MENU

Change Note Forms

Id: CX7.0 MP1.0
Product Family: Base Stations
Product: UltraSite EDGE BTS
Release: CX7.0

DN0821791
Issue 2-1 en
31/10/09

MENU

GSM/EDGE BTS

CN-id: 1838CNESPE07

Title:

Repeated TAC in AHS calls when A-bis link is disturbed on GSM hardware

Version of the SW-build:

CX7.0 MP1.0

Valid for Product(s):

UltraSite EDGE BTS

References:

3035C01

Reason for the Change Note:

Original problem:
A high number of Time Alignment Commands (15-20) are seen, when the Abis link is disconnected for short durations (between 300-900ms). The issue is seen only with Non EDGE TRX HW.

Description of the fault:
A fault in the BTS SW allows repeated time alignment commands to be sent by the BTS for initial TA

Related feature / functionality:
Time alignment

Dependency on configuration:
GSM HW

Description of the correction:
The TAC algorithm is corrected.

How end user/operator could detect the problem:
Examination of GPA traces.

Corrected Fault Reports:

3035C01 : Repeated TAC in AHS calls when A-bis link is disturbed on GSM hardware

Modified components:

ch_up_tr

ch_dl_tr

CX_GEN:CX7MP1_NEDSP_B001_BL02CX_GEN:CX7MP1_NEDSP_B001_BL02

Change effects:

Effects on end-user
Speech quality is improved.

Effects on Operator
MOS scores are better and lower customer complaints.

Testing Instructions for the change

1. All test cases should be performed using BSC SW S14 unless otherwise stated.
2. Use default BSC/BTS parameters unless otherwise stated

Test execution:

Test steps to reproduce the problem

Input to Reproduce the Problem	**Expected Output**
Configure the site as given in test case	The site is in supervisory state with no unexpected alarms present at BSC as well as at MMI except for “7801: MMI CONNECTED TO BASE STATION: Local MMI connected
Make an AHS call and during the call, break the Abis link for very short duration (between 300-900ms). using the Abis breaker. Record the Abis traces.	Numbers of TAC(Time Alignment command) are very high (close to 25+).

Case Ref	BTS Configuration	BTS SW
PR 3035C01.01	1 OMNI GSM /Ultra site	CX7.0

Test steps to verify the correction

Input to verify the Problem	**Expected Output**
Configure the site as given in test case.	The site is in supervisory state with no unexpected alarms present at BSC as well as at MMI except for “7801: MMI CONNECTED TO BASE STATION: Local MMI connected
Make an AHS call and during the call, break the Abis link for very short duration (between 300-900ms). using the Abis breaker. Record the Abis traces.	Call is successful Numbers of TAC(Time Alignment command)are not high and DL codec is moved to next lower codec before sending the large Time Alignment command (n*500us) in uplink.

Case Ref	BTS Configuration	BTS SW
PR 3035C01.03	1 Omni GSM/ Ultra site	CX7.0 MP1.0

Input to verify the Problem		Expected Output
Configure the site as given in test case, also make Ultra and metro site neighbour to each other.		The site is in supervisory state with no unexpected alarms present at BSC as well as at MMI except for “7801: MMI CONNECTED TO BASE STATION: Local MMI connected
Make multiple AHS calls on both sites for 24 hours.		Calls are successful
Case Ref	BTS Configuration	BTS SW
PR 3035C01.05	1 Omni GSM/ Ultra site	CX7.0 MP1.0

Unexpected results:
Repeated TAC is still shown in AHS calls when A-bis link is disturbed on GSM hardware

MENU

GSM/EDGE BTS

CN-id: 1863CNESPE07

Title:
MOS value is lower in Ater interface

Version of the SW-build:
CX7.0 MP1.0

Valid for Product(s):
UltraSite EDGE BTS

References:
11386ESPE07, NA04511287, NA04539154

Reason for the Change Note:

Original problem:
Poor PESQ MOS P.862.1 Scores have been seen for Normal non-TFO HR calls.

Description of the fault:
The BTS sends too frequent time alignment requests and because of this the MOS score is degraded.

Related feature / functionality:
Time Alignment

How end user/operator could detect the problem:
During MOS testing

Dependency on configuration:
HR codec

Description of the correction:
The BTS SW corrected is modified so that the time alignment request is enhanced, the timer is changed if MGW is used.

Effects on end-user:
Improved speech quality

Effects on operator:
Improved MOS scores

NB: There were two issues reported, MOS degradation and TCH drop due to remote transcoder alarm (RTA).

The MOS issue is resolved in BTS SW; however, the RTA is an issue still under investigation by MGW support.

Corrected Fault Reports:

11386ESPE07 : Poor PESQ MOS P.862.1 Scores have been observed for Normal non-TFO HR calls
NA04511287 : MOS value is lower in Ater interface
NA04539154 : Bad FER and SQI on HR usage in BSC, even the call gets good RxQuality and C/I

Modified components:

ch_cons

ch_up_tr

ch_dl_tr

CX_GEN: CX_GEN: CX_GEN:

MENU

Testing Instructions for the change

Pre-requirements:

1. Ater is connected to the MGW**.**
2. MGW 2G TFO feature should be disabled at the MGW.
3. AMR is disabled for the test sector.

Test execution:
Test steps to reproduce the problem

Input to Reproduce the Problem	**Expected Output**	
Make HR call in the test sector and remain on going.	Call is successful	
A-bis interface is monitored for the uplink compound time alignment requests.	Compound TA requests in the uplink TRAU frames are sent after every 2-3 frames.	
Disconnect the call	Call gets disconnected.	
Case Ref.	BCF Configuration	BTS SW
PR 11386ESPE07.01	Any, EDGE UltraSite	CX7

Test steps to verify the correction

Input to Verify the correction	**Expected Output**	
Configure the site as given in test case.	The site is in supervisory state with no active alarms present at BSC as well as at MMI except for “7801: MMI CONNECTED TO BASE STATION: Local MMI connected	
Make HR calls on all the timeslots (on both sub channels) of all the TRX in the test sector and remain on going.	All calls are successful	
In A-bis interface TRAU frames are monitored for initial TA between BTS and transcoder.	BTS requests TA in uplink only after receiving valid frames in the downlink. There are no repeated TA requests in the subsequent uplink TRAU frame. Time alignment is complete within 2-3 uplink TA requests	
A-bis interface is monitored for the uplink compound time alignment requests.	Once a compound TA request is sent in the uplink, the next request if required is sent only after receiving the next 20 TRAU frames.	
Trigger a handover(s) to the second BTS and monitor target channel TRAU frames for the time alignment.	Handover(s) is (are) successful. BTS requests TA in uplink only after receiving valid frames in the downlink. There are no repeated TA requests in the subsequent uplink TRAU frame. Time alignment is complete within 2-3 uplink TA requests	
Disconnect all calls	All calls get disconnected.	
Case Ref.	BCF Configuration	BTS SW
PR 11386ESPE07.02	2+2, EDGE UltraSite	CX7.0 MP1.0

Input to Verify the correction	Expected Output	
Configure the site as given in test case.	The site is in supervisory state with no active alarms present at BSC as well as at MMI except for “7801: MMI CONNECTED TO BASE STATION: Local MMI connected	
Make HR calls on all the timeslots (on both sub channels) of one TRX in test sector and remain on going.	All calls are successful	
In A-bis interface TRAU frames are monitored for initial TA between BTS and transcoder.	BTS requests TA in uplink only after receiving valid frames in the downlink. There are no repeated TA requests in the subsequent uplink TRAU frame. Time alignment is complete within 2-3 uplink TA requests	
A-bis interface is monitored for the uplink compound time alignment requests.	Once a compound TA request is sent in the uplink, the next request if required is sent only after receiving the next 20 TRAU frames.	
Break the Abis link for very short duration (between 300-900ms) using the Abis breaker. Analyse TRAU frames at A-bis.	All calls remain ongoing. When A-bis is re-connected then after receiving downlink speech frame, BTS requests TA (if required) in uplink TRAU frames Time alignment is complete within 2-3 uplink TA requests	
Disconnect all calls	All calls get disconnected.	
Case Ref.	BCF Configuration	BTS SW
PR 11386ESPE07.03	Any, EDGE UltraSite	CX7.0 MP1.0

Input to Verify the correction	Expected Output	
Configure the site as given in test case.	The site is in supervisory state with no active alarms present at BSC as well as at MMI except for “7801: MMI CONNECTED TO BASE STATION: Local MMI connected	
Make HR calls on all the timeslots (on both sub channels) of one TRX in test sector and remain on going.	All calls are successful	
In A-bis interface TRAU frames are monitored for initial TA between BTS and transcoder.	BTS requests TA in uplink only after receiving valid frames in the downlink. There are no repeated TA requests in the subsequent uplink TRAU frame. Time alignment is complete within 2-3 uplink TA requests	
A-bis interface is monitored for the uplink compound time alignment requests.	Once a compound TA request is sent in the uplink, the next request if required is sent only after receiving the next 20 TRAU frames.	
Insert the delay of 4ms from data channel simulator in both uplink and downlink direction and analyse the uplink TRAU frames.	TRAU frames are delayed by 4ms in both the directions but the value of TAF must contain ' No change in frame timing' during the time of delay introduced.	
Disconnect all calls	All calls get disconnected.	
Case Ref.	BCF Configuration	BTS SW
PR 11386ESPE07.04	Any, EDGE UltraSite	CX7.0 MP1.0

Unexpected results:

Compound TA requests in the uplink TRAU frames are sent after every 2-3 frames.

GSM/EDGE BTS

CN-id: 1924CNESPE07

Title:
TRX Test shows invalid behaviour when IDD is enabled on site.

Version of the SW-build:
CX7.0 MP1.0

Valid for Product(s):
UltraSite EDGE BTS

References:
10548ESPE07

Reason for the Change Note:

Original problem:
During the commissioning of a BTS with IDD, the IDD information is declared in the starting pages of commissioning. When the “manual” button is selected in the commissioning window for running the TRX test it lists all the TRX (main & auxiliary). The radio button for selecting the Main / Auxiliary TRX is disabled. Although as per the required functionality, only the Main TRX and the TRX for which IDD is not defined should be shown in the TRX list.

Description of the fault:
All TRX are listed as available for testing during commissioning of an IDD BTS. This is incorrect behaviour.

How end user/operator could detect the problem:
During commissioning of an IDD when selecting 'Manual' button for TRX test, the combo box for TRX number shows all the TRX IDD main as well as Auxiliary and normal TRX. Also the radio button to select Main/Aux is disabled.

Related feature / functionality:
IDD

Dependency on configuration:
IDD

Workaround:
Do not select Aux TRX as a target for TRX testing

Description of the correction:
SW functionality is changed to correct the anomalous behaviour

Effects on end-user:
None

Effects on operator
During commissioning the correct information is shown.

Corrected Fault Reports:

10548ESPE07 : TRX Test shows invalid behaviour when IDD is enabled on site.

Modified components:

CommSetIDD

CX7_MP1.0_MMI_BTSMAN_PR10548ESPE07_BL003

Testing Instructions for the change

Pre-requirements:

1. Only EDGE capable TRX can function in the IDD/4UD.

2**.** The 4-way diversity parameter is set from BTS Manager during commissioning and diversity is ON at BSC unless otherwise specified. There are no parameters or definitions at the BSC, only IDD main TRX and normal non-IDD TRX are defined to the BSC. When defining TRX to the BSC, the IDD configuration at the BTS site has to be known by the operator in order to define correct TRX to BSC.

3. The Abis transmission has to be defined only to TRX defined at the BSC. Signalling and traffic timeslots are branched only to IDD main TRX and normal TRX. This has to be done manually by BTS Manager or automatically by the Auto configuration. Auto configuration has knowledge, which TRX are auxiliary TRX.

4. During testing the LEDs are checked at the BTS Manager and at the BTS to make sure they are the same. This is done for all the test cases.

