

FCC CLASS II PERMISSIVE

CHANGE TEST REPORT

APPLICANT	RELM WIRELESS CORP. – BK RADIO				
	7100 TECHNOLOGY DRIVE				
	WEST MELBOURNE FLORIDA 32094 USA				
FCC ID	K95KNGP500				
MODEL NUMBER	KNG-P500				
PRODUCT DESCRIPTION	PORTABLE 440-520MHz RADIO				
DATE TESTED	01/28/14				
TESTED BY	Clinton McClanahan				
APPROVED BY					
TOTAL PAGES	12				
TEST RESULTS	\square PASS \square FAIL				

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GENERAL REMARKS

This report contains the test data required to add Emissions Designator 8K10F1W to the existing grant K95KNGP500 via a Class II permissive change.

Summary

The device under test does:

- fulfill the general approval requirements as identified in this test report
- not fulfill the general approval requirements as identified in this test report

Attestations

This equipment has been tested in accordance with the standards identified in this test report. To the best of my knowledge and belief, these tests were performed using the measurement procedures described in this report.

All instrumentation and accessories used to test products for compliance to the indicated standards are calibrated regularly in accordance with ISO 17025 requirements.

I attest that the necessary measurements were made, under my supervision, at:

RELM WIRELESS CORP. – BK RADIO Engineering Lab 4830 Bob Billings Parkway Suite 200 Lawrence KS. 66049

Authorized Signatory Name:

Date: 1/28/14

Tested by: Clinton McClanahan

Signature: Clinton McClanahan

GENERAL INFORMATION

DUT Specification

DUT Description	PORTABLE 440-520MHz RADIO				
FCC ID	K95KNGP500				
Model Number	KNG-P500				
Operating Frequency	440-520MHz				
Max. Output Power	5.7 Watts				
Type of Emission	8K10F1W				
Modulation	FM				
DUT Power Source	110-120Vac/50- 60Hz				
	DC Power 12V				
	Battery Operated Exclusively				
Test Item	Prototype				
	Pre-Production				
	Production				
Type of Equipment	Fixed				
	Mobile				
	🛛 Portable				
Test Conditions	Test Conditions The temperature was 26° C with a relative humidity of 50% .				
Modification to the DUT	None				
Test Exercise	The DUT was placed in continuous transmit mode.				
Applicable Standards	TIA-102.CCAA, TIA-102.CCAB, FCC CFR 47 Part 90				
Test Facility	Relm Wireless Corp. – BK Radio				

EQUIPMENT LIST

Device	Manufacturer	Mode1	Serial Number	Cal/Char Date	Due Date
PXA Signal Analyzer	Agilent	N9030A	MY51360190	03/22/12	03/22/14
Spectrum Analyzer	Hewlett Packard	8562E	08471	03/19/13	03/19/14

TEST SETUP

1. Occupied Bandwidth /Emission Mask 8K10F1W

Test Method: TIA-102.CCAA 2.2.5 Equipment Used: Agilent PXA Signal Analyzer (03-22-14)



2. Conducted Spurious Emissions Test Method: TIA-102.CCAA 2.2.7 Equipment Used:



MODULATION CHARACTERISTICS

Note: this modulation characteristic is based on the APCO P25 TDMA Phase II Standard

Part 2.1033(c) Part 2.1033(c) (4) Type of Emission: 8K10F1W Part 90.209 Part 90.207 BW=8.1KHZ from using 99% energy bandwidth F1W indicates digital TDMA.

Designator is therefore: 8K10F1W

OCCUPIED BANDWIDTH

Part 90.210(d) Emission Mask D - 12.5 kHz channel BW equipment.

For transmitters designed to operate with a 12.5 kHz channel bandwidth, any emission must be attenuated below the power (P) of the highest emission contained within the authorized bandwidth as follows:

- (1) On any frequency from the center of the authorized bandwidth f0 to 5.625 kHz removed from f0: Zero dB.
- (2) On any frequency from the center of the authorized bandwidth by a displacement frequency (fd in kHz) of more than 5.625 kHz but no more than 12.5 kHz: At least 7.27 (fd - 2.88 kHz) dB.
- (3) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (fd in kHz) of more than 12.5 kHz: At least 50 + 10log(P) dB or 70 dB, whichever is the lesser attenuation.

OCCUPIED BANDW IDTH PLOTS



SPURIOUS EMISSIONS AT ANTENNA TERMINALS (CONDUCTED)

Part 2.1051, Part 90.210(d)

Requirements: 12.5kHz Channel Spacing = 50+10log(5.7) = 57.56 dBc

Method of Measurement: The EUT was placed in continuous transmit test mode. The spectrum was scanned from 30MHz to at least the 10th harmonic of the fundamental. The measurements were made in accordance with standard TIA-102.CCAA (August 2011).

Test Data:

Transmit Conducted 440MHz



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Transmit Conducted 467MHz



Frequency(MHz)

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Transmit Conducted 493MHz



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Transmit Conducted 520MHz



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