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Mobility Gold Standard Document

This document provides the parameters, aka "The Gold Standard", for the Nokia (FSM4) LTE Radio Access Network. The AT&T Gold Standard for the parameters defined in this document must be used by all nodes of this type. Any change to these parameters must be approved by the Gold Standard Governance Board (FSMr4)

Software Release: SRAN20A

Hardware Code: HW-Nokia-4

Creation History

Network Element: ENodeB H\

Software Version SRAN20A

Application major release:	SRAN20A
Application patch level:	SBTS20A_ENB_0000_001382_000000
OS type & major release:	
OS patch level:	
DB type & major release:	
DB patch level:	
Veritas / other major release:	
Veritas / other patch level:	





Gold Standard



at&t

AT&T
Only
team

Document Revision

Date	Rev.
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7/29/2020

1.00

8/3/2020

1.00a

8/4/2020 1.10

8/24/2020 1.20

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Revision History - RAN Nokia (FSM4) LTE 19B GA1

Revision Description

PMATT 326036 Nokia LTE 20A GA-1 Initial version

5G I/W Feature ID	Feature Description
LTE4281	Intra-eNB handover for LTE-NR DC Option 3X
LTE5515	Flexible LTE CA with EN-DC -phase II
LTE5501	EN-DC aware idle mode load balancing
LTE5003	Data buffer trigger for EN-DC
LTE5388	VoLTE without EN-DC Present
LTE5407	LTE-NR Dynamic Spectrum Sharing phase I
LTE5190	X2 Partial Reset EN-DC

LTE Feature ID	Feature Description
LTE3586	High power UE specific mobility thresholds
LTE5320	Cat-M1: RAI (Release Assistance Indication, Rel-14)
LTE5306	NB-IoT: Release Assistance Indication
LTE4908	NB-IoT peak rate 159 kbps
LTE5393	NB-IoT with Baseband Pooling II (20MHz)
LTE4050	UL traffic driven UL CA SCell configuration
LTE3050	eNB commissioning without RU installation
LTE2360	Login Restriction with CNUM
SR02593	RF Scan support for all other Airscale2.0 RRH's
CRL-26379	Scell Activate for CQI
CRL-30564	QCI1/SRB limits for PDCCH usage
CRL-30637	CAS (Channel Aware Scheduling) Noise Rise Reduction
CRL-28952	MAC Retries for RRC Re-Establishment
CRL-28280	QCI Specific UL Power Control
CRL-31062	RLF Trig HO Counters
CRL-31168	LTE EN-DC NR Band Priority (NIDD)

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added WPS column to let MBBT track the following WPS parameters

acBarSkipForMMTELVideo
acBarSkipForMMTELVideo
acBarSkipForMMTELVoice
acBarSkipForMMTELVoice
acBarSkipForSMS
acBarSkipForSMS
acbNumRrcConnCellStart
acbNumRrcConnCellStop
acbNumRrcReqStart
acbNumRrcReqStop
acbRrcReqFactor
acbSkipTimer
actAcBarringRrcConn
actAcBarringRrcReq
actAutoAcBarring
actEnhAcAndGbrServices
actHighPrioServices
autoAcBarringStartTimer
autoAcBarringStartTimer
hpsSessArpMax
hpsSessArpMin
tPageCorrInt
tPageCorrInt

