



WCNSS Android Configuration Guide

80-N8140-1 Rev. E

May 2013

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Revision history

Revision	Date	Description
A	Nov 2011	Initial release
B	Feb 2012	Updated Section 2.2 and Appendix A
C	Jun 2012	Updated Table 2-1, Appendix A, and added Table 2-3
D	Dec 2012	Updated Table 2-1
E	May 2013	Added and modified config params

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1 Introduction

1.1 Purpose

This document describes how to configure and operate the Qualcomm WCNSS host device driver on the Android platform and Qualcomm's MSM8960 solution.

1.2 Scope

This document is intended for customers who are using or who plan to use the WCNSS solution in their Android phone designs.

1.3 Conventions

Function declarations, function names, type declarations, and code samples appear in a different font, e.g., #include.

Shading indicates content that has been added or changed in this revision of the document.

1.4 References

Reference documents, which may include Qualcomm documents, standards, and resources, are listed in [Table 1-1](#). Reference documents that are no longer applicable are deleted from this table; therefore, reference numbers may not be sequential.

Table 1-1 Reference documents and standards

Ref.	Document	
Qualcomm		
Q1	<i>Application Note: Software Glossary for Customers</i>	CL93-V3077-1
Q2	<i>WCN1314 Android Configuration Guide</i>	80-N4485-1
Q3	<i>Application Note: Telescopic Beacon Wakeup</i>	80-N7461-1
Q4	<i>WCN36X0(A) Training WLAN TX CLPC Characterization Using QSPR Tools</i>	80-WL300-25
Q5	<i>WCN36X0 Training WLAN TX SCPC Characterization Using QSPR Tools</i>	80-WL300-26
Q6	<i>Presentation: QCA Android WCN36X0 Central Regulatory Domain Agent (CRDA) And Country Code Design</i>	80-Y0476-2
Q7	<i>Presentation: Tunneled Direct Link Setup (TDLS)</i>	80-Y0476-3
Q8	<i>Presentation: QCA WCNSS Rate Adaptation (RA) Overview</i>	80-Y0476-11
Q9	<i>QCA WCN36X0 Software Architecture</i>	80-Y0513-1

Ref.	Document	
Q10	QCA WCN36X0 WLAN Power Optimization Guide	80-Y0513-3
Standards		
S1	<i>Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications Amendment 4: Enhancements for Higher Throughput</i>	IEEE P802.11n/D7.0, Sep 2008
S2	<i>Codes for the Representation of Names of Countries and Their Subdivisions – Part 1: Country Codes</i>	ISO/IEC 3166-1

1.5 Technical assistance

For assistance or clarification on information in this guide, submit a case to Qualcomm CDMA Technologies at <https://support.cdmatech.com/>.

If you do not have access to the CDMATech Support Service website, register for access or send email to support.cdmatech@qualcomm.com.

1.6 Acronyms

For definitions of terms and abbreviations, see [Q1].

2 System Configuration

2.1 General params

2.1.1 BandCapability

Preferred band 0 – Both 2.4 GHz and 5 GHz, 1 – 2.4 GHz, 2 – 5 GHz		
Min	Max	Default
0	2	0

2.1.2 gEnableCloseLoop

Enable CLPC/SCPC Tx Power control. See reference document Q4 for CLPC and Q5 for SCPC. 1 – Enable, 0 – Disable (OLPC is applied)		
Min	Max	Default
0	1	1

2.1.3 gChannelBondingMode5GHz

Used for enabling or disabling Channel Bonding in 5GHz. See reference document Q9 . 1 – Enable 0 – Disable		
Min	Max	Default
0	1	1

2.1.4 EnableSuspend

Enable Suspend Mode on Android. 0 – Do not register with Android (applies for WCN1312 and WCN1314) 1 - Enable standby (applies for WCN1312 and WCN1314) 2 - Enable Deep sleep (applies for WCN1312 and WCN1314) 3 – Enable Packet Filtering (applies for WCN1312, WCN1314 and WCNSS solutions)		
Min	Max	Default
0	3	3

