

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, resulting in a successful operation. Below the command history, the configuration parameters for FTPSCLT are displayed:

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

The configuration parameters are as follows:

Parameter	Value
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-Hellma)
Policy ID	0
TLS Secure Cipher Suite Switch	OFF(OFF)

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;

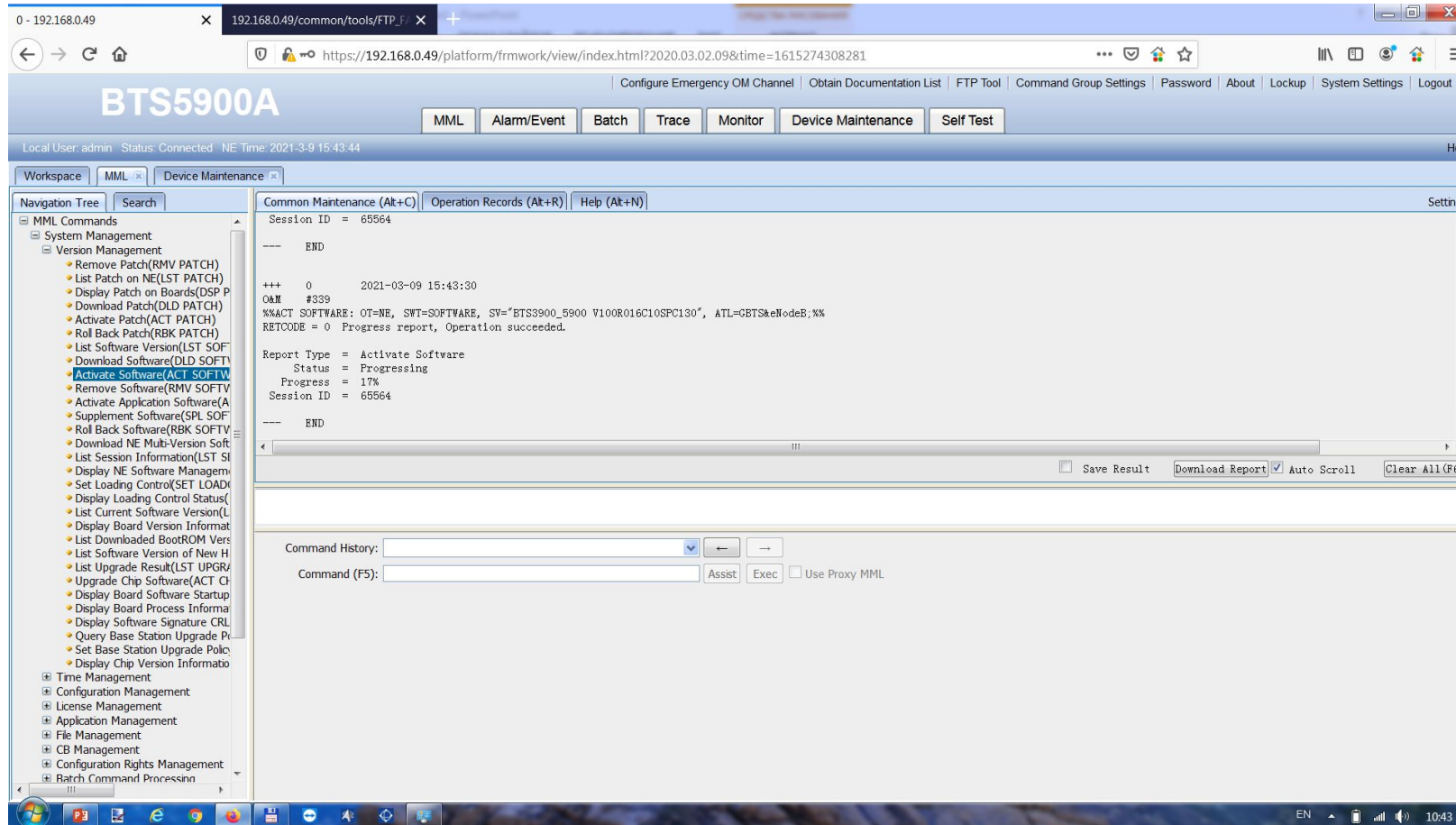
Если БС 2G+LTE то софт заливаем для GBTS и eNodeB (вкладка Application Type List)

The screenshot shows the web interface of a BTS5900A device. The main window displays the execution of the 'DLD SOFTWARE' command. 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;`. The command execution details show a successful result: `Report Type = Download Software, Status = Success, Session ID = 65563`. The configuration form at the bottom shows the following settings: IP Mode: IPV4(IPv4), FTP Server IP: 192.168.0.20, User Name: Rus, Password: (empty), Directory Name: BTS3900_5900 V100R016C1, Software Type: SOFTWARE(Software), Software Version: BTS3900_5900 V100R016C1, Gauge Option: Y(Gauge), Download by Config Flag: CFG(Download by config), Delay Download Flag: YES(Delay Download), 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/framework/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" and the NE Time is "2021-3-9 15:43:44".