SRAN20A-Nokia-089: Nokia SRAN LTE eRAN Sync

the following local parameters were added

MRBTS/MNL/MNLENT/SYNC/CLOCK/TOP/TOPPacceptedClockClass
MRBTS/TNLSVC/TNL/IPNO/IPIF-3 interfaceDN
MRBTS/TNLSVC/TNL/IPNO/IPIF-3/IPADDRESSV4 ipAddressAllocationMethod
MRBTS/TNLSVC/TNL/IPNO/IPIF-3 ipMtu
MRBTS/TNLSVC/TNL/IPNO/IPIF-3/IPADDRESSV4 localIpAddr
MRBTS/TNLSVC/TNL/IPNO/IPIF-3/IPADDRESSV4 localIpPrefixLength
MRBTS/MNL/MNLENT/SYNC/CLOCK/TOP/TOPP,topMasterList-000 localPriority
MRBTS/MNL/MNLENT/SYNC/CLOCK/TOP/TOPP,topMasterList-000 masterIpAddr
MRBTS/MNL/MNLENT/SYNC/CLOCK/TOP/TOPP,topMasterList-000 maximumNetworkTimingError
MRBTS/MNL/MNLENT/SYNC/CLOCK/NTP maxNtpTimeError
MRBTS/MNL/MNLENT/SYNC/CLOCK/TOP/TOPP,topMasterList-000 phaseErrorComp
MRBTS/MNL/MNLENT/SYNC/CLOCK/TOP-1 sPlaneDscp
MRBTS/MNL/MNLENT/SYNC/CLOCK/TOP-1 sPlaneIpAddressDN
MRBTS/MNL/MNLENT/SYNC/CLOCK,syncInputList-001 syncInputPrio
MRBTS/MNL/MNLENT/SYNC/CLOCK,syncInputList-001 syncInputType
MRBTS/MNL/MNLENT/SYNC/CLOCK/TOP/TOPPsyncMessageRate
MRBTS/MNL/MNLENT/SYNC/CLOCK/TOP-1 topDomainNumber
MRBTS/MNL/MNLENT/SYNC/CLOCK/TOP/TOPP,topMasterList-000 topMasterId
MRBTS/TNLSVC/TNL/ETHSVC/ETHIF-1/VLANIF-3 userLabel
MRBTS/TNLSVC/TNL/IPNO/IPIF-3 userLabel
MRBTS/MNL/MNLENT/SYNC/CLOCK/NTP utcGpsNtpOffsetAfter
MRBTS/MNL/MNLENT/SYNC/CLOCK/NTP utcGpsNtpOffsetBefore
MRBTS/MNL/MNLENT/SYNC/CLOCK/NTP utcGpsNtpOffsetChangeDate
MRBTS/TNLSVC/TNL/ETHSVC/ETHIF-1/VLANIF-3 vlanId

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SRAN20A Nokia 087

B_17Cell and FirstNet-B14_Cell suffixes were added to the local dIRsBoost parameter

dIRsBoost B_17Cell = 3dB

dIRsBoost dIRsBoost = 0dB"

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Requested By	Entered By

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John Smither

Mark Steigerwald

John Smither

Soheil Sahraei

John Smither

Richard Davis

John Smither



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* Do not send Meeting invitations

Supporting Documents

Document Link			Title

Links

Links	Description

Title / Team
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AREA MGR MEMBER TECH STAFF
AREA MANAGER NETWORK PLANNING
DIRECTOR NETWORK PLANNING
AREA MGR NETWORK OPS CTR
AREA MGR ADVANCED TECH SUPPORT AREA MGR ADVANCED TECH SUPPORT
SENIOR-ADVANCED TECHNICAL SUPPORT
PRINCIPAL-ADVANCED TECHNICAL SUPPORT
AREA MGR RAN ENGINEERING+
PRINCIPAL-RAN ENGINEER+
PRINCIPAL-RAN ENGINEER+
PRINCIPAL-RAN ENGINEER+

PRINCIPAL-RAN ENGINEER+
LEAD MEMBER OF TECHNICAL STAFF
LEAD MEMBER OF TECHNICAL STAFF
AREA MGR NETWORK ENGINEERING+
PROFESSIONAL-WIRELESS TRANSLATIONS ENG
PROFESSIONAL-WIRELESS TRANSLATIONS ENG
SENIOR-WIRELESS TRANSLATIONS ENG
SENIOR-WIRELESS TRANSLATIONS ENG
AREA MGR NETWORK OPS CTR
SR. TECH SPEC, NETWK SVCS MAINTENANCE
SR. TECH SPEC, NETWK SVCS MAINTENANCE
SR. TECH SPEC, NETWK SVCS MAINTENANCE
SENIOR-RAN ENGINEER
Principal - Technical Project Management
PRINCIPAL MEMBER OF TECH STAFF



