



HARRIS CORPORATION

**221 Jefferson Ridge Parkway
Lynchburg, VA 24501
www.harris.com**

Vehicle Application - Mobile Amplifier 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-100LPA
Model Name:	Unity VHF Low Band Mobile Amplifier
Modulation:	FM
Tx Frequency Range:	33 – 48 MHz
Max. RF Conducted Power:	120.0 W (nominal/rated or lab report value, times 1.2; § 90.205(s))
Power Supply:	13.6 VDC
Antenna Type:	Mobile Antenna 30 – 35 MHz (Harris P/N AN-025127-101) Mobile Antenna 34 – 37 MHz (Harris P/N AN-025127-102) Mobile Antenna 37 – 40 MHz (Harris P/N AN-025127-103) Mobile Antenna 40 – 47 MHz (Harris P/N AN-025127-104) Mobile Antenna 45 – 48 MHz (Harris P/N AN-025127-105) Mobile Antenna 47 – 50 MHz (Harris P/N AN-025127-106)
Antenna Gain:	2.15 dBi
Minimum Antenna Distance:	97.0 cm Limits for Occupational/Controlled Exposure. 217.0 cm Limits for General Population/Uncontrolled Exposure.



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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 33 MHz.

Calculated controlled distance: 97.0 cm

Calculated uncontrolled distance: 217.0 cm

William H. Pertner
Regulatory Manager