Exhibit 13

RF Exposure

13.1 Determination of Need for Routine Environmental Evaluation for RF Exposure per §2.1091(c)

It is the view of MCC that the MCC-61201001 is not subject to routine environmental evaluation for RF exposure. While it is intended for use in Part 90 applications, it is not designed for use in the Specialized Mobile Radio Service.

13.2 RF Exposure Calculations

The MCC-61201001 transmitter operates in three (3) frequency bands: 39-50 MHz, 151-162 MHz, and 2412-2462 MHz. Per Figure 1 of OET Bulletin 65, the FCC limit for Maximum Permitted Exposure (MPE) in an Occupational/Controlled Exposure environment to the power densities, S:

S = 1mW/cm^2 for the frequency range of 30-300 MHz,
S = f/300 mW/cm^2 for the frequency range of 300-1500 MHz,
S = 5mW/cm^2 for the frequency range of 1500-3000 MHz,

where f is expressed in MHz.

The FCC power density limits for each of the subject transmit bands are expressed below.

Frequency Band (MHz)	MPE Power Density Limit (mW/cm^2)
39 - 50	1.0
151 - 162	1.0
896 - 901	3.0
935 - 940	3.1
2412 - 2462	5.0

Note: A discussion of this subject as pertains to 896-901MHz and 935-940MHz is included here as the *RF Exposure Information* page from the Operators Manual will be common to all MCC-6100 variants and some versions of the 6100 family include these bands.

The minimum separation required between a human and an antenna connected to an active antenna can be determined by use of the power density expression:

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

Where: S = power density in mW/cm^2
P = RF power into the antenna in mW
G = antenna gain (unitless, linear)
R = separation/distance between antenna and point of interest in cm

Solved for R, the formula becomes:

$$R = \sqrt{\frac{PG}{4\pi S}}$$

The charts below shows the maximum transmit power levels, duty cycles, maximum power densities and R, the calculated minimum human separation for each band. Several example antenna types are shown. Antenna gains shown are relative to an isotropic radiator.

For 39-50MHz		with 1/4wave dipole mounted to roof or fender of automobile		5-element yagi mounted to top of fixed antenna tower		half wave dipole mounted to fixed antenna tower leg	
		mW	dBm	mW	dBm	mW	dBm
Transmitter power		100000	50	100000	50	100000	50
120% of peak transmit power		120000		120000		120000	
max duty cycle		10.00%		10.00%		10.00%	
Time averaged max peak power	P	12000		12000		12000	
antenna gain (lin/dB)	G	1.64	2.15	10.00	10	3.31	5.2
max power density, mW/cm2, limit per Fig 1 OET65	S	1.00		1.00		1.00	
R=sqrt(P*G/4*pi*S), cm		39.58		97.72		56.23	
Maximum separation between humans and transmit antenna		39.6 cm		97.7 cm		56.2 cm	
		15.6 in.		38.5 in.		22.1 in.	

For 151-162 MHz		with 1/4wave dipole mounted to roof or fender of automobile		5-element yagi mounted to top of fixed antenna tower		half wave dipole mounted fixed antenna tower leg	
		mW	dBm	mW	dBm	mW	dBm
Transmitter power		30000	44.8	30000	44.8	30000	44.8
120% of peak transmit power		36000		36000		36000	
max duty cycle		50%		50%		50%	
Time averged max peak power	P	18000		18000		18000	
antenna gain (lin/dB)	G	1.64	2.15	13.65	11.35	2.85	4.55
max power density, mW/cm2, limit per Fig 1 OET65	S	1.00		1.00		1.00	
R=sqrt(P*G/4*pi*S), cm		48.48		139.81		63.90	
Maximum separation between humans and transmit antenna		48.5 cm		139.8 cm		63.9 cm	
		19.1 in.		55.0 in.		25.2 in.	

