



Electronics

M/A-COM

M/A-COM, Inc.
221 Jefferson Ridge Parkway
Lynchburg, VA 24501

Telephone: 434.455.9527
FAX: 434.455.6851
popowitda@tycoelectronics.com
www.macom.com

Motorcycle Radio MPE Evaluation Report

(Two of four antennas)

Declaration of Compliance

FCC Rule Part:	47 CFR §90; §2.1091; §1.1310
Device Classification:	Licensed Non-Broadcast Station Transmitter (TNB)
Device Type:	UHF PTT Radio Transceiver with Motorcycle Mount and Antenna
FCC ID:	OWDTR-0021-E
Model Name:	M7100 (IP)
Modulation:	FM
Tx Frequency Range:	450 - 512 MHz
Max. RF Conducted Power:	25 W (factory configured for motorcycle applications; 1.05 multiplier)
Power Supply:	12 VDC
Antenna Type:	Loaded 5/8 over half wave vertical (P/N LE-OM470BK/TNC)
Antenna Gain:	5.5 dBi (3.55 numeric)
Minimum Antenna Distance:	48.59 cm Limits for Occupational/Controlled Exposure. 109.36 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 = 1.57/.31 (Controlled/Uncontrolled) at Tx frequency 470 MHz (frequency when applicable).

Calculated controlled distance: 48.59 cm

Calculated uncontrolled distance: 109.36 cm

Daryl Popowitch
Regulatory Manager,
Engineering Project Manager