


Nokia Flexi WCDMA BTS lub ATM Mode Integration

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Flexi WCDMA BTS Integration

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Requirements for Nokia Flexi WCDMA BTS RAS Integration for ATM Iub configuration

The following BTS and Cell parameters have to be set up in accordance to their definition at the RNC:

BTS parameters

- BTS ID
- BTS IP address

LCR IDs (Local Cell Resource IDs)

CoCo (Connection Configuration)

- 1 x CNBAP (**C**ommon **N**ode **B** Application **P**rotocol)
- 1 x DNBAP (**D**edicated **N**ode **B** Application **P**rotocol)
- 1 x AAL2SIG (**A**tm **A**daptation **L**ayer **2** **S**ignalling)
- 1-8 x AAL2UP (**A**tm **A**daptation **L**ayer **2** **U**ser **P**lane)

DCN (Data Communication Network)

- ATM settings
- IP settings

TRS

- IP address

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BTS Commissioning Parameters

Displays the BTS commissioning parameters in the following sublevels:

BTS Settings

Local Cell Resources

Local Cell Settings

WCDMA Carrier Candidates

Antenna Line Settings

External Alarm and Control Settings

Authentication Settings

Modules

States

SW Configuration

TRS Commissioning Parameters

Displays the TRS commissioning parameters in the following sublevels:

Site Properties

Physical Layer Configuration

Traffic Descriptors

IUB Terminations to BTS

DCN Interfaces



BTS Id Information in BTS Site Manager

FileViewConfigurationSoftwareTestsToolsAntennaHelp

BTS Hardware

TRS Hardware

Commissioning

CommissioningSite Properties 2/31

Define Site Properties. Commissioning requires that Name, BTS Id, A2EA and IP Addresses are defined.

Name:

FY1234

Location:

Description:

BTS Id:

82 (1...65534)

A2EA:

4900082000FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF



BTS Id Information in RNC

RNC RNW Object Browser: 10.31.140.43

File Edit View Object Help

RNC26 RNC26

- WCDMA BTSs
 - WBTS82 FlexiBTS**
 - WBTS84 FlexiBTS
- Handover Paths
- Freq. Meas. Controls
- FMCS1
- WSMLCs
- CMOBs
 - CMOB1
 - CMOB2
 - CMOB3
- IUCS
 - IUCS1
- IUPSS
 - IUPS2

WCDMA BTS | WCDMA Cells | Adjacencies

Parameters

WBTS ID	82	BTS Id
WBTS Name	FlexiBTS	
CoCo ID	82	CoCo Id
Working WCELS	02 / 02	
Alarm severity		
Radio resource ind. period	400	
Load control period	2000	
Scheduling period	100	
O&M DCN link status	Enabled	
BTS IP-address	10.31.255.193	TRS IP address
NE-type	FlexiBTS	
NBAP Communication Mode	UltraSiteBTS, FlexiBTS, PicoBTS	
O&M DCN secure link status	Insecure	
IPNB object identifier	0	
TQM object identifier	0	
HSDPA14MbpsPerUser	Enabled	
HSUPA x users enabled	24 users enabled	

IP Addresses in BTS Site Manager

TRS

FTOA
1

IP Addresses

DCN Interfaces

DCN Routing

IP Filtering

TRS:

10.31.255.193

Subnet Mask:

255.255.255.248 / 29

BTS:

10.31.255.194

RNC:

10.31.140.40

LDAP:

Port:

389

TLS for OAM Interface:

Probing

OAM Connection Status:

Not Connected

External Equipment IP Addresses via DHCP

☐ Real Tilt (RET1)

☐ Battery Backup Unit (BBU)

☐ Location Measurement Unit (LMU)

☐ DHCP Client Address Range

-

Other IP Addresses via DHCP

Type

ID

IP Address

Select Type



TRS IP Address in RNC

QRI:OMU, 0:;

RNC IPA2800

2009-05-11 11:07:43

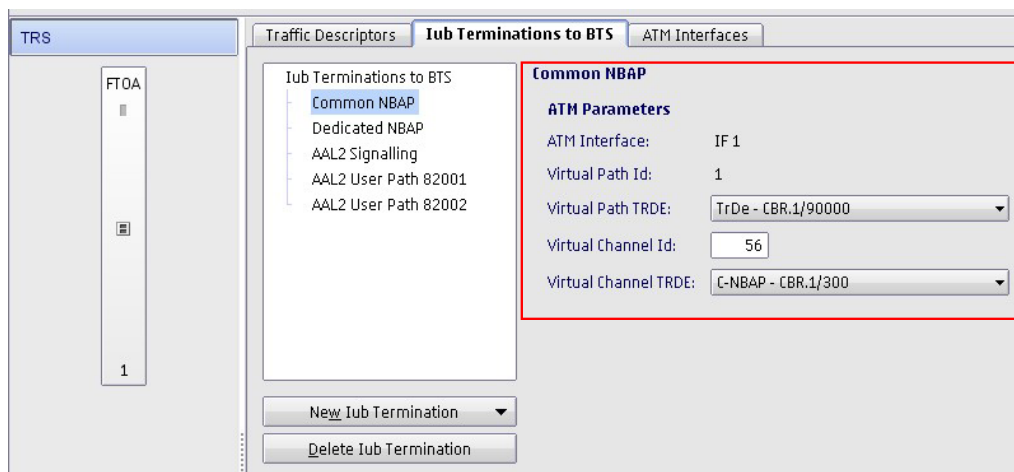
INTERROGATING NETWORK INTERFACE DATA

UNIT	IF NAME	ADM STATE	MTU	PRIORITY	IF TYPE	ADDR TYPE	IP ADDRESS
OMU-0	AA82	UP	1500	-	U	L	10.31.140.40/32
							->10.31.255.193
	EL0	UP	1500	-		L	10.31.140.40/24

TRS IP Address



C-NBAP Settings in BTS Site Manager



The screenshot displays the 'BTS Site Manager' interface with the following components:

- Left Panel:** A tree view under 'TRS' showing 'FTOA' and a list of items with a '1' at the bottom.
- Top Tabs:** 'Traffic Descriptors', 'Iub Terminations to BTS' (selected), and 'ATM Interfaces'.
- Main Content Area:**
 - Iub Terminations to BTS:** A list containing 'Common NBAP', 'Dedicated NBAP', 'AAL2 Signalling', 'AAL2 User Path 82001', and 'AAL2 User Path 82002'. 'Common NBAP' is selected.
 - Common NBAP:** A sub-section containing 'ATM Parameters'.
 - ATM Parameters:** A red-bordered box containing the following settings:
 - ATM Interface: IF 1
 - Virtual Path Id: 1
 - Virtual Path TRDE: TrDe - CBR.1/90000 (dropdown)
 - Virtual Channel Id: 56 (text input)
 - Virtual Channel TRDE: C-NBAP - CBR.1/300 (dropdown)
- Bottom Buttons:** 'New Iub Termination' and 'Delete Iub Termination'.

C-NBAP Settings in RNC

Modify COCO

Connection Configuration

Changed by: Element Manager originated configuration action

Connection Configuration Id: 82

WBTS Connection: 82

Interfaces (1)

VP Termination points (1)

VC Termination points (5)

Common NBAP links (1)

Dedicated NBAP links (1)

AAL2 signalling links (1)

AAL2 user plane links (2)

CNBAP Configuration

CNBAP ATM Configuration

Common NBAP termination point

TP Id	IF VPI	VCI	PCR (egress)	PCR (ingress)	Service Category	MDCR (egress)	MDCR (ingress)	Egress UBR Shar... Excessive...	Ingress UBR Share Weight Of Excessive Bandwidth
1	82/1	56	300	300	CBR				

Modify COCO

Connection Configuration

Changed by: Element Manager originated configuration action

Connection Configuration Id: 82

WBTS Connection: 82

Interfaces (1)

VP Termination points (1)

VC Termination points (5)

Common NBAP links (1)

Dedicated NBAP links (1)

AAL2 signalling links (1)

AAL2 user plane links (2)

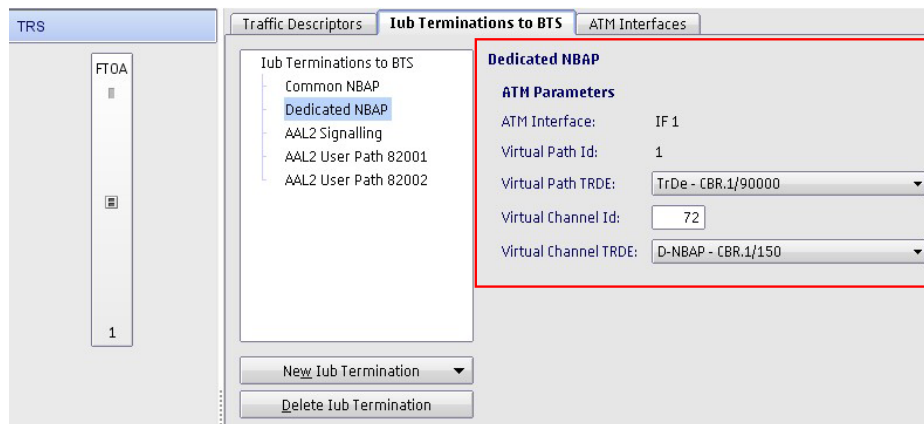
CNBAP Configuration

CNBAP ATM Configuration

Common NBAP termination point

TP Id	IF VPI VCI	Early Packet Discard	Partial Packet Discard	CDVT (egress)	CDVT (ingress)	Administrative State	Operational Status of the link	
1	82/1/56	disabled	disabled	3334	3334	Unlocked	Working	1

D-NBAP Settings in BTS Site Manager



The screenshot displays the BTS Site Manager interface with the following components:

- Left Panel:** A tree view under 'FTOA' showing a single entry '1'.
- Top Tabs:** 'Traffic Descriptors', 'Iub Terminations to BTS' (selected), and 'ATM Interfaces'.
- Center Panel:** A list of 'Iub Terminations to BTS' including 'Common NBAP', 'Dedicated NBAP' (highlighted), 'AAL2 Signalling', 'AAL2 User Path 82001', and 'AAL2 User Path 82002'.
- Right Panel:** The 'Dedicated NBAP' configuration window, which includes an 'ATM Parameters' section highlighted with a red border. The parameters are:
 - ATM Interface: IF 1
 - Virtual Path Id: 1
 - Virtual Path TRDE: TrDe - CBR.1/90000
 - Virtual Channel Id: 72
 - Virtual Channel TRDE: D-NBAP - CBR.1/150
- Bottom Buttons:** 'New Iub Termination' and 'Delete Iub Termination'.

D-NBAP Settings in RNC

Modify COCO

Connection Configuration Changed by: Element Manager originated configuration action Changed at: 2009-05-11 10:59:48.25

Connection Configuration Id: 82 Automatic CDVT calculation
WBTS Connection: 82 Create ATM layer

DNBAP Configuration **DNBAP ATM Configuration**

Dedicated NBAP links

TP Id	IF VPI	VCI	PCR (egress)	PCR (Ingress)	Service Category	MDCR (egress)	MDCR (Ingress)	Egress UBR Shar...	Ingress UBR Shar...	Communication Control Port
1	82/1	72	150	150	CBR					1
2										
3										
4										
5										
6										

Communication Control port must be set to 1 for Flexi.

