1) |
| --- | --- |
| DC\_29A-30A-66A\_n77A | DC\_30A\_n77A  DC\_66A\_n77A |

### 5.1.161.2 ∆TIB and ∆RIB values

For DC\_29-30-66\_n77, the ΔTIB,c and ΔRIB,c values are derived from the worst-case values from DC\_29-30\_n77, DC\_29-66\_n77, and DC\_30-66\_n77, and are given in the tables below.

Table 5.1.161.2-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔTIB,c (dB) |
| --- | --- | --- |
| DC\_29-30-66\_n77 | 30 | 0.3 |
|  | 66 | 0.6 |
|  | n77 | 0.8 |

Table 5.1.161.2-2: ΔRIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_29-30-66\_n77 | 29 | 0.5 |
|  | 30 | 0.5 |
|  | 66 | 0.5 |
|  | n77 | 0.5 |

### 5.1.161.3 Reference sensitivity exceptions

There are no additional MSD requirements for this configuration. The MSD requirements are covered by the fallback configurations.

## 5.1.162 DC\_1-3-7\_n38

### 5.1.162.1 Configurations for EN-DC

Table 5.2B.4.4-1: Inter-band EN-DC configurations (four bands)

| EN-DC band configuration | UL EN-DC configuration | Uplink E-UTRA configuration | Uplink NR configuration |
| --- | --- | --- | --- |
| DC\_1A-3A-7A\_n38Ax,y | N/A | CA\_1A-3A | N/A |
| NOTE x: The combination is not used alone as fall back mode of other band combinations.  NOTE y: Power imbalance between downlink carriers on Band 7 and band n38 is assumed to be within 6dB. The power spectral density imbalance condition also applies for these carriers when applicable EN-DC configuration is a subset of a higher order EN-DC configuration. | | | |

### 5.1.162.2 ∆TIB and ∆RIB values

For DC\_1-3-7\_n38, same ΔTIB,c and ΔRIB,c values as LTE CA\_1-3-7-38 are reused and given in the tables below

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-7\_n38 | 1 | 0.6 |
| 3 | 0.6 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1-3-7\_n38 | 1 | 0 |
| 3 | 0 |
| 7 | 0 |
| n38 | 0 |

### 5.1.162.3 Reference sensitivity exceptions

There is no additional MSD requirement for this configuration.

## 5.1.163 DC\_1-7-20\_n38

### 5.1.163.1 Configurations for EN-DC

Table 5.2B.4.4-1: Inter-band EN-DC configurations (four bands)

| EN-DC band configuration | UL EN-DC configuration | Uplink E-UTRA configuration | Uplink NR configuration |
| --- | --- | --- | --- |
| DC\_1A-7A-20A\_n38Ax,y | N/A | CA\_1A-20A | N/A |
| NOTE x: The combination is not used alone as fall back mode of other band combinations.  NOTE y: Power imbalance between downlink carriers on Band 7 and band n38 is assumed to be within 6dB. The power spectral density imbalance condition also applies for these carriers when applicable EN-DC configuration is a subset of a higher order EN-DC configuration. | | | |

### 5.1.163.2 ∆TIB and ∆RIB values

For DC\_1-7-20\_n38, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-7-20\_n38 | 1 | 0.5 |
| 20 | 0.3 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1-7-20\_n38 | 1 | 0 |
| 7 | 0 |
| 20 | 0 |
| n38 | 0.2 |

### 5.1.163.3 Reference sensitivity exceptions

There is no additional MSD requirement for this configuration.

## 5.1.164 DC\_3-7-20\_n38

### 5.1.164.1 Configurations for EN-DC

Table 5.2B.4.4-1: Inter-band EN-DC configurations (four bands)

| EN-DC band configuration | UL EN-DC configuration | Uplink E-UTRA configuration | Uplink NR configuration |
| --- | --- | --- | --- |
| DC\_3A-7A-20A\_n38Ax,y | N/A | CA\_3A-20A | N/A |
| NOTE x: The combination is not used alone as fall back mode of other band combinations.  NOTE y: Power imbalance between downlink carriers on Band 7 and band n38 is assumed to be within 6dB. The power spectral density imbalance condition also applies for these carriers when applicable EN-DC configuration is a subset of a higher order EN-DC configuration. | | | |

### 5.1.164.2 ∆TIB and ∆RIB values

For DC\_3-7-20\_n38, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-7-20\_n38 | 3 | 0.5 |
| 20 | 0.3 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_3-7-20\_n38 | 3 | 0 |
| 7 | 0 |
| 20 | 0 |
| n38 | 0.2 |

### 5.1.164.3 Reference sensitivity exceptions

There is no additional MSD requirement for this configuration.

## 5.1.165 DC\_1-3-32\_n28

### 5.1.165.1 Configurations for EN-DC

Table 5.1.165.1-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_1A-3A-32A\_n28A  DC\_1A-3C-32A\_n28A | DC\_1A\_n28A  DC\_3A\_n28A  DC\_3C\_n28A |

### 5.1.165.2 ∆TIB and ∆RIB values

Table 5.1.165.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-3-32\_n28 | 1 | 0.3 |
| 3 | 0.3 |
| n28 | 0.6 |

**Table 5.1.165.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_1-3-32\_n28 | 1 | 0 |
| 3 | 0.5 |
| 32 | 0 |
| n28 | 0.5 |

### 5.1.165.3 Reference sensitivity exceptions

REFSENS exceptions are not needed.

## 5.1.166 DC\_3-7-32\_n28

### 5.1.166.1 Configurations for EN-DC

Table 5.1.166.1-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_3A-7A-32A\_n28A  DC\_3C-7A-32A\_n28A | DC\_3A\_n28A  DC\_3C\_n28A  DC\_7A\_n28A |

### 5.1.166.2 ∆TIB and ∆RIB values

Table 5.1.166.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-7-32\_n28 | 3 | 0.5 |
| 7 | 0.5 |
| n28 | 0.3 |

**Table 5.1.166.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_3-7-32\_n28 | 3 | 0.5 |
| 7 | 0 |
| 32 | 0 |
| n28 | 0.5 |

### 5.1.166.3 Reference sensitivity exceptions

REFSENS exceptions are not needed.

## 5.1.167 DC\_3-20-32\_n28

### 5.1.167.1 Configurations for EN-DC

Table 5.1.167.1-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_3A-20A-32A\_n28A  DC\_3C-20A-32A\_n28A | DC\_3A\_n28A  DC\_3C\_n28A  DC\_20A\_n28A |

### 5.1.167.2 ∆TIB and ∆RIB values

Table 5.1.167.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-20-32\_n28 | 3 | 0.3 |
| 20 | 0.5 |
| n28 | 0.5 |

**Table 5.1.167.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_3-20-32\_n28 | 3 | 0.5 |
| 20 | 0 |
| 32 | 0 |
| n28 | 0.5 |

### 5.1.167.3 Reference sensitivity exceptions

REFSENS exceptions are not needed.

## 5.1.168 DC\_3-28-32\_n1

### 5.1.168.1 Configurations for EN-DC

Table 5.1.168.1-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_3A-28A-32A\_n1A | DC\_3A\_n1A  DC\_28A\_n1A |

### 5.1.168.2 ∆TIB and ∆RIB values

Table 5.1.168.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-28-32\_n1 | 3 | 0.3 |
| 28 | 0.6 |
| n1 | 0.3 |

**Table 5.1.168.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_3-28-32\_n1 | 3 | 0.5 |
| 28 | 0.5 |
| 32 | 0 |
| n1 | 0 |

### 5.1.168.3 Reference sensitivity exceptions

5.1.169 DC\_1-3-38\_n78

5.1.169.1 Configurations for EN-DC

Table 5.1.169.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_1A-3A-38A\_n78A | DC\_1A\_n78A  DC\_3A\_n78A |

5.1.169.2 ∆TIB and ∆RIB values

For DC\_1-3-38\_n78, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 5.1.169.2-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA or NR Band | ΔTIB,c (dB) |
| --- | --- | --- |
| DC\_1-3-38\_n78 | 1 | 0.6 |
| 3 | 0.6 |
| 38 | 0.5 |
| n78 | 0.8 |

Table 5.1.169.2-2: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA or NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1-3-38\_n78 | 1 | 0.2 |
| 3 | 0.2 |
| 38 | 0.4 |
| n78 | 0.5 |

5.1.169.3 Reference sensitivity exceptions

There are no additional MSD requirements for this configuration. The MSD requirements are covered by the fallback configurations.

## 5.1.170 DC\_2-5-48\_n77

### 5.1.170.1 Configuration for EN-DC

Table 5.1.170.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_2A-5A-48A\_n77A  DC\_2A-5A-48C\_n77A  DC\_2A-5A-48C\_n77C | DC\_2A\_n77A  DC\_5A\_n77A |

### 5.1.170.2 ∆TIB and ∆RIB values

Relaxation values are copied from CA\_n2-n5-n77 and CA\_n2-n5-n48.

Table 5.1.170.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-5-48\_n77 | 2 | 0.6 |
| 5 | 0.6 |
| 48 | 0.8 |
| n77 | 0.8 |

**Table 5.1.170.2-1: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_2-5-48\_n77 | 2 | 0.2 |
| 5 | 0.2 |
| 48 | 0.5 |
| n77 | 0.5 |

### 5.1.170.3 REFSENS requirements

No additional MSD requirement need to be defined for this dual connectivity configuration.

## 5.1.171 DC\_5-48-66\_n77

### 5.1.171.1 Configuration for EN-DC

Table 5.1.171.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_5A-48A-66A\_n77A  DC\_5A-48C-66A\_n77A  DC\_5A-48C-66A\_n77C | DC\_5A\_n77A  DC\_66A\_n77A |

### 5.1.171.2 ∆TIB and ∆RIB values

Relaxation values are copied from CA\_n5-n66-n77 and CA\_n5-n48-n77

Table 5.1.171.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_5-48-66\_n77 | 5 | 0.6 |
| 48 | 0.8 |
| 66 | 0.6 |
| n77 | 0.8 |

**Table 5.1.171.2-1: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_5-48-66\_n77 | 5 | 0.2 |
| 48 | 0.5 |
| 66 | 0.2 |
| n77 | 0.5 |

### 5.1.171.3 REFSENS requirements

No additional MSD requirement need to be defined for this dual connectivity configuration.