For 896 - 901 MHz		1/4wave dipole mounted to roof or fender of automobile		6-element yagi mounted to top of fixed antenna tower		5/8wave over a 1/4wave colinear mounted to roof or fender of automobile	
		mW	dBm	mW	dBm	mW	dBm
Transmitter power		30000	44.8	30000	44.8	30000	44.8
120% of peak transmit power		36000		36000		36000	
max duty cycle		50%		50%		50%	
Time averged max peak power	P	18000		18000		18000	
antenna gain (lin/dB)	G	1.64	2.15	13.03	11.15	3.27	5.15
max power density, mW/cm2, limit per Fig 1 OET65		3.00		3.00		3.00	
R=sqrt(P*G/4*pi*S), cm		27.99		78.88		39.53	
Maximum separation between humans and transmit antenna		28.0 cm		78.9 cm		39.5 cm	
		11.0 in.		31.1 in.		15.6 in.	

For 935 - 940 MHz		1/4wave dipole mounted to roof or fender of automobile		6-element yagi mounted to top of fixed antenna tower		5/8wave over a 1/4wave colinear mounted to roof or trunk of automobile	
		mW	dBm	mW	dBm	mW	dBm
Transmitter power		20000	43.0	20000	43.0	20000	43.0
120% of peak transmit power		24000		24000		24000	
max duty cycle		50%		50%		50%	
Time averged max peak power	P	12000		12000		12000	
antenna gain (lin/dB)	G	1.64	2.15	13.03	11.15	3.27	5.15
max power density, mW/cm2, limit per Fig 1 OET65		3.00		3.00		3.00	
R=sqrt(P*G/4*pi*S), cm		22.85		64.41		32.28	
Maximum separation between humans and transmit antenna		22.9	cm	64.4	cm	32.3	cm
		9.0	in.	25.4	in.	12.7	in.

For 2412-2462 MHz		3dBi antenna	
		mW	dBm
Transmitter power		32.66	15.1
120% of peak transmit power		39	
max duty cycle		100%	
Time averged max peak power	P	39	
antenna gain (lin/dB)	G	1.64	2.15
max power density, mW/cm2, limit per Fig 1 OET65	S	3.00	
R=sqrt(P*G/4*pi*S), cm		1.31	
Maximum separation between humans and transmit antenna		1.3 cm	
		0.5 in.	

13.3 Summary and Discussion

The above calculations result in values of separation that are incorporated into the *RF Exposure Information* included in the User Manual. Note the 896-901MHz and 935-940MHz bands share a single antenna (Note: unused on MCC-61201001). Since the band

896-901 MHz operates at a higher power, calculations for that band result in more restrictive separations and therefore its figures will be used in the Manual.

For 2412-2462 MHz, the EUT will only be used with a separation of **20cm** or greater between the antenna and any nearby persons and can therefore be considered a mobile transmitter per 47CFR2.1091(b).

The *RF Exposure Information* page from the Manual is included here for reference.

Important Safety Instructions for Installers and Users
RF Exposure Information

In order to comply with Federal Communications Commission safety standards for human exposure to radio frequency (RF) energy, the following precautions must be taken:

- Mount each antenna connected to the transmitter at a location such that, during transmission, no person or persons can come within the minimum separation distance specified in the chart below.

Frequency Band Antenna	Antenna type	maximum duty cycle	minimum separation distance	
			cm	in
39 - 50 MHz	1/4 wave dipole mounted to roof of vehicle	10.00%	45	17.7
151 - 162 MHz	1/4 wave dipole mounted to roof of vehicle	50.00%	50	19.7
896-901MHz/935-940 MHz	1/4 wave dipole mounted to roof of vehicle	50.00%	30	11.8
896-901MHz/935-940 MHz	5/8 wave over 1/4 wave colinear mounted to roof of vehicle	50.00%	45	17.7
2412 - 2462 MHz	3 dBi	100.00%	20	7.9

- Install all antennas in accordance with manufacturer’s instructions.

- Always disable the transmitter when installing or servicing an antenna or transmission line.

- Mobile antennas may be installed at the center of a vehicle roof or trunk as long as the minimum separation distance is observed.

- Base antennas should be installed on permanent outdoor structures. RF Exposure compliance at such sites must be addressed on a site-by-site basis.

When these precautions are taken, an installation with this device satisfies the requirements for an Occupational/Controlled Exposure environment, per OET Bulletin 65.