Modify COCO

Connection Configuration Changed by: Element Manager originated configuration action Changed at: 2009-04-27 16:19:09.50

Connection Configuration Id: 82 Automatic CDVT calculation
WBTS Connection: 82 Create ATM layer

DNBAP Configuration **DNBAP ATM Configuration**

Dedicated NBAP links

TP Id	IF VPI VCI	Early Packet Discard	Partial Packet Discard	CDVT (egress)	CDVT (Ingress)	Administrative State	Operational Status of the link	ICSU Id
1	82/1/72	disabled	disabled	6667	6667	Unlocked	Working	1
2								
3								
4								
5								
6								

AAL2 Signaling Settings in BTS Site Manager

TRS

FTOA

1

Traffic Descriptors

Iub Terminations to BTS

ATM Interfaces

Iub Terminations to BTS

- Common NBAP
- Dedicated NBAP
- AAL2 Signalling
- AAL2 User Path 82001
- AAL2 User Path 82002

New Iub Termination

Delete Iub Termination

AAL2 Signalling

ATM Parameters

ATM Interface: IF 1

Virtual Path Id: 1

Virtual Path TRDE: TrDe - CBR.1/90000

Virtual Channel Id: 40

Virtual Channel TRDE: Aal2sig - CBR.1/150

AAL2 Signalling Parameters

BTS Id: 82 (1...65534)

AAL2 End Address: 4900082000FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF

☐ STC Alarm

AAL2 Signaling Link

Modify CICO

Connection Configuration

Changed by: Element Manager originated configuration action

Connection Configuration Id: 82

WBTS Connection: 82

Interfaces (1)

VP Termination points (1)

VC Termination points (5)

Common NBAP links (1)

Dedicated NBAP links (1)

AAL2 signalling links (1)

AAL2 user plane links (2)

AAL2Sig Configuration

AAL2Sig ATM Configuration

AAL2 signalling links

TP Id	IF VPI	VCI	PCR (egress)	PCR (Ingress)	Service Category	MDCR (egress)	MDCR (Ingress)	Egress UBR Share Weight Of Excessive Bandwidth	Ingress UBR Share Weight Of Excessive Bandwidth
1	82/1	40	150	150	CBR				
2									
3									
4									
5									
6									

Modify CICO

Connection Configuration

Changed by: Element Manager originated configuration action

Connection Configuration Id: 82

WBTS Connection: 82

Interfaces (1)

VP Termination points (1)

VC Termination points (5)

Common NBAP links (1)

Dedicated NBAP links (1)

AAL2 signalling links (1)

AAL2 user plane links (2)

AAL2Sig Configuration

AAL2Sig ATM Configuration

AAL2 signalling links

TP Id	IF VPI VCI	Early Packet Discard	Partial Packet Discard	CDVT (egress)	CDVT (Ingress)	Administrative State	ICSU Id
1	82/1/40	disabled	disabled	6667	6667	Unlocked	
2							
3							
4							
5							
6							

AAL2 User Path Settings in BTS Site Manager

TRS

FTOA
II

1

Traffic Descriptors

Iub Terminations to BTS

ATM Interfaces

Iub Terminations to BTS

Common NBAP
Dedicated NBAP
AAL2 Signalling
AAL2 User Path 82001
AAL2 User Path 82002

New Iub Termination
Delete Iub Termination

AAL2 User Path

ATM Parameters

ATM Interface: IF 1
Virtual Path Id: 1
Virtual Path TRDE: TrDe - CBR.1/90000
Virtual Channel Id: 120
Virtual Channel TRDE: Aalup 1 - CBR.1/40000

AAL2 User Path Parameters

Path Id: 82001

Quality of Service

Queue	Weight
1	Strict(not modifiable)
2	1000
3	500
4	1

Restore Defaults

TRS

FTOA
II

1

Traffic Descriptors

Iub Terminations to BTS

ATM Interfaces

Iub Terminations to BTS

Common NBAP
Dedicated NBAP
AAL2 Signalling
AAL2 User Path 82001
AAL2 User Path 82002

New Iub Termination
Delete Iub Termination

AAL2 User Path

ATM Parameters

ATM Interface: IF 1
Virtual Path Id: 1
Virtual Path TRDE: TrDe - CBR.1/90000
Virtual Channel Id: 121
Virtual Channel TRDE: Aalup 2 - UBR+/0 Share: 50.0%

AAL2 User Path Parameters

Path Id: 82002

Quality of Service

Queue	Weight
1	Strict(not modifiable)
2	1000
3	500
4	1

Restore Defaults

AAL2 User Plane Links in RNC

Modify COCO
Connection Configuration
 Changed by: Element Manager originated configuration action
 Changed at: 2009-04-27 16:19:09.50

Connection Configuration Id: 82
 WBTS Connection: 82

☒ Automatic CDVT calculation
☒ Create ATM layer

AAL2 User plane link configuration | AAL2 User plane link data | AAL2 User plane VCC

AAL2 user plane links

TP Id	IF VPI	VCI	PCR (egress)	PCR (Ingress)	Service Category	MDCR (egress)	MDCR (Ingress)	Egress UBR Share Weight Of Excessive Bandwidth	Ingress UBR Share Weight Of Excessive Bandwidth
1	82/1	120	40000	40000	CBR	0	0		1
2	82/1	121	40000	40000	UBR+	0	0		
3									

Modify COCO
Connection Configuration
 Changed by: Element Manager originated configuration action
 Changed at: 2009-04-27 16:19:09.50

Connection Configuration Id: 82
 WBTS Connection: 82

☒ Automatic CDVT calculation
☒ Create ATM layer

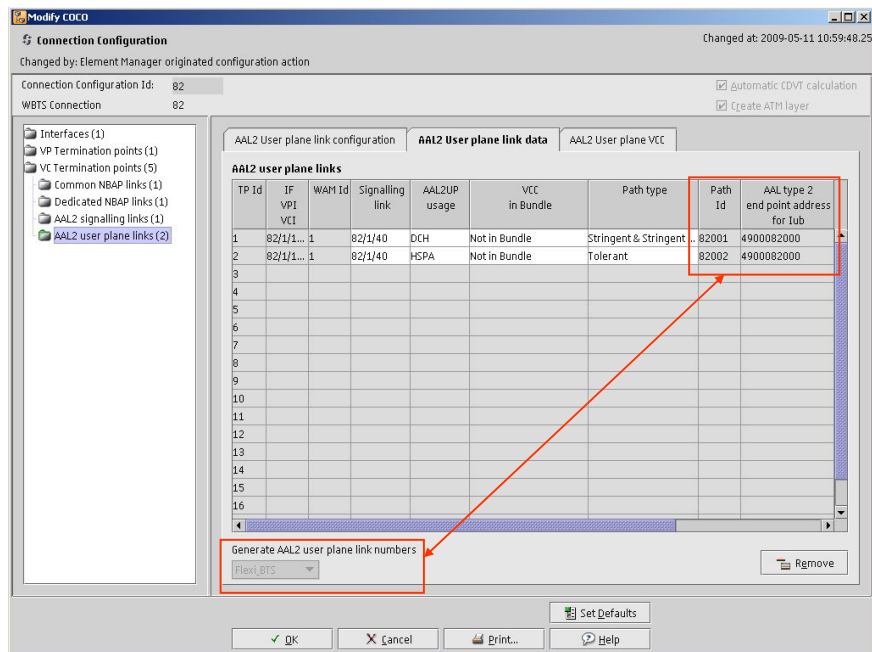
AAL2 User plane link configuration | **AAL2 User plane link data** | AAL2 User plane VCC

AAL2 user plane links

AAL2UP usage	VCI in Bundle	Path type	Path Id	AAL type 2 end point address for Iub	ANI	Digit Analysis Tree	Route Number
VOCH	Not in Bundle	Stringent & Stringent...	82001	4900082000	A00082001	1	1
VSBA	Not in Bundle	Tolerant	82002	4900082000	A00082001	1	1

BTS Id = 82

AAL2 User Plane Links in RNC (cont)



Modify CDD

Connection Configuration

Changed by: Element Manager originated configuration action

Connection Configuration Id: 82

WBTS Connection: 82

Automatic CDDT calculation

Create ATM layer

AAL2 User plane link configuration

AAL2 User plane link data

AAL2 User plane VCC

AAL2 user plane links

TP Id	IF VPI VCI	WAM Id	Signalling link	AAL2UP usage	VCC in Bundle	Path type	Path Id	AAL type 2 end point address for Iub
1	82/1/1...	1	82/1/40	DCH	Not in Bundle	Stringent & Stringent...	82001	4900082000
2	82/1/1...	1	82/1/40	HSPA	Not in Bundle	Tolerant	82002	4900082000
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								

Generate AAL2 user plane link numbers

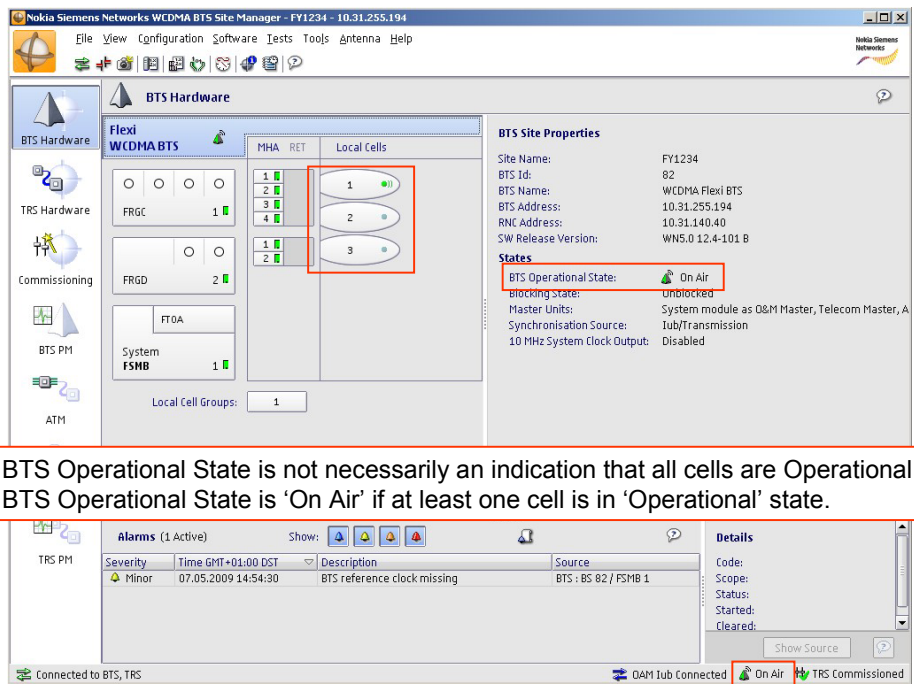
Flexi_BTS

Remove

Set Defaults

OK Cancel Print... Help

Cell and BTS Status in BTS Site Manager



The screenshot displays the Nokia Siemens Networks WCDMA BTS Site Manager interface. The main window is titled "Nokia Siemens Networks WCDMA BTS Site Manager - FY1234 - 10.31.255.194". The interface is divided into several sections:

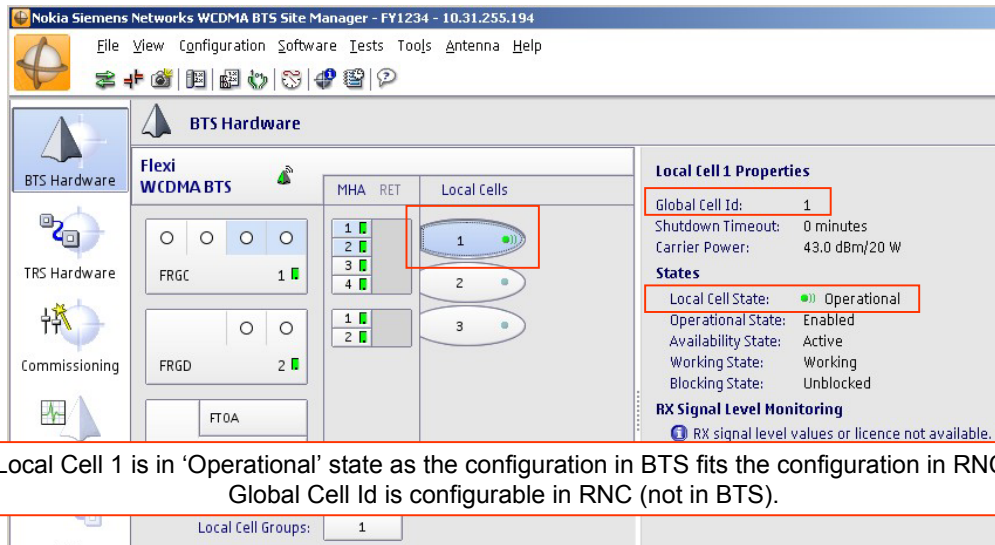
- BTS Hardware:** Shows the hardware configuration for the Flexi WCDMA BTS. It includes a table for "Local Cells" with columns for "MHA", "RET", and "Local Cells". The "Local Cells" column shows three cells, each with a status indicator (green circle with a white dot) and a "1" in a green box, indicating they are operational.
- BTS Site Properties:** Displays various site parameters:
 - Site Name: FY1234
 - BTS Id: 82
 - BTS Name: WCDMA Flexi BTS
 - BTS Address: 10.31.255.194
 - RNC Address: 10.31.140.40
 - SW Release Version: WN5.0 12.4-101 B
- States:** Shows the operational state of the BTS:
 - BTS Operational State: On Air (indicated by a green circle with a white dot)
 - Blocking State: Unblocked
 - Master Units: System module as O&M Master, Telecom Master, A
 - Synchronisation Source: Iub/Transmission
 - 10 MHz System Clock Output: Disabled
- Alarms:** A table showing active alarms. One alarm is listed:

Severity	Time GMT+01:00 DST	Description	Source
Minor	07.05.2009 14:54:30	BTS reference clock missing	BTS : BS 82 / FSMB 1
- Details:** A section for detailed information about the selected alarm, including Code, Scope, Status, Started, and Cleared.

