

Запуск БС Huawei

Настройка FTP на Windows 7 по ссылке
<https://www.q2w3.ru/nastrojka-ftp-servera-iis-na-windows-7/>

или в LMT во вкладке FTP tool (сертификат SSL не создаем), брандмауэр отключаем.

Каталог FTP не надо прятать в дебри диска, оптимально в корне, например
e:\FTP\

Для Windows 10 настройки аналогичны, но лучше Win7 т.к на лицензионной обновленной Win 10 надо постоянно отключать брандмауэр и defender или настраивать исключения.

Ip для подключения **192.168.0.49**

Для 15 релиза и старше:

Логин: Admin

Пароль: hwbs@com

Для релиза 16 пароль Y5\$7Kc@u#\$tr&LhF (после первого включения требует смены, добавляем в конце 11 получаем **Y5\$7Kc@u#\$tr&LhF11**)

Для DBS

командой SET NODE переводим в BTS5900A (нужный тип оборудования выставится после заливки выданного конфига, BTS5900A выбираем для настроек безопасности FTP порта управления VBU)

далее командой SET FTPSCLT выставляем всё как на картинке

The screenshot displays the web interface of a BTS5900-GL device. The browser address bar shows the URL: `https://192.168.0.49/platform/frmwork/view/index.html?2020.07.03.13&time=1617802812344`. The interface includes a navigation tree on the left with categories like MML Commands, System Management, Configuration Management, License Management, Application Management, and File Management. The main content area shows the execution of the `SET FTPSCLT` command, with the following output:

```
RETCODE = 0 Operation succeeded.
---
END
+++ BTS_77_21948_DLN 2021-04-07 17:46:33
OMR #008
%%SET FTPSCLT :%%
RETCODE = 0 Operation succeeded.

FTP Client Parameter List
-----
Transport Encrypted Mode = Auto
Support State Firewall = Yes
Support SSL Certificate Authentication = No
Minimum DH length of FTPS = Auto Diffie-Hellman
Policy ID = 0
TLS Secure Cipher Suite Switch = OFF
(Number of results = 1)
---
END
```

Below the output, the configuration parameters for `SET FTPSCLT` are shown:

```
SET FTPSCLT: ENCRYPMODE=Auto, SPTSTATEFWL=Yes, SSLCERTAUTH=No, MINDHLEN=DH_0, POLICYID=0, TLSSECCSSW=OFF;
```

The configuration form includes the following fields:

- Command History: SET FTPSCLT
- Command (F5): SET FTPSCLT
- Transport Encrypted Mode: Auto(Auto)
- Support State Firewall: Yes(Yes)
- Support SSL Certificate Authentication: No(No)
- Minimum DH length of FTPS: DH_0(Auto Diffie-Hellman)
- Policy ID: 0
- TLS Secure Cipher Suite Switch: OFF(OFF)

The interface also features buttons for `Save Result`, `Download Report`, `Auto Scroll`, and `Clear All (0)`.

Обновление софта:

Проверяем залитую версию софта командой LST SOFTWARE, если отличается от BTS3900_5900 V100R016C10SPC130 – обновляем, если ок – переходим к заливке конфига.

При правильно настроенном FTP сервере, **FTP Server IP** это локальный IP компьютера 192.168.0.* (тот что прописали в свойствах IPv4 сетевой карты для подключения к BTS) **User Name** – имя пользователя ссозданного для FTP, **Password** – пароль пользователя ссозданного для FTP

В Software Version пишем полное название софта: BTS3900_5900 V100R016C10SPC130

В маршруте до софта корневую папку FTP не учитываем, т.е если полный маршрут e:\ftpserver\BTS3900_5900 V100R016C10SPC130\, в Directory Name прописываем BTS3900_5900 V100R016C10SPC130\

Пример команды(**пропущен пароль, не забываем вводить**):

DLD SOFTWARE: MODE=IPV4, IP="192.168.0.20", USR="Rus", DIR="BTS3900_5900 V100R016C10SPC130\", SWT=SOFTWARE, SV="BTS3900_5900 V100R016C10SPC130", ATL=GBTS&eNodeB;

Если БС 2G+LTE то софт заливаем для GBTS и eNodeB (вкладка Application Type List)