Test execution:
Test steps to reproduce the problem

Input to Reproduce the Problem	Expected Output	
Configure the site as per the test case and launch BTS MMI application.	The site is in supervisory state with no active alarms present at BSC as well as at MMI except for “7801: MMI CONNECTED TO BASE STATION: Local MMI connected”	
Select the menu option: Commissioning → Wizard	BTS Commissioning Wizard window opens successfully.	
Select radio button of the Undo Commissioning and click on Next button. Select OK button.	A pop-up window appears which states, “ This command will force the BTS into the non-commissioned state. Do you want to continue.” BCF takes a reset and BTS comes to the non-commissioned state.	
Select the menu option: Commissioning → Wizard. Select radio button for Manual Commissioning and click on Next button to proceed.	On the third page of commissioning window, “Set Intelligent Downlink Diversity” window can be seen.	
Set IDD TRX pair by first selecting the Main TRX and pressing → and then auxiliary TRX and pressing →. Set 4 UD for the IDD pair.	All IDD pairs (main and auxiliary) with 4 UD are set.	
Click on Next and select Start Commissioning option.	Site comes up in supervisory state. In equipment view window, The auxiliary TRX are not shown as Aux.	
Select manual button on BTS Test Reporting page.	TRX text window appears successfully.	
In TRX test window select combo box for TRX number field.	The combo box for TRX Number lists all the TRX (Normal TRX, Main as well as auxiliary) The radio button for Main IDD TRX to select Main/ Auxiliary is disabled.	
Close the TRX test window and complete the commissioning.	Commissioning is completed successfully.	
Case Ref.	BCF Configuration	BTS SW Release
PR 10548ESPE07.01	2 +2 (IDD/4UD)	CX6 CD2

Test steps to verify the correction

Input to Verify the Correction	Expected Output	
Configure the site as per the test case and launch BTS MMI application.	The site is in supervisory state with no active alarms present at BSC as well as at MMI except for “7801: MMI CONNECTED TO BASE STATION: Local MMI connected”	
Select the menu option: Commissioning → Wizard	BTS Commissioning Wizard window opens successfully.	
Select radio button of the Undo Commissioning and click on Next button. Select OK button.	A pop-up window appears which states, “ This command will force the BTS into the non-commissioned state. Do you want to continue.” BCF takes a reset and BTS comes to the non-commissioned state.	
Select the menu option: Commissioning → Wizard. Select radio button for Manual Commissioning and click on Next button to proceed.	On the third page of commissioning window, “Set Intelligent Downlink Diversity” window can be seen.	
Set IDD TRX pair by first selecting the Main TRX and pressing → and then auxiliary TRX and pressing →. Set 4 UD for the IDD pair.	All IDD pairs (main and auxiliary) with 4UD are set.	
Click on Next and select Start Commissioning option	Site comes up in supervisory state. In equipment view window, the auxiliary TRX are shown as Aux.	
Select manual button on BTS Test Reporting page.	TRX text window appears successfully.	
In TRX test window select combo box for TRX number field.	The combo box for TRX Number lists normal and Main IDD TRX only. The radio button for Main IDD TRX to select Main/ Auxiliary is enabled.	
Close the TRX test window and complete the commissioning.	Commissioning is completed successfully.	
Case Ref.	BCF Configuration	BTS SW Release
PR 10548ESPE07.02	2 +2 (IDD/4UD)	CX7.0 MP1.0

Input to Verify the Correction	Expected Output	
Configure the site as per the test case and launch BTS MMI application.	The site is in supervisory state with no active alarms present at BSC as well as at MMI except for “7801: MMI CONNECTED TO BASE STATION: Local MMI connected”	
Select the menu option: Supervision → IDD Information. Close the IDD Information Window	IDD Information window appears with correct IDD pair of main and auxiliary TRX with their 4UD state. IDD Information Window is closed successfully.	
Select the menu option: Objects → Properties.	Object Properties window opens successfully.	
Select the Main IDD TRX and check its IDD Usage, IDD Mode and IDD Partner TRX field.	For the Main IDD TRX, IDD Usage property has the value as “IDD and 4 UD in use”; IDD Mode as “Main” and IDD Partner TRX property shows its Auxiliary TRX number.	
Select the Auxiliary IDD TRX and check its IDD Usage, IDD Mode and IDD Partner TRX field.	For the Auxiliary IDD TRX, IDD Usage property has the value as “IDD and 4 UD in use”; IDD Mode as “Auxiliary” and IDD Partner TRX property shows its Main TRX number.	
Ensure that IDD pair TRX shows the same ARFN in the object properties window.	ARFN of the Main IDD TRX and its partner Auxiliary TRX is same.	
Close the Object Properties window.	Object Properties window is closed successfully.	
Case Ref.	BCF Configuration	BTS SW Release
PR 10548ESPE07.03	2 Omni, IDD/4UD	CX7.0 MP1.0

Input to Verify the Correction	Expected Output	
Configure the site as per the test case and launch BTS MMI application.	The site is in supervisory state with no active alarms present at BSC as well as at MMI except for “7801: MMI CONNECTED TO BASE STATION: Local MMI connected”	
Select the menu option: Tests →TRX Test. Close the TRX Test Window	TRX Test window opens successfully. The combo box for the field TRX number includes only Main IDD TRX. The radio button for Main IDD TRX to select Main/Auxiliary is enabled. TRX Test window is closed successfully.	
Select the menu option: Tests →TRX Loop Tests. Close the TRX Loop Tests Window	TRX Loop Tests window opens successfully. The combo box for the field TRX number includes only Main IDD TRX. The radio button for Main IDD TRX to select Main/Auxiliary is enabled. TRX Loop Tests window is closed successfully.	
Select the menu option: Tests →TRX Traffic Trace. Close the TRX Loop Tests Window	TRX Traffic Trace window opens successfully. The combo box for the field TRX number includes only Main IDD TRX. TRX Loop Tests Window is closed successfully.	
Case Ref.	BCF Configuration	BTS SW Release
PR 10548ESPE07.04	2 Omni, IDD/4UD	CX7.0 MP1.0

Unexpected results:
The combo box for TRX Number lists all of the TRX (Normal TRX, Main as well as auxiliary).The radio button for Main IDD TRX to select Main/ Auxiliary is disabled. This is invalid behaviour when IDD is enabled.

MENU

GSM/EDGE BTS

CN-id: 1926CNESPE07

Title:
TRX Test fails on some of the time-slots in IDD-Ultra with RF Hopping enabled.

Version of the SW-build:
CX7.0 MP1.0.0

Valid for Product(s):
UltraSite EDGE BTS

References:
5938C02

Reason for the Change Note:

Original problem:
When a BTS is configured to use both IDD and RF hopping then sometimes there will be unexpected failures for TRX tests run both from the BSC and from BTS Manager.

Description of the fault:
Due to design limitation it is not possible to successfully test TSL0, TSL1 or TSL2 for TRX other than the BCCH or the FBUS master.

From the BSC the failure reason is erroneously given as “Hardware Failure” and from BTS Manager “Unable to measure TRX power level”.

Related feature / functionality:
TRX Test, IDD, RF Hopping

How end user/operator could detect the problem:
When TRX test is run from BTS Manager or from the BSC on TSL 0,1 or 2 for a TRX which has RF hopping + IDD/4UD is not the BCCH TRX or the FBus master then it fails with an error either “Unable to measure TX power level" or Hardware Failure respectively.

Dependency on configuration:
RF hopping +IDD

Description of the correction:
When the test is run on the invalid configuration it is no longer allowed

Effects on operator:
Informative message is displayed explaining that the test is not possible. The text seen in BTS Manager is “Requested test cannot be carried out” and at the BSC “Test Not Possible”

Faulty component first delivered in
CX6.0

Corrected Fault Reports:

5938C02 : TRX Test fails on some of the time-slots in IDD-Ultra with RF Hopping enabled.

Modified components:

Tomtrace

Tomtrxlo

Tomtrxte

tom_comm

CX7_MP1.0_OM_PR5938C02_BL002CX7_MP1.0_OM_PR5938C02_BL002CX7_MP1.0_OM_PR5938C02_BL002CX7_MP1.0_OM_PR5938C02_BL002

Testing Instructions for the change

Pre-requirements:

1. All test cases should be performed using BSC SW S14 unless otherwise stated.

2 All test cases should be performed with (E)GENA Enabled and RF hopping.

3. The problem is not band specific. Two different configurations are used for better understanding.

4. TRX test is never allowed on TS0 & TS3 when it is run on a BCCH TRX.

Test execution:
Test steps to reproduce the problem

Input to Reproduce the Problem	**Expected Output**
Configure the site as stated in the test case	The site is in supervisory state with no unexpected alarms.

Run TRX Test on TS0/TS1/TS2 of a Non-BCCH TRX from BSC by MML command:
`ZUBS:BTS=<xx>, TRX=<xx>:MODE=1:<TS>;`
 	
Verify the test result by MML command:
`ZUBP:TR:BTS=<xx>,TRX=<xx>:;`
	The test complete.
	It shows:
	`Result: INCONCLUSIVE TESTED`
	`REASON: HARDWARE FAILURE`
	
	This is not the expected behaviour.

Run TRX Test on TS0/TS1/TS2 of a Non-BCCH TRX from BTS Manager	A popup comes up with an error as “Unable to measure TX power” This is not the expected behaviour.

Case Ref	BTS Configuration	F- BUS MASTER	Base Band Card	BTS SW
PR 5938C02.01	3 Omni EDGE Ultra Site with IDD/4UD IDD Pair TRX1(mains) and TRX4(aux) TRX2(BCCH mains) and TRX5(aux) TRX3(mains) and TRX6(aux)	ETRX 3	All BB2F	CX6.0

Test steps to verify the correction

Input to Verify the correction	Expected Output
Configure the site as stated in the test case.	The site is in supervisory state with no unexpected alarms.
Run TRX Test on Non- BCCH F-Bus Slave TRX for all the TSs by MML command: ZUBS:BTS=<xx>, TRX=<xx>:MODE=1:<TS>; Verify the test result by MML command: ZUBP:TR:BTS=<xx>,TRX=<xx>:;	The test complete. When the test is run on TS0/TS1/TS2 then following result is shown- Result: INCONCLUSIVE TESTED REASON: TEST NOT POSSIBLE When the test is run on rest of the timeslots then test passes and result shows – "TEST PASSED".
Run TRX Test on Non- BCCH F-Bus Master , BCCH F-Bus Master and BCCH F-Bus slave TRX for all the TSs from the BSC by MML Command: ZUBS:BTS=<xx>, TRX=<xx>:MODE=1:<TS>; Verify the test result by MML command: ZUBP:TR:BTS=<xx>,TRX=<xx>:;	The test complete. The test passes on all the timeslots and result shows – "TEST PASSED".

Case Ref	BTS Configuration	F-BUS MASTER	Base Band card	BTS SW
PR 5938C02.02	3 Omni EDGE UltraSite with IDD/4UD IDD Pair TRX1(mains) and TRX4(aux) TRX2(BCCH mains) and TRX5(aux) TRX3(mains) and TRX6(aux)	ETRX3	All BB2F	CX7.0 MP1.0
PR 5938C02.03	3 Omni EDGE UltraSite without 4UD IDD Pair TRX1(BCCH mains) and TRX4(aux) TRX2(mains) and TRX5(aux) TRX3(mains) and TRX6(aux)	ETRX2	1st BB2F and 2nd BB2E	CX7.0 MP1.0

Input to Verify the correction	Expected Output
Configure the site as stated in the test case	The site is in supervisory state with no unexpected alarms.
Run TRX Test on Non-BCCH F-BUS Master and BCCH F-BUS Slave TRX for all the TSs from BTS Manager	The test passes on all the timeslots and result shows – "TEST PASSED".
Run TRX Test on Non-BCCH F-Bus Slave TRX for all the TSs from BTS Manager	When the test is run on TS0/TS1/TS2 then the test result shows," Requested test can not be carried out". If the test is run on rest of the timeslots as above then test passes and result shows – "TEST PASSED".
Run TRX Test for Aux TRX corresponding to Non-BCCH F-BUS Master and BCCH F-BUS Slave TRX for all the TSs from BTS Manager	The test passes on all the timeslots and result shows – "TEST PASSED".
Run TRX Test for Aux TRX corresponding to Non-BCCH F-Bus Slave TRX for all the TSs from BTS Manager	When the test is run on TS0/TS1/TS2 then the test result shows," Requested test can not be carried out". If the test is run on rest of the timeslots as above then test passes and result shows – "TEST PASSED".

Case Ref	BTS Configuration	F-BUS MASTER	Base Band card	BTS SW
PR 5938C02.04	3 Omni EDGE UltraSite with IDD/4UD IDD Pair TRX1(mains) and TRX4(aux) TRX2(BCCH mains) and TRX5(aux) TRX3(mains) and TRX6(aux)	ETRX3	All BB2E (All of same version)	CX7.0 MP1.0
PR 5938C02.05	3 Omni EDGE UltraSite without 4UD IDD Pair TRX1(BCCH mains) and TRX4(aux) TRX2(mains) and TRX5(aux) TRX3(mains) and TRX6(aux)	ETRX3	1st BB2E and 2nd BB2F	CX7.0 MP1.0

Unexpected results:
TRX Test fails on some of the time-slots in IDD-Ultra with RF Hopping enabled. A popup comes up with an error as **"**Unable to measure TX power**"**
This is not the expected behaviour

GSM/EDGE BTS

CN-id: 1997CNESPE07

Title:
Alarm 7606 TRX faulty-“BOI detected that connection to TRX is lost” gets reported for working TRX.

Version of the SW-build:
CX7.0 MP1.0

Valid for Product(s):
UltraSite EDGE BTS

References:
10551ESPE06, NA04428838

Reason for the Change Note:

Original problem:
The alarm 7995 ‘MAINS BREAKDOWN WITH BATTERY BACK-UP’ was generated to activate the BCCH Shutdown Mode. During intelligent shutdown, the alarm 7606 TRX faulty ‘BOI detected that connection to TRX is lost’ was activated for TRX 1.

Description of the fault:
When a BTS is recovering from intelligent shutdown occasionally a 7606 alarm is generated on some TRX.

How end user/operator could detect the problem:
Repeatedly force a BTS into intelligent shutdown mode and check for this alarm on recovery.

Related feature / functionality:
BB Hopping, Intelligent Shutdown

Dependency on configuration:
None but problem was always observed on a RTC site.

Workaround:
Reset the site again.

Description of the correction:
While the recovery from intelligent shutdown is taking place there is also a contemporaneous Fbus reconfiguration ongoing. These simultaneous processes generate many spurious alarms. So alarms are ignored until reconfiguration is completed.

Effects on operator:
Recovery process functions without unnecessary alarms.

Corrected Fault Reports:

10551ESPE06 : Alarm 7606 TRX faulty-“BOI detected that connection to TRX is lost” gets reported for working TRX.

