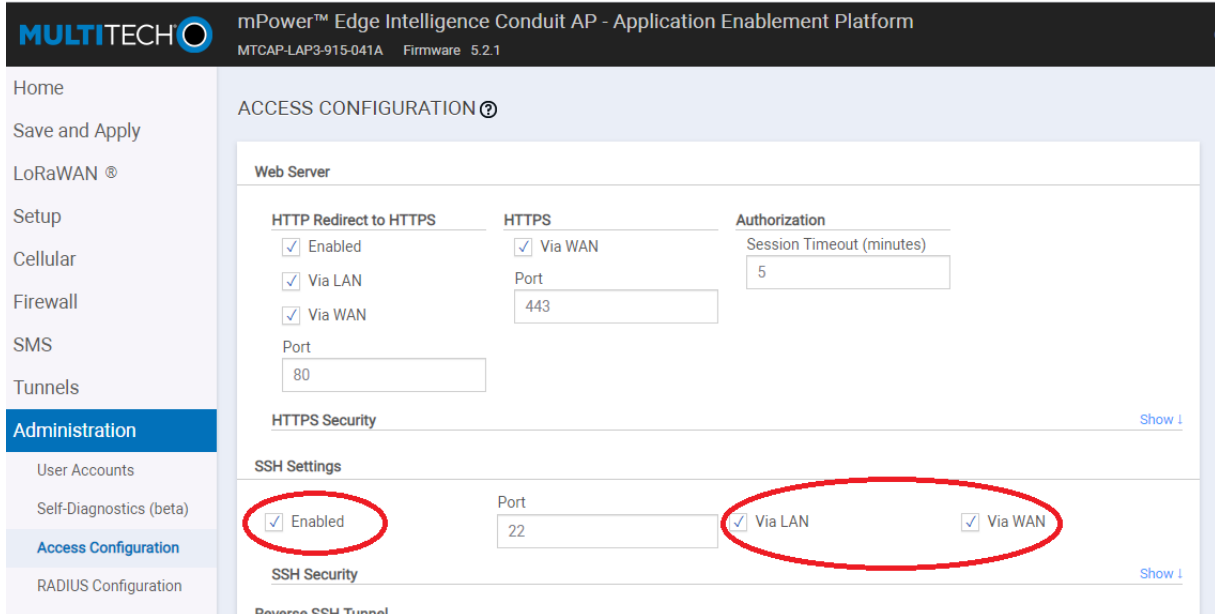


To use the MTCAP devices in AS923 with LBT, you will need to upgrade the FPGA from v.31

Upgrade the FPGA for MTCAP, you will need to SSH to the devices.

Change the Access configuration in the Conduit AP unit.



**MULTITECH** mPower™ Edge Intelligence Conduit AP - Application Enablement Platform  
MTCAP-LAP3-915-041A Firmware 5.2.1

Home  
Save and Apply  
LoRaWAN®  
Setup  
Cellular  
Firewall  
SMS  
Tunnels  
**Administration**  
User Accounts  
Self-Diagnostics (beta)  
Access Configuration  
RADIUS Configuration

**ACCESS CONFIGURATION**

**Web Server**

HTTP Redirect to HTTPS	HTTPS	Authorization
<input checked="" type="checkbox"/> Enabled	<input checked="" type="checkbox"/> Via WAN	Session Timeout (minutes)
<input checked="" type="checkbox"/> Via LAN	Port	5
<input checked="" type="checkbox"/> Via WAN	443	
Port		
80		

**HTTPS Security** [Show](#)

**SSH Settings**

<input checked="" type="checkbox"/> Enabled	Port	<input checked="" type="checkbox"/> Via LAN	<input checked="" type="checkbox"/> Via WAN
	22		

**SSH Security** [Show](#)

Reverse SSH Tunnel

Then using putty or other terminal program to SSH to the device

- 1) log in with your unique username and password after created in the commission mode
- 2) issue command `sudo -s` to enable the super user to access the root
- 3) Check the FPGA version by command  
`mts-fpga-loader -c`

```
Checking hardware compatibility
Found Valid Hardware: MTCAP-LORA-1.5
Valid FPGA version: 31
```

- 4) Stop the Network server by command

```
/etc/init.d/lora-network-server stop
```

```
Stopping lora-network-server: OK
```

5) Install the v33 FPGA by using command

```
mts-fpga-loader -i /usr/lib/mts-flash-binaries/mtcap-fpga-v33.hex
```