The screenshot displays the web interface of a BTS5900A device. The browser address bar shows the URL: https://192.168.0.49/platform/framework/view/index.html?2020.03.02.09&time=1615274308281. The interface includes a navigation menu with options like MML, Alarm/Event, Batch, Trace, Monitor, Device Maintenance, and Self Test. The main content area shows the 'Common Maintenance (Alt+C)' section with a session ID of 65563. The session info indicates a successful download of software. The command history shows the command: DLD SOFTWARE: MODE=IPV4, IP="192.168.0.20", USR="Rus", DIR="BTS3900_5900 V100R016C10SPC130\", SWT=SOFTWARE, SV="BTS3900_5900 V100R016C10SPC130", ATL=GBTS&eNodeB;. Below the command history, there is a form for configuring the software download, including fields for IP Mode (IPV4), FTP Server IP (192.168.0.20), User Name (Rus), Password, Directory Name (BTS3900_5900 V100R016C1), Software Type (SOFTWARE(Software)), Software Version (BTS3900_5900 V100R016C1), Download by Config Flag (CFG(Download by config)), Delay Download Flag (YES(Delay Download)), and Application Type List (GBTS&eNodeB).

Активация софта

Если БС 2G+LTE то софт активируем для GBTS и eNodeB (вкладка Application Type List)

ACT SOFTWARE: OT=NE, SWT=SOFTWARE, SV="BTS3900_5900 V100R016C10SPC130", ATL=GBTS&eNodeB;

The screenshot displays the web interface for a BTS5900A device. The browser address bar shows the URL: `https://192.168.0.49/platform/frmwork/view/index.html?2020.03.02.09&time=1615274308281`. The page title is "BTS5900A". The user is logged in as "admin" with the status "Connected".

The interface is divided into several sections:

- Navigation Tree:** A sidebar on the left containing a list of MML Commands under "System Management". The "Activate Software (ACT SOFTWARE)" command is highlighted.
- Common Maintenance (Alt+C):** The main content area displays the execution results for the "ACT SOFTWARE" command. The output shows:

```
Session ID = 65564
--- END
+++ 0      2021-03-09 15:43:30
O&M #339
%%ACT SOFTWARE: OT=NE, SWT=SOFTWARE, SV="BTS3900_5900 V100R016C10SPC130", ATL=GBTS&eNodeB;%%
RETICODE = 0 Progress report, Operation succeeded.

Report Type = Activate Software
Status = Progressing
Progress = 17%
Session ID = 65564
--- END
```
- Command History:** A section at the bottom with a dropdown menu and navigation arrows.
- Command (F5):** A text input field with "Assist" and "Exec" buttons, and a checkbox for "Use Proxy MML".

At the bottom right of the interface, the status "EN" and the time "10:43" are visible.

После активации софта LMT будет урезанный!

Активация нормального LMT (здесь, выше и далее указаны параметры моего сервера, меняем данные на свой) – вводим команду SPL SOFTWARE -> кнопка Assist -> заполняем поля (DIR – 'папка где расположен софт, аналогично обновлению):

SPL SOFTWARE: MODE=IPV4, IP="192.168.0.20", USR="Rus", PWD="*****", DIR="BTS3900_5900 V100R016C10SPC130\", SDL=YES;

Перезапускаем LMT.

The screenshot displays the LMT web interface for a BTS5900A device. The browser address bar shows the URL: `https://192.168.0.49/platform/framework/view/index.html?M2020.07.03.13&time=1615276727326`. The page title is "BTS5900A". The user is logged in as "admin" with a status of "Disconnected".

The main content area shows the execution of the "SPL SOFTWARE" command. The output is as follows:

```
Progress = 100%
Session ID = 65539
--- END
+++ 0 2021-03-09 16:03:43
Oid #80
%%SPL SOFTWARE: MODE=IPV4, IP="192.168.0.20", USR="Rus", PWD="*****", DIR="BTS3900_5900 V100R016C10SPC130\", SDL=YES%%
RETCODE = 0 Progress report, Operation succeeded.

Report Type = Supply Software
Status = Success
Session ID = 65539
--- END
```

The command history at the bottom shows the command: `SPL SOFTWARE: MODE=IPV4, IP="192.168.0.20", USR="Rus", PWD="*****", DIR="BTS3900_5900 V100R016C10SPC130\", SDL=YES`. The "Assist" button is highlighted, indicating the command was successfully executed.

Загрузка файла конфигурации

DLD CFGFILE: MODE=IPV4, IP="192.168.0.20", USR="Rus", PWD="*****", DIR="BTS_77_17351_DLN\", FN="CFGDATA", ENCRYPTMODE=UNENCRYPTED;

File Name забивать полностью, с расширением - CFGDATA.XML

Корневой каталог FTP в Directory Name как и при заливке софта не указываем.

Остальное как на картинке ниже.

