FCC CLASS II PERMISSIVE

CHANGE TEST REPORT

APPLICANT	RELM WIRELESS CORP. – BK RADIO
	7100 TECHNOLOGY DRIVE
	WEST MELBOURNE FLORIDA 32094 USA
FCC ID	K95KNGP400
MODEL NUMBER	KNG-P400
PRODUCT DESCRIPTION	PORTABLE 380-470MHz RADIO
DATE TESTED	01/28/14
TESTED BY	Clinton McClanahan
APPROVED BY	
TOTAL PAGES	12
TEST RESULTS	☒ PASS ☐ FAIL

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GENERAL REMARKS

This report contains the test data required to add Emissions Designator 8K10F1W to the existing grant K95KNGP400 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 380-470MHz RADIO
FCC ID	K95KNGP400
Model Number	KNG-P400
Operating Frequency	380-470MHz
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	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

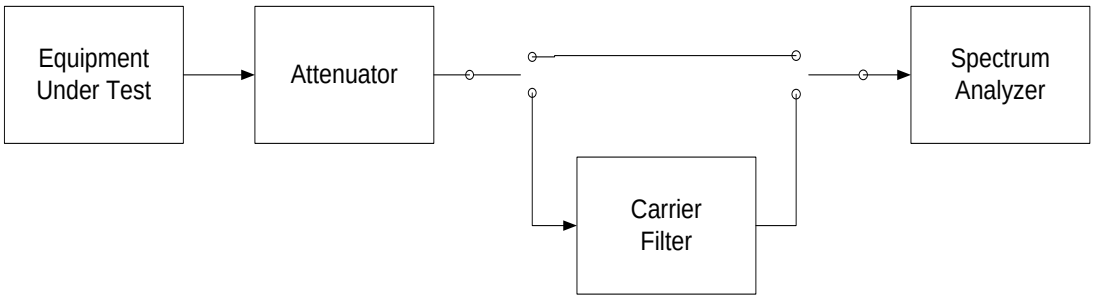
Device	Manufacturer	Model	Serial Number	Cal/Char Date	Due Date
PXA Signal Analyzer	Agilent	N9030A	MY51360190	03/22/12	03/22/14
Spectrum Analyzer	Hewlett Packard	8562E	08471	03/19/13	03/19/14

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: Hewlett Packard HP8562E Spectrum Analyzer



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:

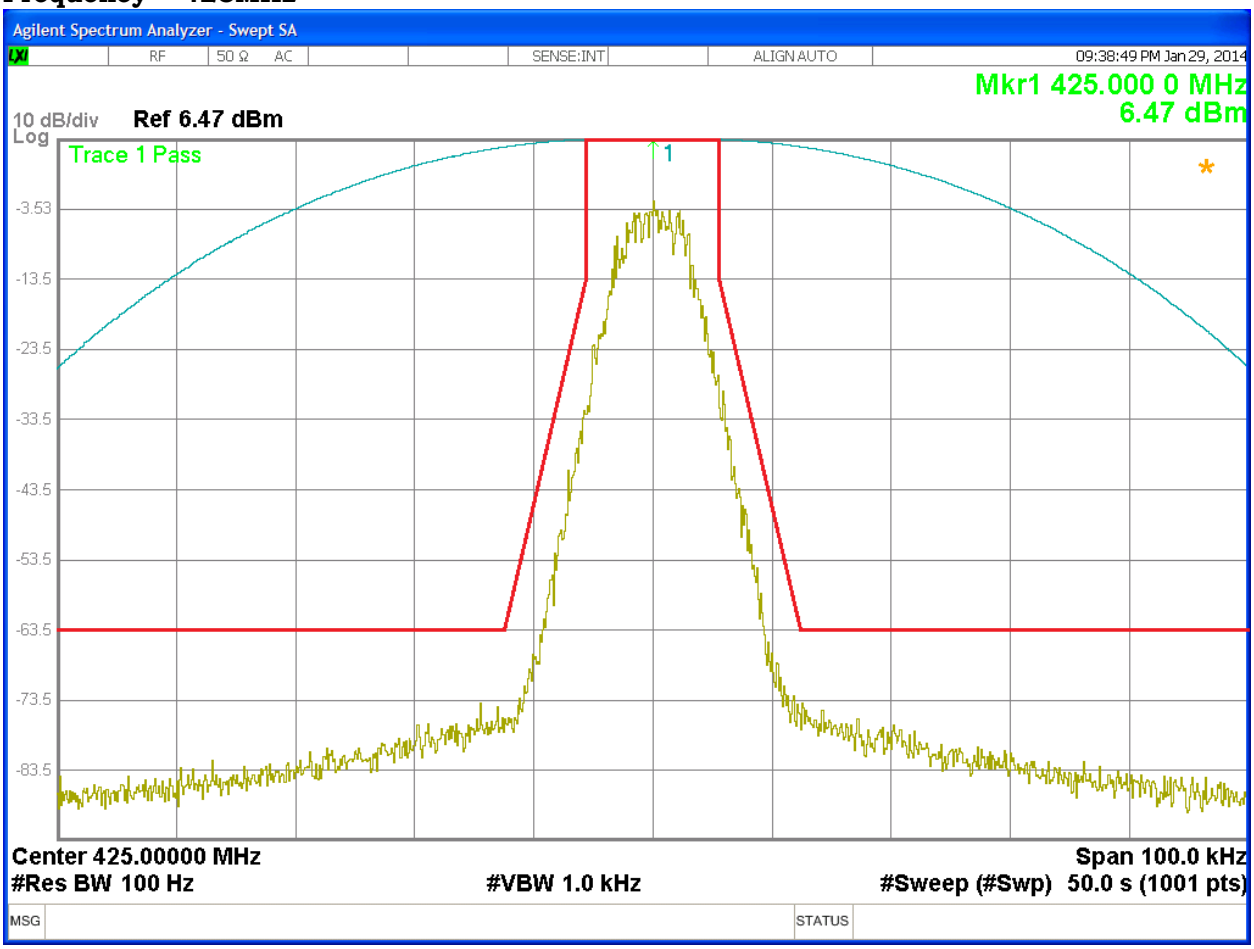
(1) On any frequency from the center of the authorized bandwidth f0 to 5.625 kHz removed from f0: Zero dB.