At the bottom of the interface, there are status indicators: "Connected to BTS, TRS", "OAM Iub Connected", "On Air" (highlighted with a red box), and "TRS Commissioned".

BTS Operational State is not necessarily an indication that all cells are Operational. BTS Operational State is 'On Air' if at least one cell is in 'Operational' state.

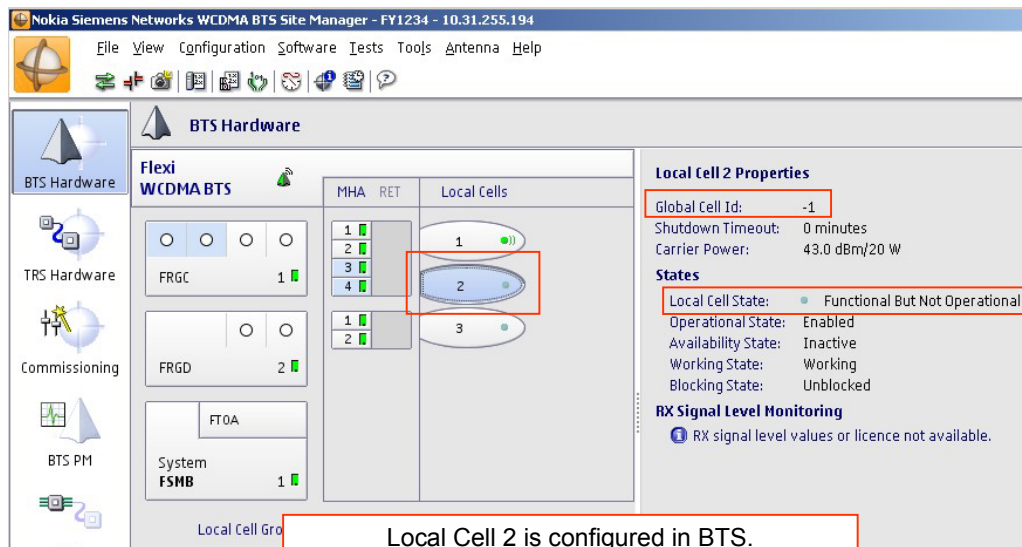
Cell Status in BTS Site Manager



The screenshot displays the Nokia Siemens Networks WCDMA BTS Site Manager interface. The main window shows the configuration for a Flexi WCDMA BTS. On the left, there is a navigation pane with icons for BTS Hardware, TRS Hardware, and Commissioning. The central area is divided into several sections: 'BTS Hardware' (showing FRGC and FRGD components), 'MHA RET' (a table with 4 rows), and 'Local Cells' (a table with 3 rows). The 'Local Cells' table shows cell 1 in a blue oval with a green status indicator, while cells 2 and 3 are in white ovals with grey status indicators. On the right, the 'Local Cell 1 Properties' panel is visible, showing details for Global Cell Id: 1, Shutdown Timeout: 0 minutes, Carrier Power: 43.0 dBm/20 W, and States: Local Cell State: Operational (green icon), Operational State: Enabled, Availability State: Active, Working State: Working, and Blocking State: Unblocked. Below this, the 'RX Signal Level Monitoring' section shows a blue icon and the text 'RX signal level values or licence not available.' A red box highlights the 'Local Cell 1 Properties' panel and the 'Local Cells' table, with a text box below it stating: 'Local Cell 1 is in 'Operational' state as the configuration in BTS fits the configuration in RNC. Global Cell Id is configurable in RNC (not in BTS).'

Local Cell 1 is in 'Operational' state as the configuration in BTS fits the configuration in RNC. Global Cell Id is configurable in RNC (not in BTS).

Cell Status in BTS Site Manager



The screenshot shows the Nokia Siemens Networks WCDMA BTS Site Manager interface. The main window displays the 'BTS Hardware' section for 'Flexi WCDMA BTS'. It includes a table for 'Local Cells' with columns 'MHA', 'RET', and 'Local Cells'. The table shows three cells: 1, 2, and 3. Cell 2 is highlighted with a red box. To the right of the table, the 'Local Cell 2 Properties' are displayed, including 'Global Cell Id: -1', 'Shutdown Timeout: 0 minutes', 'Carrier Power: 43.0 dBm/20 W', and 'States'. The 'States' section shows 'Local Cell State: Functional But Not Operational', 'Operational State: Enabled', 'Availability State: Inactive', 'Working State: Working', and 'Blocking State: Unblocked'. Below the states, the 'RX Signal Level Monitoring' section shows a message: 'RX signal level values or licence not available.'

MHA	RET	Local Cells
1		1
2		2
3		3

Local Cell 2 Properties

Global Cell Id: -1
Shutdown Timeout: 0 minutes
Carrier Power: 43.0 dBm/20 W

States

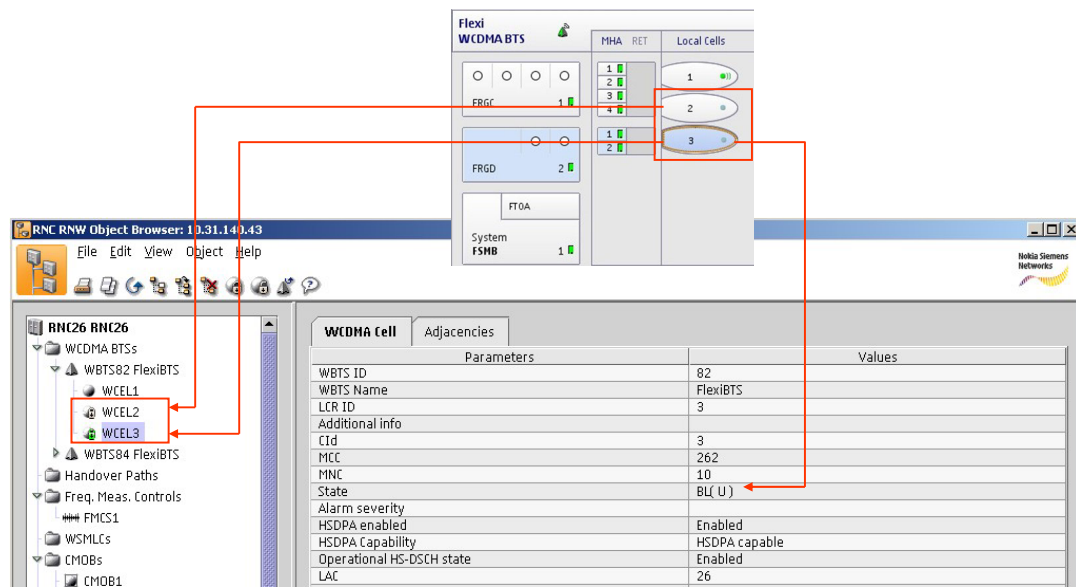
Local Cell State: Functional But Not Operational
Operational State: Enabled
Availability State: Inactive
Working State: Working
Blocking State: Unblocked

RX Signal Level Monitoring

RX signal level values or licence not available.

Local Cell 2 is configured in BTS.
It is either not created or locked in RNC.

Cell Status in RNC



The screenshot shows the RNC RW Object Browser interface. The tree view on the left shows the hierarchy: RNC26 RNC26 > WCDMA BTSs > WBTS02 FlexiBTS > WCEL2 and WCEL3. The top status bar shows 'Flexi WCDMA BTS' with various indicators. The main table area displays the 'WCDMA Cell' parameters for WCEL2 and WCEL3. The 'State' parameter for WCEL2 is highlighted with a red box and an arrow pointing to the 'Local Cells' section in the top bar, which shows 'Local Cells' with '2' and '3' highlighted.

Parameters	Values
WBTS ID	82
WBTS Name	FlexiBTS
LCR ID	3
Additional info	
CId	3
MCC	262
MNC	10
State	BL(U)
Alarm severity	
HSDPA enabled	Enabled
HSDPA Capability	HSDPA capable
Operational HS-DSCH state	Enabled
LAC	26

Cells with Local Cell Resource Id (LCR Id) 2 and 3 are locked in RNC

Nokia Siemens Networks WCDMA BTS Site Manager - FY1234 - 10.31.255.194

File View Configuration Software Tests Tools Antenna Help

BTS Hardware

Local Cell 2 Properties

Global Cell Id: 22

Shutdown Timeout: 0 minutes

Carrier Power: 43.0 dBm/20 W

Status

Local Cell State: ● Operational

Operational State: Enabled

Availability State: Active

Working State: Working

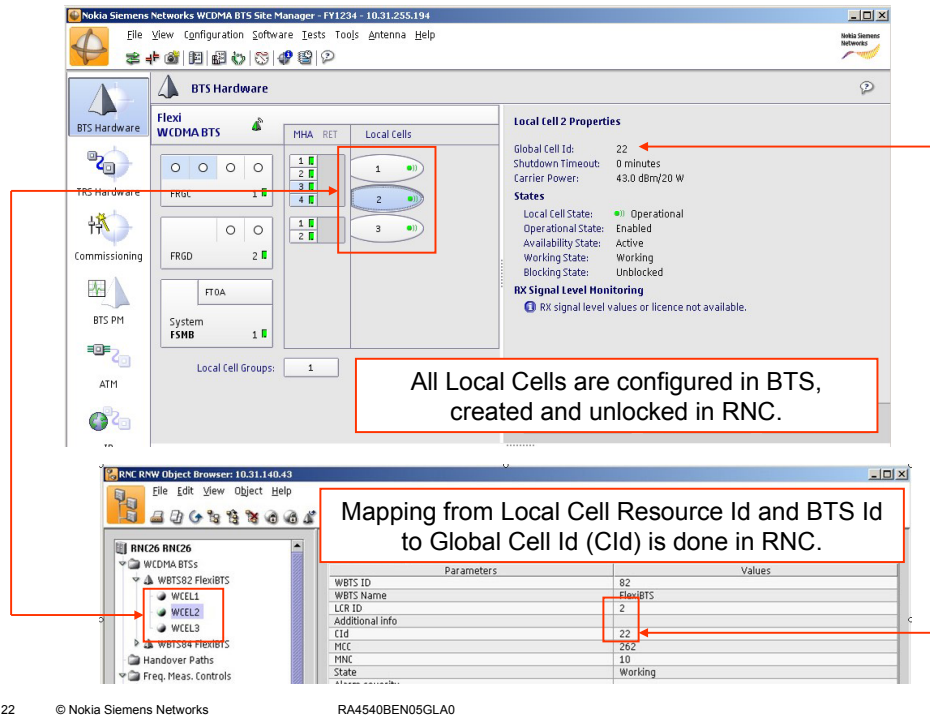
Blocking State: Unlocked

RX Signal Level Monitoring

i RX signal level values or licence not available.

Local Cell 2 is configured in BTS, created and unlocked in RNC.

Cell Status in BTS Site Manager (cont)



The screenshot displays two software interfaces. The top window, 'Nokia Siemens Networks WCDMA BTS Site Manager - FY1234 - 10.31.255.194', shows the 'BTS Hardware' configuration for a 'Flexi WCDMA BTS'. It includes a 'Local Cells' table with three entries (1, 2, 3) and a 'Local Cell 2 Properties' panel on the right. The bottom window, 'RNC RW Object Browser: 10.31.140.43', shows a tree view with 'WCELL2' selected, and a 'Parameters' table below it. Red boxes and arrows highlight the mapping between the Local Cell Resource Id in the BTS manager and the Global Cell Id (Cid) in the RNC browser.

