



Electronics

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Mobile Radio MPE Evaluation Report
(One antenna)

Declaration of Compliance

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-0020-E
Model Name:	M7100 (IP)
Modulation:	FM
Tx Frequency Range:	378 - 430 MHz
Max. RF Conducted Power:	64.8 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)
Antenna Gain:	2.15 dbi
Minimum Antenna Distance:	57.93 cm Limits for Occupational/Controlled Exposure. 129.5 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).

$S = 1.26/.252(\text{Controlled}(f/300)/\text{Uncontrolled}(f/1500))$ at Tx frequency 378 MHz (frequency when applicable).

Calculated controlled distance: 57.93 cm

Calculated uncontrolled distance: 129.5 cm

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