2.1.5 gDot11Mode

Phy mode setting		
Min	Max	Default
0	9	0

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PHY mode		AP (which the user is accessing)								
		ABG	11B	11G	11N	11G only	11N only	11B only	11AC only	11AC
STA mode	0 - 802.11_MODE_AUTO	A, G	B	G	N	G	N	B	11AC	11AC
	1 - 802.11_MODE_ABG	A, G	B	G	A, G	G	Not Connect	B	Not Connect	A, G
	2 - 802.11_MODE_B	B	B	B	B	Not Connect	Not Connect	B	Not Connect	B
	3 - 802.11_MODE_G	G	B	G	G	G	Not Connect	B	Not Connect	G
	4 - 802.11_MODE_N	A, G	B	G	N	G	N	B	Not Connect	N
	5 - 802.11_MODE_G_Only	G	Not Connect	G	Not Connect	G	Not Connect	Not Connect	Not Connect	Not Connect
	6 - 802.11_MODE_N_Only	Not Connect	Not Connect	Not Connect	N	Not Connect	N	Not Connect	Not Connect	Not Connect
	7 - 802.11_MODE_B_Only	B	B	Not Connect	Not Connect	Not Connect	Not Connect	B	Not Connect	Not Connect
	8 - 802.11_MODE_11AC_Only	Not Connect	Not Connect	Not Connect	Not Connect	Not Connect	Not Connect	Not Connect	11AC	11AC
	9 - 802.11_MODE_11AC	A, G	B	G	N	G	N	B	11AC	11AC

2.1.6 gRoamIntraBand

Roam only to APs within the current band. 1 - Roaming within band 0 - Roaming across band		
Min	Max	Default
0	1	1

2.1.7 gFixedRate

Fix the transmission rate for 11n mode. 0 – Automatically controlled by Rate Adaptation. See reference document Q8 .		
Min	Max	Default
0	31	0

WNI_CFG_FIXED_RATE_AUTO	0
WNI_CFG_FIXED_RATE_1MBPS	1
WNI_CFG_FIXED_RATE_2MBPS	2
WNI_CFG_FIXED_RATE_5_5MBPS	3
WNI_CFG_FIXED_RATE_11MBPS	4
WNI_CFG_FIXED_RATE_6MBPS	5
WNI_CFG_FIXED_RATE_9MBPS	6
WNI_CFG_FIXED_RATE_12MBPS	7
WNI_CFG_FIXED_RATE_18MBPS	8
WNI_CFG_FIXED_RATE_24MBPS	9
WNI_CFG_FIXED_RATE_36MBPS	10
WNI_CFG_FIXED_RATE_48MBPS	11
WNI_CFG_FIXED_RATE_54MBPS	12
WNI_CFG_FIXED_RATE_6_5MBPS_MCS0_20MHZ_SIMO	13
WNI_CFG_FIXED_RATE_13MBPS_MCS1_20MHZ_SIMO	14
WNI_CFG_FIXED_RATE_19_5MBPS_MCS2_20MHZ_SIMO	15
WNI_CFG_FIXED_RATE_26MBPS_MCS3_20MHZ_SIMO	16
WNI_CFG_FIXED_RATE_39MBPS_MCS4_20MHZ_SIMO	17
WNI_CFG_FIXED_RATE_52MBPS_MCS5_20MHZ_SIMO	18
WNI_CFG_FIXED_RATE_58_5MBPS_MCS6_20MHZ_SIMO	19
WNI_CFG_FIXED_RATE_65MBPS_MCS7_20MHZ_SIMO	20
WNI_CFG_FIXED_RATE_7_2MBPS_MCS0_20MHZ_SIMO_SGI	21
WNI_CFG_FIXED_RATE_14_4MBPS_MCS1_20MHZ_SIMO_SGI	22
WNI_CFG_FIXED_RATE_21_7MBPS_MCS2_20MHZ_SIMO_SGI	23
WNI_CFG_FIXED_RATE_28_9MBPS_MCS3_20MHZ_SIMO_SGI	24
WNI_CFG_FIXED_RATE_43_3MBPS_MCS4_20MHZ_SIMO_SGI	25
WNI_CFG_FIXED_RATE_57_8MBPS_MCS5_20MHZ_SIMO_SGI	26
WNI_CFG_FIXED_RATE_65MBPS_MCS6_20MHZ_SIMO_SGI	27

