dfs (Dynamic Frequency Selection)

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Description

Command is used to configure DFS (Dynamic Frequency Selection) radio interface function.

While scanning and choosing the best channel the DFS function also takes into consideration the radio environment "density" characteristic. This characteristic indicates how much impulse interference was detected on the channel during the scan time. The "density" measurement results are added into the system log with the other DFS scanning information.

The DFS configuration based on the principle "Leader/Client". "DFS Leader" is a unit which will perform frequency selection and radar detection functions (exp. base station sector). "DFS Client" is a unit that does not choose the frequency itself but follows "DFS Leader" frequency settings (exp. CPEs). In case of PtP link one unit should be configured as a "DFS Leader" and another one as a "DFS Client". It is recommended to set as a "DFS Leader" the unit that is working in worthier interference conditions.

Syntax:

NOTE

The command syntax may vary for different device models. Use the "help" command or the "?" symbol to view the syntax available for your device.

```
dfs IFNAME (dfsradar | dfsonly | dfsoff)
dfs IFNAME domain {row | etsi | etsi+ | fcc}
dfs IFNAME freq { auto |"frequency_list"}
dfs IFNAME cot hh:mm
dfs IFNAME newchannel | renewchannel | showmap
dfs IFNAME scansec <seconds>  [1]
dfs IFNAME rescan <minutes>
```

Parameters

Parameter	Description
interface_name	An interface to configure.
dfsonly	Enables DFS on the device. In DFS mode device selects the most interference-free frequency channel by scanning all available frequencies.
dfsradar	Enables DFS with radar detection. After choosing the most "clear" frequency channel the device listens to radars that may work on the specified frequency. In case of detecting the radar it starts frequency selection process again.
dfsoff	Disables DFS on the device.
domain	Allows to limit the frequencies available for scanning by selecting a predefined frequency domain set by the license.
freq { auto |" frequency_list"}	Sets frequency range allowable to DFS function. • *"frequency_list"* – range value in "XXXX-XXXX" form. • *"auto"* – allows DFS to use all frequencies supported by the device.

cot hh:mm	Allows to make rescanning and choosing the most optimal frequency for using on the daily basis in the defined time. The "*off*" parameter disables this function. • "*hh:mm"* – sets the time in hours and minutes.
newchannel | renewchannel	Allows to scan for the least noisy channel at the moment and set it as an operational: • *"newchannel"* – if the current frequency channel is the best, the device will keep it as operational. • *"renewchannel"* – the device will change the frequency channel even if the current one is the best, moving to the next one.
showmap	When InstantDFS is enabled, displays a table of interference at frequencies allowed for scanning.
scansec <seconds>	Sets the time that is spent on scanning each available frequency in seconds. By default is 1 second.
rescan <minutes>	Allows to set the time interval in minutes after which the device repeates scanning and switches to a freer frequency, if possible. For models with the Instant DFS module, switching occurs without breaking the link.

Examples

Set the unit as "DFS Leader".

By using "*mint*" command enable the "Roaming Leader" mode. For more information about the roaming settings see "Frequency roaming" subsection of the "*mint*" command.

```
mint rf5.0 roaming leader
```

Enable DFS (if not already started).

```
dfs rf5.0 dfsonly
```

Set the unit as "DFS Client".

Enable the "Roaming Profile" and start the roaming. For more information about the roaming settings see "Frequency roaming" subsection of the "*mint*" command.

```
mint rf5.0 profile –freq auto
mint rf5.0 roaming enable
```

Let's set the automatic frequency selection on the device with iDFS function.

```
dfs rf5.0 dfsonly
dfs rf5.0 freq auto
```

By default (if there is no "*freq auto*" command), the frequency selection will be performed within the frequency grid specified by the "*rf rf5.0 grid*" command. If a frequency range is specified instead of "*freq auto*", only those frequencies will be used.