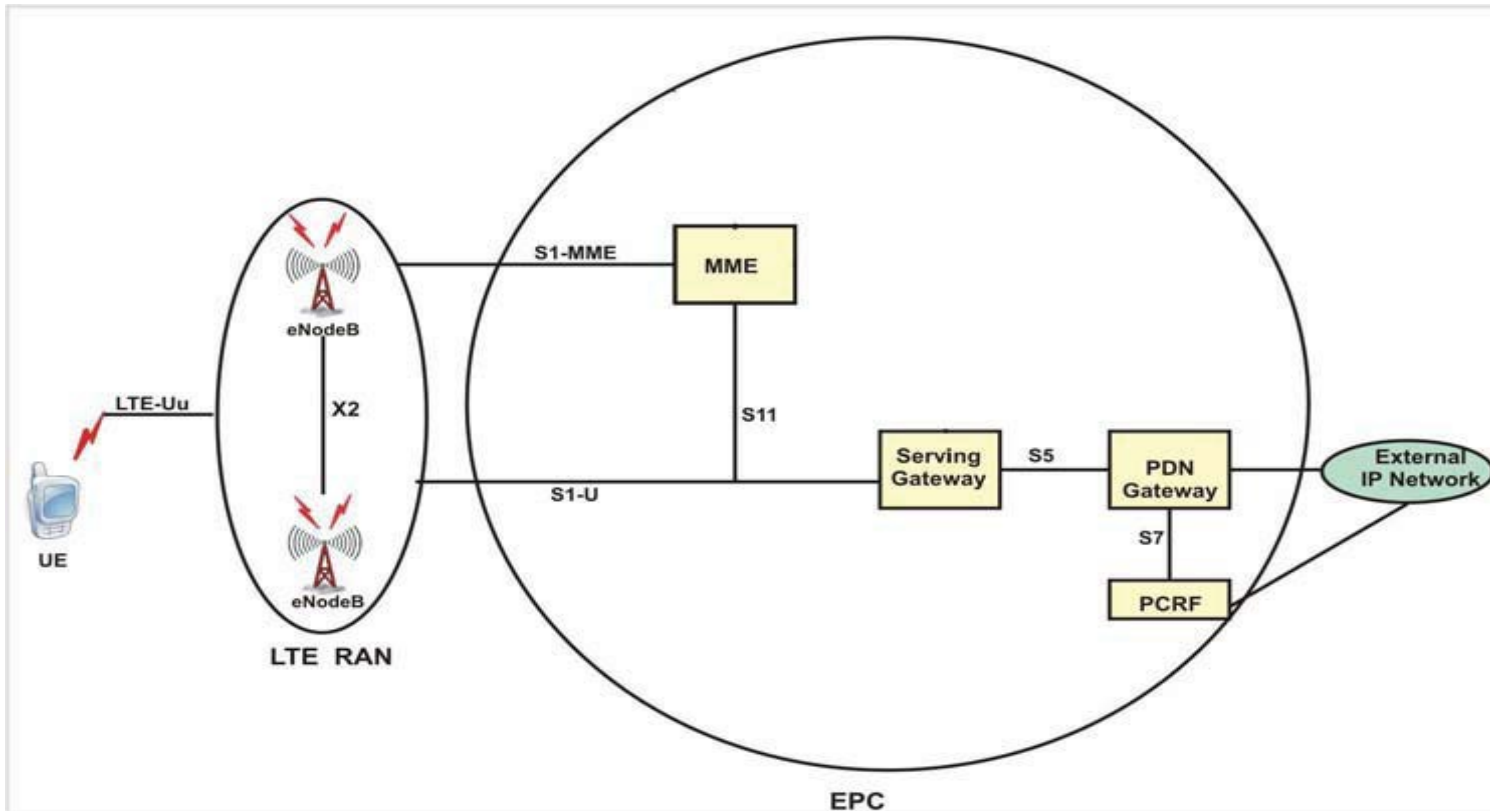
Description





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Node Description : L1



eNodeB

The eNodeB contains Transmit and Receive antennas. It communicates with the UEs. It

The eNodeB provides:

