RF Exposure REPORT

Company:	Williams Enterprises 1714 Hwy. 14 West Carmi, IL 62821
Contact:	David Camp
Product:	Watchfire Remote Video Web Server
FCC ID:	WK2-WFV100
Test Report No:	RFE121808-01
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RF Exposure Calculations:
The minimum separation distance is calculated from FCC OET 65 Appendix B, Table 1B
"Guidelines for General Population/Uncontrolled Exposure." This calculation is based
on the highest EIRP possible from the system, considering maximum power and antenna
gain.

RF Power Measurement
The RF output of the transceiver was connected to a power sensor and power meter.
Measurements were made with the transmitter continuously active. The highest power
settings were chosen from the 2.4GHz and the 5.7GHz bands

Frequency (GHz)	Output Power dBm	Output Power mW
2.437	21.57	143.55

Test Equipment Used

DESCRIPTION AND MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CALIBRATION DATE
Hewlett Packard Power Meter	4378	100307	20 Jan 2009
Hewlett Packard Power Sensor	8481A	2702A63981	20 Jan 2009

Test Environment
Testing was performed at the NCEE Labs Lincoln facility. Laboratory environmental
conditions varied slightly throughout the test:
    Relative humidity of $40 \pm 5\%$
    Temperature of $20 \pm 2°$ Celsius

Exposure Limit (mW/cm^2) = F/1200	2.03
Frequency (MHz)	2437
Maximum peak output power (mW)	143.55
Antenna Gain (Numeric)	1.5
Antenna type	Dipole

$$P_d = (P_{out} \times G) / (4\pi \times R^2)$$

$$R = \sqrt{(P_{out} \times G) / (4\pi \times P_d)}$$

P_d = Power density limit, mW/cm^2
P_{out} = Peak power output, mW

G =Numeric Antenna Gain
R = Distance from antenna, cm

P_{out} mW	G Numeric	P_d mW/cm^2	R cm	Frequency MHz	Calculation
143.55	1.5	2.03	**2.91**	2437	Minimum distance to meet limit
143.55	1.5	**0.04**	20.0	2437	Power density at 20 cm

Notes:
1. The minimum safe distance is based on a conservative "worst case" prediction, i.e. using the formula shown above and no duty factor. In practice the minimum distance will be much shorter. (Ref. 2)

References:
1. FCC OET Bulletin 65, Edition 97-01
2. FCC Supplement C to OET Bulletin 65, edition 01-01
3. IEEE C95.1, 1999