(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 BANDWIDTH PLOTS

Part 90.210(d)Emission Mask D - 12.5 kHz channel Digital TDMA 8K10F1W
Frequency = 425MHz



SPURIOUS EMISSIONS AT ANTENNA TERMINALS (CONDUCTED)

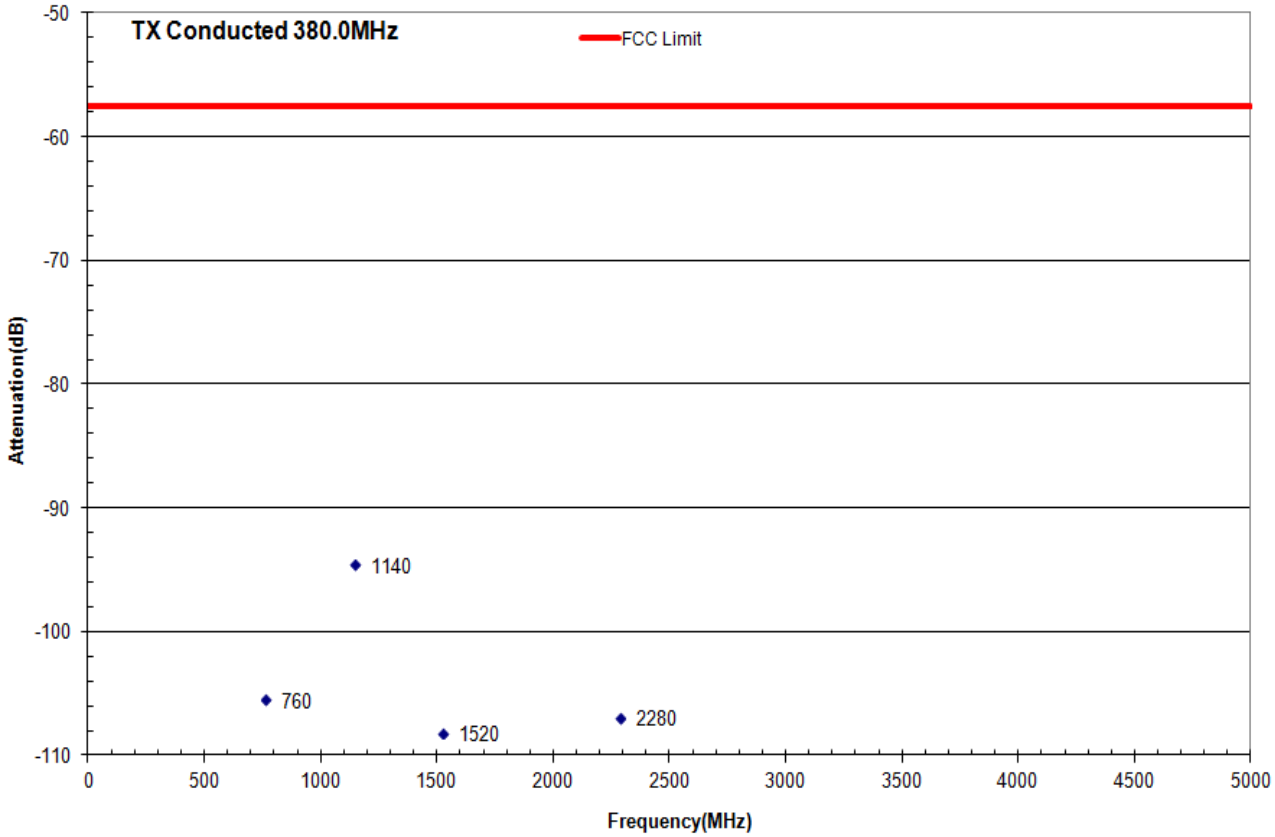
Part 2.1051, Part 90.210(d)