Local Cell 2 Properties

Global Cell Id: 22
Shutdown Timeout: 0 minutes
Carrier Power: 43.0 dBm/20 W

States

Local Cell State: Operational
Operational State: Enabled
Availability State: Active
Working State: Working
Blocking State: Unlocked

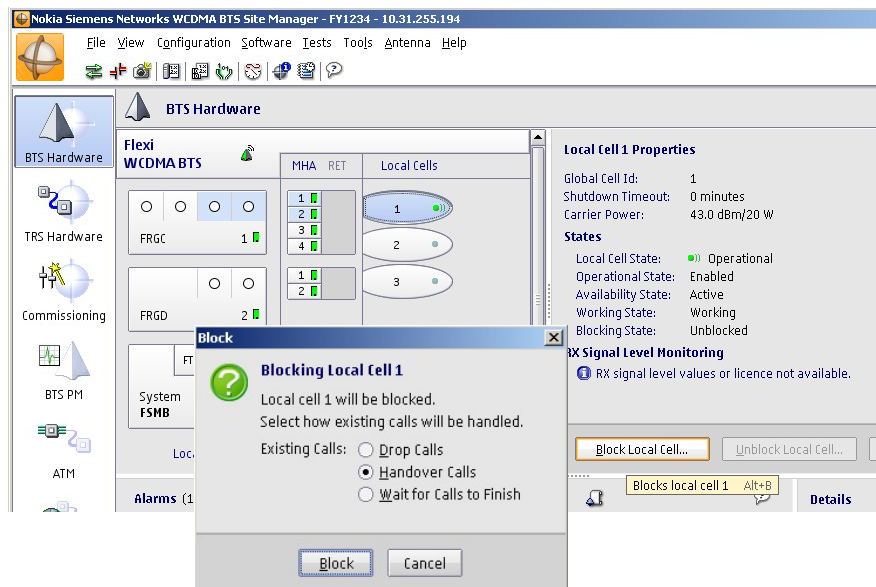
RX Signal Level Monitoring

RX signal level values or licence not available.

Mapping from Local Cell Resource Id and BTS Id to Global Cell Id (Cid) is done in RNC.

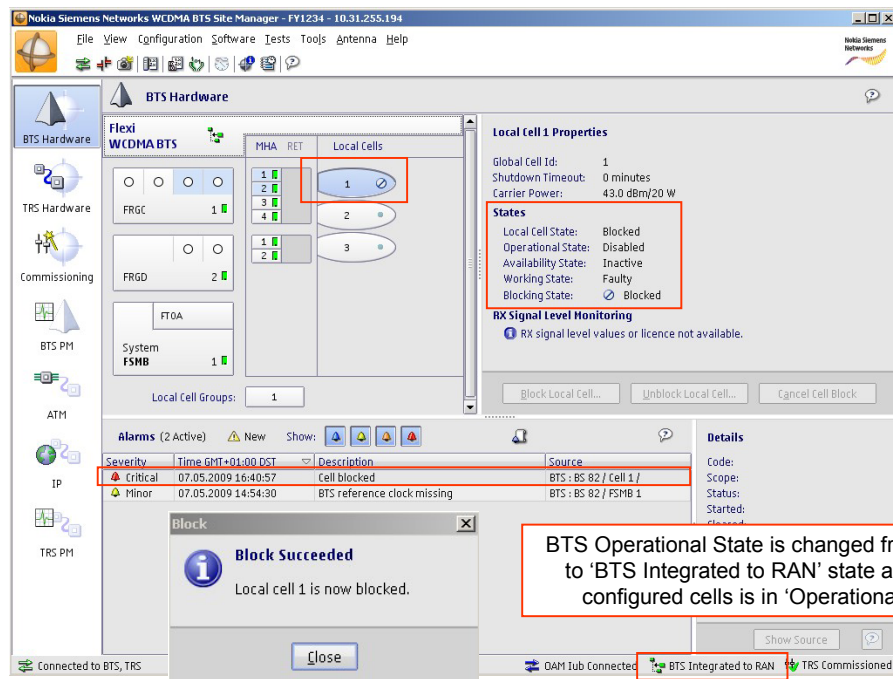
Parameters	Values
WBTS ID	82
WBTS Name	FlexiBTS
LCR ID	2
Additional Info	
Cid	22
MCC	262
MNC	10
State	Working

Block Cell in BTS Site Manager



Cell Blocked in BTS can not be Unblocked in RNC!

Block Cell in BTS Site Manager (cont)



The screenshot displays the Nokia Siemens Networks WCDMA BTS Site Manager interface. The main window is titled "BTS Hardware" and shows the configuration for a Flexi WCDMA BTS. The "Local Cells" tab is selected, showing a list of cells. Cell 1 is highlighted with a red box, and its properties are displayed on the right. The "States" section shows the following values:

State	Value
Local Cell State	Blocked
Operational State	Disabled
Availability State	Inactive
Working State	Faulty
Blocking State	Blocked

The "Alarms" section shows two active alarms:

Severity	Time GMT+01:00 DST	Description	Source
Critical	07.05.2009 16:40:57	Cell blocked	BTS : BS 82 / Cell 1 /
Minor	07.05.2009 14:54:30	BTS reference clock missing	BTS : BS 82 / FSMB 1

A "Block Succeeded" dialog box is open, stating "Local cell 1 is now blocked." The status bar at the bottom shows "Connected to BTS, TRS" and "BTS Integrated to RAN".

BTS Operational State is changed from 'On Air' to 'BTS Integrated to RAN' state as none of configured cells is in 'Operational' state.

Nokia Siemens Networks WCDMA BTS Manager - FY1234 - 10.31.255.194

File View Configuration Software Tests Tools Antenna Help

BTS Hardware

Flexi WCDMA BTS

MHA	RET	Local Cells
1	1	1
2	2	2
3	3	3
4	4	

Local Cell 1 Properties

Global Cell Id: 1
 Shutdown Timeout: 0 minutes
 Carrier Power: 43.0 dBm/20 W

Status

Local Cell State: Blocked
 Operational State: Disabled
 Availability State: Inactive
 Working State: Faulty
 Blocking State: ☒ Blocked

RX Signal Level Monitoring

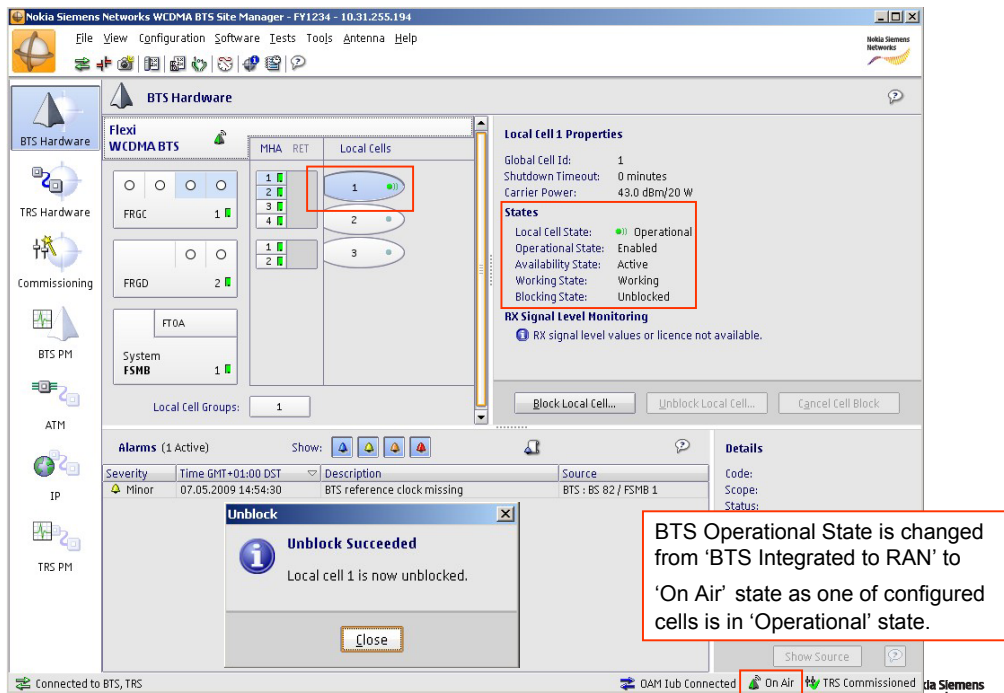
Alarms (2 Active)

Severity	Time GMT+01:00 DST	Description	Source
Critical	07.05.2009 16:40:57	Cell blocked	BTS : BS 82 / Cell 1 /
Minor	07.05.2009 14:54:30	BTS reference clock missing	BTS : BS 82 / FSMB 1

Details

Unblocks local cell 1 Alt+U

Unblock Cell in BTS Site Manager (cont)



The screenshot shows the Nokia Siemens Networks WCDMA BTS Site Manager interface. The 'Local cell 1 Properties' panel on the right displays the following information:

- Global Cell Id: 1
- Shutdown Timeout: 0 minutes
- Carrier Power: 43.0 dBm/20 W
- States:**
 - Local Cell State: ● Operational
 - Operational State: Enabled
 - Availability State: Active
 - Working State: Working
 - Blocking State: Unblocked
- RX Signal Level Monitoring:**
 - i RX signal level values or licence not available.

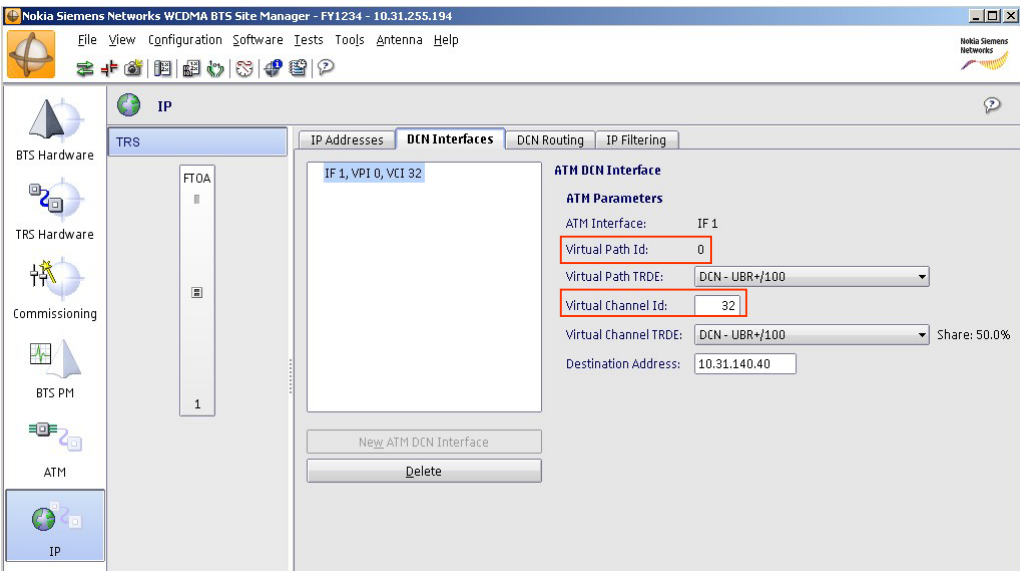
The 'Unblock' dialog box in the center displays the following information:

- Unblock Succeeded**
- Local cell 1 is now unblocked.
- Close

The 'On Air' status indicator at the bottom right is highlighted with a red box.

BTS Operational State is changed from 'BTS Integrated to RAN' to 'On Air' state as one of configured cells is in 'Operational' state.

