



Vehicle Application - Mobile Radio MPE Evaluation Report

Declaration of Compliance

FCC Rule Part:	47 CFR §90; §2.1091; §1.1310
Device Classification:	Licensed Non-Broadcast Station Transmitter (TNB)
Device Type:	Mobile VHF PTT Radio Transceiver with Vehicle Rooftop Antenna
FCC ID:	AQZ-XG-100M00
Model Name:	Unity Multiband mobile radio
Modulation:	FM
Tx Frequency Range:	136 – 174 MHz
Max. RF Conducted Power:	63.0 W (nominal/rated or lab report value, times 1.2; § 90.205(s))
Power Supply:	12 VDC
Antenna Type:	Multiband quarter wave vertical (Harris P/N 12099-0310-01)
Antenna Gain:	3.1 dbi
Minimum Antenna Distance:	72 cm Limits for Occupational/Controlled Exposure. 160 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/.2 (Controlled/Uncontrolled) at Tx frequency 136 MHz.

Calculated controlled distance: 71.540232 cm

Calculated uncontrolled distance: 159.96882 cm

Daryl Popowitch
Regulatory Manager,