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Client: M/A COM, Inc.
Model: M7100^(IP) Mobile Radio
Standard: FCC Part 90
FCC ID: OWDTR-0042-E
Report Number: 2006055

Appendix A: RF Exposure Compliance

The antennas to be used with this mobile radio are those listed in this test report. MPE separation distances apply and are shown in the MPE calculation exhibits. Those values are listed in the Operators Manual as well as in the Installation Manual.



Electronics

M/A-COM

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Mobile Radio MPE Evaluation Report
(Five antennas)

FCC Rule Part: 47 CFR §90; §2.1091; §1.1310
Device Classification: Licensed Non-Broadcast Station Transmitter (TNB)
Device Type: Mobile UHF PTT Radio Transceiver with Vehicle Rooftop Antenna
FCC ID: OWDTR-0042-E
Model Name: M7100 (IP)
Modulation: FM
Tx Frequency Range: 450 - 470 MHz
Max. RF Conducted Power: 100 W (nominal/rated or lab report value, times 1.2; § 90.205(r))
Power Supply: 12 VDC
Antenna Type: Quarter wave vertical (P/N AN102800V1, AN-025158-001, AN-025158-005, AN-025158-009, AN-025158-011)
Antenna Gain: 2.15 dbi
Minimum Antenna Distance: 72 cm Limits for Occupational/Controlled Exposure.
162 cm Limits for General Population/Uncontrolled Exposure.

Calculation

$$S = \frac{PG}{4\pi R^2} \quad \text{therefore: } R = \sqrt{\frac{PG}{4\pi S}}$$

Where: S – power density (mW/cm²; as defined in 47 CFR § 1.1310), P – power input to antenna at 50% duty cycle (in mW), G – power gain of the antenna relative to isotropic (numeric value, not db), R – distance to center of antenna (result in cm).

S = 1.5/.3 (Controlled/Uncontrolled) at Tx frequency 450 MHz (frequency when applicable).

Calculated controlled distance: 72.251 cm

Calculated uncontrolled distance: 161.559 cm

Daryl Popowitch
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