The screenshot shows the web interface of a BTS5900A device. The browser address bar displays the URL: `https://192.168.0.49/platform/framework/view/index.html?2020.07.03.13&time=1615277129827`. The page title is "BTS5900A". The navigation menu includes "MML", "Alarm/Event", "Batch", "Trace", "Monitor", "Device Maintenance", and "Self Test". The "MML" tab is active, and the "Navigation Tree" on the left shows the "File Management" section expanded, with "Download Backup Configuration" selected. The main content area displays the command: `DLD CFGFILE: MODE=IPV4, IP="192.168.0.20", USR="Rus", PWD="*****", DIR="BTS_77_17351_DLN\", FN="CFGDATA", ENCRYPTMODE=UNENCRYPTED;`. Below the command, there is a "Command History" section and a "Command (F5)" section with the following fields:

IP Mode	IPV4(IPv4)	FTP Server IP	192.168.0.20
User Name	Rus	Password	*****
Directory Name	BTS_77_17351_DLN\	File Name	CFGDATA
File Type	XML(XML Format)	Area Flag	STANDBY(Standby)
Gauge Option	Y(Send Progress)	Encrypted Mode	UNENCRYPTED(UNENCR)
Compress Flag	UNCOMPRESSED(Uncomj)	Forced Download Flag	FALSE(FALSE)

Активация файла конфигурации:

ACT CFGFILE: EFT=AFTER_RESET;

The screenshot displays the web interface for the BTS5900A system. The browser address bar shows the URL: `https://192.168.0.49/platform/frmwork/view/index.html?2020.07.03.13&time=1615277129827`. The page title is "BTS5900A". The navigation menu includes "MML", "Alarm/Event", "Batch", "Trace", "Monitor", "Device Maintenance", and "Self Test". The user is logged in as "admin" with the status "Connected".

The main content area is divided into several sections:

- Navigation Tree:** A sidebar menu with categories like "MML Commands", "System Management", "Version Management", "Time Management", "Configuration Management", "License Management", "Application Management", and "File Management".
- Common Maintenance (Alt+C):** A section showing the execution details of the command. It includes fields for "Status" (Start), "Session ID" (65541), and "END". The execution log shows: `+++ 0 2021-03-09 16:13:58`, `OM #95`, `%ACT CFGFILE: EFT=AFTER_RESET;%`, and `RETCODE = 0 Progress report, Operation succeeded.` The report type is "Activate" with a status of "Success".
- Command History:** A dropdown menu showing the command `ACT CFGFILE: EFT=AFTER_RESET;`.
- Command (F5):** A text input field containing `ACT CFGFILE`, with "Assist" and "Exec" buttons.
- Mode:** A dropdown menu set to "XML(XML Mode)".
- Effect Type:** A dropdown menu set to "AFTER_RESET(After Resc)".
- Product Type:** A dropdown menu.

At the bottom of the interface, there are buttons for "Save Result", "Download Report", "Auto Scroll", and "Clear All (F6)". The system time is displayed as "2021-3-9 16:14:25".

Перезапуск БС после активации файла:

RST BTSNODE: FOCRST=YES;

The screenshot displays the web interface for a BTS5900A base station. The browser address bar shows the URL: `https://192.168.0.49/platform/frmwork/view/index.html?2020.07.03.13&time=1615277129827`. The page title is "BTS5900A". The navigation menu includes "MML", "Alarm/Event", "Batch", "Trace", "Monitor", "Device Maintenance", and "Self Test". The user is logged in as "admin" with the status "Connected".

The main content area shows the "Common Maintenance (Alt+C)" tab. The "Command History" field contains the command: `RST BTSNODE: FOCRST=YES;`. The "Command (F5)" field contains: `RST BTSNODE`. The "Forced Reset Flag" is set to `YES(YES)`. The "Operation Records (Alt+R)" tab shows the following output:

```
RETCODE = 0 Progress report, Operation succeeded.
Report Type = Activate
Status = Success
Session ID = 85541
--- END
+++ 0 2021-03-09 16:19:00
O&M #96
%RST BTSNODE: FOCRST=YES;%
RETCODE = 0 Operation succeeded.
--- END
```

At the bottom of the interface, there are buttons for "Save Result", "Download Report", "Auto Scroll", and "Clear All (F6)".

Заливка лицензии

INS LICENSE: DIR="1\", FN="IoTDBS5900LTE_V100R016_20210217VKTH6L.xml", FLG=NO, MODE=IPV4, IP="192.168.0.20", USR="Rus", PREFLG=NO;

Корневой каталог FTP в Directory Name как и при заливке софта не указываем.

Затем активируем INS LICENSE и полное название файла лицензии с расширением.

