



IMPORTANT

If an outdoor antenna is connected, make sure the system is always grounded to allow for protection against voltage surge and built-up static charges. Outdoor antennas should always be located away from power lines.

DAMAGE REQUIRING SERVICE

This product should be serviced by qualified service personnel when:

- Objects have fallen, or liquid has been spilled into the product; or
- The product has been exposed to rain or moisture; or
- The product does not appear to operate normally or exhibits a marked change of performance; or
- The product has been dropped, or the cabinet damaged.

RF EXPOSURE

ATTENTION!



To satisfy FCC/IC RF exposure requirements, a separation distance specified in Table 1 or more should be maintained between the antenna of this device and persons. To ensure compliance, operations at closer than this distance is not allowed.

RADIO OPERATOR



Futurecom requires the OCR operator to ensure FCC Requirements for Radio Frequency Exposure are met. The minimum distance between all possible personnel and the antenna must be as specified in Table 1.

FAILURE TO OBSERVE THE MPE DISTANCE EXCLUSION AREA AROUND THE ANTENNA MAY EXPOSE PERSONS WITHIN THIS AREA TO RF ENERGY ABOVE THE FCC EXPOSURE LIMIT FOR BYSTANDERS (GENERAL POPULATION). IT IS THE RESPONSIBILITY OF THE OCR OPERATOR TO ENSURE THAT MPE LIMITS ARE OBSERVED AT ALL TIMES DURING REPEATER TRANSMISSIONS. THE OCR OPERATOR MUST ENSURE AT ALL TIMES THAT NO PERSON COMES WITHIN MPE DISTANCE FROM THE ANTENNA.

ATTENTION!



To satisfy FCC/IC RF exposure requirements, the OCR site operator must comply with FCC/IC requirements for maximum site EIRP radiated power and antenna height limits.

Antenna Gain	dBi	0	2.15	5.15	8.15	11.15	14.15	17.15
	dBd	-2.15	0	3	6	9	12	15
Antenna RF Power								
1 W		18	23	33	46	64	91	128
5 W		40	51	72	102	144	203	286
10 W		57	72	102	144	203	286	404
15 W		69	88	125	176	248	351	495
20 W		80	102	144	203	287	405	571
25 W		89	114	161	227	320	452	639
30 W		98	125	176	249	351	496	700
37.3 W		109	139	196	277	391	552	780

TABLE 1 OCR UHF MPE Safe Distances in cm for Various Antenna Gains

Antenna Gain	dBi	0	2.15	5.15	8.15	11.15	14.15	17.15
	dBd	-2.15	0	3	6	9	12	15
Antenna RF Power								
1 W		13	16	23	32	44	63	88
5 W		28	35	50	70	99	139	197
10 W		39	50	70	99	139	197	278
15 W		48	61	86	121	171	241	340
20 W		55	70	99	140	197	278	393
25 W		61	78	111	156	220	311	439
30 W		67	86	121	171	241	340	481
37.3 W		75	96	135	190	269	379	536

TABLE 2 OCR 800 MPE Safe Distances in cm for Various Antenna Gains

If the antenna gain is not listed in Table 1 and Table 2, the MPE Safe Distance is calculated as follows:

Calculation Method for RF Safety Distance r:

$$S = PG/4\pi r^2 = EIRP/4\pi r^2$$

Where: P: power input to the **antenna** in mW.
 EIRP: Equivalent (effective) isotropic radiated power in mW.
 S: power density mW/cm².

G: numeric gain of antenna relative to isotropic radiator.
r: distance to centre of radiation in cm.

RF EXPOSURE DISTANCE LIMIT: $r = (PG/4\pi S)^{1/2} = (EIRP/4\pi S)^{1/2}$

For General Population/ Uncontrolled Exposure:

$S = 0.2 \text{ mW/cm}^2$ for frequency range of 30MHz – 300MHz.

$S = f/1500$ in mW/cm^2 for frequency range of 300MHz – 1500MHz. f is the minimum used frequency in MHz.

As an example, let us consider a case of minimum frequency $f = 380\text{MHz}$, RF power $P = 37.3\text{W}$ and an antenna with gain of 2.15dBi:

$P = 37300 \text{ mW} = 10 \log(37300) \text{ dBm} = 45.717 \text{ dBm}$

$EIRP = P + G \text{ in dBm} = 45.717 \text{ dBm} + 2.15\text{dB} = 47.867 \text{ dBm} = 10^{(47.867/10)} = 61194\text{mW}$

$S = 380/1500 \text{ mW/cm}^2$

For General Population/bystanders: $r = (EIRP/4\pi S)^{1/2} = (61194/4\pi(380/1500))^{1/2} = 138.64\text{cm}$.

The MPE safe distance is therefore at least 139cm (54.73”).



ATTENTION!

The MOBEXCOM DVRS Repeater must be restricted to occupational use only to satisfy FCC RF Exposure requirements.

FCC Label

This device complies with Part 15 of the FCC Rules.
Operation is subject to the following two conditions:
1) This device may not cause harmful interference, and
2) This device must accept any interference received,
including interference that may cause undesired
operation.

RF Exposure Label

 <p>ATTENTION</p>	<p>Restricted to occupational use to satisfy FCC RF exposure limits. See user manual for operating requirements.</p>
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