

7.1.31.4.7 antenna-elevation

► *interface-config-radio-instance*

Configures an antenna's elevation gain. Antenna gain is the ratio of an antenna's radiation intensity in a given direction to the intensity produced by a no-loss, isotropic antenna radiating equally in all directions. An antenna's gain along the horizon and at an elevation of 30 degree may vary. The elevation gain is defined as the maximum antenna gain at 30 to 150 degrees above the horizon. If elevation gain is configured, the transmit (TX) power calculations maximize the allowable TX power for an elevation below 30 degree.

Access Points must conform to U.S. *Federal Communications Commission's* (FCC) limitations. FCC has now stipulated a 21dBm EIRP limit for power directed 30 degrees above the horizon.

For Zebra-supplied antennas, compatible with 5.0 GHz on the AP7562 access point, refer to the Antenna Guide for "Elevation Gain" information. If using a third-party antenna, it is required that you obtain the antenna-elevation gain information from the antenna manufacturer.

The elevation gain should be configured if the access point:

- Is deployed outdoors, and
- Is used with a dipole antenna (panel antenna and polarized antenna are for point to point only, and are excluded from this requirement), and
- Is transmitting in the 5.15 - 5.25 GHz *Unlicensed National Information Infrastructure-1* (UNII1) band.

Professional Installers must complete the following steps to ensure compliance with the FCC rule:

1. Configure the antenna type. For example:

```
ap7562-80C2AC(config-device-84-24-8D-80-C2-AC-if-radio2)#service antenna-type dipole
```

2. Configure the antenna peak gain. For example:

```
ap7562-80C2AC(config-device-84-24-8D-80-C2-AC-if-radio2)#antenna-gain 7.0
```

3. Configure the antenna placement. For example:

```
ap7562-80C2AC(config-device-84-24-8D-80-C2-AC-if-radio2)#placement outdoor
```

4. Configure the antenna elevation gain. For example:

```
ap7562-80C2AC(config-device-84-24-8D-80-C2-AC-if-radio2)#antenna-elevation 5.0
```

After the professional installer enters the antenna type, gain, placement, and elevation gain using the CLI as outlined above, the firmware will use this information and hardcoded maximum limits determined during testing (See Annex C in FCC Report #FR4D0448AB) to limit the EIRP below 21dBm for outdoor use in UNII-1 band. The antenna information is provided in the Installation guide and antenna guide.

Supported in the following platforms:

- Access Points — AP7562

Syntax

```
antenna-elevation <-30.0-15.0>
```



NOTE: The antenna elevation gain feature is supported only on the AP7562 model access point.

Parameters

- antenna-elevation <-30.0-15.0>

antenna-elevation <-30.0-15.0>	Configures the antenna elevation gain from -30.0 - 15.0 dB. Refer to the antenna specifications for antenna-elevation gain information. The default value is 0 dB.
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Examples

```
ap7562-80C2AC(config-device-84-24-8D-80-C2-AC-if-radio2)#antenna-elevation 5.0
```

```
ap7562-80C2AC(config-device-84-24-8D-80-C2-AC-if-radio2)#show context  
interface radio2
```

```
    antenna-elevation 5.0
```

```
ap7562-80C2AC(config-device-84-24-8D-80-C2-AC-if-radio2)#
```

Related Commands

<i>no</i>	Resets antenna elevation gain to default (0 dB)
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