- Radio resource management
- Connection Mobility Control, and downlink (scheduling)
- S1-MME Interface to Mobility Management Entity
- S1-U Interface to Serving Gateway
- IP header compression and decompression
- Routing of user plane data to the PDN Gateway
- Scheduling and transmission
- Scheduling and transmission
- Operations, Administration, and Maintenance
- Bearer level rate enforcement
- Handover support

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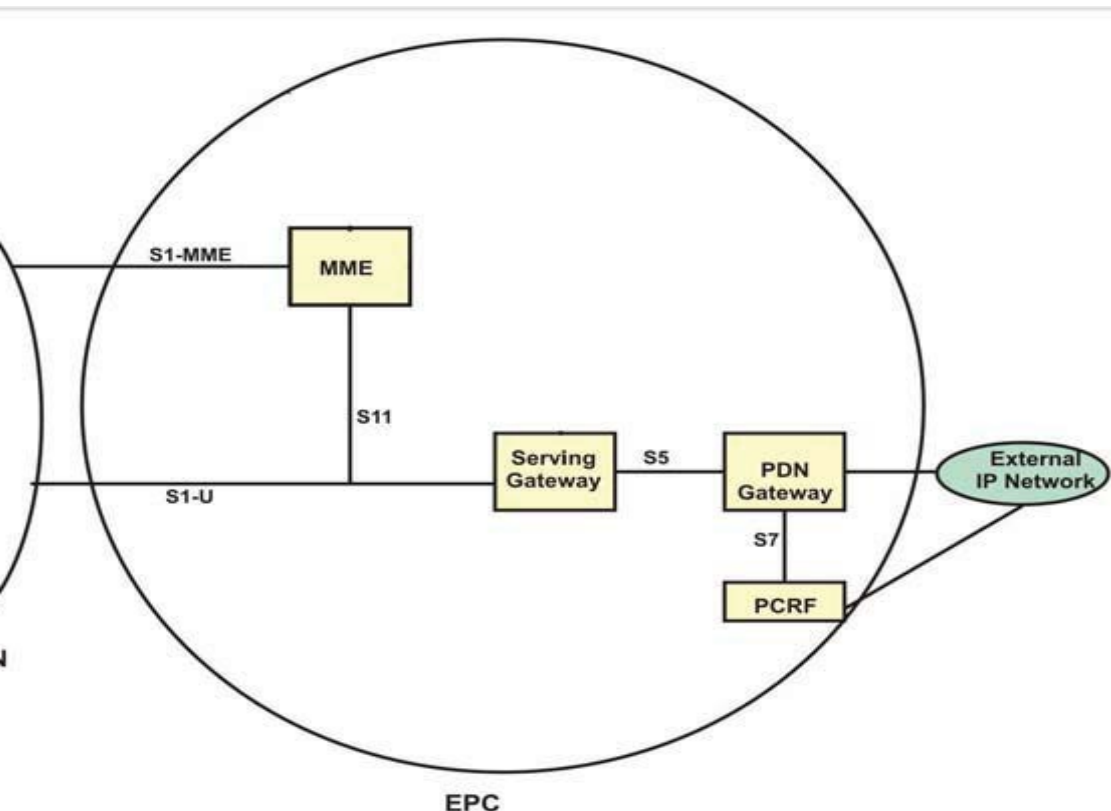
Vendor:
Nokia

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EPC ENodeB



Receive Duplex Units (TRDUs) or (RRH) and the eNodeB supports Multiple Input Multiple Output (MIMO).

: Radio Bearer Control, Radio Admission Control, and Dynamic allocation of resources to UEs in uplink

y Management Entity (MME)

eway (S-GW)

ncryption of user data stream

ward S-GW

of paging messages (originated from MME)

of broadcast information (originated from MME or

d Maintenance (OAM)

it and bearer level admission control

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Originating Lab Results Document(s)

Originating FFA Results

Lab / FFA Change History

Date	Description
7/29/2020	SRAN20A PMATT#326036 Lab Validation and certification was carried out in Redmond Lab Project FFA Trial was carried out in Philadelphia Market
8/4/2020	Trial has been conducted on few sites and stability/KPI has been monitored: MNL03070, DTL03707, IAL02732, DVL06592
8/24/2020	tested in the HARLY, Idaho, and Montana markets