The screenshot displays the web interface of a BTS5900-GL device. The browser address bar shows the URL: `https://192.168.0.49/platform/framework/view/index.html?2020.07.03.13&time=1615282096354`. The page title is "BTS5900-GL". The navigation menu includes "MML", "Alarm/Event", "Batch", "Trace", "Monitor", "Device Maintenance", and "Self Test". The "Device Maintenance" menu is expanded, showing "License Management" with sub-items like "Set Emergency Switch", "List Emergency Switch", "Query ESN", "List License File Information", "Display License Configuration Information", "Clear License", "Install License", "Activate License File", "Revoke License", "Upload License File", "Check Consistency of License File", "Query License Sale Information", "Query Fixed Term License Switch", "Set Fixed Term License Switch", and "Display License Revocation Information". The "Install License" option is selected. The main content area shows the command history and configuration for the "Install License" command. The command is: `INS LICENSE: DIR="1\", FN="IoTDBS5900LTE_V100R016_20210217VKTH6L.xml", FLG=NO, MODE=IPV4, IP="192.168.0.20", USR="Rus", PREFLG=NO;`. The configuration fields are: Directory Name: "1\", File Name: "IoTDBS5900LTE_V100R016", Force Flag: "NO(No)", IP Mode: "IPV4(IPV4)", FTP Server IP: "192.168.0.20", User Name: "Rus", Password: "", Function Type: "AUTO(AUTO)", and Preload Flag: "NO(No)".

Активация emergency (если не выданы лицензии или лицензии не заливаются):

SET LICENSECTRL: FUNCTIONTYPE=GBTS;

SET LICENSECTRL: FUNCTIONTYPE=eNodeB;

The screenshot displays the web interface for the BTS5900-GL system. The browser address bar shows the URL: `https://192.168.0.49/platform/frmwork/view/index.html?2020.07.03.13&time=1615278133002`. The page title is "BTS5900-GL". The navigation menu includes options like "MML", "Alarm/Event", "Batch", "Trace", "Monitor", "Device Maintenance", and "Self Test".

The main content area is titled "Common Maintenance (Alt+C)" and "Operation Records (Alt+R)". It displays the "Display OM Channel State" page with the following information:

```
Standby Status = Master
VRF Index = 0
Bearer Type = IPV4
Local IP = 11.128.88.6
Local Mask = 255.255.255.252
Peer IP = 11.127.3.1
Peer Mask = 255.255.255.224
Binding Route = No
Binding Secondary Route = No
Check Type = NONE
OM Channel Status = Abnormal
Used State = In Use
(Number of results = 1)
```

Below the status information, there are buttons for "Save Result", "Download Report", "Auto Scroll", and "Clear All (F6)".

The "Command History" section shows the following commands:

```
Command (F5):
DSP OMCH;
SET LICENSECTRL: FUNCTIONTYPE=eNodeB;
SET LICENSECTRL: FUNCTIONTYPE=GBTS;
DSP VSWR;
DSP SECTOR;
```

Активация и настройка RET

- Моторы можно настроить только после подачи канала управления, при его отсутствии RRU через 3-5 минут уходят в режим Standby, по команде DSP RETPORT выдает что RRU недоступны.

Проверка портов:

DSP RETPORT;

The screenshot shows the web interface for the BTS5900-GL. The browser address bar displays the URL: `https://192.168.0.49/platform/framework/view/index.html?2020.07.03.13&time=1615383627178`. The page title is "BTS5900-GL". The navigation menu includes "MML", "Alarm/Event", "Batch", "Trace", "Monitor", "Device Maintenance", and "Self Test". The user is logged in as "Local User: admin" with a status of "Connected" and a time of "2021-3-10 16:43:08".

The main content area shows the execution of the "Display RET Port(DSP RETPORT)" command. The output is as follows:

```
+++ BTS_77_21911_DLN 2021-03-10 16:41:13
O&M #190
WWDSP RETPORT:%%
RETCODE = 0 Operation succeeded.

Display RET Port Dynamic Information

Cabinet No. Subrack No. Slot No. Port No. ALD Actual Power Switch ALD Current Value(mA)
0 180 0 RET_PORT ON 36
0 181 0 RET_PORT ON 36
0 182 0 RET_PORT ON 37
(Number of results = 3)

--- END
```

At the bottom of the interface, there is a "Command History" section with a search box and navigation arrows, and a "Command (F5):" input field with "Assist" and "Exec" buttons. The "Use Proxy MML" checkbox is unchecked.