Modified components:

bc_ddl

CX7_MP1.0_OM_PR10551ESPE06_BL001

Testing Instructions for the change

Pre-requirements:

For test case no PR10551ESPE06.01, PR10551ESPE06.03 use

Following Shutdown Groups:

SDG3= TRX4, TRX5, TRX6, TRX10, TRX11, TRX12

SDG2=TRX2, TRX3, TRX8, TRX9

TRX1 and TRX7 is BCCH TRX

Test execution:

Test steps to reproduce the problem

Input to Reproduce the Problem	Expected Output
Configure the site as stated in the test case.	The site is in supervisory state with no unexpected alarms.
Set the following value of NTIM3,NTIM2 and BTIM for the intelligent shutdown procedure using the MML command as mentioned: ZEFM:<BCF_NO>NTIM3=0,NTIM2=1,BTIM=1; NONE Shutdown Mode is set at the BSC by using the MML command ZEFM :< BCF_NO>: BBU=NONE	Values of NTIM3, NTIM2 and BTIM and Shutdown mode are set successfully.
Simulate mains breakdown failure alarm on the site using intelligent shutdown script through EAC box and repeat the shutdown cycle every 20 minutes.	Alarm '7995: MAINS BREAKDOWN WITH BATTERY BACK-UP' is reported at the BSC and BTS Manager.
After the expiry of NTIM3 check the states of non-BCCH TRX at: 1. BTS manager 2. BSC.	After the expiry of NTIM3 all the supervisory TRX in both the sectors takes reset and TRX belonging to SDG3 go to: 1. Shutdown state in BTS Manager 2. BL-PWR state at BSC.
After the expiry of NTIM2 check the states of non-BCCH TRX at: 1. BTS manager 2. BSC.	After the expiry of NTIM2 all the supervisory TRX in Both the sectors takes reset and TRX belonging to SDG2 go to: 1. Shutdown state in BTS Manager 2. BL-PWR state at BSC.
After the expiry of BTIM check the states of non-BCCH TRX at: 1. BTS manager 2. BSC.	After the expiry of BTIM the BCCH TRX in both the sectors takes reset and go to: 1. Shutdown state in BTS Manager 2. BL-PWR state at BSC.
Run the script for 16 hours and after 16 hours check BTS manager and BSC.	Alarm '7606 BOI detected that connection to TRX is lost' is generated on one of the TRX and is seen on BSC and BTS manger.

Case Ref	BTS Configuration	BTS SW	Hopping Mode
PR10551ESPE06.01	6(2*BB2E/TsxA,1*BB2F/TSxA) + 6 (2*BB2E/TsxA, 1*BB2F/TSxA) with RTxx UltraSite	CX6.0 CD2.0	BB Hopping in Both the Sectors.

Test steps to verify the correction

Input to Verify the correction	Expected Output
Configure the site as stated in the test case.	The site is in supervisory state with no unexpected alarms.
Set the following value of NTIM3,NTIM2 and BTIM for the intelligent shutdown procedure using the MML command as mentioned: ZEFM:<BCF_NO>NTIM3=0,NTIM2=1,BTIM=1; NONE Shutdown Mode is set at the BSC by using the MML command ZEFM :< BCF_NO>: BBU=NONE	Values of NTIM3, NTIM2 and BTIM and Shutdown mode are set successfully.
Simulate mains breakdown failure alarm on the site using intelligent shutdown script through EAC box and repeat the shutdown cycle every 20 minutes.	Alarm '7995: MAINS BREAKDOWN WITH BATTERY BACK-UP' is reported at the BSC and BTS Manager.
After the expiry of NTIM3 check the states of non-BCCH TRX at: 1. BTS manager 2. BSC.	After the expiry of NTIM3 all the supervisory TRX in both the sectors takes reset and TRX belonging to SDG3 go to: 1. Shutdown state in BTS Manager 2. BL-PWR state at BSC.
After the expiry of NTIM2 check the states of non-BCCH TRX at: 1. BTS manager 2. BSC.	After the expiry of NTIM2 all the supervisory TRX in Both the sectors takes reset and TRX belonging to SDG2 go to: 1. Shutdown state in BTS Manager 2. BL-PWR state at BSC.
After the expiry of BTIM check the states of non-BCCH TRX at: 1. BTS manager 2. BSC.	After the expiry of BTIM the BCCH TRX in both the sectors takes reset and go to: 1. Shutdown state in BTS Manager 2. BL-PWR state at BSC.
Run the script for 48 hours and after 48 hours check BTS manger and BSC.	No alarm is reported on the BTS Manager and BSC.

Case Ref	BTS Configuration	BTS SW	Hopping Mode
PR10551ESPE06.03	6(2*BB2E/TsxA,1*BB2F/TSxA) + 6 (2*BB2E/TsxA, 1*BB2F/TSxA) with RTxx UltraSite	CX7.0 MP1.0	BB Hopping in Both the Sectors.

Unexpected results:

Alarm 7606 TRX faulty-BOI detected that connection to TRX is lost" is generated for working TRX after recovery from intelligent shutdown

GSM/EDGE BTS

CN-id: 2070CNESPE07

Title:
TRX are going to Blocked TRX after enabling Antenna Hopping.

Version of the SW-build:
CX7.0 MP1.0

Valid for Product(s):
UltraSite EDGE BTS

References:
NA04491681

Reason for the Change Note:

Original problem
The alarm 7606 TRX Faulty ‘BOI detected that connection to TRX is lost’ was seen in an Antenna Hopping sector following a transmission unit restart with alarm 8148 ‘Equipment reset’.

Description of the fault:
Occasionally when the 8148 equipment reset alarm is generated the associated PCM failure can cause the 7606 alarm "BOI detected that connection to TRX is lost.

How end user/operator could detect the problem:
With Antenna Hopping enabled then occasionally the alarm 7606 "BOI detected that connection to TRX is lost" is raised on some TRX.

Related feature / functionality:
Antenna Hopping or BB Hopping

Dependency on configuration:
Antenna Hopping or BB Hopping

Workaround:
Reset the affected BTS or disable the hopping.

Description of the correction:
Alarm 7606 "BOI detected that connection to TRX is lost" is not raised because of transmission card reset.

Effects on end-user:
Increased availability

Effects on operator:
Following transmission reset TRX are no longer blocked.

Corrected Fault Reports:

NA04491681 : TRX are going to Blocked TRX after enabling Antenna Hoping.

Modified components:

bc_qdl

bc_q1pol

bc_ddl

ddl201

CX7_MP1.0_OM_PRNA04491681_BL002CX7_MP1.0_OM_PRNA04491681_BL002CX7_MP1.0_OM_PRNA04491681_BL002CX7_MP1.0_OM_PRNA04491681_BL002

Testing Instructions for the change

Test execution:
Test steps to reproduce the problem

Input to Reproduce the Problem	Expected Output
Configure the site as stated in the test case	The site is in supervisory state with no active alarms present at BSC as well as at MMI
Launch the UltraSite BTS Hub manager from “Tools-> Launch UltraSite BTS Hub Manager” menu of the BTS Manager.	UltraSite BTS Hub Manager is launched successfully.
Click on menu “ Maintenance -> Resets”	“Resets” dialog is opened
Select the transmission card which is at the first slot and click on “Send ” Button	After some time “Reset” Dialog box disappears.
Close the “UltraSite BTS Hub Manager”	BTS Manager is launched.
Alarms window is checked on BTS Manager.	Alarm “7606 TRX FAULTY: BOI detected that connection to TRX is lost.” is reported for some TRX.

Case Ref.	BCF Configuration	Hopping	BTS SW
PR NA04491681.01	4+4+4 UltraSite	RAH	CX6

Test steps to verify the correction

Input to Verify the Correction	Expected Output
Configure the site as stated in the test case	The site is in supervisory state with no active alarms present at BSC as well as at MMI
Make calls in each sector	Calls are successful in each sector.
Launch the UltraSite BTS Hub manager from “Tools-> Launch UltraSite BTS Hub Manager” menu of the BTS Manager.	UltraSite BTS Hub Manager is launched successfully.
Click on menu “ Maintenance -> Resets”	“Resets” dialog is opened
Select the transmission card which is at the first slot and click on “Send ” Button	After some time “Reset” Dialog box disappears.
Close the “UltraSite BTS Hub Manager”	BTS Manager is launched.
Alarms window is checked.	Alarm “7606 TRX FAULTY: BOI detected that connection to TRX is lost.” is not reported for any TRX.
Repeat the above step 10 times	No unwanted alarms reported.
Make calls in each sector	Calls are successfully made in each sector.

Case Ref.	BCF Configuration	Hopping	BTS SW
PR NA04491681.02	4+4+4 UltraSite	RAH	CX7.0 MP1.0

Input to Verify the Correction	Expected Output
Configure the site as stated in the test case	The site is in supervisory state with no active alarms present at BSC as well as at MMI
Make calls in each sector	Calls are successful in each sector.
Launch the UltraSite BTS Hub manager from “Tools-> Launch UltraSite BTS Hub Manager” menu of the BTS Manager.	UltraSite BTS Hub Manager is launched successfully.
Click on menu “ Maintenance -> Resets”	“Resets” dialog is opened
Select the transmission card which is at the first slot and click on “Send ” Button	After some time “Reset” Dialog box disappears.
Close the “UltraSite BTS Hub Manager”	BTS Manager is launched.
Alarms window is checked.	Alarm “7606 TRX FAULTY: BOI detected that connection to TRX is lost.” is not reported for any TRX.
Make calls in each sector	Calls are successfully made in each sector.

Case Ref.	BCF Configuration	Hopping	BTS SW
PR NA04491681.03	4 Omni UltraSite (Mixed)	BB	CX7.0 MP1.0

Input to Verify the Correction	Expected Output
Configure the site as stated in the test case	The site is in supervisory state with no active alarms present at BSC as well as at MMI
Make calls in each sector	Calls are successful in each sector.
Launch the UltraSite BTS Hub manager from “Tools-> Launch UltraSite BTS Hub Manager” menu of the BTS Manager.	UltraSite BTS Hub Manager is launched successfully.
Click on menu “ Maintenance -> Resets”	“Resets” dialog is opened
Select the transmission card which is at the first slot and click on “Send ” Button	After some time “Reset” Dialog box disappears.
Close the “UltraSite BTS Hub Manager”	BTS Manager is launched.
Alarms window is checked.	Alarm “7606 TRX FAULTY: BOI detected that connection to TRX is lost.” is not reported for any TRX.
Make calls in each sector	Calls are successfully made in each sector.

Case Ref.	BCF Configuration	Hopping	BTS SW
PR NA04491681.04	4 Omni UltraSite (Non-EDGE)	BB	CX7.0 MP1.0

Unexpected results:
When Antenna Hoping is Enabled, Alarm window in the BTS Manager reported Alarm “7606 TRX FAULTY: BOI detected that connection to TRX is lost.” for some TRX

GSM/EDGE BTS

CN-id: 2867CNESPE06

Title:
BTS sends STATE CHANGE message for the faulty TRX.

Version of the SW-build:
CX7.0 MP1.0

Valid for Product(s):
UltraSite EDGE BTS

References:
10470ESPE07

Reason for the Change Note:

Original problem
A BB-hopping 4TRX BTS is configured using a mixed configuration (BB2F with 2 TSxB & BB2A with 2 TSxA). STIRC is enabled and alarms for the non-EDGE capable TRX are seen “Non EDGE TRX device type used accidentally in Edge Capable Mode”.

The BSC sends a new BTS configuration data where the faulty TRX are removed from the BB-hopping group. Following reconfiguration the BTS then sends a state changed message to the BSC which includes the faulty TRX which are no longer in the hopping configuration.

Description of the fault:
BTS wrongly includes blocked TRX in the state change message.

How end user/operator could detect the problem:
Using the configuration described and a GPA the incorrect message can be seen.

Related feature / functionality:
STIRC

Dependency on configuration:
None

Workaround:
Lock the BTS, disable STIRC and unlock the BTS

Description of the correction:
BTS SW checks status of TRX before sending the state change message.

Effects on end-user:
None

Effects on operator:
TRX are no longer in an incorrect status.

Corrected Fault Reports:

10470ESPE07 : BTS sends STATE CHANGE message for the faulty TRX.

Modified components:

rtosm

stelecom

CX7_MP1_OM_PR10470ESPE07_BL002CX7_MP1_OM_PR10470ESPE07_BL002

Testing Instructions for the change

Pre-requirements:

1. All test cases should be performed using BSC SW S14 unless otherwise stated.
2. All test cases must be performed with Rx diversity enabled at the BSC unless otherwise stated.

Test execution:

Test steps to reproduce the problem

Input to Reproduce the Problem	**Expected Output**
Prepare the setup as mentioned in test case.	Site is in supervisory state with no unexpected alarms.
Make calls on all TRX.	All call are successful.
Terminate the calls.	Calls are terminated successfully.
Enable STIRC in the sector.	Alarm 7606: “Non EDGE TRX device type used accidentally in Edge Capable Mode” gets reported for TRX 3 and TRX 4(Non-EDGE).
Monitor the Abis messages on NetHawk.	BSC sends new conf_data removing the faulty TRX(s) from the hopping group. In response to this BTS sends STATE CHANGE message for all the TRX(s) in the sector including the faulty TRX(s) (TRX3 & TRX4).