## 5.1.172 DC\_2-13-48\_n77

### 5.1.172.1 Configuration for EN-DC

Table 5.1.172.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_2A-13A-48A\_n77A | DC\_13A\_n77A |

### 5.1.172.2 ∆TIB and ∆RIB values

Relaxation values are copied from DC\_2-13\_n77 and DC\_2-48\_n77

Table 5.1.172.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-13-48\_n77 | 2 | 0.6 |
| 13 | 0.5 |
| 48 | 0.6 |
| n77 | 0.8 |

**Table 5.1.172.2-1: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_2-13-48\_n77 | 2 | 0.2 |
| 13 | 0.2 |
| 48 | 0.2 |
| n77 | 0.5 |

### 5.1.172.3 REFSENS requirements

No additional MSD requirement need to be defined for this dual connectivity configuration.

### 5.1.173.1 Configuration for EN-DC

Table 5.1.173.1-1: Inter-band EN-DC configurations (four bands)

| EN-DC configuration | Uplink EN-DC configuration |
| --- | --- |
| DC\_2A-7A-29A\_n78A  DC\_2A-7C-29A\_n78A | DC\_2A\_n78A  DC\_7A\_n78A |
| DC\_2A-7A-7A-29A\_n78A | DC\_2A\_n78A  DC\_7A\_n78A |

### 5.1.173.2 ∆TIB and ∆RIB values

The ΔTIB,c and ΔRIB,c values are defined as below tables.

Table 5.1.173.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-7-29\_n78  DC\_2-7-7-29\_n78 | 2 | 0.6 |
| 7 | 0.5 |
| 29 | 0 |
| n78 | 0.8 |

**Table 5.1.173.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB,c [dB] |
| --- | --- | --- |
| DC\_2-7-29\_n78  DC\_2-7-7-29\_n78 | 2 | 0.2 |
| 7 | 0.5 |
| 29 | 0.2 |
| n78 | 0.5 |

### 5.1.173.3 REFSENS requirements

No additional MSD requirement needs to be defined for this dual connectivity configuration.

## 5.1.174 DC\_2-7-28\_n78

### 5.1.174.1 Configurations for EN-DC

Table 5.1.174.1-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_2A-7A-28A\_n78A  DC\_2A-7C-28A\_n78A | DC\_2A\_n78A DC\_7A\_n78A  DC\_7C\_n78A DC\_28A\_n78A |

### 5.1.174.2 ∆TIB and ∆RIB values

Relaxation values are copied from DC\_2-7-28\_n7

Table 5.1.174.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-7-28\_n78 | 2 | 0.5 |
| 7 | 0.5 |
| 28 | 0.3 |
| n78 | 0.8 |

**Table 5.1.174.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-7-28\_n78 | 2 | 0.3 |
| 7 | 0.5 |
| 28 | 0.2 |
| n78 | 0.5 |

### 5.1.174.3 Reference sensitivity exceptions

REFSENS exceptions are not needed.

## 5.1.175 DC\_5-7-66\_n78

### 5.1.175.1 Configurations for EN-DC

Table 5.1.175.1-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_5A-7A-66A\_n78A  DC\_5A-7C-66A\_n78A | DC\_5A\_n78A  DC\_7A\_n78A  DC\_7C\_n78A  DC\_66A\_n78A |
| DC\_5A-7A-66A-66A\_n78A  DC\_5A-7C-66A-66A\_n78A | DC\_5A\_n78A  DC\_7A\_n78A  DC\_7C\_n78A  DC\_66A\_n78A |

### 5.1.175.2 ∆TIB and ∆RIB values

Relaxation values are copied from DC\_5-7-66\_n7

Table 5.1.175.2-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_5-7-66\_n78 | 5 | 0.3 |
| 7 | 0.5 |
| 66 | 0.5 |
| n78 | 0.8 |

**Table 5.1.175.2-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_5-7-66\_n78 | 5 | 0.5 |
| 7 | 0.5 |
| 66 | 0.5 |
| n78 | 0.5 |

### 5.1.175.3 Reference sensitivity exceptions

REFSENS exceptions are not needed.

5.1.176 DC\_1-7-38\_n78

5.1.176.1 Configurations for EN-DC

Table 5.2B.4.4-1: Inter-band EN-DC configurations (four bands)

| EN-DC band configuration | UL EN-DC configuration | Uplink E-UTRA configuration | Uplink NR configuration |
| --- | --- | --- | --- |
| DC\_1A-7A-38A\_n78A10 | DC\_1A\_n78A | 1A | n78A |
| NOTE 10: Band 7 and Band 38 are restricted as DL Scell. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within 6dB. | | | |

5.1.176.2 ∆TIB and ∆RIB values

For DC\_1-7-38\_n78, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 5.1.176.2-1: ΔTIB,c

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-7-38\_n78 | 1 | 0.3 |
| n78 | 0.8 |

Table 5.1.176.2-2: ΔRIB,c

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1-7-38\_n78 | 1 | 0.6 |
| 7 | 0.6 |
| 38 | 0 |
| n78 | 0.8 |

5.1.176.3 Reference sensitivity exceptions

There is no additional MSD requirement for this configuration.

5.1.177 DC\_7-20-38\_n78

5.1.177.1 Configurations for EN-DC

Table 5.2B.4.4-1: Inter-band EN-DC configurations (four bands)

| EN-DC band configuration | UL EN-DC configuration | Uplink E-UTRA configuration | Uplink NR configuration |
| --- | --- | --- | --- |
| DC\_7A-20A-38A\_n78A10 | DC\_20A\_n78A | 20A | n78A |
| NOTE 10: Band 7 and Band 38 are restricted as DL Scell. Power imbalance between downlink carriers on Band 7 and Band 38 is assumed to be within 6dB. | | | |

5.1.177.2 ∆TIB and ∆RIB values

For DC\_7-20-38\_n78, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 5.1.177.2-1: ΔTIB,c

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7-20-38\_n78 | 20 | 0.6 |
| n78 | 0.8 |

Table 5.1.177.2-2: ΔRIB,c

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_7-20-38\_n78 | 7 | 0 |
| 20 | 0 |
| 38 | 0.4 |
| n78 | 0.6 |

5.1.177.3 Reference sensitivity exceptions

There is no additional MSD requirement for this configuration.

5.1.178 DC\_2-5-7\_n78

5.1.178.1 Operating bands for EN-DC

Table 5.1.178.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| DC\_2-5-7\_n78 | CA\_2-5-7 | n78 |  |

### 5.1.178.2 Configuration for DC

Table 5.1.178.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-5A-7A\_n78A | DC\_2A\_n78A  DC\_5A\_n78A  DC\_7A\_n78A | CA\_2A-5A-7A | n78A |

5.1.178.3 ∆TIB and ∆RIB values

For DC\_2-5-7\_n78, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for CA\_n3-n5-n7-n78.

**Table 5.1.178.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-5-7\_n78 | 2 | 0.6 |
| 5 | 0.6 |
| 7 | 0.6 |
| n78 | 0.8 |

**Table 5.1.178.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-5-7\_n78 | 2 | 0.2 |
| 5 | 0.2 |
| 7 | 0.2 |
| n78 | 0.5 |

5.1.178.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

5.1.179 DC\_2-5-66\_n78

5.1.179.1 Operating bands for EN-DC

Table 5.1.179.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| DC\_2-5-66\_n78 | CA\_2-5-66 | n78 |  |

### 5.1.179.2 Configuration for DC

Table 5.1.179.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-5A-66A\_n78A | DC\_2A\_n78A  DC\_5A\_n78A  DC\_66A\_n78A | CA\_2A-5A-66A | n78A |

5.1.179.3 ∆TIB and ∆RIB values

For DC\_2-5-66\_n78, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for CA\_n5-n25-n66-n78.

**Table 5.1.179.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-5-66\_n78 | 2 | 0.6 |
| 5 | 0.6 |
| 66 | 0.6 |
| n78 | 0.8 |

**Table 5.1.179.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-5-66\_n78 | 2 | 0.3 |
| 5 | 0.5 |
| 66 | 0.3 |
| n78 | 0.5 |

5.1.179.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

5.1.180 DC\_2-7-13\_n25

5.1.180.1 Operating bands for EN-DC

Table 5.1.180.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-7-13\_n25 | CA\_2-7-13 | n25 |  |

### 5.1.180.2 Configuration for DC

Table 5.1.180.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-7A-13A\_n25A7,8 | DC\_7A\_n25A DC\_13A\_n25A | CA\_2A-7A-13A | n25A |
| DC\_2A-7A-7A-13A\_n25A7,8 | DC\_7A\_n25A DC\_13A\_n25A | CA\_2A-7A-7A-13A | n25A |
| DC\_2A-7C-13A\_n25A7,8 | DC\_7A\_n25A DC\_13A\_n25A | CA\_2A-7C-13A | n25A |
| NOTE 7: For UEs not indicating interBandMRDC-WithOverlapDL-Bands-r16, the minimum requirements for intra-band contiguous or non-contiguous EN-DC apply for the Band 42 and Band n77/n78 combination and for the Band 2 and Band n25 combinations.  NOTE 8: For UEs not indicating interBandMRDC-WithOverlapDL-Bands-r16, the minimum requirements for inter-band EN-DC apply for the Band 42 and Band n77/n78 combination when the maximum power spectral density imbalance between downlink carriers contained in overlapping or partially overlapping DL bands is within 6 dB. | | | |

5.1.180.3 ∆TIB and ∆RIB values

For DC\_2-7-13\_n25, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for DC\_7-28\_n2.

**Table 5.1.180.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-7-13\_n25 | 2 | 0.5 |
| 7 | 0.5 |
| 13 | 0.3 |
| n25 | 0.5 |

**Table 5.1.180.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-7-13\_n25 | 2 | 0 |
| 7 | 0 |
| 13 | 0 |
| n25 | 0 |

5.1.180.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

5.1.181 DC\_2-7-66\_n25

5.1.181.1 Operating bands for EN-DC

Table 5.1.181.1-1: Band combinations EN-DC (four bands)

| EN-DC band | E-UTRA CA band | NR band | Single UL allowed |
| --- | --- | --- | --- |
| 2-7-66\_n25 | CA\_2-7-66 | n25 |  |

### 5.1.181.2 Configuration for DC

Table 5.1.181.2-1: Inter-band EN-DC configurations (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration  (NOTE 1) | E-UTRA CA configuration | NR band |
| --- | --- | --- | --- |
| DC\_2A-7A-66A\_n25A7,8 | DC\_7A\_n25A DC\_66A\_n25A | CA\_2A-7A-66A | n25A |
| DC\_2A-7A-7A-66A\_n25A7,8 | DC\_7A\_n25A DC\_66A\_n25A | CA\_2A-7A-7A-66A | n25A |
| DC\_2A-7C-66A\_n25A7,8 | DC\_7A\_n25A DC\_66A\_n25A | CA\_2A-7C-66A | n25A |
| NOTE 7: For UEs not indicating interBandMRDC-WithOverlapDL-Bands-r16, the minimum requirements for intra-band contiguous or non-contiguous EN-DC apply for the Band 42 and Band n77/n78 combination and for the Band 2 and Band n25 combinations.  NOTE 8: For UEs not indicating interBandMRDC-WithOverlapDL-Bands-r16, the minimum requirements for inter-band EN-DC apply for the Band 42 and Band n77/n78 combination when the maximum power spectral density imbalance between downlink carriers contained in overlapping or partially overlapping DL bands is within 6 dB. | | | |

5.1.181.3 ∆TIB and ∆RIB values

For DC\_2-7-66\_n25, the ΔTIB,c and ΔRIB,c values are given in the tables below based on values for DC\_2-7\_n66.