Если ALD Actual Power Switch в значении OFF:

MOD RETPORT: CN=0, SRN=180, SN=0, PWRSWITCH=ON, THRESHOLDTYPE=RET_ONLY_MULTICORE;

Команду вводим для каждого RRU, меняется только значения Subrack No. (180, 181, 182 и т.д в зависимости от количества RRU)

The screenshot displays the web interface for the BTS5900-GL system. The main content area shows the configuration page for the command `MOD RETPORT: CN=0, SRN=180, SN=0, PWRSWITCH=ON, THRESHOLDTYPE=RET_ONLY_MULTICORE;`. The configuration form includes the following fields:

- Cabinet No.: 0
- Subrack No.: 180
- Slot No.: 0
- Port No.: RET_PORT(RET_PORT)
- ALD Power Switch: ON(ON)
- Current Alarm Threshold Type: RET_ONLY_MULTICORE

The command history section shows the executed command: `MOD RETPORT`. The interface also features a navigation tree on the left and a top menu with options like MML, Alarm/Event, Batch, Trace, Monitor, Device Maintenance, and Self Test.

Поиск моторов:

Команда SCN ALD::;

The screenshot displays the web interface for the BTS5900-GL system. The browser address bar shows the URL: `https://192.168.0.49/platform/frmwork/view/index.html?2020.07.03.13&time=1615383627178`. The page title is "BTS5900-GL".

The interface includes a navigation menu on the left with categories like "MML Commands", "System Management", "Equipment Management", "Base Station Maintenance", "Board Maintenance", "RRU Maintenance", and "ALD Maintenance". Under "ALD Maintenance", the "Scan ALD(SCN ALD)" option is selected.

The main content area shows the execution details for the "Common Maintenance (Alt+C)" command. The session ID is 65550. The output text is as follows:

```
--- END
+++ BTS_77_21911_DLN      2021-03-10 16:45:05
O&M #207
%NSCN ALD:;%
RETCODE = 0 Progress report, Operation succeeded.

Report Type = Scan ALD
Status = Progressing
Progress = 1%
Session ID = 65550
--- END
```

At the bottom of the interface, there is a "Command History" section with a search box and navigation arrows, and a "Command (F5):" input field with "Assist" and "Exec" buttons. A "Use Proxy MML" checkbox is also present.

The Windows taskbar at the bottom shows the system time as 16:45 and the language as ENG.

Common Maintenance (Alt+C)

Operation Records (Alt+R)

Help (Alt+N)

Control Port Subrack No.	Control Port Slot No.	Control Port No.	Result	ALD Device Type	Vendor Code	Serial No.	Protocol Version	Configure Status
180	0	RET	SUCCESS	SINGLE_RET	MT	AU021K160662T--Y2	AISG2.0	UNCONFIGURED
180	0	RET	SUCCESS	SINGLE_RET	MT	AU021K160662T--Y1	AISG2.0	UNCONFIGURED
181	0	RET	SUCCESS	SINGLE_RET	MT	AU021K160544T--Y2	AISG2.0	UNCONFIGURED
181	0	RET	SUCCESS	SINGLE_RET	MT	AU021K160544T--Y1	AISG2.0	UNCONFIGURED
182	0	RET	SUCCESS	SINGLE_RET	MT	AU021K160537T--Y2	AISG2.0	UNCONFIGURED
182	0	RET	SUCCESS	SINGLE_RET	MT	AU021K160537T--Y1	AISG2.0	UNCONFIGURED

 Save Result

Download R

Command History:



Command (F5):

Assist

Exec

 Use Proxy MML

Привязка моторов:

ADD RET: DEVICENO=180, DEVICENAME="CELL_77_21911_1_L18+CELL_77_21911_1_D", CTRLCN=0, CTRLSRN=180, CTRLSN=0, RETTYPE=SINGLE_RET, SCENARIO=DAISY_CHAIN, VENDORCODE="MT", SERIALNO="AU021K160662T--Y1";

Если на антенне 2 встроенных мотора:

сектор1

Мотор №1: Device No – 180, Control Port Subrack No – 180, Device Name CELL_77_21911_1_L18+CELL_77_21911_1_D

Мотор №2: Device No – 380, Control Port Subrack No – 180, Device Name CELL_77_21911_1_L18_2+CELL_77_21911_1_D_2

сектор2

Мотор №1: Device No – 181, Control Port Subrack No – 181, Device Name CELL_77_21911_2_L18+CELL_77_21911_2_D

Мотор №2: Device No – 381, Control Port Subrack No – 181, Device Name CELL_77_21911_2_L18_2+CELL_77_21911_2_D_2

сектор3

Мотор №1: Device No – 182, Control Port Subrack No – 182, Device Name CELL_77_21911_3_L18+CELL_77_21911_3_D

Мотор №2: Device No – 382, Control Port Subrack No – 182, Device Name CELL_77_21911_3_L18_2+CELL_77_21911_3_D_2

Vendor code – из инфы по SCN ALD

Serial No. - из инфы по SCN ALD, ВВОДИМ ПОЛНОСТЬЮ, СО ВСЕМИ ЗНАКАМИ

Остальное как на картинке ниже.

