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December 14, 2010

Grand Alarms
9000 Keele St.
Suite 12
Vaughan, ON
L4K 0B3

Re: NIR Measurements of 220 MHz Transmitter and Antenna Configurations

To Whom it May Concern,

AZCAR performed detailed NIR measurement testing of transmitter and antenna configurations on November 5, 2010; at the Grand alarms offices in Vaughan, ON. Specifically, the tests were conducted in order to measure the RF energy levels emitted at different transmitter output power levels while using various antenna configurations. The results were then compared to the RF exposure limits for the General Public (*uncontrolled access*) as outlined in Health Canada's Safety Code 6 (version 99-EHD-237).

The following equipment was used in different configurations during the NIR measurement testing:

- Deluxe Telephone model DTM-6 (6W) transmitter set at 220MHz
- Deluxe Telephone model DTM-25 (30W) transmitter set at 220MHz
- Radial Larson dipole (whip) antenna
- MFJ dipole (whip) antenna
- Comet dipole (whip) antenna

The various transmitter and antenna configurations were set up in an otherwise RF-free environment, using a non-conductive stand to hold the system with the antenna in a vertical orientation at an elevation of 1.5m. This setup emulates the usual operating orientation and position of the system equipment.

The following NIR measurement equipment was used to obtain RF data:

~~Manufacturer~~	~~Instrument Description/Details~~
Narda	Digital RF Meter- Model: 8718B (s/n 1521)
	Isotropic Shaped E-Field Probe- Model: 8762D (s/n 110001)

All NIR measurements recorded were obtained using the spatial averaging technique as

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Several spatially averaged readings were obtained at various radial distances within 2m of the radiating antenna(s) with the Deluxe Telephone transmitter(s) operating at 6W and 30W output power levels at a frequency of 220MHz. The spatially averaged measurements observed ranged from 13.6% to 500% of the Safety Code 6 RF energy exposure limits for the General Public (*uncontrolled access*). The measurements are documented in "Appendix 1" attached to this letter.

In summary, from the NIR measurement data obtained we can confirm the following:

- In terms of Safety Code 6 and RF exposure limits, the 220MHz system operating at 6W transmitter output power in the configurations tested, does not produce NIR in excess of the General Public (*uncontrolled access*) exposure limits at distances greater than 0.25m from the antenna.

- In terms of Safety Code 6 and RF exposure limits, the 220MHz system operating at 30W transmitter output power in the configurations tested, does not produce NIR in excess of the General Public (*uncontrolled access*) exposure limits at distances greater than 0.45m from the antenna.

Based on the NIR measurements obtained, we can certify that in terms RF exposure limits, all areas beyond 0.25m and 0.45m from the operating antennas while connected to the 6W and 30W transmitters respectively, are in compliance with Health Canada's Safety Code 6 (version 99-EHD-237) guidelines for occupancy by the General Public (*uncontrolled access*) and as such therefore, there is no associated health or safety risk associated with the occupancy of these areas.

Regards,

AZCAR Technologies Incorporated
Steven Sir, P.Eng, Manager Business Development Canada

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Appendix 1

NIR Measurements v. Distance for Various 220MHz Transmitter/Antenna Configurations

Antenna Manufacturer	Antenna Model	Antenna Type	Transmitter Manufacturer	Transmitter Model	Transmitter Frequency (MHz)	Transmitter Power (Watts)	Measurement Distance From Antenna (m)	Power Density Measurement (% of GP, SC6)
Radial Larson	NMO 220	dipole	Deluxe Telephone	DTM-6	220	6	1	13.60%
Radial Larson	NMO 220	dipole	Deluxe Telephone	DTM-6	220	6	0.2	100%
Radial Larson	NMO 220	dipole	Deluxe Telephone	DTM-6	220	6	0.1	500%
Radial Larson	NMO 220	dipole	Deluxe Telephone	DTM-25	220	30	1	36.50%
Radial Larson	NMO 220	dipole	Deluxe Telephone	DTM-25	220	30	0.35	100%
Radial Larson	NMO 220	dipole	Deluxe Telephone	DTM-25	220	30	0.23	500%
MFJ	MFJ-1752	dipole	Deluxe Telephone	DTM-6	220	6	1	14.00%
MFJ	MFJ-1752	dipole	Deluxe Telephone	DTM-6	220	6	0.25	100%
MFJ	MFJ-1752	dipole	Deluxe Telephone	DTM-6	220	6	0.1	500%
MFJ	MFJ-1752	dipole	Deluxe Telephone	DTM-25	220	30	1	76.50%
MFJ	MFJ-1752	dipole	Deluxe Telephone	DTM-25	220	30	0.45	100%
MFJ	MFJ-1752	dipole	Deluxe Telephone	DTM-25	220	30	0.23	500%
Comet	CA-Super 22	dipole	Deluxe Telephone	DTM-6	220	6	1	21.00%
Comet	CA-Super 22	dipole	Deluxe Telephone	DTM-6	220	6	0.25	100%
Comet	CA-Super 22	dipole	Deluxe Telephone	DTM-6	220	6	0.05	250%
Comet	CA-Super 22	dipole	Deluxe Telephone	DTM-25	220	30	1	13.60%
Comet	CA-Super 22	dipole	Deluxe Telephone	DTM-25	220	30	0.45	100%
Comet	CA-Super 22	dipole	Deluxe Telephone	DTM-25	220	30	0.15	500%

Note:

All NIR measurements were obtained in %'s of the General Public (uncontrolled access) RF energy exposure limits