Case Ref.	BCF Configuration	Hopping	BTS Software
PR 10470ESPE07.01	4 Omni UltraSite (TRX1 and TRX2 : EDGE, TRX3 and TRX4: non-EDGE) TRX1:BCCH (Preferred)	BB	CX6.0 CD1.0

Test steps to verify the correction

Input to Verify the Correction	Expected Output
Prepare the setup as mentioned in test case.	Site is in supervisory state.
Make separate calls on sector1 and sector 2.	All calls are successful.
Terminate the calls on sector-1.Leave the calls ongoing on sector-2.	All calls of sector-1 are terminated successfully.
Enable STIRC in sector-1.	Alarm 7606: “Non EDGE TRX device type used accidentally in Edge Capable Mode” gets reported for TRX 3 and TRX 4(Non-EDGE).
Monitor the Abis messages on NetHawk.	BSC sends new conf_data removing the faulty TRX(s) from the hopping group for sector-1. In response to this BTS sends STATE CHANGE message for all the working TRX(s) in sector1 i.e.TRX1 and TRX2.
Monitor the BCF on the MML and on BTS Manager.	For sector-1:TRX1 and TRX2 are in working state. TRX3 and TRX4 are in BL-TRX state. For sector-2: TRX-5 and TRx6 are in working state and calls ongoing successfully.
Make calls in sector-1.	All calls are successful on the working TRX.[**Error! Reference source not found.**]
Check the ongoing calls on sector-2.	All calls are successful.
Terminate the calls.	All calls are terminated successfully.

Case Ref.	BCF Configuration	Hopping	BTS Software
PR 10470ESPE07.03	4+2 UltraSite (TRX1 ,TRX2,TRX5 and TRX6 : EDGE) ; (TRX3 and TRX4: non-edge) TRX1: BCCH (Preferred) in sector-1	BB hopping in both sectors	CX7.0 MP1.0

Input to Verify the Correction	Expected Output
Prepare the setup as mentioned in test case.	Site is in supervisory state with no unexpected alarms.
Make calls on all the TRX.	Calls are successful on all the TRX.
Lock main TRX (TRX2) and replace with non-EDGE TRX. Unlock main TRX (TRX2).	Alarm 7606:" Non EDGE TRX device type used accidentally in Edge Capable Mode" is raised.
Monitor the Abis on NetHawk.	BSC sends new conf_data removing the faulty TRX (main TRX (TRX2)) from the hopping group. In response to this BTS sends STATE CHANGE message for all the working TRX(s) in the sector.
Monitor the BCF on MML and on BTS Manager. Use spectrum analyser to monitor the transmission of auxiliary TRX (TRX3).	Main TRX (TRX2) is in BL-TRX state. main TRX (TRX1) is in working state. Auxiliary TRX (TRX3) shows proper signal level.
Make calls on the sector.	Successful calls are made only on main TRX (TRX1).

Case Ref.	BCF Configuration	Hopping	BTS Software
PR 10470ESPE07.05	2 Omni IDD UltraSite IDD Pair:TRX1(mains) and TRX3(aux); TRX2 (mains) and TRX4(aux) TRX1-BCCH (Preferred)	BB	CX7.0 MP1.0

Unexpected results:
BTS STATE CHANGED message is still sent to BSC for the faulty TRX(s)

GSM/EDGE BTS

CN-id: 2921CNESPE06

Title:
Incorrect RX DIV cabling defined for the 6+6(4:1) configuration in the configuration wizard

Version of the SW-build:
CX7.0 MP1.0

Valid for Product(s):
UltraSite EDGE BTS

References:
5139C01

Reason for the Change Note:

Original problem:
When a 6+6 (4:1) sector configuration is selected from the Configurator Wizard in the HW Configurator application then the RX Div cabling defined for both the sectors is from the same antenna as Main RX path cabling. The RX path from second antenna is never used.

Description of the fault:
The RX diversity cabling slot of the required duplexer is not correct

How end user/operator could detect the problem:
Create the configuration described in the problem summary.

Related feature / functionality:
HW Configurator wizard

Dependency on configuration:
As described in the problem summary.

Workaround
Change the antenna settings manually in the HW configurator.

Description of the correction:
The associated SW function in HW configurator is updated to return the correct value.

Corrected Fault Reports:
5139C01 : Incorrect RX DIV cabling defined for the 6+6(4:1) configuration in the configuration wizard

Modified components:
PumaConfigWBT4

CX7_MP1.0_MMI_HWC_PR5139C01_BL002

Testing Instructions for the change

Test execution:
Test steps to reproduce the problem

Input to Reproduce the Problem	Expected Output
Install the HW Configurator.	HW Configurator installed successfully.
Launch the HW Configurator	HW Configurator is launched successfully
Click on the “Configuration->Wizard” menu	Configuration Wizard is launched successfully
Check the “Create New Configuration” check box.	Check box is checked
Click on the “Next” button	“Select Sector Configuration” page is opened
Select the “6+6 (4:1)” configuration and finish the wizard.	Configuration is created
Select the Rx Div cabling tab from the tool bar	The Rx Div cabling defined for both the sectors are shown connected from the same antenna as Rx main path cabling.

Case Ref.	BCF Configuration	MMI and BTS SW
PR 5139C01.01	Ultra 6+6(4:1) using WCxT	CXU6 (Use Win XP)

Test steps to verify the correction

Input to Verify the Correction	Expected Output
Launch the HW Configurator	HW Configurator is launched successfully
Click on the “Configuration->Wizard” menu	Configuration Wizard is launched successfully
Check the “Create New Configuration” check box.	Check box is checked
Click on the “Next” button	“Select Sector Configuration” page is opened
Select the “6+6 (4:1)” configuration and finish the wizard.	Configuration is created
Select the Rx Div cabling tab from the tool bar	The Rx Div cabling and Rx main cabling are shown connected with different antennas.

Case Ref.	BCF Configuration	MMI and BTS SW
PR 5139C01.02	Ultra 6+6(4:1) using WCxT	CX7.0 MP1.0 (Use Win XP)
PR 5139C01.03	Ultra 6+6 (4:1) using WCxT	CX7.0 MP1.0 (Use Win Vista)
PR 5139C01.04	Ultra 6+6 (4:1) using WCxT	CX7.0 MP1.0 (Use Win 2000)

Unexpected results:
The Rx Div cabling defined for both the sectors are shown connected from the same antenna as Rx main path cabling

GSM/EDGE BTS

CN-id: 3019CNESPE06

Title:
FBUS Hardware failure

Version of the SW-build:
CX7.0 MP1.0

Valid for Product(s):
UltraSite EDGE BTS

References:
10751ESPE06

Reason for the Change Note:

Original problem:
A script from BSC was used to test the NONE shutdown mode with a BB hopping BTS. The test was generating and cancelling the NONE shutdown mode for several hours. A FBUS HW failure alarm was observed on some TRX after 10-12 hours of testing.

Description of the fault:
Occasionally following the reset the RTC was not responding within the expected time when polled by the TRX. The missing response causes the TRX to enter service early as if it were connected via a duplexer which the makes the hopping group invalid and generates the alarm.

How end user/operator could detect the problem:
Carry out the repeated resets as described in the problem summary.

Related feature / functionality:
Intelligent shutdown, BB Hopping

Dependency on configuration:
BB Hopping with RTC

Workaround:
Reset the site from MML

Description of the correction:
The SW test to check for the presence and functioning of the RTC has been improved.

Effects on operator:
Following the rest all TRX will now return to service as expected.

Corrected Fault Reports:
10751ESPE06 : FBUS Hardware failure

Modified components:

cx7_uc_swbcp_bc_sector

CX7_MP1.0_OM_PR10751ESPE06_BL001

Testing Instructions for the change

Pre-requirements:

1. For test case no 10751ESPE06.01 and 10751ESPE06.02 use following Shutdown groups
   a. SDG3= TRX4, TRX5, TRX6, TRX10, TRX11, TRX12
   b. SDG2=TRX2, TRX3, TRX8, TRX9
   c. TRX1 and TRX7 is BCCH TRX

2. For test case no 10751ESPE06.03 use following values of NTIM and BTIM
   a. NTIM=1
   b. BTIM=1

3. For test case no. 10751ESPE06.01
   a. In case the problem is not reproduced in stated test cycles, turn off the power of the site and wait for a couple of hours and then restart the test steps.

Test execution:
Test steps to reproduce the problem

Input to Reproduce the Problem	Expected Output
Configure the site as stated in the test case.	The site is in supervisory state with no unexpected alarms.
Set the following value of NTIM3,NTIM2 and BTIM for the intelligent shutdown procedure using the MML command as mentioned: ZEFM:<BCF_NO>NTIM3=1,NTIM2=1,BTIM=1; NONE Shutdown Mode is set at the BSC by using the MML command ZEFM :< BCF_NO>: BBU=NONE	Values of NTIM3, NTIM2 and BTIM and Shutdown mode are set successfully.
Generate mains breakdown failure alarm on the site using intelligent shutdown script through EAC.	Alarm '7995: MAINS BREAKDOWN WITH BATTERY BACK-UP' is reported at the BSC and BTS Manager.
After the expiry of NTIM3 check the states of non-BCCH TRX at: 1. BTS manager 2. BSC.	After the expiry of NTIM3 all the supervisory TRX in both the sectors takes reset and TRX belonging to SDG3 go to: 1. Shutdown state in BTS Manager 2. BL-PWR state at BSC.
After the expiry of NTIM2 check the states of non-BCCH TRX at: 1. BTS manager 2. BSC.	After the expiry of NTIM2 all the supervisory TRX in Both the sectors takes reset and TRX belonging to SDG2 go to: 1. Shutdown state in BTS Manager 2. BL-PWR state at BSC.
After the expiry of BTIM check the states of non-BCCH TRX at: 1. BTS manager 2. BSC.	After the expiry of BTIM the BCCH TRX in Both the sectors takes reset and go to: 1. Shutdown state in BTS Manager 2. BL-PWR state at BSC.
Script cancels the mains breakdown alarm after 10 minutes of its generation. The script waits for another 10 minutes after the cancellation of alarm to complete one cycle.	Alarm '7995: MAINS BREAKDOWN WITH BATTERY BACK-UP' is cancelled at the BSC and BTS Manager and site comes to working state.
Repeat the cycles by running the script for 16 hours and after 16 hours check BTS manger and BSC.	Alarm 7606 Fbus HW Faulty is generated on one of the TRX and is seen on BSC and BTS manger.

Case Ref	BTS Configuration	BTS SW	Hopping Mode
PR 10751ESPE06.01	6(2*BB2E/TsxA,1*BB2F/TSxA) + 6 (2*BB2E/TsxA, 1*BB2F/TSxA) with RTxx UltraSite	CX5 CD1	BB Hopping in Both the Sectors.

Test steps to verify the correction

Input to Verify the Correction	Expected Output
Configure the site as stated in the test case.	The site is in supervisory state with no unexpected alarms.
Set the following value of NTIM3,NTIM2 and BTIM for the intelligent shutdown procedure using the MML command as mentioned: ZEFM:<BCF_NO>NTIM3=1,NTIM2=1,BTIM=1; NONE Shutdown Mode is set at the BSC by using the MML command ZEFM :< BCF_NO>: BBU=NONE	Values of NTIM3, NTIM2 and BTIM and Shutdown mode are set successfully.
Switch OFF the power of the site and then switch it ON after 15 minutes.	Site is switched OFF and then comes to working state after the power is switched ON.
Generate mains breakdown failure alarm on the site using intelligent shutdown script through EAC.	Alarm '7995: MAINS BREAKDOWN WITH BATTERY BACK-UP' is reported at the BSC and BTS Manager.
After the expiry of NTIM3, check the states of non-BCCH TRX at: 1. BTS manager 2. BSC.	After the expiry of NTIM3 all the supervisory TRX in both the sectors takes reset and TRX belonging to SDG3 go to: 1. Shutdown state in BTS Manager 2. BL-PWR state at BSC.
After the expiry of NTIM2, check the states of non-BCCH TRX at: 1. BTS manager 2. BSC.	After the expiry of NTIM2,all the supervisory TRX in Both the sectors takes reset and TRX belonging to SDG2 go to: 1. Shutdown state in BTS Manager 2. BL-PWR state at BSC.
After the expiry of BTIM check the states of non-BCCH TRX at: 1. BTS manager 2. BSC.	After the expiry of BTIM the BCCH TRX in Both the sectors takes reset and go to: 1. Shutdown state in BTS Manager 2. BL-PWR state at BSC.
Script cancels the mains breakdown alarm after 10 minutes of its generation. The script waits for another 10 minutes after the cancellation of alarm to complete one cycle.	Alarm '7995: MAINS BREAKDOWN WITH BATTERY BACK-UP' is cancelled at the BSC and BTS Manager and site comes to working state.
Repeat the cycles by running the script for 16 hours and after 16 hours check BTS manger and BSC.	No unexpected alarm is reported on the BTS Manager and BSC.
Repeat test step 3 to 9 two more times	As per the test output mentioned above.

Case Ref	BTS Configuration	BTS SW	Hopping Mode
PR 10751ESPE06.02	6(2*BB2E/TsxA,1*BB2F/TSxA) + 6 (2*BB2E/TsxA, 1*BB2F/TSxA) with RTxx UltraSite	CX7.0 MP1.0	BB Hopping in Both the Sectors.