**Table 5.1.181.3-1: ΔTIB,c**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-7-66\_n25 | 2 | 0.5 |
| 7 | 0.5 |
| 66 | 0.5 |
| n25 | 0.5 |

**Table 5.1.181.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_2-7-66\_n25 | 2 | 0.3 |
| 7 | 0.5 |
| 66 | 0.5 |
| n25 | 0.5 |

5.1.181.4 REFSENS requirements

MSD requirements are covered in lower order combinations.

### 5.1.182 DC\_1-8-20\_n3

#### 5.1.182.1 Configuration for EN-DC

Table 5.1.182.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-8A-20A\_n3A | DC\_1A\_n3A  DC\_8A\_n3A  DC\_20A\_n3A |

#### 5.1.182.2 ∆TIB and ∆RIB values

Table 5.1.182.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1A-8A-20A\_n3A | 1 | 0.3 |
| 8 | 0.4 |
| 20 | 0.4 |
| n3 | 0.3 |

Table 5.1.182.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1A-8A-20A\_n3A | 1 | 0 |
| 8 | 0 |
| 20 | 0 |
| n3 | 0 |

#### 5.1.182.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.183 DC\_1-8-28\_n3

#### 5.1.183.1 Configuration for EN-DC

Table 5.1.183.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-8A-28A\_n3A | DC\_1A\_n3A  DC\_8A\_n3A  DC\_28A\_n3A |

#### 5.1.183.2 ∆TIB and ∆RIB values

Table 5.1.183.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1A-8A-28A\_n3A | 1 | 0.3 |
| 8 | 0.6 |
| 28 | 0.6 |
| n3 | 0.3 |

Table 5.1.183.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1A-8A-28A\_n3A | 1 | 0 |
| 8 | 0.2 |
| 28 | 0.2 |
| n3 | 0 |

#### 5.1.183.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.184 DC\_1-8-28\_n78

#### 5.1.184.1 Configuration for EN-DC

Table 5.1.184.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-8A-28A\_n78A | DC\_1A\_n78A  DC\_8A\_n78A  DC\_28A\_n78A |

#### 5.1.184.2 ∆TIB and ∆RIB values

Table 5.1.184.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1A-8A-28A\_n78A | 1 | 0.3 |
| 8 | 0.6 |
| 28 | 0.6 |
| n78 | 0.8 |

Table 5.1.184.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1A-8A-28A\_n78A | 1 | 0 |
| 8 | 0.2 |
| 28 | 0.2 |
| n78 | 0.5 |

#### 5.1.184.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.185 DC\_1-8-32\_n3

#### 5.1.185.1 Configuration for EN-DC

Table 5.1.185.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-8A-32A\_n3A | DC\_1A\_n3A  DC\_8A\_n3A |

#### 5.1.185.2 ∆TIB and ∆RIB values

Table 5.1.185.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1A-8A-32A\_n3A | 1 | 0.5 |
| 8 | 0.3 |
| n3 | 0.8 |

Table 5.1.185.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1A-8A-32A\_n3A | 1 | 0 |
| 8 | 0 |
| 32 | 0.5 |
| n3 | 0.3 |

#### 5.1.185.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.186 DC\_1-8-32\_n78

#### 5.1.186.1 Configuration for EN-DC

Table 5.1.186.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-8A-32A\_n78A | DC\_1A\_n78A  DC\_8A\_n78A |

#### 5.1.186.2 ∆TIB and ∆RIB values

Table 5.1.186.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1A-8A-32A\_n78A | 1 | 0.5 |
| 8 | 0.6 |
| n78 | 0.8 |

Table 5.1.186.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1A-8A-32A\_n78A | 1 | 0 |
| 8 | 0.2 |
| 32 | 0 |
| n78 | 0.5 |

#### 5.1.186.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.187 DC\_1-20-28\_n78

#### 5.1.187.1 Configuration for EN-DC

Table 5.1.187.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-20A-28A\_n78A | DC\_1A\_n78A  DC\_20A\_n78A  DC\_28A\_n78A |

#### 5.1.187.2 ∆TIB and ∆RIB values

Table 5.1.187.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1A-20A-28A\_n78A | 1 | 0.3 |
| 20 | 0.6 |
| 28 | 0.6 |
| n78 | 0.8 |

Table 5.1.187.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1A-20A-28A\_n78A | 1 | 0 |
| 20 | 0.2 |
| 28 | 0.2 |
| n78 | 0.5 |

#### 5.1.187.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.188 DC\_1-20-38\_n8

#### 5.1.188.1 Configuration for EN-DC

Table 5.1.188.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-20A-38A\_n8A | DC\_1A\_n8A  DC\_20A\_n8A  DC\_38A\_n8A |

#### 5.1.188.2 ∆TIB and ∆RIB values

Table 5.1.188.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1A-20A-38A\_n8A | 1 | 0.5 |
| 20 | 0.5 |
| 38 | 0.5 |
| n8 | 0.6 |

Table 5.1.188.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1A-20A-38A\_n8A | 1 | 0 |
| 20 | 0 |
| 38 | 0 |
| n8 | 0 |

#### 5.1.188.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.189 DC\_3-8-28\_n78

#### 5.1.189.1 Configuration for EN-DC

Table 5.1.189.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_3A-8A-28A\_n78A | DC\_3A\_n78A  DC\_8A\_n78A  DC\_28A\_n78A |

#### 5.1.189.2 ∆TIB and ∆RIB values

Table 5.1.189.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3A-8A-28A\_n78A | 3 | 0.6 |
| 8 | 0.6 |
| 28 | 0.5 |
| n78 | 0.8 |

Table 5.1.189.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_3A-8A-28A\_n78A | 3 | 0.2 |
| 8 | 0.2 |
| 28 | 0.2 |
| n78 | 0.5 |

#### 5.1.189.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

5.1.190 DC\_1-8-11\_n79

5.1.190.1 Configurations for EN-DC

Table 5.2B.4.4-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_1A-8A-11A\_n79A2 | DC\_1A\_n79A  DC\_8A\_n79A  DC\_11A\_n79A |
| NOTE 2: Applicable for UE supporting inter-band EN-DC with mandatory simultaneous Rx/Tx capability | |

5.1.190.2 ∆TIB and ∆RIB values

For DC\_1-8-11\_n79, the ΔTIB,c and ΔRIB,c values are given in the tables below.

Table 6.2B.4.2.3.4-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_1-8-11\_n79 | 1 | 0.3 |
| 8 | 0.3 |
| 11 | 0.4 |
| n79 | 0 |

Table 7.3B.3.3.4-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_1-8-11\_n79 | 1 | 0 |
| 8 | 0 |
| 11 | 0 |
| n79 | 0 |

5.1.190.3 Reference sensitivity exceptions

Co-existence study for DC\_1-8-11\_n79 was covered by the studies for the fallback modes of DC\_1-8\_n79, DC\_1-11\_n79 and DC\_8-11\_n79.

No additional MSD requirement need to be defined for this dual connectivity configuration.

### 5.1.191 DC\_3-8-32\_n1

#### 5.1.191.1 Configuration for EN-DC

Table 5.1.191.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_3A-8A-32A\_n1A | DC\_3A\_n1A  DC\_8A\_n1A |

#### 5.1.191.2 ∆TIB and ∆RIB values

Table 5.1.191.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3A-8A-32A\_n1A | 3 | 0.5 |
| 8 | 0.3 |
| n1 | 0.8 |

Table 5.1.191.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_3A-8A-32A\_n1A | 3 | 0 |
| 8 | 0 |
| 32 | 0.5 |
| n1 | 0.3 |

#### 5.1.191.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.192 DC\_3-8-32\_n78

#### 5.1.192.1 Configuration for EN-DC

Table 5.1.192.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_3A-8A-32A\_n78A | DC\_3A\_n78A  DC\_8A\_n78A |

#### 5.1.192.2 ∆TIB and ∆RIB values

Table 5.1.192.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3A-8A-32A\_n78A | 3 | 0.8 |
| 8 | 0.6 |
| n78 | 0.8 |

Table 5.1.192.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_3A-8A-32A\_n78A | 3 | 0.3 |
| 8 | 0.2 |
| 32 | 0.5 |
| n78 | 0.5 |

#### 5.1.192.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.193 DC\_3-20-28\_n78

#### 5.1.193.1 Configuration for EN-DC

Table 5.1.193.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_3A-20A-28A\_n78A | DC\_3A\_n78A  DC\_20A\_n78A  DC\_28A\_n78A |

#### 5.1.193.2 ∆TIB and ∆RIB values

Table 5.1.193.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3A-20A-28A\_n78A | 3 | 0.6 |
| 20 | 0.6 |
| 28 | 0.5 |
| n78 | 0.8 |

Table 5.1.193.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_3A-20A-28A\_n78A | 3 | 0.2 |
| 20 | 0.1 |
| 28 | 0.2 |
| n78 | 0.5 |

#### 5.1.193.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.194 DC\_7-8-32\_n78

#### 5.1.194.1 Configuration for EN-DC

Table 5.1.194.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_7A-8A-32A\_n78A | DC\_7A\_n78A  DC\_8A\_n78A |

#### 5.1.194.2 ∆TIB and ∆RIB values

Table 5.1.194.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7A-8A-32A\_n78A | 7 | 0.7 |
| 8 | 0.6 |
| n78 | 0.8 |

Table 5.1.194.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_7A-8A-32A\_n78A | 7 | 0 |
| 8 | 0.2 |
| 32 | 0 |
| n78 | 0.5 |