The screenshot shows the web interface for a BTS5900-GL system. The main content area displays a table of operation records and a configuration form for adding a RET (Return Error Type).

Device No	Control Port Subrack No	Device Name	RETCODE	Operation	Result	MT	Serial No	Scenario	Vendor Code	Status
181	181	CELL_77_21911_2_L18+CELL_77_21911_2_D	0	RET	SUCCESS	SINGLE_RET	MT	AU021K160662T--Y1	AISQ2.0	UNCONFIGURED
182	182	CELL_77_21911_3_L18+CELL_77_21911_3_D	0	RET	SUCCESS	SINGLE_RET	MT	AU021K160662T--Y2	AISQ2.0	UNCONFIGURED
182	182	CELL_77_21911_3_L18_2+CELL_77_21911_3_D_2	0	RET	SUCCESS	SINGLE_RET	MT	AU021K160662T--Y1	AISQ2.0	UNCONFIGURED

Below the table, the 'ADD RET' configuration form is visible. The command entered is: `ADD RET: DEVICENO=380, DEVICENAME="CELL_77_21911_1_L18_2+CELL_77_21911_1_D_2", CTRLCN=0, CTRLSRN=180, CTRLSN=0, RETTYPE=SINGLE_RET, SCENARIO=DAISY_CHAIN, VENDORCODE="MT", SERIALNO="AU021K160662T--Y2";`

The form fields are filled with the following values:

- Device No: 380
- Device Name: 8_2+CELL_77_21911_1_D_2
- Control Port Cabinet No: 0
- Control Port Subrack No: 180
- Control Port Slot No: 0
- RET Type: SINGLE_RET(SINGLE_RE)
- Polar Type: DUAL(DUAL)
- Antenna Scenario: DAISY_CHAIN(DAISY_C)
- Vendor Code: MT
- Serial No: AU021K160662T--Y2
- Antenna Form: NORMAL_ANTENNA(Norr)

Калибровка моторов:

CLB RET: OPMODE=SITE;

На МОВІ может выдать ошибку, ждем минут 5-10 и запускаем заново.

The screenshot displays the web interface for the BTS5900-GL system. The browser address bar shows the URL: `https://192.168.0.49/platform/framework/view/index.html?2020.07.03.13&time=1615383627178`. The page title is "BTS5900-GL". The navigation menu includes "MML", "Alarm/Event", "Batch", "Trace", "Monitor", "Device Maintenance", and "Self Test". The user is logged in as "admin" with a status of "Connected" and a time of "2021-3-10 17:05:00".

The main content area shows the "Common Maintenance (Alt+C)" tab. The "Navigation Tree" on the left lists various MML commands, with "Calibrate RET (CLB RET)" selected. The main display area shows the following text:

```
+++ BTS_77_21911_DLN 2021-03-10 17:02:21
O&M #294
%%CLB RET: OPMODE=SITE,%%
RETCODE = 0 Progress report, Operation succeeded.

Report Type = Calibrate RET
Status = Success
Session ID = 65565

Result
-----
Device No. Subunit No. Result
180 1 SUCCESS
181 1 SUCCESS
182 1 SUCCESS
```

Below the result, the command "CLB RET: OPMODE=SITE;" is entered. The "Command History" section shows the command "CLB RET" and the "Operate Mode" is set to "SITE(Operating by Site)".

Установка углов:

MOD RETTILT: RETCLASS=RET, OPMODE=DEVICENO, DEVICENO=380, TILT=40;

команду вводим для каждого мотора, меняется Device No. (180, 181, 182, 380, 381, 382), Tilt=эл.угол*10 (если в задании угол=4 то вводим значения=40)

The screenshot displays the web interface of a BTS5900-GL system. The browser address bar shows the URL: `https://192.168.0.49/platform/framework/view/index.html?2020.07.03.13&time=1615383627178`. The interface includes a navigation menu on the left with categories like MML Commands, System Management, and Equipment Management. The main area shows the execution results of the command `MOD RETTILT: RETCLASS=RET, OPMODE=DEVICENO, DEVICENO=180, TILT=40, NW`. The results indicate success for device numbers 182, 380, 381, and 382. Below the results, the command `MOD RETTILT: RETCLASS=RET, OPMODE=DEVICENO, DEVICENO=380, TILT=40;` is highlighted. At the bottom, the Command History section shows the command `MOD RETTILT` with parameters: RET Class: RET (Remote Electrical TI), Operate Mode: DEVICENO (Operating b), Device No.: 380, and Tilt (0.1degree): 40.

