

R.F Exposure/Safety Calculation for CMP3000-B40-2300-2400 MHz

The E.U.T. is pole mounted.

Calculation of Maximum Permissible Exposure (MPE)

Based on Section 1.1307(b)(1) Requirements

(a) FCC limit at 2300-2400 MHz is: $1 \frac{mW}{cm^2}$

Using table 1 of Section 1.1310 limit for general population/uncontrolled exposures, the above level is an average over 30 minutes.

(b) The power density produced by the E.U.T. is

$$S = \frac{P_t G_t}{4\pi R^2} \quad R = \sqrt{\frac{P_t G_t}{4\pi S}}$$

P_t - Transmitted Peak Power (worst case)

G_t - Antenna Gain, dBi

R - Distance from Transmitter

S - MPE =1

(c) The calculated minimum distance between the EUT antenna and the general public is:

Modulation	BW	Operation Freq	MIMO Pt	MIMO Pt	Antenna Type	G _T	G _T	R	S
	(Hz)	(MHz)	(dBm)	(mW)		(dBi)	numeric	(cm)	(mW)
QPSK	5M	2307.5	46.07	40458	External	15.6	36.3	390	0.768373
	5M	2312.5	45.97	39537	External	15.6	36.3	390	0.750881
	10M	2310.0	45.97	39537	External	15.6	36.3	390	0.750881
	5M	2352.5	45.97	39537	External	15.6	36.3	390	0.750881
	5M	2357.5	45.92	39084	External	15.6	36.3	390	0.742278
	10M	2355.0	46.05	40272	External	15.6	36.3	390	0.76484

Modulation	BW	Operation Freq	MIMO Pt	MIMO Pt	Antenna Type	G _T	G _T	R	S
	(Hz)	(MHz)	(dBm)	(mW)		(dBi)	numeric	(cm)	(mW)
16QAM	5M	2307.5	45.97	39537	External	15.6	36.3	390	0.750881
	5M	2312.5	45.90	38905	External	15.6	36.3	390	0.738878
	10M	2310.0	46.02	39995	External	15.6	36.3	390	0.75958
	5M	2352.5	45.92	39084	External	15.6	36.3	390	0.742278
	5M	2357.5	45.90	38905	External	15.6	36.3	390	0.738878
	10M	2355.0	46.38	43451	External	15.6	36.3	390	0.825215

Modulation	BW	Operation Freq	MIMO Pt	MIMO Pt	Antenna Type	G _T	G _T	R	S
	(Hz)	(MHz)	(dBm)	(mW)		(dBi)	numeric	(cm)	(mW)
64QAM	5M	2307.5	46.07	40458	External	15.6	36.3	390	0.768373
	5M	2312.5	45.97	39537	External	15.6	36.3	390	0.750881
	10M	2310.0	45.25	33497	External	15.6	36.3	390	0.63617
	5M	2352.5	45.95	39355	External	15.6	36.3	390	0.747425
	5M	2357.5	45.95	39355	External	15.6	36.3	390	0.747425
	10M	2355.0	45.20	33113	External	15.6	36.3	390	0.628878