WNI_CFG_FIXED_RATE_AUTO	0
WNI_CFG_FIXED_RATE_72_2MBPS_MCS7_20MHZ_SIMO_SGI	28
WNI_CFG_FIXED_RATE_0_25MBPS_SLR_20MHZ_SIMO	29
WNI_CFG_FIXED_RATE_0_5MBPS_SLR_20MHZ_SIMO	30
WNI_CFG_FIXED_RATE_68_25MBPS_QC_PROP_20MHZ_SIMO	31

2.1.8 gTxPowerCap

Set Maximum Tx power in dBm		
Min	Max	Default
0	128	27

2.1.9 g11dSupportEnabled

802.11d Support. See reference document Q6 . 1 – Enable, 0 – Disable		
Min	Max	Default
0	1	1

2.1.10 InfraUapsdVoSrvInTv

Unscheduled automatic power save delivery service interval for VO traffic in ms.		
Min	Max	Default
0	4294967295UL	20

2.1.11 InfraUapsdViSrvInTv

Unscheduled automatic power save delivery service interval for VI traffic in ms.		
Min	Max	Default
0	4294967295UL	300

2.1.12 InfraUapsdBeSrvInTv

Unscheduled automatic power save delivery service interval for BE traffic in ms.		
Min	Max	Default
0	4294967295UL	300

2.1.13 InfraUapsdBkSrvInTv

Unscheduled automatic power save delivery service interval for BK traffic in ms.		
Min	Max	Default
0	4294967295UL	300

2.1.14 gNumRxAnt

Rx Antenna configuration. WCNSS only supports single Rx antenna. 1 – 1x1		
Min	Max	Default
		1

2.1.15 gNthBeaconFilter

Beacon filtering frequency (unit is beacon intervals). Firmware will notify the host driver In BMPS, if there is BEACON content change in this period.		
Min	Max	Default
0	255	50

2.1.16 gShortGI20Mhz

Enable Short Guard Interval for HT20 in 5GHz. 1 – Enable, 0 – Disable		
Min	Max	Default
0	1	1

2.1.17 gShortGI40Mhz

Enable Short Guard Interval for HT40 in 5GHz. 1 – Enable, 0 – Disable		
Min	Max	Default
0	1	1

2.1.18 isAndroidPsEn

Enable Power saving mechanism is based on Android Framework. If set to 0 the driver internally controls the Power saving mechanism. If set to 1, Android Framework controls the Power saving mechanism.		
Min	Max	Default
0	1	0

2.1.19 g11hSupportEnabled

Enable/disable 802.11h support.		
Min	Max	Default
0	1	1

2.1.20 ImplicitQosIsEnabled

Enable/disable implicit QoS for WMM AC handling.		
Min	Max	Default
0	1	1

2.1.21 gEnableLogp

Enable/disable driver watchdog thread for driver fatal error recovery.		
Min	Max	Default
0	1	0

2.1.22 gStaKeepAlivePeriod

WCN sends the ARP request to connect the AP periodically in seconds to notify STA's existence.		
Min	Max	Default
0	65535	0

2.1.23 gEnableAutomaticTxPowerControl

EnableAutomaticTxPowerControl		
Min	Max	Default
0	1	1

2.1.24 isP2pDeviceAddrAdministrated

Enable P2P administrated interface.		
Min	Max	Default
0	1	0

2.2 Power save

2.2.1 gEnableImps

Enable Idle Mode Power Save. See reference document Q10 . 1 – Enable, 0 – Disable		
Min	Max	Default
0	1	1

2.2.2 gEnableBmps

Enable Beacon Mode Power Save. See reference document Q10 . 1 – Enable, 0 – Disable		
Min	Max	Default
0	1	1

2.2.3 glmpsModSleepTime

Increase sleep duration during IMPS (seconds). 0 - implies no periodic wake up from IMPS. Periodic wakeup is unnecessary if Idle Scan is disabled.		
Min	Max	Default
5	65535	0