DCN Interfaces in BTS Site Manager





DCN Interfaces in RNC

< ZQMI;

LOADING PROGRAM VERSION 8.19-15

EXECUTION STARTED

RNC IPA2800 2009-05-11 11:07:04

INQUIRED TCP/IP ATM INTERFACE

EXTERNAL TERMINATION POINT(S):

UNIT&INDEX	TYPE	IP	INT	ATM IF	VPI	VCI	ENC METHOD	USAGE	OPER STATE	ADMIN STATE
OMU-0	LOG	AA82		82	0	32	LLC/SNAP	IPOAM	RUN	UP

COMMAND EXECUTED

DCN settings in RNC



DCN Routing in BTS Site Manager

IP

DCN Routing

Default Gateway: 10.31.140.40

Static Routes

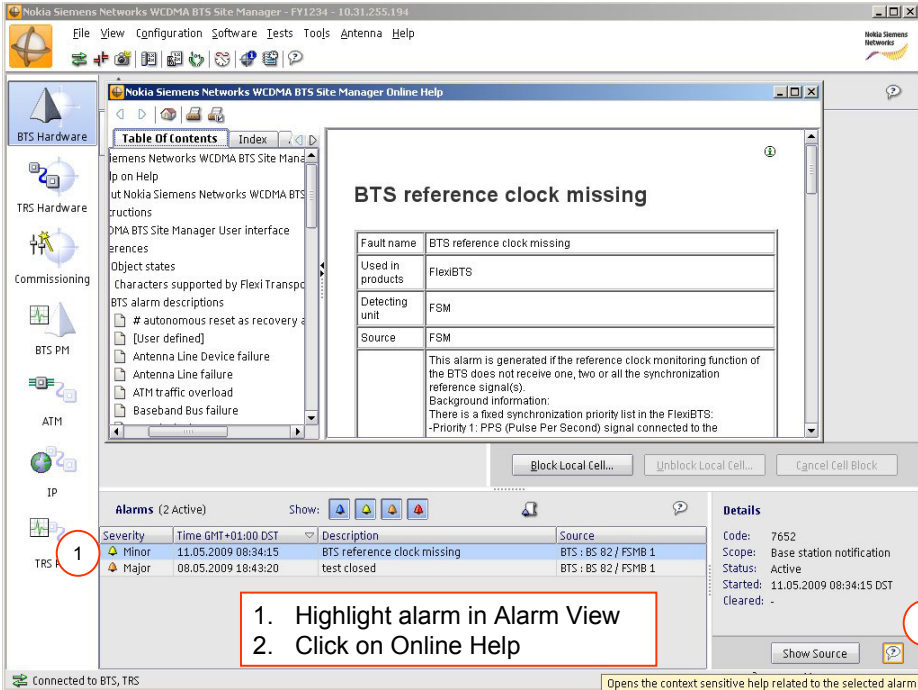
Destination	Netmask	Bits	Gateway	
New Route				

Forwarding Table

Destination	Netmask	Gateway
10.31.140.40	255.255.255.255 / 32	
10.31.255.192	255.255.255.248 / 29	BTS Subnet
Default Gateway		10.31.140.40

Default GW for DCN Routing is in this example RNC.

Get Alarm Details in BTS Site Manager



The screenshot shows the Nokia Siemens Networks WCDMA BTS Site Manager interface. The main window displays the 'BTS reference clock missing' alarm details. The left sidebar shows the 'Alarms (2 Active)' section, with the 'BTS reference clock missing' alarm highlighted. A red circle with the number '1' is placed over the 'Alarms' section in the sidebar. A red box with the number '2' is placed over the 'Show Source' button in the bottom right corner of the main window.

1. Highlight alarm in Alarm View
2. Click on Online Help

BTS reference clock missing

Field	Value
Fault name	BTS reference clock missing
Used in products	FlexiBTS
Detecting unit	FSM
Source	FSM

This alarm is generated if the reference clock monitoring function of the BTS does not receive one, two or all the synchronization reference signal(s).
Background information:
There is a fixed synchronization priority list in the FlexiBTS:
-Priority 1: PPS (Pulse Per Second) signal connected to the

Alarms (2 Active)

Severity	Time GMT+01:00 DST	Description	Source
Minor	11.05.2009 08:34:15	BTS reference clock missing	BTS : BS 02 / FSMB 1
Major	08.05.2009 18:43:20	test closed	BTS : BS 02 / FSMB 1

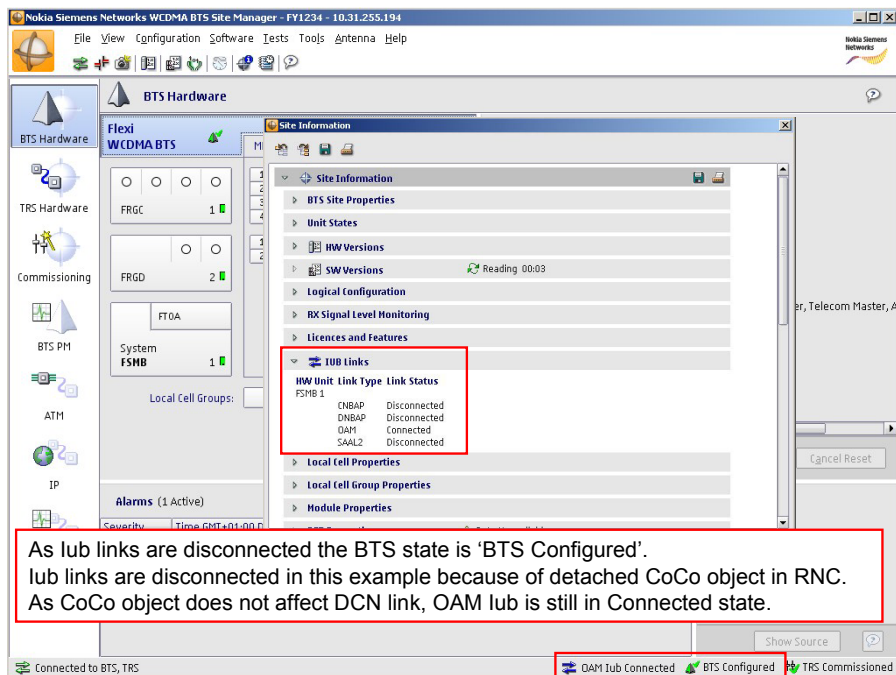
Details

Code: 7652
Scope: Base station notification
Status: Active
Started: 11.05.2009 08:34:15 DST
Cleared: -

Connected to BTS, TRS

Opens the context sensitive help related to the selected alarm

Iub Links Disconnected



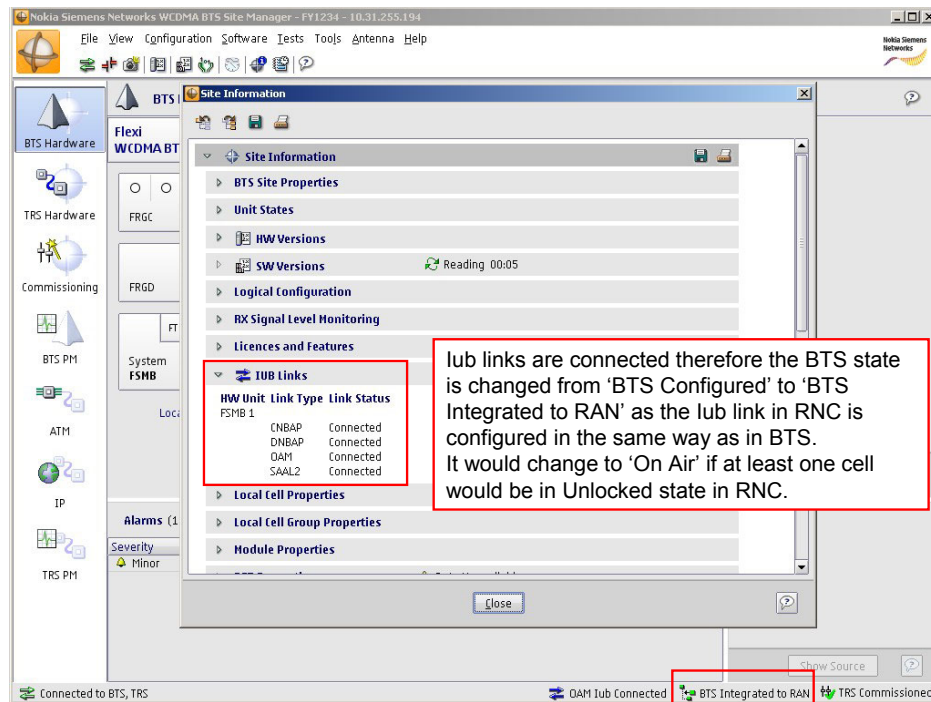
The screenshot shows the Nokia Siemens Networks WCDMA BTS Site Manager interface. The 'Iub Links' section is highlighted, showing a table of links and their status. The status of the links is as follows:

HW Unit	Link Type	Link Status
FSNB 1	DNBAP	Disconnected
	DNBAP	Disconnected
	OAM	Connected
	SAAL2	Disconnected

As Iub links are disconnected the BTS state is 'BTS Configured'. Iub links are disconnected in this example because of detached CoCo object in RNC. As CoCo object does not affect DCN link, OAM Iub is still in Connected state.

At the bottom of the interface, the status bar shows: OAM Iub Connected, BTS Configured, and TRS Commissioned.

Iub Links Connected



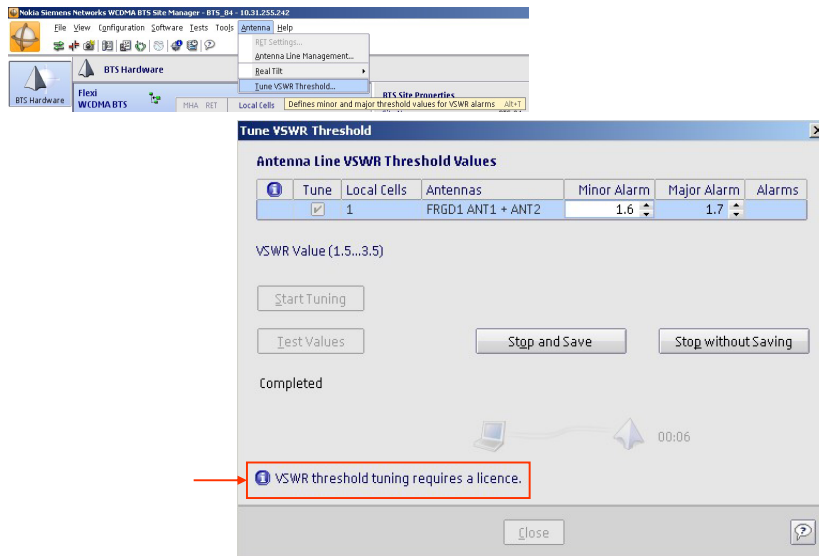
The screenshot shows the 'Site Information' window in the Nokia Siemens Networks WCDMA BTS Site Manager. The 'IUB Links' section is expanded, showing a table of links. A red box highlights the 'IUB Links' section and the table. A text box explains that the links are connected, changing the BTS state from 'BTS Configured' to 'BTS Integrated to RAN'. The status bar at the bottom shows 'Connected to BTS, TRS', 'QAM Iub Connected', 'BTS Integrated to RAN' (highlighted with a red box), and 'TRS Commissioned'.

HW Unit	Link Type	Link Status
FSMB 1	CNBAP	Connected
	DNBAP	Connected
	DAM	Connected
	SAAL2	Connected

lub links are connected therefore the BTS state is changed from 'BTS Configured' to 'BTS Integrated to RAN' as the lub link in RNC is configured in the same way as in BTS. It would change to 'On Air' if at least one cell would be in Unlocked state in RNC.

Connected to BTS, TRS QAM Iub Connected **BTS Integrated to RAN** TRS Commissioned

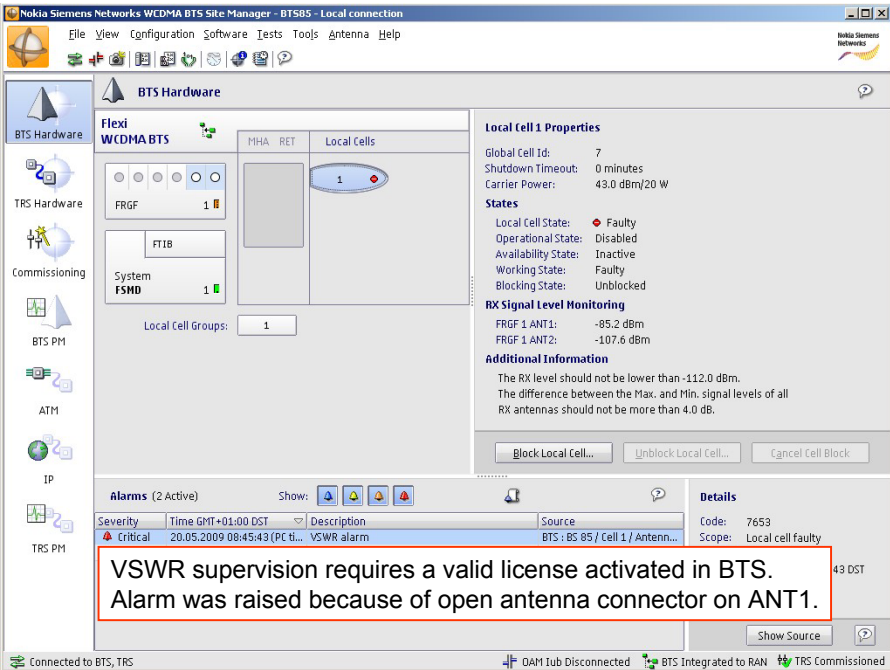
VSWR Threshold Tuning



Start tuning: system calculates thresholds.
Change threshold manually and **Test Values** becomes active.
After the test is finished it is possible to stop tuning with or without saving.