#### 5.1.194.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.195 DC\_7-8-38\_n1

#### 5.1.195.1 Configuration for EN-DC

Table 5.1.195.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_7A-8A-38A\_n1A | DC\_8A\_n1A |

#### 5.1.195.2 ∆TIB and ∆RIB values

Table 5.1.195.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7A-8A-38A\_n1A | 8 | 0.5 |
| n1 | 0.5 |

Table 5.1.195.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_7A-8A-38A\_n1A | 7 | 0 |
| 8 | 0 |
| 38 | 0.2 |
| n1 | 0 |

#### 5.1.195.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.196 DC\_7-20-38\_n8

#### 5.1.196.1 Configuration for EN-DC

Table 5.1.196.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_7A-20A-38A\_n8A | DC\_20A\_n8A |

#### 5.1.196.2 ∆TIB and ∆RIB values

Table 5.1.196.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7A-20A-38A\_n8A | 20 | 0.6 |
| n8 | 0.6 |

Table 5.1.196.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_7A-20A-38A\_n8A | 7 | 0 |
| 20 | 0.2 |
| 38 | 0.2 |
| n8 | 0.2 |

#### 5.1.196.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.197 DC\_7-28-38\_n1

#### 5.1.197.1 Configuration for EN-DC

Table 5.1.197.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_7A-28A-38A\_n1A | DC\_28A\_n1A |

#### 5.1.197.2 ∆TIB and ∆RIB values

Table 5.1.197.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_7A-28A-38A\_n1A | 28 | 0.6 |
| n1 | 0.5 |

Table 5.1.197.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_7A-28A-38A\_n1A | 7 | 0 |
| 28 | 0.2 |
| 38 | 0.2 |
| n1 | 0 |

#### 5.1.197.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.198 DC\_8-20-28\_n78

#### 5.1.198.1 Configuration for EN-DC

Table 5.1.198.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_8A-20A-28A\_n78A | DC\_8A\_n78A  DC\_20A\_n78A  DC\_28A\_n78A |

#### 5.1.198.2 ∆TIB and ∆RIB values

Table 5.1.198.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_8A-20A-28A\_n78A | 8 | 0.6 |
| 20 | 0.6 |
| 28 | 0.5 |
| n78 | 0.8 |

Table 5.1.198.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_8A-20A-28A\_n78A | 8 | 0.2 |
| 20 | 0.1 |
| 28 | 0.2 |
| n78 | 0.5 |

#### 5.1.198.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.199 DC\_8-20-38\_n1

#### 5.1.199.1 Configuration for EN-DC

Table 5.1.199.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_8A-20A-38A\_n1A | DC\_8A\_n1A  DC\_20A\_n1A  DC\_38A\_n1A |

#### 5.1.199.2 ∆TIB and ∆RIB values

Table 5.1.199.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_8A-20A-38A\_n1A | 8 | 0.6 |
| 20 | 0.5 |
| 38 | 0.5 |
| n1 | 0.5 |

Table 5.1.199.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_8A-20A-38A\_n1A | 8 | 0 |
| 20 | 0 |
| 38 | 0 |
| n1 | 0 |

#### 5.1.199.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.200 DC\_8-32-38\_n1

#### 5.1.200.1 Configuration for EN-DC

Table 5.1.200.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_8A-32A-38A\_n1A | DC\_8A\_n1A  DC\_38A\_n1A |

#### 5.1.200.2 ∆TIB and ∆RIB values

Table 5.1.200.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_8A-32A-38A\_n1A | 8 | 0.3 |
| 38 | 0.5 |
| n1 | 0.5 |

Table 5.1.200.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_8A-32A-38A\_n1A | 8 | 0 |
| 32 | 0 |
| 38 | 0 |
| n1 | 0 |

#### 5.1.200.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.201 DC\_20-28-38\_n1

#### 5.1.201.1 Configuration for EN-DC

Table 5.1.201.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_20A-28A-38A\_n1A | DC\_20A\_n1A  DC\_28A\_n1A  DC\_38A\_n1A |

#### 5.1.201.2 ∆TIB and ∆RIB values

Table 5.1.201.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_20A-28A-38A\_n1A | 20 | 0.6 |
| 28 | 0.6 |
| 38 | 0.5 |
| n1 | 0.5 |

Table 5.1.201.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_20A-28A-38A\_n1A | 20 | 0.2 |
| 28 | 0.2 |
| 38 | 0 |
| n1 | 0 |

#### 5.1.201.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

### 5.1.202 DC\_28-32-38\_n1

#### 5.1.202.1 Configuration for EN-DC

Table 5.1.202.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_28A-32A-38A\_n1A | DC\_28A\_n1A  DC\_38A\_n1A |

#### 5.1.202.2 ∆TIB and ∆RIB values

Table 5.1.202.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_28A-32A-38A\_n1A | 28 | 0.7 |
| 38 | 0.5 |
| n1 | 0.5 |

Table 5.1.202.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_28A-32A-38A\_n1A | 28 | 0.2 |
| 32 | 0 |
| 38 | 0 |
| n1 | 0 |

#### 5.1.202.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

## 5.1.204 DC\_n77\_1-3\_8

### 5.1.204.1 Configurations for NE-DC

Table 5.1.167.1-1: Band combinations NE-DC (four bands)

| **NE-DC**  **Configuration** | **Uplink NE-DC**  **configuration** |
| --- | --- |
| DC\_n77A\_1A-3A-8A  DC\_n77(2A)\_1A-3A-8A | DC\_n77A\_1A  DC\_n77A\_3A  DC\_n77A\_8A |

### 5.1.204.2 ∆TIB and ∆RIB values

Similar to DC\_1-3-8\_n77 in section 5.1.27.3 of 37.716-31-11

## 5.1.205 DC\_2-30-(n)5

### 5.1.205.1 Configuration for EN-DC

Table 5.1.205.1-1: Band combinations EN-DC (four bands)

| EN-DC configuration | Uplink EN-DC  configuration  (NOTE 1) |
| --- | --- |
| DC\_2A-30A-(n)5AA  DC\_2A-2A-30A-(n)5AA | DC\_2A\_n5A  DC\_30A\_n5A  DC\_(n)5AA4 |
| NOTE 4: Only single switched UL is supported. | |

### 5.1.205.2 ∆TIB and ∆RIB values

For DC\_2-30-(n)5, the ΔTIB,c and ΔRIB,c values are derived from DC\_2-30\_n5 and are given in the tables below.

Table 5.1.205.2-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔTIB,c (dB) |
| --- | --- | --- |
| DC\_2-30-(n)5  DC\_2-2-30-(n)5 | 2 | 0.5 |
|  | 5 | 0.3 |
|  | 30 | 0.3 |
|  | n5 | 0.3 |

Table 5.1.205.2-2: ΔRIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_2-30-(n)5  DC\_2-2-30-(n)5 | 2 | 0.4 |
|  | 5 | 0 |
|  | 30 | 0.5 |
|  | n5 | 0 |

### 5.1.205.3 Reference sensitivity exceptions

There are no additional MSD requirements for this configuration. The MSD requirements are covered by the fallback configurations.

## 5.1.206 DC\_30-66-(n)5

### 5.1.206.1 Configuration for EN-DC

Table 5.1.206.1-1: Band combinations EN-DC (four bands)

| EN-DC configuration | Uplink EN-DC  configuration  (NOTE 1) |
| --- | --- |
| DC\_30A-66A-(n)5AA | DC\_30A\_n5A  DC\_66A\_n5A  DC\_(n)5AA4 |
| NOTE 4: Only single switched UL is supported. | |

### 5.1.206.2 ∆TIB and ∆RIB values

For DC\_30-66-(n)5, the ΔTIB,c and ΔRIB,c values are derived from DC\_30-66\_n5 and are given in the tables below.

Table 5.1.206.2-1: ΔTIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔTIB,c (dB) |
| --- | --- | --- |
| DC\_30-66-(n)5 | 5 | 0.3 |
|  | 30 | 0.3 |
|  | 66 | 0.5 |
|  | n5 | 0.3 |

Table 5.1.206.2-2: ΔRIB,c due to EN-DC (four bands)

| Inter-band EN-DC configuration | E-UTRA or NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_30-66-(n)5 | 5 | 0.5 |
|  | 30 | 0 |
|  | 66 | 0.4 |
|  | n5 | 0.5 |

### 5.1.206.3 Reference sensitivity exceptions

There are no additional MSD requirements for this configuration. The MSD requirements are covered by the fallback configurations.

### 5.1.207 DC\_2-13-66\_n2

#### 5.1.207.1 Configuration for EN-DC

Table 5.1.207.1-1: Band combinations EN-DC (four bands)

| EN-DC band configuration | UL configuration(s) |
| --- | --- |
| DC\_2A-13A-66A\_n2A | DC\_66A\_n2A |
| DC\_2A-13A-66A-66A\_n2A | DC\_66A\_n2A |

#### 5.1.207.2 ∆TIB and ∆RIB values

Table 5.1.207.2.-1: ΔTIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_2-13-66\_n2 | 2 | 0.5 |
| 13 | 0.3 |
| 66 | 0.5 |
| n2 | 0.5 |

Table 5.1.207.2.-1: ΔRIB,c due to EN-DC (four bands)

| EN-DC band | E-UTRA and NR Band | ΔRIB,c (dB) |
| --- | --- | --- |
| DC\_2-13-66\_n2 | 2 | 0.3 |
| 13 | 0.0 |
| 66 | 0.3 |
| n2 | 0.3 |

#### 5.1.207.3 Reference sensitivity exceptions

No additional IMD exceptions required compared to fallbacks.

## 5.1.208 DC\_3-32-38\_n28

### 5.1.208.1 Configurations for EN-DC

Table 5.1.208.1-1: Band combinations EN-DC (four bands)

| EN-DC  Configuration | Uplink EN-DC  configuration |
| --- | --- |
| DC\_3A-32A-38A\_n28A  DC\_3C-32A-38A\_n28A | DC\_3A\_n28A  DC\_38A\_n28A |

### 5.1.208.2 Co-existence studies

Based on co-existence studies of Band 38 + Band n28 and Band 3 + Band n28, own Rx impact of the 4th band is the followings.

- The 2nd order harmonics generated by Band n28 may fall into own Rx of Band 32.

- IMD5 may fall into Rx of band 32 when band 3 and n28 transmit.