2.2.4 gEnableModulatedDTIM

Use Modulated DTIM. See reference document Q10 .		
Min	Max	Default
0	5	0

2.2.5 gEnableDynamicDTIM

Use Dynamic DTIM. See reference document Q10 .		
Min	Max	Default
0	5	

2.2.6 gTelescopicBeaconWakeupEn

Enable Telescopic DTIM. See reference document Q10 and Q3 .		
Min	Max	Default
0	1	0

2.2.7 telescopicBeaconTransListenInterval

Telescopic Beacon Trans Listen Interval. See reference document Q10 and Q3 .		
Min	Max	Default
0	7	3

2.2.8 telescopicBeaconTransListenIntervalNumIdleBcns

Number of Idle Beacon for the Normal state to Transient State. See reference document Q10 and Q3 .		
Min	Max	Default
5	255	10

2.2.9 telescopicBeaconMaxListenInterval

The Maximum LI and the WCNSS will attain if all conditions are met. See reference document Q10 and Q3 .		
Min	Max	Default
0	7	5

2.2.10 telescopicBeaconMaxListenIntervalNumIdleBcns

Number of Idle Beacons for the transient state to Maximum Listen Interval. See reference document Q10 and Q3 .		
Min	Max	Default
5	255	15

2.2.11 enableBeaconEarlyTermination

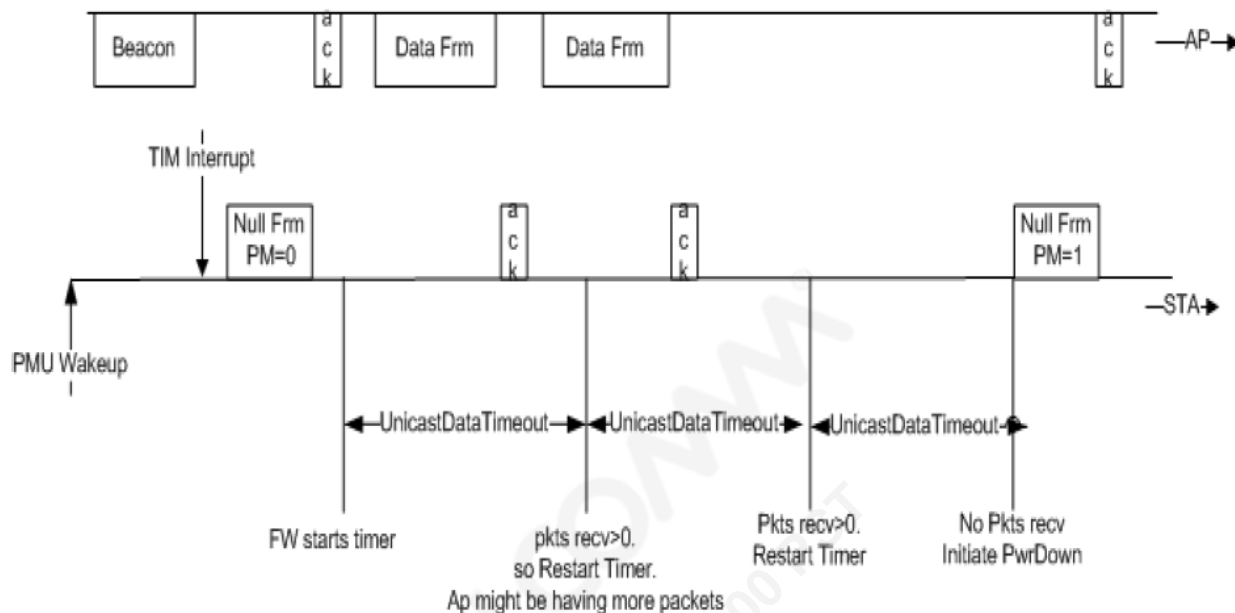
Enable Beacon Early Termination (BET). It is a feature that WCNSS does not stay awake until the end of whole Beacon packet. Instead, WCNSS will go back to power collapse immediately after checking TIM IE. 1 – Enable, 0 – Disable		
Min	Max	Default
0	1	0

2.2.12 beaconEarlyTerminationWakeInterval

BET Wake Interval. How frequent WCNSS needs to check whole Beacon packet. Value us set in beacon interval unit.		
Min	Max	Default
2	255	3