VSWR threshold tuning requires a valid license installed in Flexi WCDMA BTS (Antenna Line Supervision License Key).

VSWR Alarm



Local Cell 1 Properties

Global Cell Id: 7
Shutdown Timeout: 0 minutes
Carrier Power: 43.0 dBm/20 W

States

Local Cell State: Faulty
Operational State: Disabled
Availability State: Inactive
Working State: Faulty
Blocking State: Unblocked

RX Signal Level Monitoring

FRGF 1 ANT1: -85.2 dBm
FRGF 1 ANT2: -107.6 dBm

Additional Information

The RX level should not be lower than -112.0 dBm.
The difference between the Max. and Min. signal levels of all RX antennas should not be more than 4.0 dB.

Alarms (2 Active)

Severity	Time GMT+01:00 DST	Description	Source
Critical	20.05.2009 08:45:43 (PC ti...	VSWR alarm	BTS : BS 85 / Cell 1 / Antenn...

Details

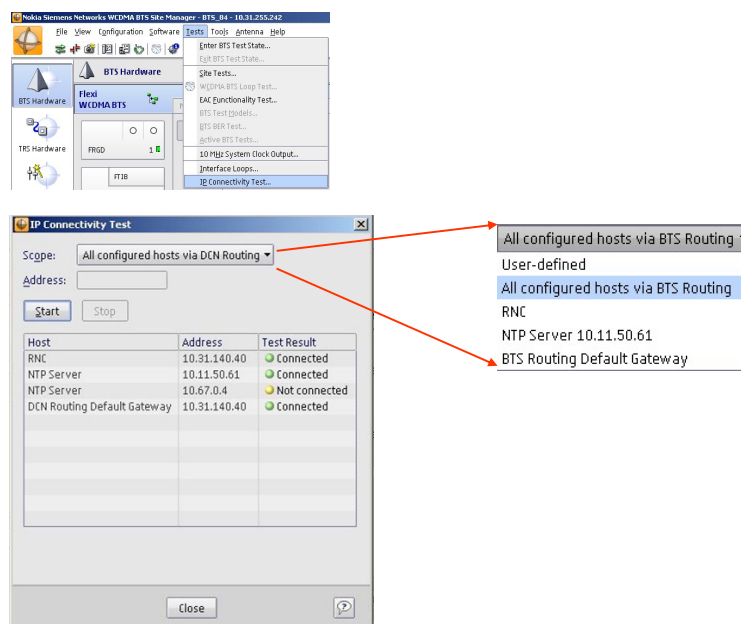
Code: 7653
Scope: Local cell faulty

**VSWR supervision requires a valid license activated in BTS.
Alarm was raised because of open antenna connector on ANT1.**

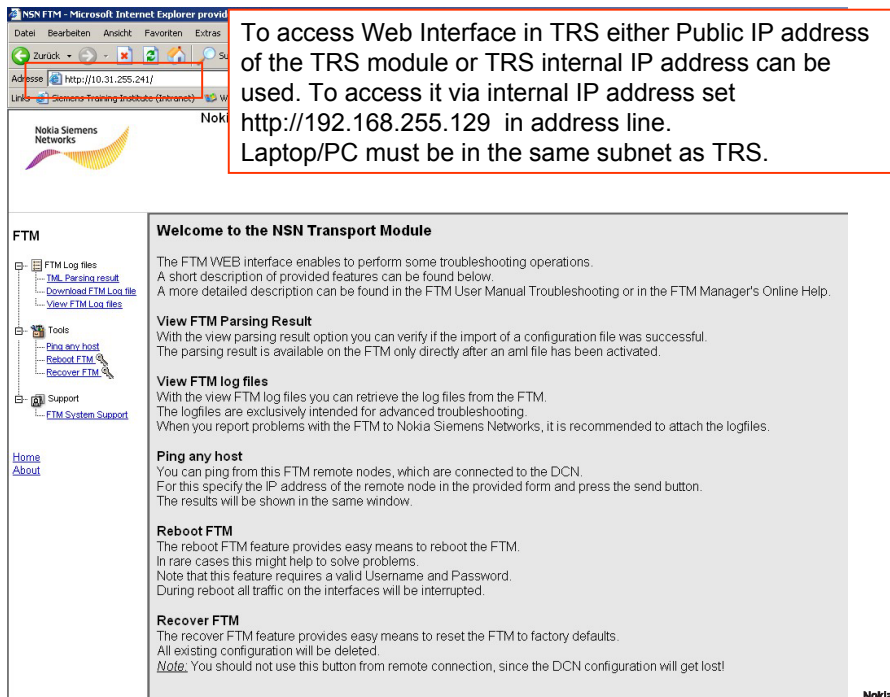
Connected to BTS, TRS | OAM Iub Disconnected | BTS Integrated to RAN | TRS Commissioned

VSWR threshold tuning requires a valid license installed in Flexi WCDMA BTS (Antenna Line Supervision License Key).

IP Connectivity Test



TRS Web Interface



FTM

- FTM Log files
 - [View Parsing result](#)
 - [Download FTM Log file](#)
 - [View FTM Log files](#)
- Tools
 - [Ping any host](#)
 - [Reboot FTM](#)
 - [Recover FTM](#)
- Support
 - [FTM System Support](#)

[Home](#)
[About](#)

Welcome to the NSN Transport Module

The FTM WEB interface enables to perform some troubleshooting operations. A short description of provided features can be found below. A more detailed description can be found in the FTM User Manual Troubleshooting or in the FTM Manager's Online Help.

View FTM Parsing Result

With the view parsing result option you can verify if the import of a configuration file was successful. The parsing result is available on the FTM only directly after an arml file has been activated.

View FTM log files

With the view FTM log files you can retrieve the log files from the FTM. The logfiles are exclusively intended for advanced troubleshooting. When you report problems with the FTM to Nokia Siemens Networks, it is recommended to attach the logfiles.

Ping any host

You can ping from this FTM remote nodes, which are connected to the DCN. For this specify the IP address of the remote node in the provided form and press the send button. The results will be shown in the same window.

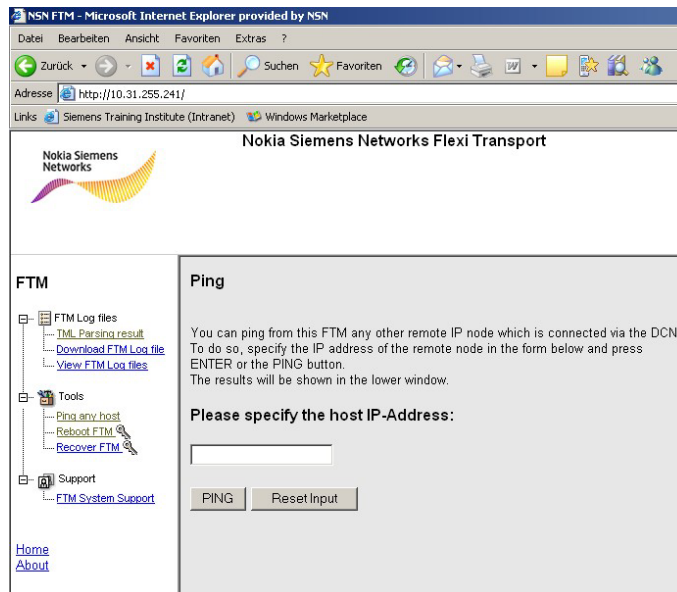
Reboot FTM

The reboot FTM feature provides easy means to reboot the FTM. In rare cases this might help to solve problems. Note that this feature requires a valid Username and Password. During reboot all traffic on the interfaces will be interrupted.

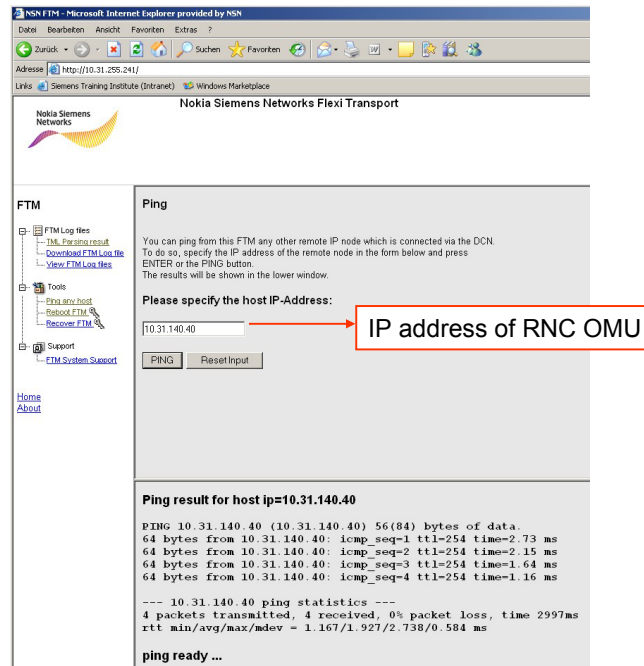
Recover FTM

The recover FTM feature provides easy means to reset the FTM to factory defaults. All existing configuration will be deleted.
Note: You should not use this button from remote connection, since the DCN configuration will get lost!

TRS Web Interface: Ping any Host



Ping from TRS to RNC OMU



The screenshot shows the NSN FTM web interface in a Microsoft Internet Explorer browser. The page title is "Nokia Siemens Networks Flexi Transport". On the left, there is a sidebar with links for "FTM Log files", "Tools", and "Support". The main content area is titled "Ping" and contains instructions on how to ping a remote IP node. A red box highlights the "Please specify the host IP-Address:" field, which contains the IP address "10.31.140.40". An arrow points from this box to the text "IP address of RNC OMU". Below the input field are "PING" and "Reset Input" buttons. The bottom section displays the "Ping result for host ip=10.31.140.40", showing four successful ping attempts with response times ranging from 1.16 ms to 2.73 ms. The statistics indicate 4 packets transmitted, 4 received, 0% packet loss, and a time of 2997ms.

NSN FTM - Microsoft Internet Explorer provided by NSN

Adresse: <http://10.31.255.241/>

Links: [Siemens Training Institute \(Intranet\)](#) [Windows Marketplace](#)

Nokia Siemens Networks

FTM

- FTM Log files
 - [FTM Ping result](#)
 - [Download FTM Log file](#)
 - [View FTM Log file](#)
- Tools
 - [Ping any host](#)
 - [Backup FTM](#)
 - [Recover FTM](#)
- Support
 - [FTM System Support](#)

[Home](#)
[About](#)

Ping

You can ping from this FTM any other remote IP node which is connected via the DCN.
To do so, specify the IP address of the remote node in the form below and press ENTER or the PING button.
The results will be shown in the lower window.

Please specify the host IP-Address:

Ping result for host ip=10.31.140.40

PING 10.31.140.40 (10.31.140.40) 56(84) bytes of data:
64 bytes from 10.31.140.40: icmp_seq=1 ttl=254 time=2.73 ms
64 bytes from 10.31.140.40: icmp_seq=2 ttl=254 time=2.15 ms
64 bytes from 10.31.140.40: icmp_seq=3 ttl=254 time=1.64 ms
64 bytes from 10.31.140.40: icmp_seq=4 ttl=254 time=1.16 ms

--- 10.31.140.40 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 2997ms
rtt min/avg/max/mdev = 1.167/1.927/2.738/0.584 ms

ping ready ...