### 5.1.208.3 ∆TIB and ∆RIB values

For DC\_3-32-38\_n28, the ΔTIB,c and ΔRIB,c values are reused from the band combination DC\_ 7-8-32\_n1, and are given in the tables below.

Table 5.1.208.3-1: ΔTIB,c due to EN-DC(four bands)

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-32-38\_n28 | 3 | 0.7 |
| 38 | 0.7 |
| n28 | 0.6 |

**Table 5.1.208.3-2: ΔRIB,c due to EN-DC (four bands)**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_3-32-38\_n28 | 3 | 0 |
| 32 | 0 |
| 38 | 0 |
| n28 | 0.2 |

### 5.1.208.4 Reference sensitivity exceptions

No additional MSD requirement needs to be defined for this dual connectivity configuration.

## 5.1.209 DC\_3-8-32\_n28

### 5.1.209.1 Configurations for DC

Table 5.1.209.1-1: Inter-band DC configurations (three bands)

| DC  configuration | Uplink configuration |
| --- | --- |
| DC\_3A-8A-32A\_n28A | DC\_3A\_n28A  DC\_8A\_n28A |
| DC\_3C-8A-32A\_n28A | DC\_3A\_n28A  DC\_8A\_n28A |

### 5.1.209.2 Co-existence studies

For UE coexistence study of Band 3 + Band n28, the 2nd, 3rd, 4th and 5th order harmonics and 2nd, 3rd, 4th and 5th order intermodulation products were calculated and presented in Table 5.1.209.2-1.

**Table 5.1.209.2-1: Harmonic and IMD analysis between Band 3 and Band n28**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **UE UL carriers** | **fx\_low** | **fx\_high** | **fy\_low** | **fy\_high** |
| UL frequency (MHz) | 703 | 748 | 1710 | 1785 |
| 2nd harmonics frequency limits | 2\*fx\_low | 2\*fx\_high | 2\* fy\_low | 2\* fy\_high |
| 2nd harmonics frequency limits (MHz) | 1406 | 1496 | 3420 | 3570 |
| 3rd harmonics frequency limits | 3\*fx\_low | 3\*fx\_high | 3\* fy\_low | 3\* fy\_high |
| 3rd harmonics frequency limits (MHz) | 2109 | 2244 | 5130 | 5355 |
| 4th harmonics frequency limits | 4\*fx\_low | 4\*fx\_high | 4\* fy\_low | 4\* fy\_high |
| 4th harmonics frequency limits (MHz) | 2812 | 2992 | 6840 | 7140 |
| 5th harmonics frequency limits | 5\*fx\_low | 5\*fx\_high | 5\* fy\_low | 5\* fy\_high |
| 5th harmonics frequency limits (MHz) | 3515 | 3740 | 8550 | 8925 |
| 2nd order IMD products | |fy\_low – fx\_high| | |fy\_high – fx\_low| | |fy\_low + fx\_low| | |fy\_high + fx\_high| |
| IMD frequency limits (MHz) | 962 | 1082 | 2413 | 2533 |
| Two-tone 3rd order IMD products | |2\*fx\_high – fy\_low| | |2\*fx\_low – fy\_high| | |2\*fy\_low – fx\_high| | |2\*fy\_high – fx\_low| |
| IMD frequency limits (MHz) | 214 | 379 | 2672 | 2867 |
| Two-tone 3rd order IMD products | |2\*fx\_low + fy\_low| | |2\*fx\_high + fy\_high| | |2\*fy\_low + fx\_low| | |2\*fy\_high + fx\_high| |
| IMD frequency limits (MHz) | 3116 | 3281 | 4123 | 4318 |
| Two-tone 4th order IMD products | |3\*fx\_low –1\* fy\_high| | |3\*fx\_high – 1\*fy\_low| | |3\*fy\_low – 1\*fx\_high| | |3\*fy\_high – 1\*fx\_low| |
| IMD frequency limits (MHz) | 324 | 534 | 4382 | 4652 |
| Two-tone 4th order IMD products | |3\*fx\_low +1\* fy\_low| | |3\*fx\_high + 1\*fy\_high| | |3\*fy\_low + 1\*fx\_low| | |3\*fy\_high + 1\*fx\_high| |
| IMD frequency limits (MHz) | 3819 | 4029 | 5833 | 6103 |
| Two-tone 4th order IMD products | |2\*fx\_high –2\* fy\_low| | |2\*fx\_low –2\* fy\_high| | |2\*fx\_low +2\* fy\_low| | |2\*fx\_high +2\* fy\_high| |
| IMD frequency limits (MHz) | 1924 | 2074 | 4826 | 5066 |
| Two-tone 5th order IMD products | |fx\_high – 4\*fy\_low| | |fx\_low – 4\*fy\_high| | |fy\_high – 4\*fx\_low| | |fy\_low – 4\*fx\_high| |
| IMD frequency limits (MHz) | 6092 | 6437 | 1027 | 1282 |
| Two-tone 5th order IMD products | |2\*fx\_high - 3\*fy\_low| | |2\*fx\_low - 3\*fy\_high| | |2\*fy\_high -3\*fx\_low| | |2\*fy\_low - 3\*fx\_high| |
| IMD frequency limits (MHz) | 3634 | 3949 | 1176 | 1461 |
| Two-tone 5th order IMD products | |fx\_low + 4\*fy\_low| | |fx\_high + 4\*fy\_high| | |fy\_low + 4\*fx\_low| | |fy\_high + 4\*fx\_high| |
| IMD frequency limits (MHz) | 7543 | 7888 | 4522 | 4777 |
| Two-tone 5th order IMD products | |2\*fx\_low + 3\*fy\_low| | |2\*fx\_high + 3\*fy\_high| | |2\*fy\_low + 3\*fx\_low| | |2\*fy\_high + 3\*fx\_high| |
| IMD frequency limits (MHz) | 6536 | 6851 | 5529 | 5814 |

As we can see from the above table:

* the 2nd harmonic may fall into DL reception frequency of Band 32.
* the 5th IMD may fall into DL reception frequency of Band 32.

For UE coexistence study of Band 8 + Band n28, the 2nd, 3rd, 4th and 5th order harmonics and 2nd, 3rd, 4th and 5th order intermodulation products were calculated and presented in Table 5.1.209.2-2.

**Table 5.1.209.2-2: Harmonic and IMD analysis between Band 8 and Band n28**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **UE UL carriers** | **fx\_low** | **fx\_high** | **fy\_low** | **fy\_high** |
| UL frequency (MHz) | 703 | 748 | 880 | 915 |
| 2nd harmonics frequency limits | 2\*fx\_low | 2\*fx\_high | 2\* fy\_low | 2\* fy\_high |
| 2nd harmonics frequency limits (MHz) | 1406 | 1496 | 1760 | 1830 |
| 3rd harmonics frequency limits | 3\*fx\_low | 3\*fx\_high | 3\* fy\_low | 3\* fy\_high |
| 3rd harmonics frequency limits (MHz) | 2109 | 2244 | 2640 | 2745 |
| 4th harmonics frequency limits | 4\*fx\_low | 4\*fx\_high | 4\* fy\_low | 4\* fy\_high |
| 4th harmonics frequency limits (MHz) | 2812 | 2992 | 3520 | 3660 |
| 5th harmonics frequency limits | 5\*fx\_low | 5\*fx\_high | 5\* fy\_low | 5\* fy\_high |
| 5th harmonics frequency limits (MHz) | 3515 | 3740 | 4400 | 4575 |
| 2nd order IMD products | |fy\_low – fx\_high| | |fy\_high – fx\_low| | |fy\_low + fx\_low| | |fy\_high + fx\_high| |
| IMD frequency limits (MHz) | 132 | 212 | 1583 | 1663 |
| Two-tone 3rd order IMD products | |2\*fx\_low – fy\_high| | |2\*fx\_high – fy\_low| | |2\*fy\_low – fx\_high| | |2\*fy\_high – fx\_low| |
| IMD frequency limits (MHz) | 491 | 616 | 1012 | 1127 |
| Two-tone 3rd order IMD products | |2\*fx\_low + fy\_low| | |2\*fx\_high + fy\_high| | |2\*fy\_low + fx\_low| | |2\*fy\_high + fx\_high| |
| IMD frequency limits (MHz) | 2286 | 2411 | 2463 | 2578 |
| Two-tone 4th order IMD products | |3\*fx\_low –1\* fy\_high| | |3\*fx\_high – 1\*fy\_low| | |3\*fy\_low – 1\*fx\_high| | |3\*fy\_high – 1\*fx\_low| |
| IMD frequency limits (MHz) | 1194 | 1364 | 1892 | 2042 |
| Two-tone 4th order IMD products | |3\*fx\_low +1\* fy\_low| | |3\*fx\_high + 1\*fy\_high| | |3\*fy\_low + 1\*fx\_low| | |3\*fy\_high + 1\*fx\_high| |
| IMD frequency limits (MHz) | 2989 | 3159 | 3343 | 3493 |
| Two-tone 4th order IMD products | |2\*fx\_high –2\* fy\_low| | |2\*fx\_low –2\* fy\_high| | |2\*fx\_low +2\* fy\_low| | |2\*fx\_high +2\* fy\_high| |
| IMD frequency limits (MHz) | 264 | 334 | 3166 | 3326 |
| Two-tone 5th order IMD products | |fx\_high – 4\*fy\_low| | |fx\_low – 4\*fy\_high| | |fy\_high – 4\*fx\_low| | |fy\_low – 4\*fx\_high| |
| IMD frequency limits (MHz) | 2772 | 2957 | 1897 | 2112 |
| Two-tone 5th order IMD products | |2\*fx\_high - 3\*fy\_low| | |2\*fx\_low - 3\*fy\_high| | |2\*fy\_high -3\*fx\_low| | |2\*fy\_low - 3\*fx\_high| |
| IMD frequency limits (MHz) | 1144 | 1339 | 279 | 484 |
| Two-tone 5th order IMD products | |fx\_low + 4\*fy\_low| | |fx\_high + 4\*fy\_high| | |fy\_low + 4\*fx\_low| | |fy\_high + 4\*fx\_high| |
| IMD frequency limits (MHz) | 4223 | 4408 | 3692 | 3907 |
| Two-tone 5th order IMD products | |2\*fx\_low + 3\*fy\_low| | |2\*fx\_high + 3\*fy\_high| | |2\*fy\_low + 3\*fx\_low| | |2\*fy\_high + 3\*fx\_high| |
| IMD frequency limits (MHz) | 4046 | 4241 | 3869 | 4074 |

As we can see from the above table:

* the 2nd harmonic caused by UL transmission on Band 8 may fall into DL reception frequency of Band 3.
* the 2nd harmonic caused by UL transmission on Band n28 may fall into DL reception frequency of Band 32.