Input to Verify the Correction	Expected Output
Configure the site as stated in the test case.	The site is in supervisory state with no unexpected alarms.
Set the following value of NTIM3,NTIM2 and BTIM for the intelligent shutdown procedure using the MML command as mentioned: ZEFM:<BCF_NO>NTIM3=1,NTIM2=1,BTIM=1; NONE Shutdown Mode is set at the BSC by using the MML command ZEFM :< BCF_NO>: BBU=NONE.	Values of NTIM3, NTIM2 and BTIM and Shutdown mode are set successfully.
Switch OFF the power of the site and then switch it ON after 15 minutes.	Site is switched OFF and then comes to working state after the power is switched ON.
Generate mains breakdown failure alarm on the site using intelligent shutdown script through EAC.	Alarm '7995: MAINS BREAKDOWN WITH BATTERY BACK-UP' is reported at the BSC and BTS Manager.
After the expiry of NTIM check the states of non-BCCH TRX at: 1. BTS manager 2. BSC.	After the expiry of NTIM all the supervisory TRX take reset and all the non BCCH TRX go to: 1. Shutdown state in BTS Manager 2. BL-PWR state at BSC.
After the expiry of BTIM check the states of BCCH TRX at: 1. BTS manager 2. BSC.	After the expiry of BTIM the BCCH TRX takes reset and go to: 1. Shutdown state in BTS Manager 2. BL-PWR state at BSC.
Script cancels the mains breakdown alarm after 10 minutes of its generation. The script waits for another 10 minutes after the cancellation of alarm to complete one cycle.	Alarm '7995: MAINS BREAKDOWN WITH BATTERY BACK-UP' is cancelled at the BSC and BTS Manager and site comes to working state.
Repeat the cycles by running the script for 16 hours and after 16 hours check BTS manger and BSC.	No unexpected alarm is reported on the BTS Manager and BSC.
Repeat test step 3 to 9 two more times	As per the test output mentioned above.

Case Ref	BTS Configuration	BTS SW	Hopping Mode
PR 10751ESPE06.03	6(2*BB2E/TsxB,1*BB2F/TSxB) Omni RTxx UltraSite with IDD 4UD	CX7.0 MP1.0	BB.

Unexpected results:
After the expiry of NTIM2, NTIM3 and BTIM all the supervisory TRX in both the sectors takes reset and Alarm 7606 Fbus HW Faulty is generated on one of the TRX and is seen on BSC and BTS manger

GSM/EDGE BTS

CN-id: 3132CNESPE06

Title:
UltraSite BTS not passing transmission alarms

Version of the SW-build:
CX7.0 MP1.0

Valid for Product(s):
UltraSite EDGE BTS

References:
NA04439425

Reason for the Change Note:

Original problem
Supervisory Substations (SSS) are being used to collect external alarms from Radio Access sites. Originally these were being supervised (i.e. BTS polling) by Talk family base stations using their Q1 connections. When one of these Talk sites was replaced by an UltraSite the alarms were no longer transferred to the BSC. A remote session confirmed that the external alarms were active at the SSS, but that these could not be seen locally at the UltraSite using BTS Manager, or at the BSC.

Description of the fault
For TMS devices (legacy Q1 equipments), active alarms on any FE other than FE0 are never reported to BSC or BTS Manager although the alarms are seen when a remote connection through the BSC is established to the TMS device.

How end user/operator could detect the problem:
Whenever a TMS device is connected to the UltraSite, active alarms on any FE other than FE0 are not reported at BSC or BTS Manager.

Related feature / functionality
Q1 polling for TMS devices.

Dependency on configuration:
The problem is reported only on legacy Q1 equipments which support TMS protocol.

Description of the correction
A new command answer for legacy Q1 equipments has been added. The status command is now sent for TMS devices and depending on the response, all the FEs are now checked.

Effects on operator:
Active alarms on all FE including FE0 are now seen and at the BSC or BTS Manager.

Corrected Fault Reports:

NA04439425 : UltraSite BTS not passing transmission alarms

Modified components:

bc_q1pol

bc_qdl

bc_exfun

q1mcom

glo_test

CX7_MP1.0_OM_PRNA04439425_BL004CX7_MP1.0_OM_PRNA04439425_BL004CX7_MP1.0_OM_PRNA04439425_BL004CX7_MP1.0_OM_PRNA04439425_BL004CX7_MP1.0_OM_PRNA04439425_BL004

Testing Instructions for the change

Test execution:

Test steps to reproduce the Problem.

Input to Reproduce the Problem	Expected Output
Configure the site as stated in the test case and Connect MI port of SSS device to the Q1 port of BTS.	The site is in supervisory state with no active alarms present at BSC as well as at MMI except for “7801: MMI CONNECTED TO BASE STATION: Local MMI connected”
Add the SSS device as a new TRE to the poll list of BSC by using the following MML commands: ZQWA:BCF=XX:TRE=Y:ZZZ:; ZZZ is Q1address of the SSS device set using bit hammer.	SSS is added in the poll list of BSC which can be verified by following MML command: ZQWL:BCF=XX;
At SSS, trigger an alarm on FE by sliding a jumper over the input pin and the neighbouring ground pin (in the centre row of the connector).	Active alarms can be seen on the SSS via a remote session from BSC.
Check the status of alarm generated in the step above at BTS manager and BSC.	For FE0: Alarm is reported at the BSC and at the BTS manager. FEs apart from FE0: No Alarm is reported at the BSC and at the BTS manager.
At SSS, cancel the alarm generated in step 3, by bringing the jumper back to the original position.	Alarm cancel can be seen on the SSS via a remote session from BSC.
Check the status of alarm cancelled in the step above at BTS manager and BSC.	For FE0: Alarm cancel is reported at the BSC and at the BTS manager. FEs apart from FE0: No Alarm cancel is reported at the BSC and at the BTS manager
Repeat the above 4 steps for all FEs of the SSS	As mentioned in the above 4 steps

Case Ref	BTS Configuration	BTS SW
PR NA04439425.01	Any UltraSite	CX4.1CD3.0

Test steps to verify the correction:

Input to verify the correction	Expected Output
Configure the site as stated in the test case and Connect MI port of SSS device to the Q1 port of BTS.	The site is in supervisory state with no active alarms present at BSC as well as at MMI except for “7801: MMI CONNECTED TO BASE STATION: Local MMI connected”
Add the SSS device as a new TRE to the poll list of BSC by using the following MML commands: ZQWA:BCF=XX:TRE=Y:ZZZ:; ZZZ is Q1address of the SSS device set using bit hammer.	SSS is added in the poll list of BSC which can be verified by following MML command: ZQWL:BCF=XX;
At SSS, trigger multiple alarms on any 5 FEs by sliding a jumper over the input pin and the neighbouring ground pins (in the centre row of the connector).	Active alarms can be seen on the SSS via a remote session from BSC.
Check the status of alarms generated in the step above at BTS manager and BSC.	Alarms are reported at the BSC and at the BTS manager.
At SSS, cancel the alarms generated in step 3, by bringing the jumper back to the original position.	Alarm cancels can be seen on the SSS via a remote session from BSC.
Check the status of alarms cancelled in the step above at BTS manager and BSC.	Alarms are cancelled at the BSC and at the BTS manager.
Repeat the above 4 steps to cover all FEs.	As mentioned in the above 4 steps

Case Ref	BTS Configuration	BTS SW
PR NA04439425.02	Any UltraSite	CX7.0 MP1.0

Input to verify the correction	Expected Output
Configure the site as stated in the test case and Connect MI port of SSS device to the Q1 port of BTS.	The site is in supervisory state with no active alarms present at BSC as well as at MMI except for “7801: MMI CONNECTED TO BASE STATION: Local MMI connected”
Add the SSS device as a new TRE to the poll list of BSC by using the following MML commands: ZQWA:BCF=XX:TRE=Y:ZZZ:; ZZZ is Q1address of the SSS device set using bit hammer.	SSS is added in the poll list of BSC which can be verified by following MML command: ZQWL:BCF=XX;
Give a BCF restart to the UltraSite and during the same time, At SSS, trigger multiple alarms on any 5 FEs by sliding a jumper over the input pin and the neighbouring ground pins (in the centre row of the connector).	Active alarms can be seen on the SSS via a remote session from BSC.
After the BCF has been reset., check the status of alarms generated in the step above at BTS manager and BSC	Alarms are reported at the BSC and at the BTS manager.
At SSS, cancel the alarms generated in step 3, by bringing the jumper back to the original position.	Alarm cancels can be seen on the SSS via a remote session from BSC.
Check the status of alarms cancelled in the step above at BTS manager and BSC.	Alarms are cancelled at the BSC and at the BTS manager.
Repeat the above 4 steps to cover all FEs.	As mentioned in the above 4 steps

Case Ref	BTS Configuration	BTS SW
PR NA04439425.03	Any UltraSite	CX7.0 MP1.0

Input to verify the correction	Expected Output
Configure the site as stated in the test case and Connect Q1_1 port of Metro Hub device to the Q1 port of BTS.	The site is in supervisory state with no active alarms present at BSC as well as at MMI except for “7801: MMI CONNECTED TO BASE STATION: Local MMI connected”
Add the Metro Hub device as a new TRE to the poll list of BSC by using the following MML commands: ZQWA:BCF=XX:TRE=Y:ZZZ:; ZZZ is an unreserved Q1 address.	Metro Hub is added in the poll list of BSC which can be verified by following MML command: ZQWL:BCF=XX;
At Metro Hub, trigger an alarm on FE by breaking a loop between the Tx and Rx ports of the SB that is activated in the LIF settings	Active alarms can be seen on the Metro Hub via a remote session from BSC.
Check the status of alarm generated in the step above at BTS manager and BSC.	Alarm is reported at the BSC and at the BTS manager.
At Metro Hub, cancel the alarm generated in step 3, by looping Tx and Rx on the SB.	Alarm cancel can be seen on the SSS via a remote session from BSC.
Check the status of alarm cancelled in the step above at BTS manager and BSC.	Alarm is cancelled at the BSC and at the BTS manager.
Repeat the above 4 steps for all SBs of all the FEs.	As mentioned in the above 4 steps

Case Ref	BTS Configuration	BTS SW
PR NA04439425.04	Any UltraSite	CX7.0 MP1.0

Unexpected results:

UltraSite BTS is not able to poll transmission alarms any Functional entity FEs apart from FE0.

GSM/EDGE BTS

CN-id: 3134CNESPE06

Title:
Non-EDGE TSPA 1900 radios possible incompatibility with new SW load

Version of the SW-build:
CX7.0 MP1.0

Valid for Product(s):
UltraSite EDGE BTS

References:
NA04543654

Reason for the Change Note:

Original problem
When Antenna Hopping is accidentally activated in a sector equipped with EDGE BB2x and a TSPA (Non EDGE Transceiver unit) the alarm 7606 ‘Non EDGE TRX device type used accidentally in EDGE capable mode’ is not reported and the TRX continues to carry traffic without Antenna Hopping.

Description of the fault:
TRX using GSM HW TSxA do not support antenna hopping, however an appropriate alarm is not generated.

How end user/operator could detect the problem:
Configure a BTS as described in the summary.

Related feature / functionality:
Antenna Hopping

Dependency on configuration:
As described in the summary.

Workaround:
Change all transceiver units to EDGE capable or deactivate antenna hopping.

Description of the correction:
Corrected the variable used that is responsible for raising the alarm following a sector reset.

Effects on operator:
Alarm works as expected

Corrected Fault Reports:

NA04543654 : Non-EDGE TSPA 1900 radios possible incompatibility with new SW load

Modified components:

bc_ser_2

bc_ddl

CX7_MP1_OM_PRNA04543654_BL001CX7_MP1_OM_PRNA04543654_BL001

Testing Instructions for the change

Pre-requirements:

1. Mixed-2 Baseband configuration is used (BB2E with one TSxA and one TSxB). Refer to BTS Configuration Definitions
2. Antenna Hopping is enabled in the sector unless otherwise specified, using MML Command ZEQE:BTS=<XX>:AHOP=Y;
3. Incorrect HW configuration file is prepared for TRX TSxA-4 by deleting cabling info. of TRX TSxA-4 for all the cases as precondition

Test execution:

Test steps to reproduce the Problem

.Input to Reproduce the Problem	Expected Output
Configure the site as defined in the test case.	Site is in supervisory state with Alarm 7606 “TRX FAULTY: Non EDGE TRX device type used accidentally in Edge Capable Mode” is reported for TSxA-2 and TSxA-4 both at BTS Manager and BSC.
Lock the sector using MML command: ZEQS::BTS=<xx>:L;	The sector gets locked.
Pull out TRX TSxA-4 (slot 4) from the BTS and unlock the sector using MML command: ZEQS::BTS=<xx>:U;	The sector gets reset. Alarm 7606 “TRX FAULTY: Non EDGE TRX device type used accidentally in Edge Capable Mode” reappears for TSxA-2 and TSxA-4 both at BTS Manager and BSC.
Lock the sector and then unlock.	The sector gets reset. Alarm 7606 “TRX FAULTY: Non EDGE TRX device type used accidentally in Edge Capable Mode” for TSxA-2 and Alarm 7606 “TRX FAULTY: There is disturbance in the serial DL bus or the bus is broken” for TSxA-4 gets reported both at BTS Manager and BSC.
Lock the sector again. Insert the pulled out TRX TSxA-4 back into the BTS and unlock the sector using MML command: ZEQS::BTS=<xx>:U;	The sector gets reset. Alarm 7606 “TRX FAULTY: There is disturbance in the serial DL bus or the bus is broken” gets cancelled. But the Alarm 7606 “TRX FAULTY: Non EDGE TRX device type used accidentally in Edge Capable Mode” is reported only for TSxA-2 and not reported for TSxA-4 both at BTS Manager and BSC. After some time Alarm 7602 BCF NOTIFICATION: “Mismatch between BSC/MMI configuration file and the actual configuration” gets reported for TRX TSxA-4.