The interface includes a navigation menu with options like "MML", "Alarm/Event", "Batch", "Trace", "Monitor", "Device Maintenance", and "Self Test". The "Device Maintenance" tab is active, and the "Common Maintenance (Alt+C)" sub-tab is selected.

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

```
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
```

At the bottom of the interface, there is a "Command History" section with a dropdown menu and a "Command (F5):" input field. The "Assist" and "Exec" buttons are visible, along with a checkbox for "Use Proxy MML".

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 shows the command: `SPL SOFTWARE: MODE=IPV4, IP="192.168.0.20", USR="`. The command (F5) field contains `SPL SOFTWARE`. There are "Assist" and "Exec" buttons next to the command field.

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", and the "Status" is "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 device. 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 "MML" tab is active, and the "Common Maintenance (Alt+C)" sub-tab is selected. The main content area shows the results of a reset operation:

```
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
```

Below the output, there are buttons for "Save Result", "Download Report", "Auto Scroll", and "Clear All (F6)". The "Command History" field contains the command: `RST BTSNODE: FOCRST=YES;`. The "Command (F5)" field is empty, and the "Forced Reset Flag" is set to `YES(YES)`. The "Navigation Tree" on the left lists various maintenance tasks, with "Reset Base Station(RST BTS)" highlighted.

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" command is selected in the "Command History" dropdown. The command text 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 form below the command history is filled with the following values:

- Command (F5): `INS LICENSE`
- 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: (empty)
- Function Type: `AUTO(AUTO)`
- Preload Flag: `NO(No)`

The "Command History" dropdown shows the following command: `INS LICENSE: DIR="1\", FN="IoTDBS5900LTE_V100R016_20210217VKTH6L.xml", FLG=NO, MODE=IPV4, IP="192.168.0.20", USR="Rus", PREFLG=NO;`. The "Command (F5)" field contains `INS LICENSE`. The "Directory Name" field contains `1\`. The "File Name" field contains `IoTDBS5900LTE_V100R016_`. The "Force Flag" field contains `NO(No)`. The "IP Mode" field contains `IPV4(IPv4)`. The "FTP Server IP" field contains `192.168.0.20`. The "User Name" field contains `Rus`. The "Password" field is empty. The "Function Type" field contains `AUTO(AUTO)`. The "Preload Flag" field contains `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 shows the "Display OM Channel State" page with the following details:

- 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

The command history section at the bottom 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 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=1615383627178`. The page title is "BTS5900-GL". The user is logged in as "Local User: admin" with status "Connected" and the time is "2021-3-10 16:43:08".

The interface has a navigation menu on the left with "MML Commands" expanded. The "Display RET Port(DSP RETPORT)" command is selected. The main content area shows the command execution results:

```
+++ 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 dropdown menu and a "Command (F5):" input field. The "Assist" and "Exec" buttons are visible next to the input field. The "Use Proxy MML" checkbox is also present.

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 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 interface includes a navigation menu on the left with "MML Commands" expanded to "ALD Maintenance" and "Modify RET Port(MOD RETP)". The main content area shows the execution results of the command `MOD RETPORT: CN=0, SRN=180, SN=0, PWRSWITCH=ON, THRESHOLDTYPE=RET_ONLY_MULTICORE;`. The results include a table of 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

Below the table, the command history shows the executed command: `MOD RETPORT: CN=0, SRN=180, SN=0, PWRSWITCH=ON, THRESHOLDTYPE=RET_ONLY_MULTICORE;`. The configuration form below the command history shows the following values:

- 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

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". The "ALD Maintenance" category is expanded, showing various commands such as "Scan ALD(SCN ALD)".

The main content area shows the execution of the "Scan ALD(SCN ALD)" command. The output is as follows:

```
Session ID = 65550
---  END
+++  BTS_77_21911_DLN      2021-03-10 16:45:05
O&M  #207
W&SCN 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.

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 records under the 'Operation Records (Alt+R)' tab. The table has columns for Device No, Control Port Subrack No, Device Name, RET Type, Scenario, Vendor Code, and Serial No. Below the table, there is a form for adding a new record, with fields for Device No, Control Port Cabinet No, Control Port Subrack No, Control Port Slot No, Device Name, RET Type, Antenna Scenario, Vendor Code, Serial No, and Antenna Form. The form is currently filled with values for a new record.