### 5.1.209.3 ∆TIB and ∆RIB values

For DC\_3-8-32\_n28, the ΔTIB,c and ΔRIB,c values are given in the following table.

Table 5.1.209.3-1: ΔTIB,c

| Inter-band DC Configuration | E-UTRA and NR Band | ΔTIB,c [dB] |
| --- | --- | --- |
| DC\_3-8-32\_n28 | 3 | 0.3 |
| 8 | 0.3 |
| n28 | 0.6 |

**Table 5.1.209.3-2: ΔRIB**

| Inter-band DC Configuration | E-UTRA and NR Band | ΔRIB [dB] |
| --- | --- | --- |
| DC\_3-8-32\_n28 | 3 | 0 |
| 8 | 0 |
| 32 | 0 |
| n28 | 0.2 |

### 5.1.209.4 Reference sensitivity exceptions

For UL band 3\_n28, since there MSD requirements specified for band 32 due to UL harmonic caused by band n28, and IMD exception has already been covered by DC\_3-8\_n28, no additional MSD requirement need to be defined for this dual connectivity configuration.

For UL band 8\_n28, since there are MSD requirements specified for band 32 due to UL harmonic caused by band n28, and those specified for band 3 due to UL harmonic caused by band 8, they can be reused here. No additional MSD requirement need to be defined for this dual connectivity configuration.