Ping from RNC OMU to TRS

QRX:OMU,0:IP=10.31.255.193: PING: S=8000, C=5, ;

TRS IP address

RNC IPA2800 2009-05-07 17:51:16

PING, SENDING UNIT: OMU-0

PING 10.31.255.193 (10.31.255.193): 8000 data bytes
8008 bytes from 10.31.255.193: icmp_seq=0 ttl=64 time=13.511 ms
8008 bytes from 10.31.255.193: icmp_seq=1 ttl=64 time=9.852 ms
8008 bytes from 10.31.255.193: icmp_seq=2 ttl=64 time=9.889 ms
8008 bytes from 10.31.255.193: icmp_seq=3 ttl=64 time=9.869 ms
8008 bytes from 10.31.255.193: icmp_seq=4 ttl=64 time=9.883 ms

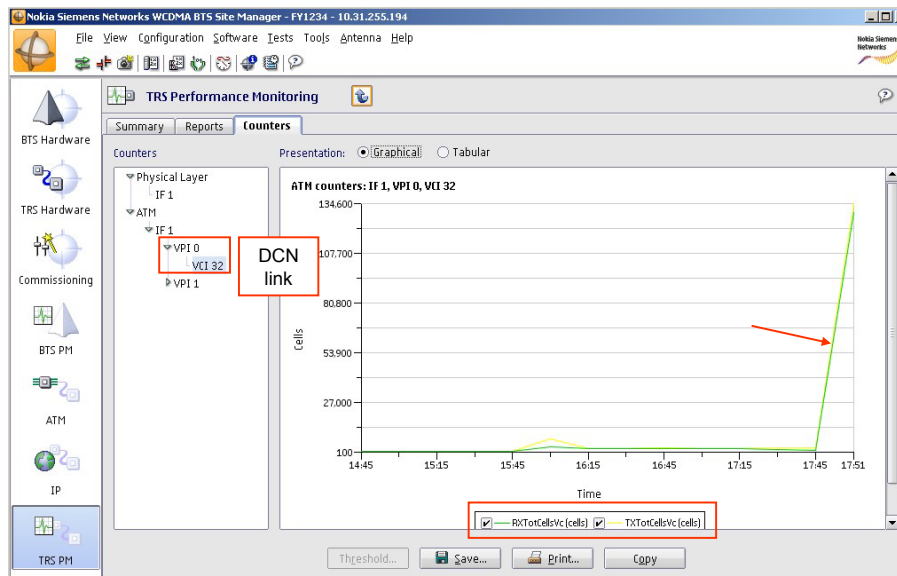
----10.31.255.193 PING Statistics----

5 packets transmitted, 5 packets received, 0% packet loss
round-trip min/avg/max = 9.852/10.601/13.511 ms

COMMAND EXECUTED



TRS Performance Monitoring on DCN Link



Due to many ping messages sent from RNC the total number of received and sent cells is increased on DCN link.

BTS Site Properties in Site Information

Nokia Siemens Networks WCDMA BTS Site Manager - FY1234 - 10.31.255.193 (Snapshot)

File View Configuration Software Tests Tools Antenna Help

Displays detailed information about site

ATM Site Information

BTS Site Properties

Cabinet Name:	Flexi WCDMA BTS
Site Name:	FY1234
Description:	-
BTS Id:	82
A2EA:	4900082000FFFFFFFFFFFFFFFFFFFFFFFF
NTP Server 1:	10.11.50.61
NTP Server 2:	10.67.0.4
Network Type:	WCDMA
Blocking State:	Unblocked
SW Release Version:	WN5.0 12.4-101 B
BTS Address:	10.31.255.194
TRX Address:	10.31.255.193
RNC Address:	10.31.140.40
RET 1:	-
BBU:	-
LMU:	-
Range:	-
O&M Master:	CORE_FSMB 1
Telecom Master:	CORE_FSMB 1
Active Clock Unit:	FSMB 1
Synchronisation Source:	Iub/Transmission
10 MHz System Clock Output:	Disabled
Default Gateway for DCN:	10.31.140.40
LDAP:	- Port -
FHA Address:	-
ATM Tr-PSI in Use:	-

Close



Site Information: Unit States

Site Information

Certificate Repository: - Port -

Unit States

HW Unit	Subunit	Working State	Operational State	Blocking State
FSMB 1		Working	Enabled	Unblocked
	FSPA 1	Working		
	FSPA 2	Working		
	FSPA 3	Working		
	FSM_FANA 2	Working		
	FSM_FANA 1	Working		
	FANGROUP 1	Working		
	CORE_FSMB 1	Working		
FTOA 1		Working	Enabled	Unblocked
FRGC 1		Working	Enabled	Unblocked
	FR_FAN 2	Working		
	FR_FAN 1	Working		
	FANGROUP 1	Working		
	CORE_FRGC 1	Working		
FRGD 2		Working	Enabled	Unblocked
	FR_FAN 2	Working		
	FR_FAN 1	Working		
	FANGROUP 1	Working		
	CORE_FRGD 2	Working		

HW Versions

SW Versions

Logical configuration

BTS configuration

Close



Site Information: Display HW Versions

Nokia Siemens Networks WCDMA BTS Site Manager - FY1234 - 10.31.255.194

File View Configuration Software Tests Tools Antenna Help

HW Versions

Change [Displays hardware version information Alt+H]

Certificate Management...

Licence Management...

BTS Configuration

TRIS Configuration

BTS Hardware

Flex WCDMA

Site Information

Site Information

BTS Site Properties

Unit States

HW Versions

HW Unit	Subunit	Product Code	Serial Number	HW SW	HW Unit Type
FSMB 1		470036A		1	System module
	CORE_FSMB 1	082049A.103	L1072925037	6	
	FSPA 1	082302A.104	L1072627983	3	
	FSPA 2	082302A.104	L1072835267	3	
	FSPA 3	082302A.104	L1072835284	3	
FTOA 1		470133A.101	L6072028957	2	Transmission module
FRGC 1		471231A		Unknown	Radio module
	CORE_FRGC 1	083689A.104	L6072600929	0	
FRGD 2		471232A		Unknown	Radio module
	CORE_FRGD 2	083689A.104	L6072727649	0	
WMHD 1		471443A.103	XJ084500718	255	Mast head amplifier
WMHD 2		471443A.103	XJ084500718	255	Mast head amplifier
WMHD 3		471443A.103	XJ084500416	255	Mast head amplifier
WMHD 4		471443A.103	XJ084500416	255	Mast head amplifier
WMHD 1		471443A.103	XJ084500744	255	Mast head amplifier
WMHD 2		471443A.103	XJ084500744	255	Mast head amplifier

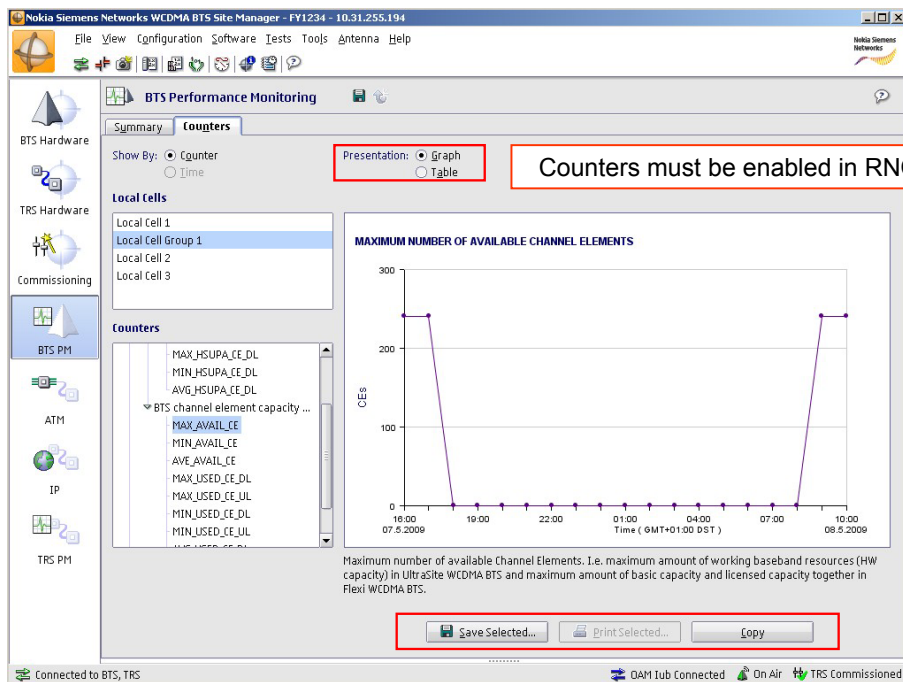
SW Versions Reading: 00:03

Logical Configuration

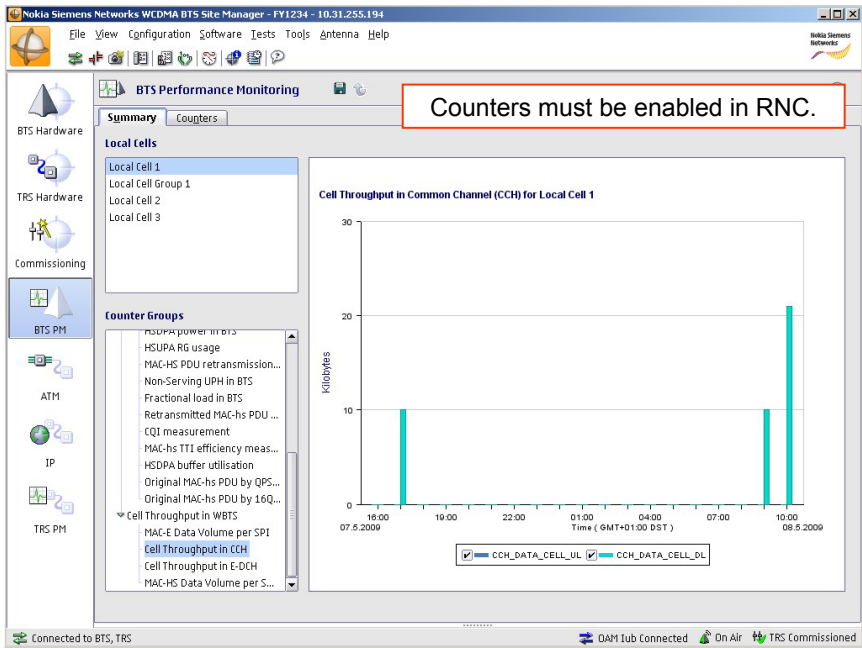
DX Global Local Monitoring

Close

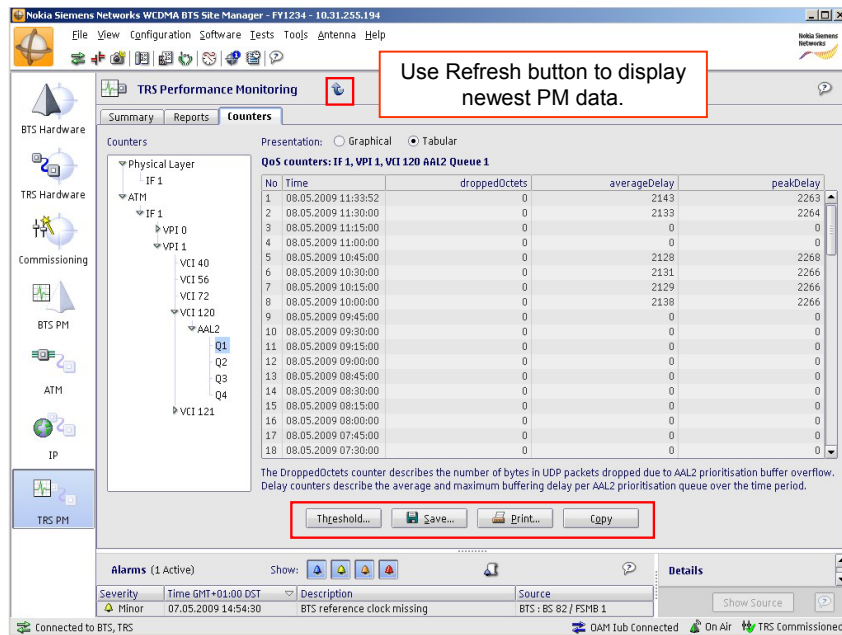
BTS Performance Measurement



BTS Performance Measurement (cont)



TRS Performance Measurement



Use Refresh button to display newest PM data.