Case Ref.	BCF Configuration	BTS SW	STIRC Enabled
NA04543654.01	4 Omni UltraSite.[**Error! Reference source not found.**] (TRX1,3:- TSxB, TRX2,4 :- TSxA)	CX6.0	Yes
NA04543654.02	4 Omni UltraSite [**Error! Reference source not found.**] (TRX1,3:- TSxB, TRX2,4 :- TSxA)	CX6.0	No

Test steps to verify the correction

Input to Verify the Correction	Expected Output
Configure the site as defined in the test case.	Site is in supervisory state with Alarm 7606 “TRX FAULTY: Non EDGE TRX device type used accidentally in Edge Capable Mode” is reported for TSxA-2 and TSxA-4 both at BTS Manager and BSC.
Lock the sector using MML command: ZEQS::BTS=<xx>:L;	The sector gets locked.
Pull out TRX TSxA-4 (slot 4) from the BTS and then unlock the sector using MML command: ZEQS::BTS=<xx>:U;	The sector gets reset. Alarm 7606 “TRX FAULTY: Non EDGE TRX device type used accidentally in Edge Capable Mode” gets reported for TSxA-2 and Alarm 7606 “TRX FAULTY: There is disturbance in the serial DL bus or the bus is broken” gets reported for TSxA-4 both at BTS Manager and BSC.
Lock the sector again and insert the pulled out TRX TSxA-4 back into the BTS and then unlock the sector using MML command: ZEQS::BTS=<xx>:U;	The sector gets reset. Alarm 7606 “TRX FAULTY: Non EDGE TRX device type used accidentally in Edge Capable Mode” is reported for TSxA-2 and TSxA-4 both at BTS Manager and BSC.
Lock and unlock the sector 3 times from BSC and BTS Manager.	Alarm 7606 “TRX FAULTY: Non EDGE TRX device type used accidentally in Edge Capable Mode” is reported for TSxA-2 and TSxA-4 both at BTS Manager and BSC.
Repeat case with correct HW configuration file.	Alarms are reported correctly both at BTS Manager and BSC.

Case Ref.	BCF Configuration	BTS SW	STIRC Enabled
NA04543654.03	4 Omni UltraSite [**Error! Reference source not found.**]. (TRX1,3:- TSxB, TRX2,4 :- TSxA)	CX7.0 MP1.0	Yes
NA04543654.04	4 Omni UltraSite [**Error! Reference source not found.**]. (TRX1,3:- TSxB, TRX2,4 :- TSxA)	CX7.0 MP1.0	No

Input to Verify the Correction	Expected Output
Configure the site as defined in the test case.	Site is in supervisory state with Alarm 7606 “TRX FAULTY: Non EDGE TRX device type used accidentally in Edge Capable Mode” is reported for TSxA-2 and TSxA-4 both at BTS Manager and BSC.
Lock the sector using MML command: ZEQS::BTS=<xx>:L;	The sector gets locked.
Disable Antenna Hopping and then unlock the sector using MML command: ZEQS::BTS=<xx>:U;	The sector gets reset. Alarm 7606 “TRX FAULTY: Non EDGE TRX device type used accidentally in Edge Capable Mode” is not reported for TSxA-2 and TSxA-4 both at BTS Manager and BSC. After some time Alarm 7602 BCF NOTIFICATION: “Mismatch between BSC/MMI configuration file and the actual configuration” gets reported for TRX TSxA-4.
Repeat case with correct HW configuration file.	Alarm 7606 “TRX FAULTY: Non EDGE TRX device type used accidentally in Edge Capable Mode” is reported correctly and alarm 7602 BCF NOTIFICATION: “Mismatch between BSC/MMI configuration file and the actual configuration” is not reported on BTS Manager and BSC.

Case Ref.	BCF Configuration	BTS SW	STIRC Enabled
NA04543654.05	4 Omni UltraSite [**Error! Reference source not found.**]. (TRX1,3:- TSxB, TRX2,4 :- TSxA)	CX7.0 MP1.0	Yes
NA04543654.06	4 Omni UltraSite [**Error! Reference source not found.**]. (TRX1,3:- TSxB, TRX2,4 :- TSxA)	CX7.0 MP1.0	No

Input to Verify the Correction	Expected Output
Configure the site as defined in the test case.	Site is in supervisory state with Alarm 7606 “TRX FAULTY: Non EDGE TRX device type used accidentally in Edge Capable Mode” is reported for TSxA-2 and TSxA-4 both at BTS Manager and BSC.
Lock the sector using MML command: ZEQS::BTS=<xx>:L;	The sector gets locked.
Take out the Non Edge TRX TSxA-2 and TSxA-4 from the site and replace them with Edge TRX TSxB. Unlock the sector using the MML command: ZEQS:BTS=<xx>:U;	The sector reset takes place and Alarm 7606 “TRX FAULTY: Non EDGE TRX device type used accidentally in Edge Capable Mode” is not reported both at BTS Manager and BSC. After some time Alarm 7602 BCF NOTIFICATION: “Mismatch between BSC/MMI configuration file and the actual configuration” gets reported for TRX TSxA-4.
Repeat case with correct HW configuration file.	Alarm 7606 “TRX FAULTY: Non EDGE TRX device type used accidentally in Edge Capable Mode” is reported correctly and alarm 7602 BCF NOTIFICATION: “Mismatch between BSC/MMI configuration file and the actual configuration” is not reported on BTS Manager and BSC.

Case Ref.	BCF Configuration (Before TRX Replacement)	BTS SW	STIRC Enabled	BCF Configuration (After TRX Replacement)
NA0454365 4.07	4 Omni UltraSite [**Error! Reference source not found.**]. (TRX1,3:- TSxB, TRX2,4 :- TSxA)	CX7.0 MP1.0	Yes	4 Omni EDGE UltraSite.
NA0454365 4.08	4 Omni UltraSite [**Error! Reference source not found.**]. (TRX1,3:- TSxB, TRX2,4 :- TSxA)	CX7.0 MP1.0	No	4 Omni EDGE UltraSite.

Input to Verify the Correction	Expected Output
Configure the site as defined in the test case.	Site is in supervisory state with not any unexpected alarm except 7602 BCF NOTIFICATION: “Mismatch between BSC/MMI configuration file and the actual configuration”.
Lock the sector using MML command: ZEQS::BTS=<xx>:L;	The sector gets locked.
Take out Edge TRX TSxB-4(Slot-4) from the site and replace it with one Non-Edge TRX TSxA-4. Unlock the sector using the command: ZEQS:BTS=<xx>:U;	The sector reset takes place. Alarm 7606 “TRX FAULTY: Non EDGE TRX device type used accidentally in Edge Capable Mode” gets reported for the replaced TRX TSxA-4 both at BTS Manager and BSC.
Repeat case with correct HW configuration file.	Alarm 7606 “TRX FAULTY: Non EDGE TRX device type used accidentally in Edge Capable Mode” is reported correctly and alarm 7602 BCF NOTIFICATION: “Mismatch between BSC/MMI configuration file and the actual configuration” is not reported on BTS Manager and BSC.

Case Ref.	BCF Configuration	BTS SW	STIRC Enabled
NA04543654.09	4 Omni EDGE UltraSite.	CX7.0 MP1.0	Yes
NA04543654.10	4 Omni EDGE UltraSite.	CX7.0 MP1.0	No

Unexpected results:
When Antenna Hopping is enabled in the sector, Alarm 7606.”TRX Faulty” is not reported correctly.

GSM/EDGE BTS

CN-id: 3179CNESPE06

Title:
BCCH Transmission fluctuates

Version of the SW-build:
CX7.0 MP1.0

Valid for Product(s):
UltraSite EDGE BTS

References:
22618ESPE05

Reason for the Change Note:

Original problem
When the LAPD of a BCCH TRX is blocked using MML in a BB hopping sector then the BCCH is re-configured to another TRX. Following the reconfiguration the BCCH TRX timeslot 0 is correctly using constant power; however, timeslots 1 to 7 are fluctuating.

The same issue maybe observed when BCCH energy saving feature is activated.

Description of the fault:
If the LAPD is blocked via MML then the BSC does not send the BS POWER CONTROL message. So the TRX telecom does not trigger any TSC message. Therefore the TRX does not have the correct BCCH TRX id or Power level

The problem does not happen if the BCCH reconfiguration is caused by a faulty TRX or LAPD link failure.

How end user/operator could detect the problem:
Block a BCCH TRX as described in the summary and monitor the transmission using a spectrum analyser.

Related feature / functionality:
BB hopping

Workaround:
Don’t use LAPD block to trigger the reconfiguration. Reset the affected BTS from MML to restore correct functioning.

Description of the correction:
TSC is now triggered so that the TRX receives the BCCH TRX id and its power level.

Corrected Fault Reports:

22618ESPE05: BCCH Transmission fluctuates

Modified components:

tom_runt

bc_ddl

rrcomhan

rrmanage

rr_om_bc_msg

tom_comm

rrinit

rrglodef

ph_air

glo_dbus

primdef

CX7_MP1_OM_PR22618ESPE05_BL007CX7_MP1_OM_PR22618ESPE05_BL007CX7_MP1_OM_PR22618ESPE05_BL007CX7_MP1_OM_PR22618ESPE05_BL007CX7_MP1_OM_PR22618ESPE05_BL007CX7_MP1_OM_PR22618ESPE05_BL004CX7_MP1_OM_PR22618ESPE05_BL004CX7_MP1_OM_PR22618ESPE05_BL004CX7_MP1_OM_PR22618ESPE05_BL004CX7_MP1_OM_PR22618ESPE05_BL004CX7_MP1_OM_PR22618ESPE05_BL004

Testing Instructions for the change

Pre-requirements:

1. All test cases should be performed using BSC SW S14 unless otherwise stated.
2. Spectrum Analyser (FSU8) needs to be connected to the BCCH TRX. (Span is set to 0Hz, sweep time as 4.615ms and the BTS Site Frame Clock is applied as external trigger for the spectrum analyser.)
3. For test case PR 22618ESPE05.18 refer test lab note TLN_FBUS_Traces_001

Test execution:

Test steps to reproduce the problem

Input to Reproduce the Problem	**Expected Output**
Configure the site as stated in the test case.	The site is in supervisory state with no active alarms other than “7801: Local MMI connected to Base Station”.
Block the LAPD link of the BCCH TRX (here its TRX1) using MML command: ZDTC:<FULink>:BL:;	The link gets blocked and BCCH reconfiguration is triggered.
Monitor the BCCH transmission on the Spectrum Analyser.	The transmission occurring on the timeslots is not on the same power level. It fluctuates

Case Ref	BTS Configuration	BTS SW	Hopping Mode
PR 22618ESPE05.01	4+4 EDGE Ultra Site with BB2F	CX7.0	BB

Input to Reproduce the Problem	Expected Output
Configure the site as stated in the test case.	The site is in supervisory state with no active alarms other than “7801: Local MMI connected to Base Station”.
Enable Energy saving mode on BTS/SEG level from the BSC using the command ZEUG:BTS=<bts_id>:TPR=<0/2>; (The values that TPR can take at present are 0&2. The value 0 means Energy saving mode is off and value 2 means that Energy saving feature is active with power reduction of 2dB.)	Energy saving mode gets enabled.
Block the LAPD link of the BCCH TRX (here its TRX1) using MML command: ZDTC:<FULink>:BL:;	The link gets blocked and BCCH reconfiguration is triggered.
Monitor the BCCH transmission on the Spectrum Analyser.	The transmission occurring on the timeslots is not on the same power level. It fluctuates. Timeslots 1-6 of the BCCH TRX do not transmit on the same power level(i.e. 2 dB reduction)

Case Ref	BTS Configuration	BTS SW	Hopping Mode
PR 22618ESPE05.02	4-Omni EDGE Ultra Site with BB2F	CX7.0	BB

Test steps to verify the correction

Input to Verify the Correction	Expected Output
Configure the site as stated in the test case.	The site is in supervisory state with no active alarms other than “7801: Local MMI connected to Base Station
Block the LAPD link of the BCCH TRX (here its TRX1) using MML command: ZDTC:<FULink>:BL:;	The link gets blocked and BCCH reconfiguration is triggered.
Monitor the BCCH transmission on the Spectrum Analyser.	The transmission occurring on the timeslots is on the same power level. It doesn’t fluctuate.

Case Ref	BTS Configuration	BTS SW	Hopping Mode
PR 22618ESPE05.03	4+4 EDGE Ultra Site with BB2F	CX7.0 MP1.0	BB
PR 22618ESPE05.04	4+4 EDGE Ultra Site with BB2E, (MBCCH+SDCCH)	CX7.0 MP1.0	BB
PR 22618ESPE05.05	4-Omni EDGE Ultra Site with BB2F	CX7.0 MP1.0	Antenna Hopping
PR 22618ESPE05.06	2+2 EDGE Ultra Site with BB2F	CX7.0 MP1.0	No Hopping
PR 22618ESPE05.07	4-Omni GSM Ultra Site with BB2A	CX7.0 MP1.0	BB
PR 22618ESPE05.08	4-Omni EDGE Ultra Site with BB2F	CX7.0 MP1.0	RF Hopping

Input to Verify the Correction	Expected Output
Configure the site as stated in the test case.	The site is in supervisory state with no active alarms other than “7801: Local MMI connected to Base Station
Enable Energy saving mode on BTS/SEG level from the BSC using the command ZEUG:BTS=<bts_id>:TPR=<0/2>; (The values that TPR can take at present are 0&2. The value 0 means Energy saving mode is off and value 2 means that Energy saving feature is active with power reduction of 2dB.)	Energy saving mode gets enabled.
Block the LAPD link of the BCCH TRX (here its TRX1) using MML command: ZDTC:<FULink>:BL:;	The link gets blocked and BCCH reconfiguration is triggered.
Monitor the BCCH transmission on the Spectrum Analyser.	Timeslots 1-6 of the BCCH TRX transmit on the same power level (2 dB reduction).