# REFSENS exceptions are not needed.Annex A - Change history

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Date** | **Meeting** | **TDoc** | **Subject/Comment** | **New version** |
| 2020-08 | 3GPP RAN4#96-e | R4-2010681 | TR skeleton | 0.0.1 |
| 2020-08 | 3GPP RAN4#96-e |  | Implemented TP’s from RAN4 #96-e:  R4-2010246, “TP for TR 37.717-31-11 DC\_1-3\_(n)41”, Samsung, KDDI  R4-2010247, “TP for TR 37.717-31-11 DC\_1-3-41\_n28”, Samsung, KDDI  R4-2010434, “TP for 37.717-31-11 to introduce DC\_3A-7A-8A\_n40A”, Nokia  R4-2010435, “TP for 37.717-31-11 to introduce DC\_3A-7A-28A\_n1A”, Nokia  R4-2010437. “TP for 37.717-31-11 to introduce DC\_5A-7-66A\_n66A”, Nokia  R4-2010514, “TP for DC\_3-19-42\_n1 for TR 37.717-31-11”, NTT DOCOMO INC.  R4-2010515, “TP for DC\_3-21-42\_n1 for TR 37.717-31-11”, NTT DOCOMO INC.  R4-2010516, “TP for DC\_19-21-42\_n1 for TR 37.717-31-11”, NTT DOCOMO INC.  R4-2010896, “TP for TR 37.717-31-11: DC\_2A-28A-66A\_n66A”, Huawei, HiSilicon  R4-2010897, “TP for TR 37.717-31-11: DC\_7A-28A-66A\_n66A / DC\_7C-28A-66A\_n66A”, Huawei, HiSilicon  R4-2010898, “TP for TR 37.717-31-11: DC\_2A-7A-28A\_n66A / DC\_2A-7C-28A\_n66A”, Huawei, HiSilicon  R4-2010899, “TP for TR 37.717-31-11: DC\_3A-7A-28A\_n1A”, Huawei, HiSilicon  R4-2009996, ”TP for TR 37.717-31-11: EN-DC\_1-8-11\_n3”, SoftBank Corp.  R4-2009997, ”TP for TR 37.717-31-11: EN-DC\_1-8-42\_n28”, SoftBank Corp.  R4-2009770, “TP for TR 37.717-31-11: DC\_1-7-32\_n28”, VODAFONE Group Plc  R4-2009771, “TP for TR 37.717-31-11: DC\_1-7-32\_n78”, VODAFONE Group Plc  R4-2009772, “TP for TR 37.717-31-11: DC\_1-20-32\_n28”, VODAFONE Group Plc  R4-2009774, “TP for TR 37.717-31-11: DC\_1-20-32\_n78”, VODAFONE Group Plc  R4-2009775, “TP for TR 37.717-31-11: DC\_3-7-32\_n78”, VODAFONE Group Plc  R4-2009776, “TP for TR 37.717-31-11: DC\_3-20-32\_n78”, VODAFONE Group Plc  R4-2009777, “TP for TR 37.717-31-11: DC\_7-20-32\_n1”, VODAFONE Group Plc  R4-2009778, “TP for TR 37.717-31-11: DC\_7-20-32\_n28”, VODAFONE Group Plc | 0.1.0 |
| 2020-11 | 3GPP RAN4#97-e | R4-2015925 | Implemented TP’s from RAN4 #97-e:  R4-2014037, “TP for 37.717-31-11 for DC\_1-20-32\_n3”, Huawei,HiSilicon  R4-2014038, “TP for 37.717-31-11 for DC\_2-4-7\_n28”, Huawei,HiSilicon  R4-2014039, “TP for 37.717-31-11 for DC\_2-5-7\_n66”, Huawei,HiSilicon  R4-2014040, “TP for 37.717-31-11 for DC\_2-5-66\_n7”, Huawei,HiSilicon  R4-2014041, “TP for 37.717-31-11 for DC\_2-5-66\_n66”, Huawei,HiSilicon  R4-2014042, “TP for 37.717-31-11 for DC\_2-7-66\_n28”, Huawei,HiSilicon  R4-2014043, “TP for 37.717-31-11 for DC\_3-20-32\_n1”, Huawei,HiSilicon  R4-2014107, “TP for TR 37.717-31-11 DC\_1-3-18\_n3”, Samsung, KDDI  R4-2014108, “TP for TR 37.717-31-11 DC\_1-3-41\_n3”, Samsung, KDDI  R4-2014109, “TP for TR 37.717-31-11 DC\_1-3-41\_n41”, Samsung, KDDI  R4-2014130, “TP for TR 37.717-31-11 DC\_2-5-7\_n66”, Samsung, TELUS, Bell mobility  R4-2014615, ”TP for TR 37.717-31-11: EN-DC\_1-3-11\_n28”, SoftBank Corp.  R4-2014616, ”TP for TR 37.717-31-11: EN-DC\_1-  3-11\_n77”, SoftBank Corp.  R4-2014617, ”TP for TR 37.717-31-11: EN-DC\_3-8-11\_n28”, SoftBank Corp.  R4-2014618, ”TP for TR 37.717-31-11: EN-DC\_3-8-11\_n77”, SoftBank Corp.  R4-2014619, ”TP for TR 37.717-31-11: EN-DC\_1-8-11\_n28”, SoftBank Corp.  R4-2014807, “TP for TR 37.717-31-11: DC\_1A-3A-18A\_n28A”, KDDI Corporation  R4-2014845, “TP for TR 37.717-31-11: DC\_1A-3A-18A\_n41A”, KDDI Corporation  R4-2015231, “TP for 37.717-31-11 to introduce DC\_2A-7A-28A\_n7A”, Nokia  R4-2015247, “TP for 37.717-31-11 to introduce DC\_2A-66A-71A\_n71A”, Nokia, T-Mobile  R4-2015248, “TP for 37.717-31-11 to introduce DC\_2-5-66\_n77A”, Nokia, Verizon  R4-2015249, “TP for 37.717-31-11 to introduce DC\_2-13-66\_n77A”, Nokia, Verizon  R4-2015250, “TP for 37.717-31-11 to introduce DC\_2-48-66\_n77A”, Nokia, Verizon  R4-2015272, “TP to TR 37.717-31-11 DC\_1A-3A-40C\_n78A”, Huawei, HiSilicon, Nokia, Ericsson  R4-2015273, “TP to TR 37.717-31-11 DC\_1A-7A-40C\_n78A”, Huawei, HiSilicon, Ericsson  R4-2015274, “TP to TR 37.717-31-11 DC\_1A-8A-40C\_n78A”, Huawei, HiSilicon, Nokia  R4-2015275, “TP to TR 37.717-31-11 DC\_3A-7A-40C\_n78A”, Huawei, HiSilicon, Ericsson  R4-2015276, “TP to TR 37.717-31-11 DC\_3A-8A-40C\_n78A”, Huawei, HiSilicon, Nokia  R4-2015277, “TP to TR 37.717-31-11 DC\_7A-8A-40C\_n78A”, Huawei, HiSilicon  R4-2015405, “TP for TR 37.717-31-11: DC\_1A-7A-8A\_n28A”, Huawei, HiSilicon  R4-2015406, “TP for TR 37.717-31-11: DC\_3A-7A-8A\_n28A”, Huawei, HiSilicon  R4-2015407, “TP for TR 37.717-31-11: DC\_1A-7A-28A\_n3A”, Huawei, HiSilicon  R4-2015408, “TP for TR 37.717-31-11: DC\_3A-8A-40A\_n1A/DC\_3A-8A-40C\_n1A”, Huawei, HiSilicon  R4-2015409, “TP for TR 37.717-31-11: DC\_7A-8A-40A\_n1A/DC\_7A-8A-40C\_n1A”, Huawei, HiSilicon  R4-2015411, “TP for TR 37.717-31-11: DC\_2A-28A-66A\_n7A”, Huawei, HiSilicon  R4-2015412, “TP for TR 37.717-31-11: DC\_2A-5A-7A\_n7A”, Huawei, HiSilicon  R4-2015413, “TP for TR 37.717-31-11: DC\_2A-7A-66A\_n7A/DC\_2A-7A-66A-66A\_n7A”, Huawei, HiSilicon  R4-2015414, “TP for TR 37.717-31-11: DC\_5A-7A-66A\_n7A/DC\_5A-7A-66A-66A\_n7A”, Huawei, HiSilicon  R4-2015415, “TP for TR 37.717-31-11: DC\_7A-28A-66A\_n7A”, Huawei, HiSilicon  R4-2015712, “TP for TR 37.717-31-11: DC\_2-7-66\_n77”, Huawei, HiSilicon, Bell Mobility, Telus | 0.2.0 |
| 2021-02 | 3GPP RAN4#98-e | R4-2101892 | Implemented TP’s from RAN4 #98-e:  R4-2103007, “TP to TR 37.717-31-11: DC\_1-20-40\_n78”, Nokia, Telefonica  R4-2100652, ”TP for TR 37.717-31-11: EN-DC\_1-8-42\_n3”, SoftBank Corp.  R4-2100671, ”TP for TR 37.717-31-11: EN-DC\_1-3-42\_n28”, SoftBank Corp.  R4-2100985, “TP for TR 37.717-31-11: DC\_2-29-66\_n78”, Samsung, TELUS, Bell mobility  R4-2101552, “TP for TR 37.717-31-11: DC\_7-8-32\_n1”, VODAFONE Group Plc  R4-2101553, “TP for TR 37.717-31-11: DC\_7-20-32\_n78”, VODAFONE Group Plc  R4-2101895, “TP to TR TR 37.717-31-11 to include 3-20-40\_n78”, Ericsson  R4-2102020, “TP to TR 37.717-31-11 to include 2A-12A-66A\_n41A, 2A-2A-12A-66A\_n41A”, Ericsson  R4-2102021, “TP to TR 37.717-31-11 to include 2A-66A-71A\_n41A, 2A-2A-66A-71A\_n41A”, Ericsson  R4-2102022, “TP to TR 37.717-31-11 to include 2A-7A-12A\_n66A, 2A-2A-7A-12A\_n66A”, Ericsson  R4-2102023, “TP to TR 37.717-31-11 to include 2A-2A-5A-7A\_n66A”, Ericsson  R4-2102024, “TP to TR 37.717-31-11 to include 2A-7A-71A\_n66A, 2A-2A-7A-71A\_n66A”, Ericsson  R4-2102025, “TP to TR 37.717-31-11 to include 2A-7A-12A\_n78A, 2A-2A-7A-12A\_n78A”, Ericsson  R4-2102026, “TP to TR 37.717-31-11 to include 2A-12A-66A\_n78A, 2A-2A-12A-66A\_n78A”, Ericsson  R4-2102027, “TP to TR 37.717-31-11 to include 7A-12A-66A\_n78A”, Ericsson  R4-2102028, “TP to TR 37.717-31-11 to include 7A-66A-71A\_n78A”, Ericsson  R4-2102029, “TP to TR 37.717-31-11 to include 2A-7A-71A\_n78A, 2A-2A-7A-71A\_n78A”, Ericsson  R4-2102030, “TP to TR 37.717-31-11 to include 2A-7A-66A\_n2A”, Ericsson  R4-2102031, “TP to TR 37.717-31-11 to include 2A-5A-7A\_n2A”, Ericsson  R4-2102032, “TP to TR 37.717-31-11 to include 5A-7A-66A\_n2A”, Ericsson  R4-2102033, “TP to TR 37.717-31-11 to include 2A-7A-71A\_n2A”, Ericsson  R4-2102034, “TP to TR 37.717-31-11 to include 2A-66A-71A\_n2A”, Ericsson  R4-2102035, “TP to TR 37.717-31-11 to include 2A-7A-12A\_n2A”, Ericsson  R4-2102036, “TP to TR 37.717-31-11 to include 7A-66A-71A\_n2A”, Ericsson  R4-2102037, “TP to TR 37.717-31-11 to include 7A-12A-66A\_n2A”, Ericsson | 0.3.0 |
| 2021-04 | 3GPP RAN4#98-bis-e | R4-2106705 | Implemented TP’s from RAN4 #98-bis-e:  R4-2105282, “TP to TR 37.717-31-11: DC\_1A-28A-40A\_n78A”, Nokia, Telefonica  R4-2105283, “TP to TR 37.717-31-11: DC\_3A-28A-40A\_n78A”, Nokia, Telefonica  R4-2105052, “TP for TR 37.717-31-11: DC\_1-11-18\_n3”, Samsung, KDDI  R4-2105053, “TP for TR 37.717-31-11: DC\_1-11-18\_n28”, Samsung, KDDI  R4-2105054, “TP for TR 37.717-31-11: DC\_1-11-18\_n41”, Samsung, KDDI  R4-2105075, “TP for TR 37.717-31-11: DC\_2-5-66\_n48”, Samsung, Verizon  R4-2105076, “TP for TR 37.717-31-11: DC\_2-13-48\_n77”, Samsung, Verizon  R4-2105299, “TP for TR 37.717-31-11: DC\_2-46-48\_n2”, Samsung, Verizon  R4-2105300, “TP for TR 37.717-31-11: DC\_2-48-66\_n2”, Samsung, Verizon  R4-2105301, “TP for TR 37.717-31-11: DC\_2-48-66\_n66”, Samsung, Verizon  R4-2105302, “TP for TR 37.717-31-11: DC\_13-48-66\_n77”, Samsung, Verizon  R4-2105304, “TP for TR 37.717-31-11: DC\_1A-3A-20A\_n7A”, ZTE Corporation  R4-2106643, “TP for TR 37.717-31-11: DC\_1A-3A-38A\_n28A/ DC\_1A-3C-38A\_n28A”, Huawei, HiSilicon  R4-2106644, “TP for TR 37.717-31-11: DC\_1A-7A-38A\_n28A”, Huawei, HiSilicon  R4-2106645, “TP for TR 37.717-31-11: DC\_3A-7A-38A\_n28A/DC\_3C-7A-38A\_n28A”, Huawei, HiSilicon  R4-2107051, “TP for TR 37 717-31-11 to include DC\_2A-5A-30A\_n2A”, Ericsson, AT&T  R4-2107052, “TP for TR 37 717-31-11 to include DC\_2A-5A-30A\_n66A”, Ericsson, AT&T  R4-2107053, “TP for TR 37 717-31-11 to include DC\_2A-14A-30A\_n2A”, Ericsson, AT&T  R4-2107054, “TP for TR 37 717-31-11 to include DC\_2A-29A-30A\_n66A”, Ericsson, AT&T  R4-2107056, “TP for TR 37 717-31-11 to include DC\_2A-46D-66A\_n5A”, Ericsson, AT&T  R4-2107058, “TP for TR 37 717-31-11 to include DC\_5A-30A-66A\_n2A”, Ericsson, AT&T  R4-2107059, “TP for TR 37 717-31-11 to include DC\_5A-30A-66A\_n66A”, Ericsson, AT&T  R4-2107060, “TP for TR 37 717-31-11 to include DC\_14A-30A-66A\_n66A”, Ericsson, AT&T  R4-2107061, “TP for TR 37 717-31-11 to include DC\_14A-30A-66A-66A\_n2A”, Ericsson, AT&T  R4-2107063, “TP for TR 37 717-31-11 to include DC\_2A-14A-30A\_n66A”, Ericsson, AT&T  R4-2107064, “TP for TR 37 717-31-11 to include DC\_1A-3A-7A\_n3A”, Ericsson, Telstra  R4-2107065, “TP for TR 37 717-31-11 to include DC\_1A-3A-28A\_n3A”, Ericsson, Telstra  R4-2107066, “TP for TR 37 717-31-11 to include DC\_3A-7A-28A\_n3A”, Ericsson, Telstra  R4-2107055, “TP for TR 37 717-31-11 to include DC\_2A-29A-66A\_n260M”, Ericsson, AT&T  R4-2107057, “TP for TR 37 717-31-11 to include DC\_2A-46D-66A\_n260M”, Ericsson, AT&T  R4-2107062, “TP for TR 37 717-31-11 to include DC\_29A-30A-66A\_n260M”, Ericsson, AT&T | 0.4.0 |
| 2021-05 | 3GPP RAN4#99-e | R4-2111080 | Implemented TP’s from RAN4 #99-e:  R4-2110248, TP for TR 37.717-31-11: DC\_3A-20A-28A\_n1A, Huawei, HiSilicon  R4-2110249, TP for TR 37.717-31-11: DC\_7A-20A-28A\_n1A, Huawei, HiSilicon | 0.5.0 |