Device No.	Count	Status
182	1	SUCCESS
380	1	SUCCESS
381	1	SUCCESS
382	1	SUCCESS

Проверка моторов:

DSP RETSUBUNIT;

Navigation Tree

- MML Commands
 - System Management
 - Equipment Management
 - Base Station Maintenance
 - Board Maintenance
 - RRU Maintenance
 - ALD Maintenance
 - Modify Antenna Port(MOD A)
 - List Antenna Port(LST ANTE)
 - Display Antenna Port(DSP AN)
 - Confirm TMA Connection(CFI)
 - Modify RET Port(MOD RETP)
 - List RET Port(LST RETPORT)
 - Display RET Port(DSP RETPC)
 - Scan ALD(SCN ALD)
 - Reset ALD(RST ALD)
 - Reset ALD Power Switch(RST)
 - Download ALD Software(DLD)
 - Stop Scanning ALD(STP ALD)
 - Display ALD Version(DSP ALV)
 - Add RET(ADD RET)
 - Remove RET(RMV RET)
 - Modify RET(MOD RET)
 - List RET(LST RET)
 - Display RET(DSP RET)
 - Calibrate RET(CLB RET)
 - Download RET Configuration
 - Modify RET Subunit(MOD RE)
 - List RET Subunit(LST RETSU)
 - Display RET Subunit(DSP RE)
 - Modify RET Tilt(MOD RETTI)
 - Modify RET Device Data(MO)
 - List RET Device Data(LST RE)
 - Display RET Device Data(DSI)
 - Modify VRET Configuration(M)
 - List VRET Configuration(LST)
 - Modify VRET Subunit Configu
 - List VRET Subunit Configurati
 - Display VRET Subunit Dynam
 - Add TMA(ADD TMA)
 - Remove TMA(RMV TMA)
 - Modify TMA(MOD TMA)

Вывод БС в эфир:

- 2G активируется с контроллера, обычно сразу выходит в эфир, но лучше проверить.

Проверка KCB

STR VSWRTEST;

The screenshot displays the web interface for the BTS5900-GL system. The browser address bar shows the URL: `https://192.168.0.49/platform/frmwork/view/index.html?2020.07.03.13&time=1615386300772`. The interface includes a navigation menu with options like MML, Alarm/Event, Batch, Trace, Monitor, Device Maintenance, and Self Test. The main content area shows the 'VSWR Query Result' table, which contains the following data:

BS Name	Sector No.	Cabinet No.	Subrack No.	Slot No.	TX Channel No.	VSWR(0.01)	Test Result
BTS_77_21911_DLN	180	0	180	0	0	110	Successful
BTS_77_21911_DLN	180	0	180	0	1	114	Successful
BTS_77_21911_DLN	181	0	181	0	0	102	Successful
BTS_77_21911_DLN	181	0	181	0	1	109	Successful
BTS_77_21911_DLN	182	0	182	0	0	105	Successful
BTS_77_21911_DLN	182	0	182	0	1	106	Successful

Below the table, there is a section for 'STR VSWRTEST;' with a 'Command History' field containing the command. The 'Command (F5)' field also contains 'STR VSWRTEST'. There are input fields for 'Cabinet No.', 'Test Mode', and 'Txbranch Power Relative Value(0.1dB)'. The interface also shows a 'Navigation Tree' on the left with various maintenance and configuration options.

Проверка секторов:

LST CELL;

The screenshot displays the web interface for the BTS5900-GL system. The browser address bar shows the URL: <https://192.168.0.49/platform/frmwork/view/index.html?2020.07.03.13&time=1615386300772>. The page title is "BTS5900-GL".