Device No	Control Port Subrack No	Device Name	RET	Operation	RET Type	Scenario	Vendor Code	Serial No.	Status	
181	181	CELL_77_21911_2_L18+CELL_77_21911_2_D	RET	SUCCESS	SINGLE_RET	MT	AU021K160662T--Y1	AIS02.0	UNCONFIGURED	1
0	182	CELL_77_21911_3_L18+CELL_77_21911_3_D	RET	SUCCESS	SINGLE_RET	MT	AU021K160662T--Y2	AIS02.0	UNCONFIGURED	1
0	182	CELL_77_21911_3_L18_2+CELL_77_21911_3_D_2	RET	SUCCESS	SINGLE_RET	MT	AU021K160662T--Y1	AIS02.0	UNCONFIGURED	1

Command History: [v] [←] [→]

Command (F5): ADD RET [Assist] [Exec] [Use Proxy MML]

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 user is logged in as "admin" with the status "Connected" and the time is "2021-3-10 17:05:00".

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". The "ALD Maintenance" section is expanded, showing various commands such as "Modify Antenna Port", "List Antenna Port", "Display Antenna Port", "Confirm TMA Connection", "Modify RET Port", "List RET Port", "Display RET Port", "Scan ALD", "Reset ALD", "Reset ALD Power Switch", "Download ALD Software", "Stop Scanning ALD", "Display ALD Version", "Add RET", "Remove RET", "Modify RET", "List RET", "Display RET", "Calibrate RET (CLB RET)", "Download RET Configuration", "Modify RET Subunit", "List RET Subunit", "Display RET Subunit", "Modify RET TMA", "Modify RET Device Data", "List RET Device Data", "Display RET Device Data", "Modify VRET Configuration", "List VRET Configuration", "Modify VRET Subunit", "List VRET Subunit", "Display VRET Subunit", "Add TMA", "Remove TMA", and "Modify TMA".