| 2021-08 | 3GPP RAN4#100-e | R4-2113563 | Implemented TP’s from RAN4 #100-e:  [R4-2112456](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112456.zip), TP for TR 37.717-31-11 DC\_1-3-5\_n77Samsung, SKT  [R4-2112457](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112457.zip), TP for TR 37.717-31-11 DC\_1-3-7\_n77, Samsung, SKT  [R4-2112458](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112458.zip), TP for TR 37.717-31-11 DC\_1-5-7\_n77, Samsung, SKT  [R4-2112459](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112459.zip), TP for TR 37.717-31-11 DC\_3-5-7\_n77, Samsung, SKT  [R4-2112933](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112933.zip), TP for TR 37.717-31-11: DC\_1A-7A-38A\_n3A, ZTE Corporation  [R4-2112934](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112934.zip), TP for TR 37.717-31-11: DC\_1A-20A-38A\_n3A, ZTE Corporation  [R4-2112935](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2112935.zip), TP for TR 37.717-31-11: DC\_7A-20A-38A\_n3A, ZTE Corporation  [R4-2113064](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113064.zip), TP for TR 37.717-31-11: DC\_7A-29A-66A\_n78A, Huawei, HiSilicon, Bell Mobility, Telus  [R4-2113484](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113484.zip), TP for TR 37.717-31-11: DC\_1-7-32\_n3, VODAFONE Group Plc  [R4-2113485](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113485.zip), TP for TR 37.717-31-11: DC\_1-7-32\_n8, VODAFONE Group Plc  [R4-2113486](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113486.zip), TP for TR 37.717-31-11: DC\_1-7-38\_n8, VODAFONE Group Plc  [R4-2113505](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113505.zip), TP for TR 37.717-31-11: DC\_1-20-28\_n3, VODAFONE Group Plc  [R4-2113506](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113506.zip), TP for TR 37.717-31-11: DC\_1-20-32\_n8, VODAFONE Group Plc  [R4-2113526](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113526.zip), TP for TR 37.717-31-11: DC\_1-28-32\_n3, VODAFONE Group Plc  [R4-2113527](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113527.zip), TP for TR 37.717-31-11: DC\_3-7-32\_n1, VODAFONE Group Plc  [R4-2113529](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113529.zip), TP for TR 37.717-31-11: DC\_3-8-20\_n1, VODAFONE Group Plc  [R4-2113531](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113531.zip), TP for TR 37.717-31-11: DC\_7-8-20\_n1, VODAFONE Group Plc  [R4-2113533](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113533.zip), TP for TR 37.717-31-11: DC\_7-8-20\_n3, VODAFONE Group Plc  [R4-2113534](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113534.zip), TP for TR 37.717-31-11: DC\_7-20-28\_n3, VODAFONE Group Plc  [R4-2113535](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113535.zip), TP for TR 37.717-31-11: DC\_7-20-32\_n1, VODAFONE Group Plc  [R4-2113536](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113536.zip), TP for TR 37.717-31-11: DC\_7-20-32\_n3, VODAFONE Group Plc  [R4-2113544](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113544.zip), TP for TR 37.717-31-11: DC\_7-20-32\_n8, VODAFONE Group Plc  [R4-2113545](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113545.zip), TP for TR 37.717-31-11: DC\_7-20-38\_n1, VODAFONE Group Plc  [R4-2113548](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113548.zip), TP for TR 37.717-31-11: DC\_7-28-32\_n1, VODAFONE Group Plc  [R4-2113549](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113549.zip), TP for TR 37.717-31-11: DC\_7-28-32\_n3, VODAFONE Group Plc  [R4-2113551](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113551.zip), TP for TR 37.717-31-11: DC\_8-20-32\_n1, VODAFONE Group Plc  [R4-2113610](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113610.zip), TP for TR 37.717-31-11: DC\_20-28-32\_n1, VODAFONE Group Plc  [R4-2113611](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113611.zip), TP for TR 37.717-31-11: DC\_20-28-32\_n3, VODAFONE Group Plc  [R4-2113612](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2113612.zip), TP for TR 37.717-31-11: DC\_20-32-38\_n1, VODAFONE Group Plc  [R4-2114160](ftp://ftp.3gpp.org/tsg_ran/WG4_Radio/TSGR4_94_eBis/Docs/R4-2114160.zip), TP to TR 37.717-31-11 for DC\_3-7-7-28-n1, Huawei, HiSilicon | 0.6.0 |
| 2021-11 | 3GPP RAN4#101-e | R4-2118495 | Implemented TP’s from RAN4 #101-e:  R4-2119793, TP for TR 37.717-31-11: DC\_1-8-20\_n28, VODAFONE Group Plc  R4-2117276, TP for TR 37.717-31-11 Addition of DC\_2-5-30\_n77, AT&T  R4-2117277, TP for TR 37.717-31-11 Addition of DC\_2-12-30\_n77, AT&T  R4-2117278, TP for TR 37.717-31-11 Addition of DC\_2-12-66\_n77, AT&T  R4-2117279, TP for TR 37.717-31-11 Addition of DC\_2-14-30\_n77, AT&T  R4-2117280, TP for TR 37.717-31-11 Addition of DC\_2-14-66\_n77, AT&T  R4-2117281, TP for TR 37.717-31-11 Addition of DC\_2-29-30\_n77, AT&T  R4-2117282, TP for TR 37.717-31-11 Addition of DC\_2-29-66\_n77, AT&T  R4-2117283, TP for TR 37.717-31-11 Addition of DC\_2-30-66\_n77, AT&T  R4-2117284, TP for TR 37.717-31-11 Addition of DC\_5-30-66\_n77, AT&T  R4-2117285, TP for TR 37.717-31-11 Addition of DC\_12-30-66\_n77, AT&T  R4-2117286, TP for TR 37.717-31-11 Addition of DC\_14-30-66\_n77, AT&T  R4-2117287, TP for TR 37.717-31-11 Addition of DC\_29-30-66\_n77, AT&T  R4-2118198, TP for TR 37.717-31-11: DC\_1A-3A-7A\_n38A, ZTE Corporation  R4-2118199, TP for TR 37.717-31-11: DC\_1A-7A-20A\_n38A, ZTE Corporation  R4-2118200, TP for TR 37.717-31-11: DC\_3A-7A-20A\_n38A, ZTE Corporation  R4-2118568, TP for TR 37.717-31-11: DC\_1A-3A-32A\_n28A and DC\_1A-3C-32A\_n28A, Huawei, HiSilicon, CKH IoD UK  R4-2118569, TP for TR 37.717-31-11: DC\_3A-7A-32A\_n28A and DC\_3C-7A-32A\_n28A, Huawei, HiSilicon  R4-2118570, TP for TR 37.717-31-11: DC\_3A-20A-32A\_n28A and DC\_3C-20A-32A\_n28A, Huawei, HiSilicon  R4-2118571, TP for TR 37.717-31-11: DC\_3A-28A-32A\_n1A, Huawei, HiSilicon  R4-2118572, Updated TP for TR 37.717-31-11 to correct the UL configurations for DC\_7A-28A-32A\_n1A and DC\_20A-32A-38A\_n1A, Huawei, HiSilicon, DT | 0.7.0 |
| 2022-02 | 3GPP RAN4#102-e | R4-2205685 | Implemented TP’s from RAN4 #101-bis-e:  [R4-2200373](https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_101-bis-e/Docs/R4-2200373.zip), TP for TR 37.717-31-11 DC\_n77A\_1A-3A-8A and DC\_n77(2A)\_1A-3A-8A, Huawei Technologies France  [R4-2200624](https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_101-bis-e/Docs/R4-2200624.zip), TP for TR 37.717-31-11\_DC\_1A-3A-38A\_n78A, ZTE Corporation  [R4-2202172](https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_101-bis-e/Docs/R4-2202172.zip), TP to TR 37.717-31-11: DC\_2-5-48\_n77, Nokia, Verizon  [R4-2200714](https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_101-bis-e/Docs/R4-2200714.zip), TP to TR 37.717-31-11: DC\_5-48-66\_n77, Nokia, Verizon  [R4-2200715](https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_101-bis-e/Docs/R4-2200715.zip), TP to TR 37.717-31-11: DC\_2-13-48\_n77, Nokia, Verizon  [R4-2201060](https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_101-bis-e/Docs/R4-2201060.zip), TP for TR 37.717-31-11 DC\_2-7-29\_n78, Samsung, Telus, Bell Mobility  [R4-2201098](https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_101-bis-e/Docs/R4-2201098.zip), TP to TR 37.717-31-11 Addition of DC\_2-7-28\_n78, Nokia  [R4-2201099](https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_101-bis-e/Docs/R4-2201099.zip), TP to TR 37.717-31-11 Addition of DC\_5-7-66\_n78, Nokia  [R4-2201358](https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_101-bis-e/Docs/R4-2201358.zip), TP for TR 37.717-31-11\_DC\_1A-7A-38A\_n78A, ZTE Corporation  [R4-2201359](https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_101-bis-e/Docs/R4-2201359.zip), TP for TR 37.717-31-11\_DC\_7A-20A-38A\_n78A, ZTE Corporation  [R4-2201730](https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_101-bis-e/Docs/R4-2201730.zip), TP for TR 37.717-31-11 to include DC\_2-5-7\_n78, Ericsson, Rogers  [R4-2201731](https://www.3gpp.org/ftp/tsg_ran/WG4_Radio/TSGR4_101-bis-e/Docs/R4-2201731.zip), TP for TR 37.717-31-11 to include DC\_2-5-66\_n78, Ericsson, Rogers  Implemented TP’s from RAN4 #102-e:  [R4-2205703](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205703.zip), TP for TR 37.717-31-11 to include DC\_2-7-66\_n25, Ericsson, Bell Mobility  [R4-2205704](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_102-e/Docs/R4-2205703.zip), TP for TR 37.717-31-11 to include DC\_2-7-13\_n25, Ericsson, Bell Mobility  R4-2203632, TP for TR 37.717-31-11: DC\_1-8-20\_n3, VODAFONE Group Plc  R4-2203633, TP for TR 37.717-31-11: DC\_1-8-28\_n3, VODAFONE Group Plc  R4-2203634, TP for TR 37.717-31-11: DC\_1-8-28\_n78, VODAFONE Group Plc  R4-2203635, TP for TR 37.717-31-11: DC\_1-8-32\_n3, VODAFONE Group Plc  R4-2204098, TP for TR 37.717-31-11: DC\_1-8-32\_n78, VODAFONE Group Plc  R4-2204101, TP for TR 37.717-31-11: DC\_1-20-28\_n78, VODAFONE Group Plc  R4-2204107, TP for TR 37.717-31-11: DC\_1-20-38\_n8, VODAFONE Group Plc  R4-2204110, TP for TR 37.717-31-11: DC\_3-8-28\_n78, VODAFONE Group Plc  R4-2204112, TP for TR 37.717-31-11: EN-DC\_1-8-11\_n79, SoftBank Corp.  R4-2205251, Updated TP for TR 37.717-31-11 DC\_3C-7A-32A\_n78A, Huawei, HiSilicon  R4-2204113, TP for TR 37.717-31-11: DC\_3-8-32\_n1, VODAFONE Group Plc  R4-2204116, TP for TR 37.717-31-11: DC\_3-8-32\_n78, VODAFONE Group Plc  R4-2204119, TP for TR 37.717-31-11: DC\_3-20-28\_n78, VODAFONE Group Plc  R4-2204122, TP for TR 37.717-31-11: DC\_7-8-32\_n78, VODAFONE Group Plc  R4-2204125, TP for TR 37.717-31-11: DC\_7-8-38\_n1, VODAFONE Group Plc  R4-2204126, TP for TR 37.717-31-11: DC\_7-20-38\_n8, VODAFONE Group Plc  R4-2204127, TP for TR 37.717-31-11: DC\_7-28-38\_n1, VODAFONE Group Plc  R4-2204128, TP for TR 37.717-31-11: DC\_8-20-28\_n78, VODAFONE Group Plc  R4-2204129, TP for TR 37.717-31-11: DC\_8-20-38\_n1, VODAFONE Group Plc  R4-2204139, TP for TR 37.717-31-11: DC\_8-32-38\_n1, VODAFONE Group Plc  R4-2204141, TP for TR 37.717-31-11: DC\_20-28-38\_n1, VODAFONE Group Plc  R4-2204142, TP for TR 37.717-31-11: DC\_28-32-38\_n1, VODAFONE Group Plc | 0.8.0 |
| 2022-02 | 3GPP RAN4#103-e | R4-2209552 | Implemented TP’s from RAN4 #103-e:  R4-2207719, TP for TR 37.717-31-11 Addition of DC\_2-30-(n)5, AT&T  R4-2207720, TP for TR 37.717-31-11 Addition of DC\_30-66-(n)5, AT&T  R4-2207940, TP for TR 37.717-31-11: DC\_2-13-66\_n2, Verizon, Samsung  R4-2210374, TP for TR 37.717-31-11: DC\_3A-32A-38A\_n28A and DC\_3C-32A-38A\_n28A, Huawei, HiSilicon  R4-2210375, TP for TR 37.717-31-11 DC\_3A-8A-32A\_n28A and DC\_3C-8A-32A\_n28A, Huawei, HiSilicon | 0.9.0 |