2.2.13 gDataInactivityTimeout

Timer indicating the amount of time the station waits for data frames (in milliseconds).		
Min	Max	Default
1	255	200



1. AP indicates it has queued frames for WCN by turning on the TIM bit in Beacon
2. WCN sends back Data Null frame with PM bit set to 0 indicating WCN is out of sleep. WCN also starts a SW timer with **gDataInactivityTimeout** value.
3. AP starts sending the queued frames. WCN acks back accordingly.
4. When the timer expires, WCN checks if it receives any data frame from AP. If it does, WCN restarts the timer again. If it does not, WCN sends Data Null with PM=1 indicating it is going to sleep. At this time, If AP has frames for WCN, AP has to queue them until next Beacon interval.

2.3 SoftAP

2.3.1 gEnableApProt

Enable 802.11 protection flag. This parameter controls the Protection bit when a legacy client joins the SAP; this enables the protection by setting protection bits in the beacons.

- 0 - Disable
- 1 - Enable

Min	Max	Default
0	1	1

2.3.2 gEnableApOBSSProt

Enable Overlapping BSS (OBSS) Protection. This parameter controls and updates the protection bit.

This param needs to be set for Certification When a legacy AP is present on the same channel (overlapping BSS) as that of SAP Or

When the SAP is operating in 5 GHz with 40 MHz, and the overlapping legacy AP is present on its current channel of operation or extension channel

- 0 - Disable

1 - Enable		
Min	Max	Default
0	1	0

2.3.3 gEnableApUapsd

Enable Unscheduled Automatic Power Save Delivery (UAPSD) for SoftAP. 0 - Disable 1 - Enable		
Min	Max	Default
0	1	0

2.3.4 gAPAutoShutOff

AutoShutdown is to disable AP and turn off WiFi after a user-configurable period of inactivity, i.e., no clients connected. Auto Shutdown value is in seconds.		
Min	Max	Default
0	4294967295(UL)	0

2.3.5 gEnablePhyAgcListenMode

<p>Energy Detect Mode: Turn on only the RF energy detector instead of the complete Receive chain when listening for packets. It is used for SAP to save power as most use case is in short range. Valid values 0-128 128 means disable Energy Detect feature 0-9 is threshold code and 7 is the recommended value from the system if the feature is to be enabled. 10-128 are reserved. The EDET threshold mapping is as follows in 3dB step: 0 = -60 dBm 1 = -63 dBm 2 = -66 dBm ... 7 = -81 dBm 8 = -84 dBm 9 = -87 dBm Note: Any of these settings are valid. Setting 0 will yield the highest power saving (in a noisy environment) at the cost of more range. The range impact is approximately #calculated as: Range Loss (dB) = EDET threshold level (dBm) + 97 dBm</p>		
Min	Max	Default
0	128	128

2.3.6 gDisableIntraBssFwd

Disable Intra BSS forwarding. 0 - Disable 1 - Enable		
Min	Max	Default
0	1	0

2.3.7 gAPCntryCode

Country Code		
Min	Max	Default
USI	USI	FFF

2.4 Channel range and auto channel selection

2.4.1 gApAutoChannelSelection

To enable SoftAP Auto Channel selection. See reference document Q9 . 0 - Disable 1 - Enable		
Min	Max	Default
0	1	0

2.4.2 gAPChannelSelectStartChannel

Start channel to be used by SoftAP for Auto Channel Selection. Valid only when gApAutoChannelSelection is set. See reference document Q9 .		
Min	Max	Default
0	0xff	0

2.4.3 gAPChannelSelectEndChannel

End channel to be used by SoftAP for Auto Channel Selection. Valid only when gApAutoChannelSelection is set. See reference document Q9 .		
Min	Max	Default
0	0xff	11

2.4.4 gAPChannelSelectOperatingBand

Operating Band used for channel selection. Valid only when gApAutoChannelSelection is set. See reference document Q9 . 0 – 2.4 GHz , 1 – LOW, 5 GHz 2 – MID, 5 GHz		
---	--	--