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Updated By

John Smither

John Smither

John Smither



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Audit

Tool used for audit
Owner: Suneela Thompson
Org. of owner
Frequency of GSAP Audit

KPIs

KPI Tools
LTE KPIs

Remediation History

Project title

Manual Auditing - As Needed	
Automated auditing: GSAP	
301-529-0047	st9553@us.att.com
AT&T LABS	
Daily	
Daily	
KPI Links	
KPI Descriptions	
	Standard LTE KPIs
Remediation Owner	Org. of Remediation Owner

|







GA1

Stakeholder	Person(s) Voting	Approve?
Tech Arch / Doc Owner	Soheil Sahraei for David Orloff	yes
TP&E RAN	Rich Caine for Tim Hiemenz	yes
RAN Tier 2 Engineering	Joe Kane for Chad Bray	yes
GNO MTRC	Petr Knapo for Chad Bray	yes
GNO ATS	Lionel Fisher for Mike Stephens	yes
GNO ATS (2)	Dennis Whitworth for Mohammad Islam	yes
MNPC MIC	Usang Ekpe for Annette Moffitt	yes
MNPC Gold Stds	Chris Wyatt for Art Brown	yes
TP&E In-building Engineering	Robert Johnson for Nico Vlok	yes
Tech Arch / Doc Owner	Soheil Sahraei for David Orloff	yes
TP&E RAN	Rich Caine for Tim Hiemenz	yes
RAN Tier 2 Engineering	Joe Kane for Chad Bray	yes
GNO MTRC	Petr Knapo for Chad Bray	yes
GNO ATS	Lionel Fisher for Mike Stephens	yes
GNO ATS (2)	Dennis Whitworth for Mohammad Islam	yes
MNPC MIC	Deval Patel for Annette Moffitt	yes
MNPC Gold Stds	Chris Wyatt for Art Brown	yes
TP&E In-building Engineering	Robert Johnson for Nico Vlok	yes
no vote needed		

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]



Issues?

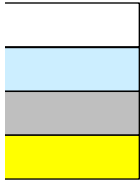
Global Fixed: All nodes have the same fixed setting

Unique per node: Set to local requirements

Notable: Parameter is not auditable.

Recent update: Highlight

AT&T Gold Standard (UI Value)	AT&T Gold Standard (Internal Value)	AT&T Range
0dB	1000	
3dB	1300	
3dB	1300	
1.77dB	1177	
1.77dB	1177	
3dB	1300	
0dB	1000	



Range	Permission	Unit	RoC	Suffix
Enum [700: -3dB, 1000: 0dB, 1 Local		N/A	man	
Enum [700: -3dB, 1000: 0dB, 1 Local		N/A	man	PowerBoost_20mhz_Cove
Enum [700: -3dB, 1000: 0dB, 1 Local		N/A	man	PowerBoost_20mhz_Cove
Enum [700: -3dB, 1000: 0dB, 1 Local		N/A	man	PowerBoost_20mhz_Cove
Enum [700: -3dB, 1000: 0dB, 1 Local		N/A	man	PowerBoost_20mhz_Cove
Enum [700: -3dB, 1000: 0dB, 1 Local		N/A	man	B17_Cell
Enum [700: -3dB, 1000: 0dB, 1 Local		N/A	man	FirstNet-B14_Cell

AT&T Action Following SU	FGA	Flag	FirstNet	LTE-5G	WPS
		DTS_LNCEL_FDD			
:range_40w_2Tx		DTS_LNCEL_FDD			
:range_40w_4Tx		DTS_LNCEL_FDD			
:range_60w_2Tx		DTS_LNCEL_FDD			
:range_60w_4Tx		DTS_LNCEL_FDD			
	SRAN20A-Nokia-087	DTS_LNCEL_FDD			
	SRAN20A-Nokia-087	DTS_LNCEL_FDD			