Counters

Physical Layer

- IF 1
 - ATM
 - IF 1
 - VPI 0
 - VCI 40
 - VCI 56
 - VCI 72
 - VCI 120
 - AAL2
 - Q1
 - Q2
 - Q3
 - Q4

QoS counters: IF 1, VPI 1, VCI 120 AAL2 Queue 1

No	Time	droppedOctets	averageDelay	peakDelay
1	08.05.2009 11:33:52	0	2143	2263
2	08.05.2009 11:30:00	0	2133	2264
3	08.05.2009 11:15:00	0	0	0
4	08.05.2009 11:00:00	0	0	0
5	08.05.2009 10:45:00	0	2128	2268
6	08.05.2009 10:30:00	0	2131	2266
7	08.05.2009 10:15:00	0	2129	2266
8	08.05.2009 10:00:00	0	2138	2266
9	08.05.2009 09:45:00	0	0	0
10	08.05.2009 09:30:00	0	0	0
11	08.05.2009 09:15:00	0	0	0
12	08.05.2009 09:00:00	0	0	0
13	08.05.2009 08:45:00	0	0	0
14	08.05.2009 08:30:00	0	0	0
15	08.05.2009 08:15:00	0	0	0
16	08.05.2009 08:00:00	0	0	0
17	08.05.2009 07:45:00	0	0	0
18	08.05.2009 07:30:00	0	0	0

The DroppedOctets counter describes the number of bytes in UDP packets dropped due to AAL2 prioritisation buffer overflow. Delay counters describe the average and maximum buffering delay per AAL2 prioritisation queue over the time period.

Threshold... Save... Print... Copy

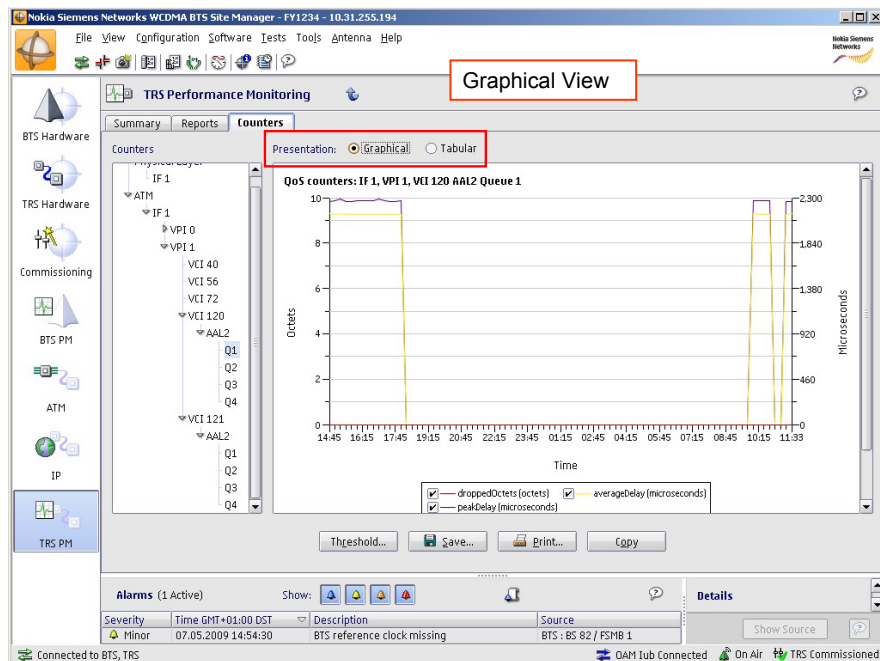
Alarms (1 Active) Show: [Icons]

Severity	Time GMT+01:00 DST	Description	Source
Minor	07.05.2009 14:54:30	BTS reference clock missing	BTS : BS 82 / FSMB 1

Connected to BTS, TRS

DAM Iub Connected On Air TRS Commissioned

TRS Performance Measurement (cont)



TRS Performance Measurement (cont)

Nokia Siemens Networks WCDMA BTS Site Manager - FY1234 - 10.31.255.194

File View Configuration Software Tests Tools Antenna Help

TRS Performance Monitoring

Summary Reports **Counters**

Counters Presentation: ☐ Graphical ☒ Tabular **Tabular View**

Physical layer counters: IF 1

No	Time	UAS-HO	ES-HO	SES-HO	BBE-HO
1	08.05.2009 11:33:52	35	0	0	0
2	08.05.2009 11:30:00	0	0	0	0
3	08.05.2009 11:15:00	0	0	0	0
4	08.05.2009 11:00:00	0	0	0	0
5	08.05.2009 10:45:00	0	0	0	0
6	08.05.2009 10:30:00	0	0	0	0
7	08.05.2009 10:15:00	0	0	0	0
8	08.05.2009 10:00:00	476	0	0	0
9	08.05.2009 09:45:00	900	0	0	0
10	08.05.2009 09:30:00	900	0	0	0
11	08.05.2009 09:15:00	900	0	0	0
12	08.05.2009 09:00:00	900	0	0	0
13	08.05.2009 08:45:00	900	0	0	0
14	08.05.2009 08:30:00	900	0	0	0
15	08.05.2009 08:15:00	900	0	0	0
16	08.05.2009 08:00:00	900	0	0	0
17	08.05.2009 07:45:00	900	0	0	0

Physical layer counters indicate the condition of the physical transmission layer. UAS means that the physical link has been broken, SES means that there have been serious faults, but the link has been up. ES and BBE mean that there have been some faults in the link.

Threshold... Save... Print... Copy

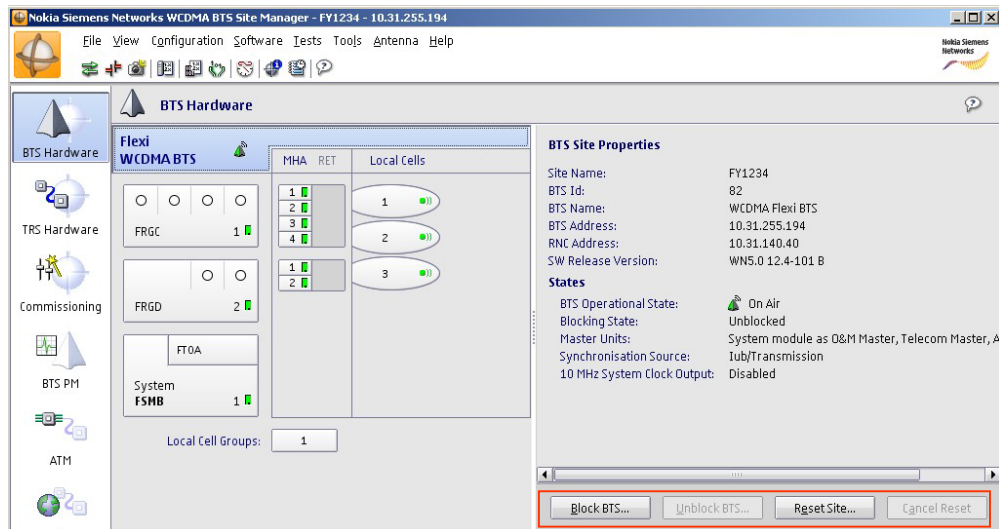
Alarms (1 Active) Show: [Icons] Details

Severity	Time GMT+01:00 DST	Description	Source
Minor	07.05.2009 14:54:30	BTS reference clock missing	BTS : BS 82 / FSMB 1

Connected to BTS, TRS

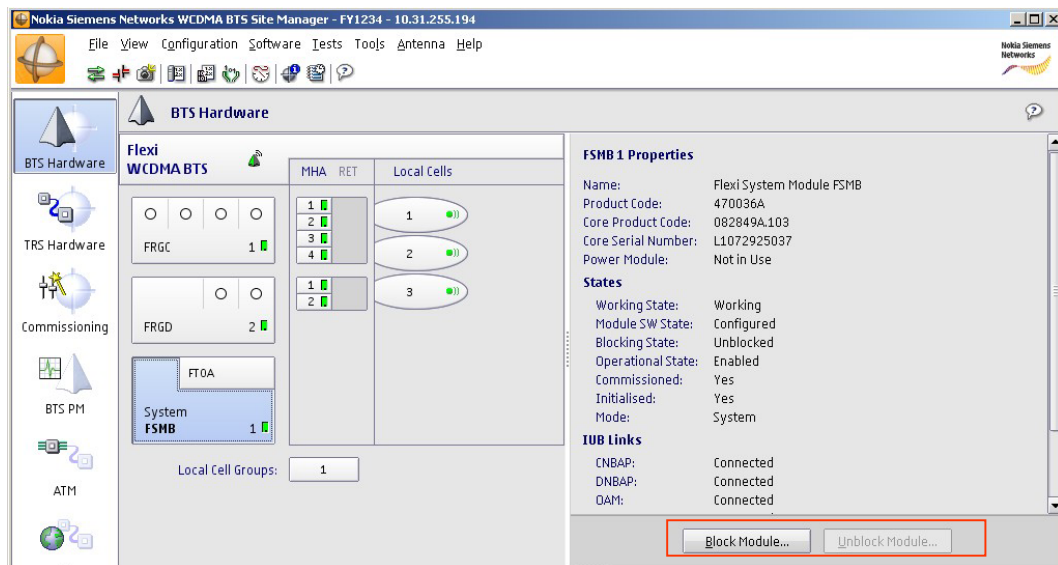
QAM Iub Connected On Air TRS Commissioned

Block BTS, Reset Site



Block BTS/Unblock BTS => Reset BTS
Reset Site => Reset BTS and TRS

Block/Unblock Module



The screenshot displays the 'Nokia Siemens Networks WCDMA BTS Site Manager' interface. The main window is titled 'BTS Hardware' and shows a 'Flexi WCDMA BTS' configuration. On the left, a sidebar lists various hardware components: BTS Hardware, TRS Hardware, Commissioning, BTS PM, and ATM. The main area is divided into several sections: 'Flexi WCDMA BTS' with a tree view showing 'FRGC' (1), 'FRGD' (2), and 'FT0A' (1); 'MHA RET' with a table of modules; 'Local Cells' with a table of cells; and 'FSMB 1 Properties' on the right. The 'FSMB 1 Properties' section includes fields for Name, Product Code, Core Product Code, Core Serial Number, and Power Module. Below this, the 'States' section shows the current status of the module (Working, Configured, Unblocked, Enabled, Yes, Yes, System). At the bottom right, there are two buttons: 'Block Module...' and 'Unblock Module...'. A red box highlights these buttons.

MHA	RET	Local Cells
1	1	1
2	2	2
3	3	3
4	4	4

FSMB 1 Properties

Name: Flexi System Module FSMB
Product Code: 470036A
Core Product Code: 082849A.103
Core Serial Number: L1072925037
Power Module: Not in Use

States

Working State: Working
Module SW State: Configured
Blocking State: Unblocked
Operational State: Enabled
Commissioned: Yes
Initialised: Yes
Mode: System

IUB Links

CNAP: Connected
DNAP: Connected
OAM: Connected

Block Module... **Unblock Module...**

'Block Module' and 'Unblock Module' will reset the selected HW (e.g. System Module or Radio Module).
TRS Submodule can be rebooted from TRS Web Interface (Reboot TRS).

GPS Synchronisation Option

The screenshot displays the 'BTS Hardware' configuration window for a WCDMA BTS. The 'Local Cells' tab is active, showing a single cell with ID '1'. The 'System' section indicates 'FSMD' is enabled. The 'Local Cell Groups' section shows group '1'. The 'BTS Site Properties' panel on the right shows the site name 'BTS_84' and the 'Synchronisation Source' set to 'GPS/PPS', which is highlighted with a red box. The 'States' panel shows the BTS is operational and integrated with the RAN. The 'Alarms' panel at the bottom shows no active alarms.

Nokia Siemens Networks WCDMA BTS Site Manager - BTS_84 - Local connection

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BTS Hardware

Flexi WCDMA BTS

MIHA RET Local Cells

FRGD 1

FTIB

System FSMD 1

Local Cell Groups: 1

BTS Site Properties

Site Name: BTS_84
BTS Id: 84
BTS Name: WCDMA Flexi BTS
BTS Address: 10.31.255.242
RNC Address: 10.31.140.40
SW Release Version: WN5.0 12.4-87 A

States

BTS Operational State: BTS Integrated to RAN
Blocking State: Unblocked
Master Units: System module as O&M Master, Telecom Master, A

Synchronisation Source: GPS/PPS
10 MHz System Clock Output: Disabled

Alarms

Show: [Icons]

Severity	Time GMT+01:00 DST	Description	Source
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Details

Code:
Scope:
Status:
Started:
Closed:

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