3 – HIGH, 5 GHz 4 - 4.9 GHz.		
Min	Max	Default
0	4	0

2.5 Virtual STA support (32 STAs)

2.5.1 gEnableVSTASupport

To enable Virtual STA support which is needed to support 32 STAs for SoftAP. See reference document Q10 . 0 - Disable 1 - Enable		
Min	Max	Default
0	1	0

2.6 TDLS

2.6.1 gEnableTDLSSupport

Global flag that controls the TDLS feature. Set this param to 1 for enabling TDLS. See reference document Q7 .		
Min	Max	Default
0	1	0

2.6.2 gEnableTDLSPlicitTrigger

Flag that controls only implicit trigger. For implicit trigger to work, both gEnableTDLSSupport and gEnableTDLSPlicitTrigger need to be enabled. See reference document Q7 .		
Min	Max	Default
0	1	0

2.6.3 gTDLSTxStatsPeriod

Time period (in milliseconds) to evaluate whether the number of Tx packets exceeds TDLSTxPacketThreshold and triggers a TDLS setup request. See reference document Q7 .		
Min	Max	Default
2000	4294967295	5000

2.6.4 gTDLSTxPacketThreshold

Number of Tx packets during the period of gTDLSTxStatsPeriod when exceeded, a TDLS setup request is triggered. See reference document Q7 .		
Min	Max	Default
0	4294967295	100

2.6.5 gTDLSDiscoveryPeriod

Time period (in milliseconds) to initiate a TDLS discover request for a peer. See reference document Q7 .		
Min	Max	Default
5000	4294967295	20000

2.6.6 gTDLSTMaxDiscoveryAttempt

Number of failures of discover request, when exceeded, the peer is assumed to be not TDLS capable and no further request is made. See reference document Q7 .		
Min	Max	Default
1	100	3

2.6.7 gTDLSTxIdleTimeout

Time period (in milliseconds) where the TDLS link is idle, when exceeded, a TDLS teardown is triggered. See reference document Q7 .		
Min	Max	Default
2000	40000	5000

2.6.8 gTDLSTIdlePacketThreshold

Number of TX/RX packet, below which within last gTDLSTimeout period is considered as idle condition.		
Min	Max	Default
1	40000	5

2.6.9 gTDLSTRSSIHysteresis

Difference (in dB) between the AP RSSI and the peer RSSI, when exceeded, a TDLS teardown is triggered. See reference document Q7 .		
Min	Max	Default
0	100	100

2.6.10 gTDLSSRSSITriggerThreshold

Absolute value (in dB) of the peer RSSI, below which a TDLS setup request is triggered.		
Min	Max	Default
-120	0	-75

2.6.11 gTDLSSRSSITeardownThreshold

Absolute value (in dB) of the peer RSSI, when exceed, a TDLS teardown is triggered.		
Min	Max	Default
-120	0	-75

2.7 Packet filtering

2.7.1 mcastBcastFilter

To filter Mcast/Bcast Rx packets completely. See reference document Q10 . 0: No filtering 1: Filter all Multicasts. 2: Filter all Broadcast. 3: Filter all Mcast and Bcast		
Min	Max	Default
0	3	0

2.7.2 hostArpOffload

To enable HostARPOffload feature so that ARP response is sent by Riva. See reference document Q10 . 0 - Disable 1 - Enable		
Min	Max	Default
0	1	

2.7.3 isMcAddrListFilter

To allow Mcast RX packets from registered addresses only and filter remaining Mcast and Bcast Rx packets. See reference document Q10 . 0 - Disable 1 - Enable		
Min	Max	Default
0	1	

2.7.4 gEnableActiveModeOffload

This is the flag to enable/disable packet filter/arp offloading to WCNSS in active mode.

See reference document [Q10](#).

0 - Disable

1 - Enable

Min	Max	Default
0	1	

2.8 Scanning

2.8.1 gEnableDFSChnIScan

Do the scan for DFS channel or not.

Min	Max	Default
0	1	1

2.9 BTCoex

2.9.1 BtcExecutionMode

Btc execution modes; see Appendix [A](#) for details.

Min	Max	Default
0	5	0

2.9.2 BtcConsBtSlotToBlockDuringDhcp

See Appendix [A](#) for details.