The main content area shows the execution of the "LST CELL;" command. The results are as follows:

```
RESULTCODE = 0 - Operation succeeded.
Display static parameters of cells
```

Local Cell ID	Cell Name	Csg indicator	Uplink cyclic prefix length	Downlink cyclic prefix length	NE-IoT Cell Flag	Coverage Level Type	Freq
11	CELL_77_21911_1_L18	False	Normal	Normal	FALSE	NULL	3
12	CELL_77_21911_2_L18	False	Normal	Normal	FALSE	NULL	3
13	CELL_77_21911_3_L18	False	Normal	Normal	FALSE	NULL	3
211	CELL_77_21911_1_N118	False	Normal	Normal	TRUE	COVERAGE_LEVEL_0:0n&COVERAGE_LEVEL_1:0n&COVERAGE_LEVEL_2:0n	NULL
212	CELL_77_21911_2_N118	False	Normal	Normal	TRUE	COVERAGE_LEVEL_0:0n&COVERAGE_LEVEL_1:0n&COVERAGE_LEVEL_2:0n	NULL
213	CELL_77_21911_3_N118	False	Normal	Normal	TRUE	COVERAGE_LEVEL_0:0n&COVERAGE_LEVEL_1:0n&COVERAGE_LEVEL_2:0n	NULL

(Number of results = 6)

--- END

Command History: LST CELL;

Command (F5): LST CELL

Local Cell ID: [Dropdown menu]

Запуск секторов:

ACT CELL: LocalCellId=11;

Команда вводится для каждого сектора, LocalCellId узнаем по команде LST CELL (выше)

The screenshot displays the web interface for the BTS5900-GL system. The browser address bar shows the URL: `https://192.168.0.49/platform/framework/view/index.html?2020.07.03.13&time=1615386300772`. The interface includes a navigation menu on the left with categories like 'Navigation Tree', 'Alarm/Event', and 'MML'. The main content area is divided into several sections:

- Common Maintenance (At+C):** A table listing maintenance tasks for cells 211, 212, and 213.
- Operation Records (At+R):** A log showing the execution of the ACT CELL command for LocalCellId=11, with a success message: `RETCODE = 0 Operation succeeded.`
- Command History:** A dropdown menu showing the command `ACT CELL: LocalCellId=11;`.
- Command (F5):** A text input field containing `ACT CELL`, with buttons for 'Assist' and 'Exec'.
- Local Cell ID:** A dropdown menu currently set to `11`.

At the bottom of the interface, there are buttons for 'Save Result', 'Download Report', 'Auto Scroll', and 'Clear All (F6)'. The system status bar at the bottom right indicates 'ENG 17:32'.

Серийные номера оборудования.

Серийные номера RRU:

команда DSP RRUCHAINPHYTOPO;;

The screenshot shows the web interface for the BTS5900-GL. The browser address bar displays the URL: `https://192.168.0.49/platform/frmwork/view/index.html?2020.07.03.13&time=1615287616574`. The page title is "BTS5900-GL".

The interface includes a navigation tree on the left with categories like "File Management", "Log Management", "Security Management", "Equipment Management", and "RRU Maintenance". The "RRU Maintenance" category is expanded, showing options like "Add RRU Chain/Ring(ADD RR)", "Remove RRU Chain/Ring(RM)", "Modify RRU Chain/Ring(MOD)", "List RRU Chain/Ring(LST RRU)", "Display RRU Chain/Ring(DSP)", "Combine RRU Chain/Ring(CM)", "Display RRU Chain/Ring Phys", "Set CPRI Threshold(SET CP)", "Display CPRI Threshold(DSP)", "Set Frequency Bandwidth(SE)", "List Frequency Bandwidth(LS)", "Add RF Connect Group(ADD)", "Remove RF Connect Group(RM)", "List RF Connect Group(LST RF)", "Add RRU/RFU(ADD RRU)", "Remove RRU/RFU(RMV RRU)", "Modify RRU/RFU Configuration(MOD)", and "List RRU/RFU(LST RRU)".

The main content area shows the command execution results for "DSP RRUCHAINPHYTOPO;". The command history box displays the command and its execution status. The "Extended Information Output Switch" is set to "OFF(OFF)".

The "Display Device Dynamic Information" section contains a table with the following columns: Cabinet No., Subrack No., Slot No., Port No., Sub Port No., Topo Position, Trunk Level, Standard Capability, Physical device serial No., Uplink Port No., and Uplink Support No.

Cabinet No.	Subrack No.	Slot No.	Port No.	Sub Port No.	Topo Position	Trunk Level	Standard Capability	Physical device serial No.	Uplink Port No.	Uplink Support No.
0	0	4	0	0	TRUNK	0	GLM_NF	2102311FRDDULB001683	0	NULL
0	0	4	1	0	TRUNK	0	L_NF	2102311FFF10L9000419	0	NULL

The table also includes a summary row: (Number of results = 2). Below the table, there are buttons for "Save Result", "Download Report", "Auto Scroll", and "Clear All (F6)".