Template Version	Related Features	Short Description
SBTS20A_FDD_0100_att-b	LTE4750 LTE-NR DS	Downlink reference signals transmiss
SBTS20A_FDD_0100_att-b	LTE4750 LTE-NR DS	Downlink reference signals transmiss
SBTS20A_FDD_0100_att-b	LTE4750 LTE-NR DS	Downlink reference signals transmiss
SBTS20A_FDD_0100_att-b	LTE4750 LTE-NR DS	Downlink reference signals transmiss
SBTS20A_FDD_0100_att-b	LTE4750 LTE-NR DS	Downlink reference signals transmiss
SBTS20A_FDD_0100_att-b	LTE4750 LTE-NR DS	Downlink reference signals transmiss
SBTS20A_FDD_0100_att-b	LTE4750 LTE-NR DS	Downlink reference signals transmiss

**Change From Previous
Release**

Previous Value

No Change
No Change
No Change
No Change
No Change
New Suffix
New Suffix

New Suffixes	Reason
AFAA	New HW Introduction
AFAA_NBIOT	New HW Introduction
FirstNet_MME-S1	MME Data re-organization
5G_LB_Colo_Inter_HB	FGA 053 rev 3 Cell Info
5G_LB_Colo_Inter_MB	FGA 053 rev 3 Cell Info
5G_LB_Non_Colo_Inter_HB	FGA 053 rev 3 Cell Info
5G_LB_Non_Colo_Inter_MB	FGA 053 rev 3 Cell Info
5G_LB_Non_Colo_ULI_Inter_HB	FGA 053 rev 3 Cell Info
5G_LB_Non_Colo_ULI_Inter_MB	FGA 053 rev 3 Cell Info
5G_MB_Colo_Intra_LB	FGA 053 rev 3 Cell Info
5G_MB_Colo_Irat_LB	FGA 053 rev 3 Cell Info
5G_MB_Colo_InterBorder_LB	FGA 053 rev 3 Cell Info
5G_MB_Non_Colo_Intra_LB	FGA 053 rev 3 Cell Info
5G_MB_Non_Colo_Irat_LB	FGA 053 rev 3 Cell Info
5G_MB_Non_Colo_InterBorder_LB	FGA 053 rev 3 Cell Info
5G_MB_Non_Colo_ULI_Intra_LB	FGA 053 rev 3 Cell Info
5G_MB_Non_Colo_ULI_Irat_LB	FGA 053 rev 3 Cell Info
5G_MB_Non_Colo_ULI_InterBorder_LB	FGA 053 rev 3 Cell Info
eRAN Sync	SRAN20A-Nokia-089

Removed Suffixes	Reason
5G_IW_sub6-MB_HB_and_mmWave-nonB14Cells	Redundant data cleanup
NonOTDOA	FGA72
OTDOA-GPS	FGA72

Suffix Name	Definition
5G_IW_sub6-MB_HB_and_mmWave-nonB14Cells	FGA62
AFAA	External PIM Cancellation
AFAA_NBIOT	External PIM cancellation for inband NBIOT
FirstNet_MME-S1	LNMME object towards FN MME pool
NonOTDOA	unique
OTDOA-GPS	unique
5G_LB_Colo_Inter_HB	5G Low band Colocated with Interfreq LTE High
5G_LB_Colo_Inter_MB	5G Low band Colocated with InterFreq LTE Mid
5G_LB_Non_Colo_Inter_HB	5G Low band Non Colocated with Interfreq LTE
5G_LB_Non_Colo_Inter_MB	5G Low band Non Colocated with InterFreq LTE
5G_LB_Non_Colo_ULI_Inter_HB	5G Low band Non Colocated ULI with Interfreq L
5G_LB_Non_Colo_ULI_Inter_MB	5G Low band Non Colocated ULI with InterFreq
5G_MB_Colo_Intra_LB	5G Mid band Colocated with IntraFreq LTE Low
5G_MB_Colo_Irat_LB	5G Mid band Colocated with Irat LTE Low band
5G_MB_Colo_InterBorder_LB	5G Mid band Colocated with InterBorder LTE Lo
5G_MB_Non_Colo_Intra_LB	5G Mid band Non Colocated with IntraFreq LTE
5G_MB_Non_Colo_Irat_LB	5G Mid band Non Colocated with Irat LTE Low b
5G_MB_Non_Colo_InterBorder_LB	5G Mid band Non Colocated with InterBorder LT
5G_MB_Non_Colo_ULI_Intra_LB	5G Mid band Non Colocated ULI with IntraFreq
5G_MB_Non_Colo_ULI_Irat_LB	5G Mid band Non Colocated ULI with Irat LTE L
5G_MB_Non_Colo_ULI_InterBorder_LB	5G Mid band Non Colocated ULI with InterBorde
NBIOT_Main	
NBIOT_CELL_for_XxMHz	
NBIOT_CELL_for_YTx	
NBIOT_HostCell_Main	
NBIOT_ULC_WA_NON-NB_ABIA_CELLS	
NBIOT*_GuardBand_Addendum	
CATM	
DLShaping	
5G*	
eRAN Sync	back up Synchronization