Min	Max	Default
0	255	0

2.9.3 BtcA2DPDhcpProtectLevel

A2DP-specific; see Appendix [A](#) for details.

Min	Max	Default
0	255	7

2.9.4 btcStaticLenInqBt

BT interval length during BT Inquiry.

Min	Max	Default
5000	500000	120000

2.9.5 btcStaticLenPageBt

BT interval length during BT Paging.		
Min	Max	Default
5000	500000	10000

2.9.6 btcStaticLenConnBt

BT interval length during BT connection setup.		
Min	Max	Default
5000	500000	10000

2.9.7 btcStaticLenLeBt

BT interval length during BT LE scan.		
Min	Max	Default
5000	500000	10000

2.9.8 btcStaticLenInqWlan

WLAN interval length during BT inquiry.		
Min	Max	Default
0	500000	30000

2.9.9 btcStaticLenPageWlan

WLAN interval length during BT Paging.		
Min	Max	Default
0	500000	0

2.9.10 btcStaticLenConnWlan

WLAN interval length during BT connection setup.		
Min	Max	Default
0	500000	0

2.9.11 btcStaticLenLeWlan

WLAN interval length during BT LE scan.		
Min	Max	Default
0	500000	0

2.9.12 btcDynMaxLenBt

Dynamically adjust BT interval during ACL Active (A2DP).		
Min	Max	Default
25000	500000	250000

2.9.13 btcDynMaxLenWlan

Dynamically adjust WLAN interval during ACL Active (A2DP).		
Min	Max	Default
15000	500000	45000

2.9.14 btcMaxScoBlockPerc

Maximum SCO skipping percentage.		
Min	Max	Default
0	100	1

2.9.15 btcDhcpProtOnA2dp

Ensure DHCP reliability during A2DP.		
Min	Max	Default
0	1	1

2.9.16 btcDhcpProtOnSco

Ensure DHCP reliability during SCO.		
Min	Max	Default
0	1	0

2.10 Roaming

2.10.1 CcxEnabled

Enable/disable CCX support.		
Min	Max	Default
0	1	0

2.10.2 FastTransitionEnabled

Enable/Disable 802.11r support.		
Min	Max	Default
0	1	1

2.10.3 gNeighborScanTimerPeriod

Interval between individual channel scans [ms].		
Min	Max	Default
0	1000	200

2.10.4 gNeighborLookupThreshold

RSSI threshold to trigger background scan to find potential roam candidates (Default value is 76 in LFR1.5 while it is 78 in LFR2.0).		
Min	Max	Default
10	120	78

2.10.5 gNeighborScanChannelMinTime

Minimum dwell time for scan.		
Min	Max	Default
10	40	20

2.10.6 gNeighborScanChannelMaxTime

Maximum dwell time for scan.		
Min	Max	Default
10	40	30

2.10.7 gNeighborLookupThreshold

RSSI threshold to trigger background scan to find potential roam candidates (Default value is 76 in LFR1.5 while it is 78 in LFR2.0).		
Min	Max	Default
10	120	78

2.10.8 gNeighborScanChannelList

List of channels on which to scan.		
Min	Max	Default
NA	NA	NULL

2.10.9 FastRoamEnabled

Enable/Disable #Legacy (non-CCX, non-802.11r) Fast Roaming Support.		
Min	Max	Default
0	1	1

2.10.10 RoamRssiDiff

Configuration item for an AP to be qualified as a candidate AP when the AP shows RoamRssiDiff higher in RSSI than current AP.		
Min	Max	Default
0	30	5

2.11 11AC

2.11.1 gEnableRXSTBC

Enable/disable Rx STBC capability in STA mode.		
Min	Max	Default
0	1	1

2.11.2 gVhtRxMCS

VHT Rx MCS capability. 0=MCS0-7, 1=MCS0-8, 2=MCS0-9		
Min	Max	Default
0	2	2

2.11.3 gVhtTxMCS

VHT Tx MCS capability. 0=MCS0-7, 1=MCS0-8, 2=MCS0-9		
Min	Max	Default
0	2	2

2.11.4 gVhtChannelWidth

Channel width capability for 11ac. 1 - 20 and 40 MHz 2 - 80 MHz (default)		
Min	Max	Default
1	2	2

2.12 Params that are invalid or not used

2.12.1 gEnableIdleScan

Ignore this param in ini file.

