

### Prediction of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = \frac{PG}{4\pi R^2}$$

<u>Equipment</u>	AirStation WZR-HP-G54
<u>Manufacturer</u>	Buffalo Inc.
<u>Antenna 1</u>	AI25P01-CA

where: S = power density

P = power input to the antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna

Maximum peak output power at antenna input terminal: 25.00 (dBm)

Maximum peak output power at antenna input terminal: 316.227766 (mW)

Antenna gain(typical): 2.6 (dBi)

Maximum antenna gain: 1.819700859 (numeric)

Prediction distance: 20 (cm)

Prediction frequency: 2440 (MHz)

MPE limit for uncontrolled exposure at prediction frequency: 1.00245043 (mW/cm<sup>2</sup>)

Power density at prediction frequency: **0.114480** (mW/cm<sup>2</sup>)

Maximum allowable antenna gain: **12.02332762** (dBi)

Margin of Compliance: **9.423327618**

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<u>Equipment</u>	AirStation WZR-HP-G54
<u>Manufacturer</u>	Buffalo Inc.
<u>Antenna 2</u>	WLE-HG-NDR

where: S = power density

P = power input to the antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna

Maximum peak output power at antenna input terminal: 25.00 (dBm)

Maximum peak output power at antenna input terminal: 316.227766 (mW)

Antenna gain(typical): 4.7 (dBi)

Maximum antenna gain: 2.951209227 (numeric)

Prediction distance: 20 (cm)

Prediction frequency: 2440 (MHz)

MPE limit for uncontrolled exposure at prediction frequency: 1.00245043 (mW/cm<sup>2</sup>)

Power density at prediction frequency: **0.185665** (mW/cm<sup>2</sup>)

Maximum allowable antenna gain: **12.02332762** (dBi)

Margin of Compliance: **7.323327618**

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<u>Equipment</u>	AirStation WZR-HP-G54
<u>Manufacturer</u>	Buffalo Inc.
<u>Antenna 3</u>	WLE-NDR-WR

where: S = power density

P = power input to the antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna

Maximum peak output power at antenna input terminal: 25.00 (dBm)

Maximum peak output power at antenna input terminal: 316.227766 (mW)

Antenna gain(typical): 2 (dBi)

Maximum antenna gain: 1.584893192 (numeric)

Prediction distance: 20 (cm)

Prediction frequency: 2440 (MHz)

MPE limit for uncontrolled exposure at prediction frequency: 1.00245043 (mW/cm<sup>2</sup>)

Power density at prediction frequency: **0.099708** (mW/cm<sup>2</sup>)

Maximum allowable antenna gain: **12.02332762** (dBi)

Margin of Compliance: **10.02332762**

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$$S = \frac{PG}{4\pi R^2}$$

Equipment  
Manufacturer  
Antenna 4

AirStation WZR-HP-G54  
Buffalo Inc.  
WLI-MYG

where: S = power density

P = power input to the antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna

Maximum peak output power at antenna input terminal: 25.00 (dBm)

Maximum peak output power at antenna input terminal: 316.227766 (mW)

Antenna gain(typical): 3.9 (dBi)

Maximum antenna gain: 2.454708916 (numeric)

Prediction distance: 20 (cm)

Prediction frequency: 2440 (MHz)

MPE limit for uncontrolled exposure at prediction frequency: 1.00245043 (mW/cm<sup>2</sup>)

Power density at prediction frequency: **0.154429** (mW/cm<sup>2</sup>)

Maximum allowable antenna gain: **12.02332762** (dBi)

Margin of Compliance: **8.123327618**

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<u>Equipment</u>	AirStation WZR-HP-G54
<u>Manufacturer</u>	Buffalo Inc.
<u>Antenna 5</u>	WLE-DA

where: S = power density

P = power input to the antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna

Maximum peak output power at antenna input terminal: 25.00 (dBm)

Maximum peak output power at antenna input terminal: 316.227766 (mW)

Antenna gain(typical): 4 (dBi)

Maximum antenna gain: 2.511886432 (numeric)

Prediction distance: 20 (cm)

Prediction frequency: 2440 (MHz)

MPE limit for uncontrolled exposure at prediction frequency: 1.00245043 (mW/cm<sup>2</sup>)

Power density at prediction frequency: **0.158027** (mW/cm<sup>2</sup>)

Maximum allowable antenna gain: **12.02332762** (dBi)

Margin of Compliance: **8.023327618**