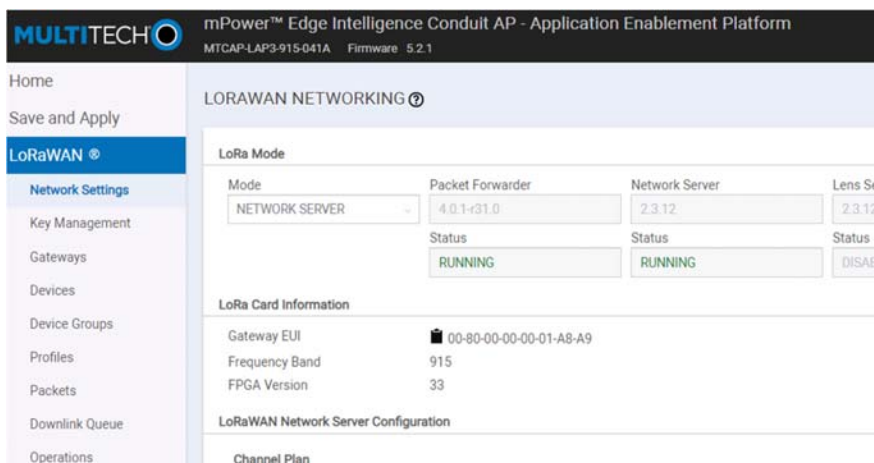
```
Checking hardware compatibility
Found Valid Hardware: MTCAP-LORA-1.5
Checking file /usr/lib/mts-flash-binaries/mtcap-fpga-v33.hex
File verified
Erasing flash
Programming flash
Write Complete. Resetting FPGA
Reading New FPGA configuration
Checking hardware compatibility
Found Valid Hardware: MTCAP-LORA-1.5
Valid FPGA version: 33
FPGA Upgrade Successful
```

6) Check again the FPGA version

```
mts-fpga-loader -c
```

```
Checking hardware compatibility
Found Valid Hardware: MTCAP-LORA-1.5
Valid FPGA version: 33
```

7) Reboot the machine and login again, then you will see it upgraded to V33



The screenshot shows the web interface for the MULTITECH mPower Edge Intelligence Conduit AP. The page title is "mPower™ Edge Intelligence Conduit AP - Application Enablement Platform" with subtext "MTCAP-LAP3-915-041A Firmware 5.2.1". The left sidebar contains navigation options: Home, Save and Apply, LoRaWAN (selected), Network Settings, Key Management, Gateways, Devices, Device Groups, Profiles, Packets, Downlink Queue, and Operations. The main content area is titled "LORAWAN NETWORKING" and displays the following configuration:

LoRa Mode			
Mode	Packet Forwarder	Network Server	Lens Ser
NETWORK SERVER	4.0.1-r31.0	2.3.12	2.3.12
Status	Status	Status	Status
RUNNING	RUNNING	RUNNING	DISABL

LoRa Card Information	
Gateway EUI	00-80-00-00-00-01-A8-A9
Frequency Band	915
FPGA Version	33

LoRaWAN Network Server Configuration	
Channel Plan	

```
192.168.2.1 - PuTTY
Session Special Command Window Logging Files Transfer Hangup ?
login as: elecomes
#####
#      mPower(TM) Edge Intelligence Conduit AP AEP      #
#####
elecomes@192.168.2.1's password:
Last login: Fri Aug 28 12:32:40 2020
elecomes@mtcap:~$ mts-fpga-loader -c
-bash: mts-fpga-loader: command not found
elecomes@mtcap:~$ sudo -s
Password:
root@mtcap:/var/config/home/elecomes# mts-fpga-loader -c
Checking hardware compatibility
Found Valid Hardware: MTCAP-LORA-1.5
Valid FPGA version: 31
root@mtcap:/var/config/home/elecomes# /etc/init.d/lora-network-server stop
Stopping lora-network-server: OK
root@mtcap:/var/config/home/elecomes# mts-fpga-loader -i /usr/lib/mts-flash-binaries/mtcap-fpga-v33.hex
Checking hardware compatibility
Found Valid Hardware: MTCAP-LORA-1.5
Checking file /usr/lib/mts-flash-binaries/mtcap-fpga-v33.hex
File verified
Erasing flash
Programming flash
Write Complete. Resetting FPGA
Reading New FPGA configuration
Checking hardware compatibility
Found Valid Hardware: MTCAP-LORA-1.5
Valid FPGA version: 33
FPGA Upgrade Successful
root@mtcap:/var/config/home/elecomes# mts-fpga-loader -c
Checking hardware compatibility
Found Valid Hardware: MTCAP-LORA-1.5
Valid FPGA version: 33
root@mtcap:/var/config/home/elecomes# █
```

00:10:50 Connected | SSH/22