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Test Report

Prepared for: BK Technologies, Inc

Model: KNG-M150LP-2

Description: VHF Mobile Radio

FCC ID: K95KNGM150LP-2
ISED ID: 2116A-KNGM150LP-2

To

FCC Part 1.1310

Date of Issue: May 5, 2023

On the behalf of the applicant:	**BK Technologies, Inc** **7100 Technology Drive ,** **Melbourne, FL 32904**
Attention of:	**Brian Jones, Vice President of Engineering** **Ph: (321) 984-1414** **E-Mail: Bjones@BKTechnologies.com**

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Greg Corbin
Project Test Engineer

Test Report Revision History

Revision	Date	Revised By	Reason for Revision
1.0	5/8/2023	Greg Corbin	Original Document

ANAB

Compliance Testing, LLC, has been accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to the joint ISO-ILAC-IAF Communiqué dated January 2009).

The tests results contained within this test report all fall within our scope of accreditation, unless noted below.

Please refer to http://www.compliancetesting.com/labscope.html for current scope of accreditation.

FCC Site Reg. #349717

IC Site Reg. #2044A-2

Non-accredited tests contained in this report:

N/A

EUT Description
Model: KNG-M150LP-2
Description: VHF Mobile Radio
Firmware: 2.7.5.4
Software: 5.7.2
DSP: 5.7.0
Serial Number:
SN: 34 was used for all conducted RF test data.

Additional Information:
The EUT is a VHF mobile radio operating from 136 – 174 MHz with FM, C4FM, and TDMA modulations.

EUT Operation during Tests
The EUT is battery powered with the nominal voltage set to 13.8 vdc.
The output power was set to maximum for all tests.

Table 1 – Frequency Range, Modulation Type and Emission Designators

Frequency Band (MHz)	FCC Rule Section	FCC, ISED	Test Frequency (MHz)	12.5k FM	P25 Phase 1 C4FM	P25 Phase 2 H-CPM
FCC (Part 90) 150.8 -174 (Part 22) 152.03 – 158.07 (Part 80) 157.2 – 157.425 (Part 80) 161.8 – 162.025 **ISED** 138 – 174	90 EF	FCC (EF), ISED	138.025	11K0F3E	8K10F1E 8K10F1D	8K10F1W
	90	FCC, ISED	150.8125	11K0F3E	8K10F1E 8K10F1D	8K10F1W
	22, 90	FCC, ISED	158.07	11K0F3E	8K10F1E 8K10F1D	8K10F1W
	80, 90	FCC, ISED	161.80	11K0F3E	8K10F1E 8K10F1D	8K10F1W
	90	FCC, ISED	173.975	11K0F3E	8K10F1E 8K10F1D	8K10F1W

Antenna Gain

Model	Frequency Range (MHz)		Gain (dBi)
MWV1365S	VHF	136 – 174	Unity (0 dBi)

Manufacturer Rated Power (VHF)= 50 watts (46.990 dBm)
Manufacturer maximum allowed power = 56 watts (47.480 dBm)

MPE Evaluation

The EUT is a mobile device used in an Uncontrolled Exposure environment.

Limits Uncontrolled Exposure 47 CFR 1.1310 Table 1, (B)	0.3-1.234 MHz:	Limit [mW/cm²] = 100
	1.34-30 MHz:	Limit [mW/cm²] = (180/f²)
	30-300 MHz:	Limit [mW/cm²] = 0.2
	300-1500 MHz:	Limit [mW/cm²] = f/1500
	1500-100,000 MHz	Limit [mW/cm²] = 1.0

Test Data

The lowest frequency and highest output power was used for the worse case calculations for each band.

$S = \frac{P * G}{4\pi r^2}$
Power Density (S) mw/cm^2

Band of operation: 136 - 174 MHz

Test Frequency, MHz	138.025
Power, Conducted, mW (P)	56000
Antenna Gain Isotropic	0 dBi
Antenna Gain Numeric (G)	1.0
Antenna Type	omni
Distance (R)	20 cm

Power Density (S) =11.14 mw/cm^2
Limit = (from above table) = 0.2 mw/cm^2

The EUT Power Density is over the limit at 20 cm when used with the 0 dBi gain omni antenna so the minimum safe distance was calculated.

Minimum Safe Distance Evaluation

Test Frequency, MHz	136
Power, Conducted, mW (P)	56000
Antenna Gain Isotropic	0 dBi
Antenna Gain Numeric (G)	1.0
Antenna Type	omni
Limit (L)	0.2

R=√(PG/4πL)			
Distance (R) cm	Power mW (P)	Numeric Gain (G)	Limit (L)
149.3	56000	1.0	0.2

The minimum safe distance with the omni antenna is149.3 cm.

Note: Max output power used is the manufacturer declared maximum power and is obtained from associated report.

END OF TEST REPORT