2.12.2 gEnableHandoff

Ignore this param in ini file.

2.12.3 gRoamingTime

Ignore this param in ini file.

2.12.4 BtAmpPreferredChannel

Ignore this param in ini file.

2.12.5 gEnableBtAmp

Ignore this param in ini file.

2.12.6 gApMacAddr

Ignore this param in ini file.

2.12.7 gImmediateRoamRssiDiff

Ignore this param in ini file.

2.12.8 FTRssiFilterPeriod

Ignore this param in ini file.

A Glossary

- **InfraUapsd*SrvInTv** – Unscheduled Automatic Power Save Delivery is applicable only when the station is connected to the AP. It is primarily driven by QoS-aware applications, e.g., VoIP. Applicable abbreviations are:
 - BK – Background
 - BE – Best Effort
 - VI – Video
 - VO – Voice
- **gNthBeaconFilter** – Every Nth beacon is checked for change in content of the beacon frame. If there are changes in the beacon frame, the frame is forwarded to the host.
- **BtcExecutionMode** – The BTC execution modes are:
 - 0 – BTC_SMART_COEXISTENCE – BTC mapping layer decides what is best
 - 1 – BTC_WLAN_ONLY – WLAN takes all modes
 - 2 – BTC_PTA_ONLY – Allow only 3-wire protocol in hardware
 - 3 – BTC_SMART_MAX_WLAN – BTC mapping layer decides what is best; WLAN weighted
 - 4 – BTC_SMART_MAX_BT – BTC mapping layer decides what is best; Bluetooth® weighted
 - 5 – BTC_SMART_BT_A2DP – BTC mapping layer decides what is best; balanced + Bluetooth A2DP weight
 - 6 – BT_BT_EXEC_MODE_MAX – This and beyond are invalid values.
- **BtcConsBtSlotToBlockDuringDhcp** – SCO-specific parameter, introduced to improve WiFi DHCP connection timing when a BT SCO call is ongoing, e.g., consider the following case:
 - When the flag is set to value 2 – Every alternate Bluetooth SCO reserved slot is blocked for WLAN, i.e., $\frac{1}{2} * 100 = 50\%$ Bluetooth blockage. This improves WiFi DHCP connection timings but impacts SCO voice quality.
 - When the flag is set to value 4 – Every alternate 4th Bluetooth SCO reserved slot is blocked for WLAN, i.e., $\frac{1}{4} * 100 = 25\%$ Bluetooth blockage.
 - Lowering the value is better for WLAN connection time, but Bluetooth audio quality is impacted.
 - The ideal value of this flag is 8, i.e., $\frac{1}{8} * 100 = 12.5\%$ Bluetooth blockage.
- **BtcA2DPDhcpProtectLevel** – A2DP-specific parameter; improves WiFi DHCP connection timing when a Bluetooth A2DP call is ongoing. The valid value of the flag is in the range of 0 to 7.

- When the flag is 0, no Bluetooth A2DP intervals are blocked for WiFi DHCP completion.
- When the flag is 7, the WLAN DHCP connection time is fastest, but there is an impact on A2DP audio quality.
- The ideal value of the flag is 3.
- `enableBeaconEarlyTermination` – BET allows us to power down as soon as the TIM bit is seen as being clear without waiting for entire beacon to be received and FCS checked. The actual power savings depends on beacon size and placement of the TIM IE within the beacon. For a specific use case (150-byte beacon and Cisco 1252 AP), the active receive duration shrinks from 1.3 ms to 800 μ s with BET enabled.
- `beaconEarlyTerminationWakeInterval` – With BET, since no FCS check is done when TIM is seen as being clear, RXP does not update the TSF using the timestamp from the beacon. This can lead to drift over time when no traffic for STA. This configuration periodically and temporarily suspends BET in order to allow a TSF re-sync by allowing a full beacon to be received with FCS check and RXP update of TSF.