condition

5G Low band Colocated with Interfreq LTE High band
5G Low band Colocated with InterFreq LTE Mid band
5G Low band Non Colocated with Interfreq LTE High band
5G Low band Non Colocated with InterFreq LTE Mid band
5G Low band Non Colocated ULI with Interfreq LTE High band
5G Low band Non Colocated ULI with InterFreq LTE Mid band
5G Mid band Colocated with IntraFreq LTE Low band
5G Mid band Colocated with Irat LTE Low band as a
5G Mid band Colocated with InterBorder LTE Low band
5G Mid band Non Colocated with IntraFreq LTE Low band
5G Mid band Non Colocated with Irat LTE Low band
5G Mid band Non Colocated with InterBorder LTE Low band
5G Mid band Non Colocated ULI with IntraFreq LTE Low band
5G Mid band Non Colocated ULI with Irat LTE Low band
5G Mid band Non Colocated ULI with InterBorder LTE Low band

TOPP

comments

removed with ATT-D - redundant

new hardware introduction

new hardware introduction

MME Data re-organization

Removed with FGA72

Removed with FGA72

FGA 053 rev 3 Band designation following 5G refers to NR band and band designation at the end is LTE band. (5G_LB= N5, 5G_I

FGA 053 rev 3 Band designation following 5G refers to NR band and band designation at the end is LTE band. (5G_LB= N5, 5G_I

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FL18A_0200_att-a

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FL18A_0200_att-a

FL18A_0200_att-a

FL18A_0200_att-b

FL19_0100_att-b

FL19_0100_att-c

SBTS19A_FDD_0100_att-c

SRAN20A FGA-089

Suffix	Usage Notes
NBIOT_Main	Use this suffix for building all NBIOT Cells. Note that the Base suffix pertains to LTE cells, it shall not be used for NBIOT except for DRX and SDRX MOs
NBIOT_CELL_for_XxMHz	
NBIOT_CELL_for_YTx	Apply these settings on your NBIOT cell depending on the characteristics of the Host LTE cell (e.g. 10MHz or 4Tx etc)
NBIOT_HostCell_Main	Apply these settings on the LTE Cell which is hosting NBIOT
NBIOT_ULC_WA_NON-NB_ABIA_CELLS	Apply these settings in scenarios identified to require ULComp workaround with NBIOT
NBIOT_*_GuardBand_Addendum	Apply these settings in order to change the default Inband mode to Guardband mode
CATM	The following workaround for CATM cells is no longer required in FL19. Please remove these from CATM Cells: -MRBTS/LNBTS/LNCEL/IAFIM Managed Object -MRBTS/LNBTS/LNCEL/SIB_sibSchedulingList only where siMessageSibType=SIB4
DLShaping	Apply only on groups of sites where LTE1800 Downlink interference shaping is to be used. Must exclude CATM (which is usually NBIOT host) and LAA Cells
5G*	Apply all items with LTE-5G=5G and AT&T Action Following SU=YES to new build and existing sites following SU. Apply remaining items with LTE-5G=5G and AT&T Action Following SU=YES-Conditional when the conditional 5G Node data is known.

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