The main content area shows the "Common Maintenance (Alt+C)" tab. The command "CLB RET: OPMODE=SITE;" has been executed. The output shows the following details:

```
+++ 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 output, there are buttons for "Save Result", "Download Report", "Auto Scroll" (checked), and "Clear All (F6)". 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 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 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 MML command `MOD RETTILT: RETCLASS=RET, OPMODE=DEVICENO, DEVICENO=180, TILT=40, NW`. The results indicate a successful operation for device 180. Below the results, the command history 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.

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 ANTEI
 - 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 ALI
 - 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 RET TI
 - 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)

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.' and 'Test Mode', and a 'Txbranch Power Relative Value(0.1dB)' field. The interface also includes a 'Navigation Tree' on the left and a 'Settings' panel on the right.

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/framework/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 output includes a success message: "RETCODE = 0 - Operation succeeded." and a table of static parameters for 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

Below the table, the command history shows the command "LST CELL;" was entered and executed. The "Local Cell ID" field is currently empty.

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 section showing the execution of the command `ACT CELL: LocalCellId=11;` on 2021-03-10 at 17:32:24. The status is 'Operation succeeded' with a return code of 0.
- 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 options for 'Save Result', 'Download Report', 'Auto Scroll', and 'Clear All (F6)'. The Windows taskbar at the bottom shows the system time as 17:32 and the language as ENG.

Серийные номера оборудования.

Серийные номера RRU:

команда DSP RRUCHAINPHYTOPO;;

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=1615287616574`. The page title is "BTS5900-GL".

The interface includes a navigation tree on the left with categories such as File Management, Configuration Rights Management, Log Management, Security Management, and Equipment Management. The "Equipment Management" section is expanded to show "RRU Maintenance".

The main content area displays the command execution interface for the command `DSP RRUCHAINPHYTOPO;;`. The command history shows the command was entered and executed. The command input field contains `DSP RRUCHAINPHYTOPO`. The "Assist" and "Exec" buttons are visible. The "Use Proxy MML" checkbox is unchecked.

The "Extended Information" section shows the "Output Switch" set to "OFF(OFF)". A tooltip for the "Subrack No." parameter is displayed, indicating the parameter type is "Range" and the valid range is "0-1, (60-254)".

Below the command input, there are fields for "Cabinet No." and "Subrack No.". The "Subrack No." field is currently empty.

The "Common Maintenance (Alt+C)" tab is active, showing a table of maintenance records:

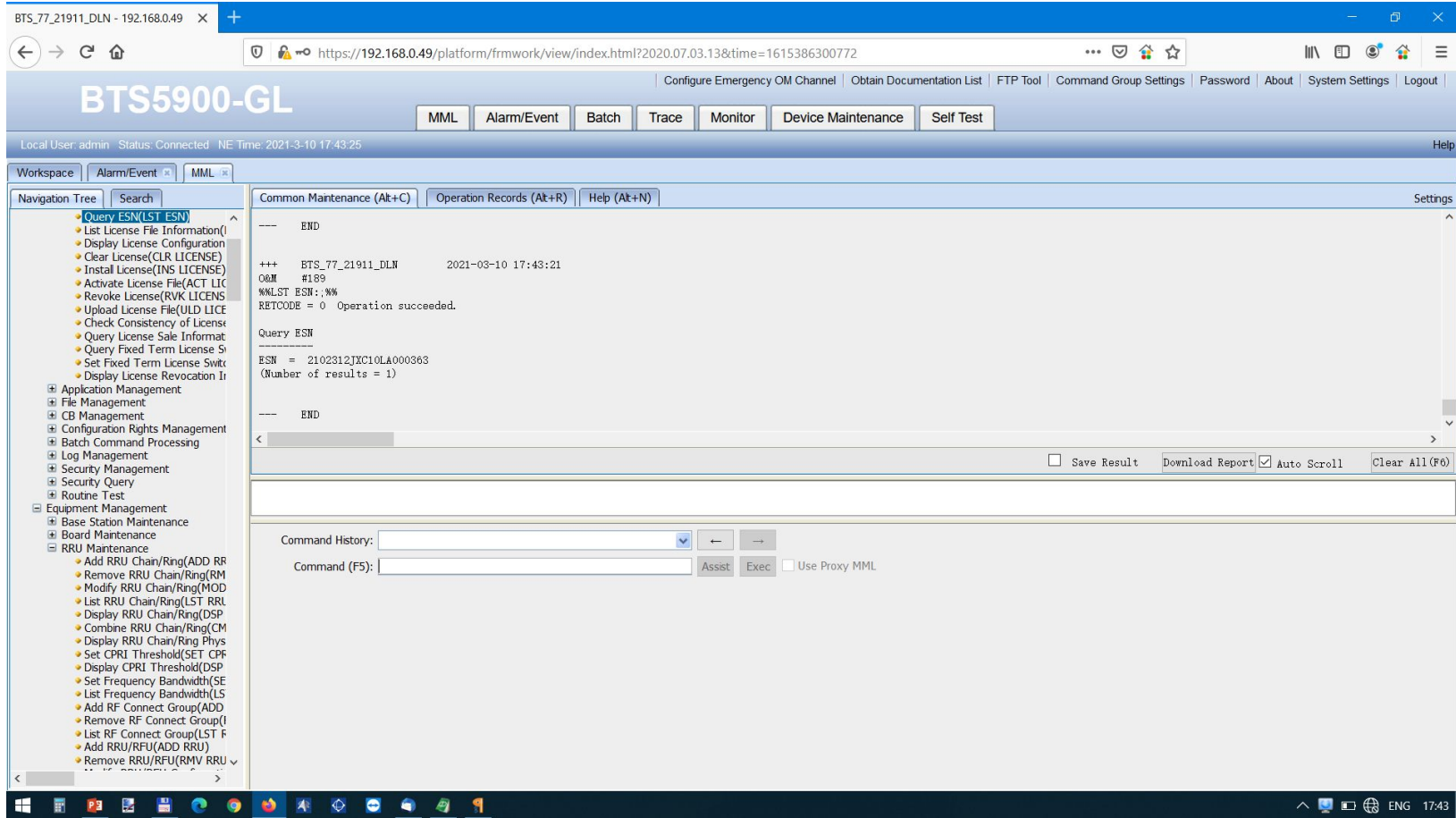
CHAIN	0	0	4	0	0	NULL	NULL	NULL	NULL	NULL
CHAIN	0	0	4	1	0	NULL	NULL	NULL	NULL	NULL

The "Operation Records (Alt+R)" tab is also active, showing a table of operation records:

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

Серийный номер VBU:

команда LST ESN::



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 header includes the title "BTS5900-GL" and navigation links such as "Configure Emergency OM Channel", "Obtain Documentation List", "FTP Tool", "Command Group Settings", "Password", "About", "System Settings", and "Logout".

The main workspace is titled "Alarm/Event" and "MML". The left navigation tree includes categories like "Query ESN(LST ESN)", "Application Management", "File Management", "Configuration Rights Management", "Batch Command Processing", "Log Management", "Security Management", "Security Query", "Routine Test", "Equipment Management", "Base Station Maintenance", "Board Maintenance", and "RRU Maintenance".

The main content area shows the execution of the "LST ESN" command. The terminal output is as follows:

```
--- END
+++ BTS_77_21911_DLN      2021-03-10 17:43:21
O&M #189
%%LST ESN:;%
RETCODE = 0 Operation succeeded.

Query ESN
-----
ESN = 2102312JXC10LA000363
(Number of results = 1)

--- END
```

Below the terminal output, there are controls for "Save Result", "Download Report", "Auto Scroll" (checked), and "Clear All (F6)". At the bottom, a "Command History" section includes a search dropdown, navigation arrows, and a "Command (F5):" input field with "Assist" and "Exec" buttons, and a "Use Proxy MML" checkbox.