Case Ref	BTS Configuration	BTS SW	Hopping Mode
PR 22618ESPE05.09	4-Omni EDGE Ultra Site with BB2F	CX7.0 MP1.0	BB
PR 22618ESPE05.10	4+4 EDGE Ultra Site with BB2E, (MBCCH+SDCCH)	CX7.0 MP1.0	BB
PR 22618ESPE05.11	4-Omni EDGE Ultra Site with BB2F, (MBCCH+SDCCH)	CX7.0 MP1.0	Antenna Hopping
PR 22618ESPE05.12	2+2 EDGE Ultra Site with BB2F	CX7.0 MP1.0	No Hopping
PR 22618ESPE05.13	4-Omni EDGE Ultra Site with BB2F	CX7.0 MP1.0	RF Hopping

Input to Verify the Correction	Expected Output
Configure the site as stated in the test case. TRX3 is the preferred BCCH TRX.	The site is in supervisory state with no active alarms other than “7801: Local MMI connected to Base Station
Block the LAPD link of the BCCH TRX using MML command: ZDTC:<FULink>:BL:;	The link gets blocked and BCCH reconfiguration is triggered.
Monitor the BCCH transmission on the Spectrum Analyser.	All Timeslots of the BCCH TRX transmit on the same power level.

Case Ref	BTS Configuration	BTS SW	Hopping Mode
PR 22618ESPE05.14	4-Omni Ultra Site with BB2F/BB2E (TRX1,2:-TS*B,TRX3,4:-TS*A)	CX7.0 MP1.0	BB
PR 22618ESPE05.15	4-Omni Ultra Site with BB2F/BB2E (TRX1,2,3,4:-TS*A)	CX7.0 MP1.0	BB

Input to Verify the Correction	Expected Output
Configure the site as stated in the test case.	The site is in supervisory state with no active alarms other than “7801: Local MMI connected to Base Station
Lock the sector and pull out the current BCCH TRX followed by unlock.	Sector takes 1st reset. Alarm “7606: There is disturbance in the serial DL bus or bus is broken” gets reported. Another reset occurs and BCCH reconfigures to another TRX.
Monitor the BCCH transmission on the Spectrum Analyser.	The transmission occurring on the timeslots is on the same power level. It does not fluctuate.

Case Ref	BTS Configuration	BTS SW	Hopping Mode
PR 22618ESPE05.16	4+4 EDGE Ultra Site with BB2F	CX7.0 MP1.0	BB

Input to Verify the Correction	Expected Output
Configure the site as stated in the test case.	The site is in supervisory state with no active alarms other than “7801: Local MMI connected to Base Station
Enable Energy saving mode on BTS/SEG level from the BSC using the command ZEUG:BTS=<bts_id>:TPR=<0/2>; (The values that TPR can take at present are 0&2. The value 0 means Energy saving mode is off and value 2 means that Energy saving feature is active with power reduction of 2dB.)	Energy saving mode gets enabled.
Lock the sector and pull out the current BCCH TRX followed by unlock.	Sector takes 1st reset. Alarm “7606: There is disturbance in the serial DL bus or bus is broken” gets reported. Another reset occurs and BCCH reconfigures to another TRX.
Monitor the BCCH transmission on the Spectrum Analyser.	Timeslots 1-6 of the BCCH TRX transmit on the same power level(2 dB reduction).

Case Ref	BTS Configuration	BTS SW	Hopping Mode
PR 22618ESPE05.17	4+4 EDGE Ultra Site with BB2F	CX7.0 MP1.0	BB

Input to Verify the Correction	Expected Output
Configure the site as stated in the test case	The site is in supervisory state with no active alarms other than “7801: Local MMI connected to Base Station
Lock the sector from BSC followed by unlocks.	Sector resets and comes up working.
Monitor the BCCH transmission on the Spectrum Analyser.	The transmission occurring on the timeslots is on the same power level. It does not fluctuate.
Reset the sector from BTS manager.	Sector resets and comes up working.
Monitor the BCCH transmission on the Spectrum Analyser.	The transmission occurring on the timeslots is on the same power level. It does not fluctuate.

Case Ref	BTS Configuration	BTS SW	Hopping Mode
PR 22618ESPE05.18	4-Omni EDGE Ultra Site with BB2F	CX7.0 MP1.0	BB

Input to Verify the Correction	Expected Output
Configure the site as stated in the test case	The site is in supervisory state with no active alarms other than “7801: Local MMI connected to Base Station
Enable Energy saving mode on BTS/SEG level from the BSC using the command ZEUG:BTS=<bts_id>:TPR=<0/2>; (The values that TPR can take at present are 0&2. The value 0 means Energy saving mode is off and value 2 means that Energy saving feature is active with power reduction of 2dB.)	Energy saving mode gets enabled.
Locks the sector from BSC followed by unlock.	Sector resets and comes up working.
Monitor the BCCH transmission on the Spectrum Analyser.	Timeslots 1-6 of the BCCH TRX transmit on the same power level (i.e. 2 dB reduction).
Reset the sector from BTS manager.	Sector resets and comes up working.
Monitor the BCCH transmission on the Spectrum Analyser.	Timeslots 1-6 of the BCCH TRX transmit on the same power level (2 dB reduction).

Case Ref	BTS Configuration	BTS SW	Hopping Mode
PR 22618ESPE05.19	4-Omni EDGE Ultra Site with BB2F	CX7.0 MP1.0	BB

Input to Verify the Correction	Expected Output
Configure the site as stated in the test case.	The site is in supervisory state with no active alarms other than “7801: Local MMI connected to Base Station
Blocks the sector followed by unblock from BTS Manager.	Sector resets and comes up working.
Monitor the BCCH transmission on the Spectrum Analyser.	The transmission occurring on the timeslots is on the same power level. It does not fluctuate.

Case Ref	BTS Configuration	BTS SW	Hopping Mode
PR 22618ESPE05.20	4-Omni EDGE Ultra Site with BB2F	CX7.0 MP1.0	BB

Input to Verify the Correction	Expected Output
Configure the site as stated in the test case.	The site is in supervisory state with no active alarms other than “7801: Local MMI connected to Base Station
Enable Energy saving mode on BTS/SEG level from the BSC using the command ZEUG:BTS=<bts_id>:TPR=<0/2>; (The values that TPR can take at present are 0&2. The value 0 means Energy saving mode is off and value 2 means that Energy saving feature is active with power reduction of 2dB.)	Energy saving mode gets enabled.
Blocks the sector followed by unblock from BTS Manager.	Sector resets and comes up working.
Monitor the BCCH transmission on the Spectrum Analyser.	Timeslots 1-6 of the BCCH TRX transmit on the same power level(2 dB reduction).

Case Ref	BTS Configuration	BTS SW	Hopping Mode
PR 22618ESPE05.21	4-Omni EDGE Ultra Site with BB2F	CX7.0 MP1.0	BB

Input to Verify the Correction	Expected Output
Configure the site as stated in the test case.	The site is in supervisory state with no active alarms other than “7801: Local MMI connected to Base Station
Enable Energy saving mode on BTS/SEG level from the BSC using the command ZEUG:BTS=<bts_id>:TPR=<0/2>; (The values that TPR can take at present are 0&2. The value 0 means Energy saving mode is off and value 2 means that Energy saving feature is active with power reduction of 2dB.)	Energy saving mode gets enabled.
Monitor the BCCH transmission on the Spectrum Analyser.	The TDMA frame for BCCH TRX can be seen on the spectrum analyser.
Record the output of the spectrum analyser for some time with the use of GPIB (General purpose Interface Bus)	The recording using spectrum analyser is successful. The spectrum analyser records the power level of all timeslots for every TDMA frame.
Analyze the output file for power level of CBCH in a 51 TDMA multiframe for the timeslots on which CBCH has been defined.	The power level for CBCH burst is the same as the BCCH power level.

Case Ref	BTS Configuration	BTS SW	Hopping Mode
PR 22618ESPE05.22	4-Omni EDGE Ultra Site with BB2F	CX7.0 MP1.0	BB

Input to Verify the Correction	Expected Output
Configure the site as stated in the test case and check that site not commissioned	Site is uncommissioned.
Enable Energy saving mode on BTS/SEG level from the BSC using the command ZEUG:BTS=<bts_id>:TPR=<0/2>; (The values that TPR can take at present are 0&2. The value 0 means Energy saving mode is off and value 2 means that Energy saving feature is active with power reduction of 2dB.)	Energy saving mode gets enabled.
Commission the site.	The site is commissioned successfully The site is in supervisory state with no active alarms other than “7801: Local MMI connected to Base Station
Unlock the BCF.	The BCF is unlocked successfully and takes a reset.
Monitor ABIS during the reset process.	When the BCF is being initialized then ‘BS POWER CONTROL’ message is seen on the ABIS as a part of SI BEGIN procedure.
Verify that SI BEGIN is acknowledged by the BTS site	The SI BEGIN is acknowledged by the BTS.
Observe the contents of “BS POWER CONTROL” message, sent as a part of SI BEGIN procedure, at Abis.	The value of ‘channel type’ is ‘BCCH’, the value of ‘channel number’ is ‘0’, The value of ‘power control level’ is Pmax value defined at the BSC
Verify that SI END is acknowledged by the BTS site	The SI END is acknowledged by the BTS.
Observe the output power levels for all timeslots of the BCCH TRX.	A reduction in the power of dummy bursts as compared to the BCCH bursts is observed on all timeslots except TS 7 as per the BSC ordered power reduction in BS power parameter IE.

Case Ref	BTS Configuration	BTS SW	Hopping Mode
PR 22618ESPE05.23	4-Omni EDGE Ultra Site with BB2F GENA = N	CX7.0 MP1.0	BB
PR 22618ESPE05.24	4-Omni EDGE Ultra Site with BB2F GENA = Y	CX7.0 MP1.0	BB

Input to Verify the Correction	Expected Output
Configure the site as stated in the test case.	The site is in supervisory state with no active alarms other than “7801: Local MMI connected to Base Station
Enable Energy saving mode on BTS/SEG level from the BSC using the command ZEUG:BTS=<bts_id>:TPR=<0/2>; (The values that TPR can take at present are 0&2. The value 0 means Energy saving mode is off and value 2 means that Energy saving feature is active with power reduction of 2dB.)	Energy saving mode gets enabled.
Observe the output of BCCH TRX on the spectrum analyser.	The TDMA frame for BCCH TRX can be seen on the spectrum analyser.
Observe the output power levels for all timeslots of the BCCH TRX on spectrum analyser.	A 2dB reduction in the power of dummy bursts as compared to the BCCH bursts is observed on all timeslots except TS 7.
A TRX test is started from the BSC using MML command ZUBS.	The test is started.
The colour of unit LED’s is verified at the BTS and the BTS manager equipment view.	The colour of TSxx and BB2x LED’s at the BTS and BTS manager are red during the test and return back to original colour when test finishes. The test is not started for control channels.
During TRX test observe the output power levels for the timeslots used for TRX test on the BCCH TRX.	The transmission power of the timeslots used is equal to the BCCH transmission power (PMAX).
The test results are checked with the MML command ZUBP.	The test is successful and the test results are acceptable

Case Ref	BTS Configuration	BTS SW	Hopping Mode
PR 22618ESPE05.25	4-Omni EDGE Ultra Site with BB2F	CX7.0 MP1.0	No Hopping

Input to Verify the Correction	Expected Output
Configure the site as stated in the test case.	The site is in supervisory state with no active alarms other than “7801: Local MMI connected to Base Station
Enable Energy saving mode on BTS/SEG level from the BSC using the command ZEUG:BTS=<bts_id>:TPR=<0/2>; (The values that TPR can take at present are 0&2. The value 0 means Energy saving mode is off and value 2 means that Energy saving feature is active with power reduction of 2dB.)	Energy saving mode gets enabled.
Observe the output of BCCH TRX on the spectrum analyser.	The TDMA frame for BCCH TRX can be seen on the spectrum analyser.
Observe the output power levels for all timeslots of the BCCH TRX on spectrum analyser.	A 2dB reduction in the power of dummy bursts as compared to the BCCH bursts is observed on all timeslots except TS 7.
TRX Test command is selected from BTS manager. The TRX number, and Radio Timeslot are selected and the test is started on timeslots of BCCH TRX.	When the test is started, the alarm RTS IS IN TEST USE for the used TS is started.
The colour of unit LED’s is verified at the BTS and the BTS manager equipment view.	The colour of TSxx and BB2x LED’s at the BTS and BTS manager are red during the test and return back to original colour when test finishes. The test is not started for control channels.
During TRX test observe the output power levels for the timeslots used for TRX test on the BCCH TRX.	The transmission power of the timeslots used is equal to the BCCH transmission power (PMAX).
The test results are checked at the BTS manager in the TRX test dialog box.	The test is successful and the test results are acceptable

Case Ref	BTS Configuration	BTS SW	Hopping Mode
PR 22618ESPE05.26	4-Omni EDGE Ultra Site with BB2F	CX7.0 MP1.0	No Hopping

Input to Verify the Correction	Expected Output
Configure the site as stated in the test case.	The site is in supervisory state with no active alarms other than “7801: Local MMI connected to Base Station
Enable Energy saving mode on BTS/SEG level from the BSC using the command ZEUG:BTS=<bts_id>:TPR=<0/2>; (The values that TPR can take at present are 0&2. The value 0 means Energy saving mode is off and value 2 means that Energy saving feature is active with power reduction of 2dB.)	Energy saving mode gets enabled.
Make a speech call (CS) on the BCCH TRX (if required, timeslots of other TRX can be locked)	Call gets established.
Monitor the Dynamic Power control message to find the power level commanded by BSC.	Using Net-hawk, the power level is seen.
Monitor the BCCH transmission on the Spectrum Analyser.	The transmission occurring on the timeslots is on the same power level as is commanded by BSC.
ZEQV:BTS=<bts_id>::GENA=Y;	GENA gets enabled on the BTS.
Establish a PS call on the BCCH TRX.	Call gets established.
Monitor the BCCH transmission on the Spectrum Analyser.	The transmission occurs on the timeslots is on the maximum power level.

Case Ref	BTS Configuration	BTS SW	Hopping Mode
PR 22618ESPE05.27	4-Omni EDGE Ultra Site with BB2F	CX7.0 MP1.0	BB

Unexpected results:
When the LAPD link of the current BCCH TRX is blocked and it reconfigures to another TRX, timeslot 0 transmits at constant power, but power of timeslots 1 to 7 fluctuates.

GSM/EDGE BTS

CN-id: 3193CNESPE06

Title:
Voice quality issues on several BSCs after new BTS sw load

Version of the SW-build:
CX7.0 MP1.0

Valid for Product(s):
UltraSite EDGE BTS

References:
NA04538392, NA04571961, NA04577966

Reason for the Change Note:

Original problem
Some customers have complained of audio muting problems during Mobile Originating (MOC) to Mobile Terminating Calls (MTC) using certain mobile models. MOC is made and end-user begins talking, when there is a pause in the conversation and speech starts again, end-user will hear a 5 to 10 second muting. Problem can be heard in both directions MOC/MOT. Problem is observed after CX6 CD1.0 activation, on 850MHz or 1900MHz band with UL DTX active and AMR HR only.

Description of the fault
Some mobiles incorrectly start sending speech without first sending Onset message to BTS.

Related feature / functionality
AMR HR & UL DTX

Dependency on configuration
None

Workaround
Disable UL DTX usage or use CX6 base level BTS SW.

Description of the correction
DTX algorithm is changed so that if two or more simultaneous good speech blocks are observed in the UL then the speech path is enabled without the need to receive Onset block.

Effects on end-user
End users will experience 5 to 10 second muting periods which will be heard throughout the conversation.

Effects on operator
Reduced customer complaints

Corrected Fault Reports:

NA04538392 : Voice quality issues on several BSCs after new BTS sw load
NA04571961 : Mute Calls

Modified components:

ch_dec_t

ch_vars

ch_cons

CX_GEN:CX7MP1_EDSP_B001_BL03CX_GEN:CX7MP1_EDSP_B001_BL03CX_GEN:CX7MP1_EDSP_B001_BL03

Testing Instructions for the change

All test cases should be performed using BSC SW S14 unless otherwise stated.

Various Parameters are used for Intercell handover control as mentioned below.

BTS 1 and BTS2 are made adjacent cells to each other by the commands ZEAC: BTS=<BTS 1>: INDEX=0: ABTS=<BTS 2>; and ZEAC: BTS=<BTS 2>: INDEX=0: ABTS=<BTS 1>;

Handover parameters are set according to the following commands
ZEAM: BTS=<BTS 1/BTS2>: INDEX=0::: PMRG=-24,QMRG=-24,LMRG=-24;

To disable Intracell handover for both the BTSs
ZEHG: BTS=<BTS 1/BTS2>: EIC=N, EIH=N;

To set minimum interval between successful and unsuccessful handovers for the BTSs
ZEHG: BTS=<BTS 1/BTS2>: MIH=<time in sec>, MIU=<time in sec>;

Test execution:
Test steps to reproduce the problem

Input to Reproduce the Problem	**Expected Output**
Configure the site as stated in the test case.	The site is in supervisory state with no active alarms other than “7801: Local MMI connected to Base Station
Enable AHS codecs and set UL DTX as ON for the sector.	Codecs are set as per test case and UL DTX is ON.
Make an AHS call on a TRX using MOTO Razr V3x phones and play one audio speech file at MOC end for 30 minutes.	Call is established successfully and speech is heard at MTC end clearly.
Listen the sound at the MTC end. Use an Abis Play back tool (W Play) to confirm the mute.	A mute for some time is observed after 5-10 minutes while speech was there at MOC end. Mute is observed successfully in this tool.
Disconnect the call.	Call gets disconnected successfully.

Case Ref	BTS Configuration	BTS SW	AHS codec in the BTS
PR NA04538392.01	4 Omni	CX6 CD1.0	4.75 ,5.9 & 7.4

Input to Reproduce the Problem	Expected Output
Configure the site as stated in the test case.	The site is in supervisory state with no active alarms other than “7801: Local MMI connected to Base Station
Enable AHS codecs and set UL DTX as ON for both the sectors. Define each of the two sectors as a neighbour of the other and set the handover parameters using	Codecs are set as per test case and UL DTX is ON. Neighbours are defined successfully.
Make an AHS call in first sector to an MS locked in second sector using MOTO Razr V3x phones. Trigger a to and fro handover between two sectors and play one audio speech file at MOC end for 30 minutes.	Call is established successfully Handovers started and speech is heard at MTC end clearly.
Listen the sound at the MTC end. Use an Abis Play back tool(W Play) to confirm the mute.	A mute for some time is observed after 5-10 minutes while speech was there at MOC end. Mute is observed successfully in this tool.
Disconnect the call.	Call gets disconnected successfully.

Case Ref	BTS Configuration	BTS SW	AHS codec in the BTS
PR NA04538392.02	2+2	CX6.0 CD1.0	4.75 ,5.9 & 7.4

Input to Reproduce the Problem	Expected Output
Configure the site as stated in the test case.	The site is in supervisory state with no active alarms other than “7801: Local MMI connected to Base Station
Set UL DTX as ON for both the sectors. Define each of the two sectors as a neighbour of the other and set the handover parameters using	UL DTX is ON. Neighbours are defined successfully.
In the first sector, configure all the traffic channels to be of type TCHH and in the second sector, configure all the traffic channels to be of type TCHF.	The first sector consists of half rate traffic channels only and the second sector consists of full rate traffic channels only.
Lock all traffic channels in both the sectors. In the source BTS unlock the 7th timeslot of the BCCH TRX and in the target BTS unlock the 7th timeslot of a non-BCCH TRX.	Only one traffic channel remains unlocked in each sector.
Set up an AMR call in the first sector to an MS locked to a completely separate BTS using MOTO Razr V3x phones. Trigger a to and fro DR-TRAU handovers between two sectors and play one audio speech file at MOC end for 30 minutes.	An AMR call is established successfully in the first sector. Handovers started and speech is heard at MTC end clearly.
Listen the sound at the MTC end. Use Abis Play back tool(W Play) to confirm the mute.	A mute for some time is observed after 5-10 minutes while speech was there at MOC end. Mute is observed successfully in this tool.
Disconnect the call.	Call gets disconnected successfully.

Case Ref	BTS Configuration	BTS SW
PR NA04538392.03	2+2	CX6.0 CD1.0

Test steps to verify the correction

Input to Verify the Correction	Expected Output
Configure the site as stated in the test case.	The site is in supervisory state with no active alarms other than “7801: Local MMI connected to Base Station
Enable AHS codecs and set UL DTX as ON for the sector.	Codecs are set as per test case and UL DTX is ON.
Play one audio file consisting of continuous beep sound at MOC end.	Sound file played successfully.
Make an AHS call on a TRX using MOTO Razr V3x phones.	Call is established successfully
Listen the sound at the MTC end for 5 minutes and monitor Abis traces.	No muting is observed and sound is heard clearly. On Abis continuous speech frames are seen and no any “No Speech” frame is observed.
Now stop the audio file and call remains ongoing. Monitor the Abis traces.	Silence is observed at the MTC end. On Abis continuous “No Speech” frames are seen.
After 5 minutes again play the sound file at the MOC end and monitor Abis traces.	Continuous sound is heard at the MTC end. On Abis continuous speech frames are seen and no any “No Speech” frame is observed.
Use Abis Play back tool(W Play) to confirm the mute and speech periods in all above steps	Mute/Speech is observed successfully according to the expected output with this tool.
Repeat the above three steps 4 times	Results are consistent and as per the expected outputs.
Disconnect the call.	Call gets disconnected successfully.
Repeat the test case with Nokia-6220 and SonyErricson-W810i phones.	All the results are as per given expected outputs.

Case Ref	BTS Configuration	BTS SW	AHS codec in the BTS
PR NA04538392.04	4 Omni	CX7.0 MP1.0	4.75 ,5.9 & 7.4
PR NA04538392.05	4 Omni	CX7.0 MP1.0	4.75

Input to Verify the Correction	Expected Output
Configure the site as stated in the test case.	The site is in supervisory state with no active alarms other than “7801: Local MMI connected to Base Station
Enable AHS codecs and set UL DTX as ON for the sector. Define each of the two sectors as a neighbour of the other and set the handover parameters using	Codecs are set as per test case and UL DTX is ON. Neighbours are defined successfully.
Play one audio file consisting of continuous beep sound at MOC end.	Sound file played successfully.
Make an AHS call in first sector to an MS locked in second sector using MOTO Razr V3x phones. Trigger a to and fro handover between two sectors.	Call is established successfully Handovers started.
Listen the sound at the MTC end for 5 minutes and monitor Abis traces.	No muting is observed and sound is heard clearly. On Abis continuous speech frames are seen and no any “No Speech” frame is observed.
Now stop the audio file and call remains ongoing. Monitor the Abis traces.	Silence is observed at the MTC end. On Abis continuous “No Speech” frames are seen.
After 5 minutes again play the sound file at the MOC end and monitor Abis traces.	Continuous sound is heard at the MTC end. On Abis continuous speech frames are seen and no any “No Speech” frame is observed.
Use an Abis Play back tool(W Play) to confirm the mute and speech periods in all above steps	Mute/Speech is observed successfully according to the expected output with this tool.
Repeat the above three steps 4 times	Results are consistent and as per the expected outputs.
Disconnect the call.	Call gets disconnected successfully.
Repeat the test case with Nokia-6220 and SonyErricson-W810i phones.	All the results are as per given expected outputs.

Case Ref	BTS Configuration	BTS SW	AHS codec in the BTS
PR NA04538392.06	2+2	CX7.0 MP1.0	4.75 ,5.9 & 7.4

Input to Verify the Correction	Expected Output
Configure the site as stated in the test case.	The site is in supervisory state with no active alarms other than “7801: Local MMI connected to Base Station
Enable AHS codecs and set UL DTX as ON for the sector. Define each of the two sectors as a neighbour of the other and set the handover parameters using	Codecs are set as per test case and UL DTX is ON. Neighbours are defined successfully.
In the first sector, configure all the traffic channels to be of type TCHH and in the second sector, configure all the traffic channels to be of type TCHF	The first sector consists of half rate traffic channels only and the second sector consists of full rate traffic channels only.
Lock all traffic channels in both the sectors. In the source BTS unlock the 7th timeslot of the BCCH TRX and in the target BTS unlock the 7th timeslot of a non-BCCH TRX.	Only one traffic channel remains unlocked in each sector.
Play one audio file consisting of continuous beep sound at MOC end.	Sound file played successfully.
Set up an AMR call in the first sector to an MS locked to a completely separate BTS using MOTO Razr V3x phones. Trigger a to and fro DR-TRAU handovers between two sectors	An AMR call is established successfully [**Error! Reference source not found.**] in the first sector. Handovers started.
Listen the sound at the MTC end for 5 minutes and monitor Abis traces.	No muting is observed and sound is heard clearly. On Abis continuous speech frames are seen and no any “No Speech” frame is observed.
Now stop the audio file and call remains ongoing. Monitor the Abis traces.	Silence is observed at the MTC end. On Abis continuous “No Speech” frames are seen.
After 5 minutes again play the sound file at the MOC end and monitor Abis traces.	Continuous sound is heard at the MTC end. On Abis continuous speech frames are seen and no any “No Speech” frame is observed.
Use an Abis Play back tool(W Play) to confirm the mute and speech periods in all above steps	Mute/Speech is observed successfully according to the expected output with this tool.
Repeat the above three steps 4 times	Results are consistent and as per the expected outputs.
Disconnect the call.	Call gets disconnected successfully.
Repeat the test case with Nokia-6220 and SonyErricson-W810i phones.	All the results are as per given expected outputs.

Case Ref	BTS Configuration	BTS SW
PR NA04538392.07	2+2	CX7.0 MP1.0

Unexpected results:
Speech is heard at MTC end but audio mute periods are still observed during a call.