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

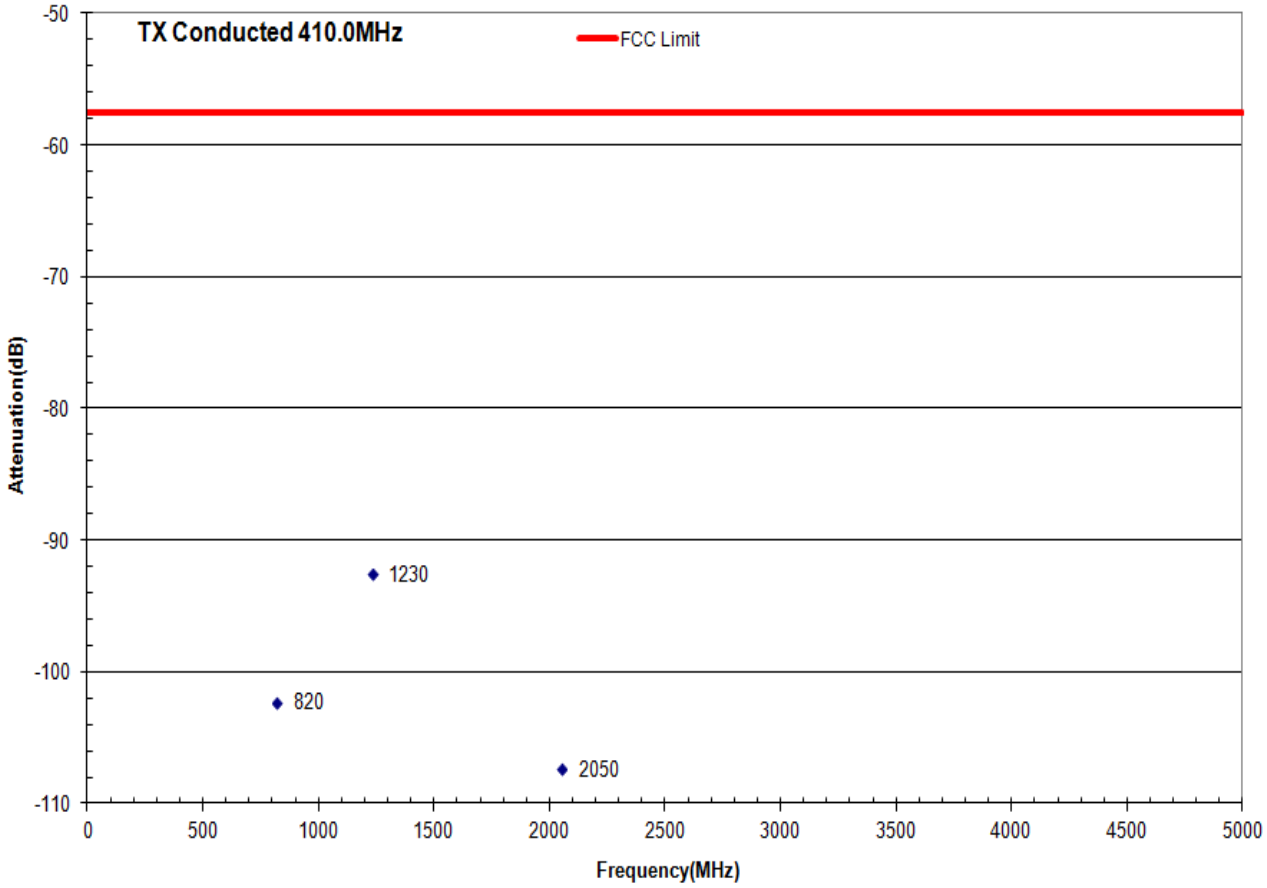
Method of Measurement: The EUT was placed in continuous transmit test mode. The spectrum was scanned from 30MHz to at least the 10th harmonic of the fundamental. The measurements were made in accordance with standard TIA-102.CCAA (August 2011).

Test Data:

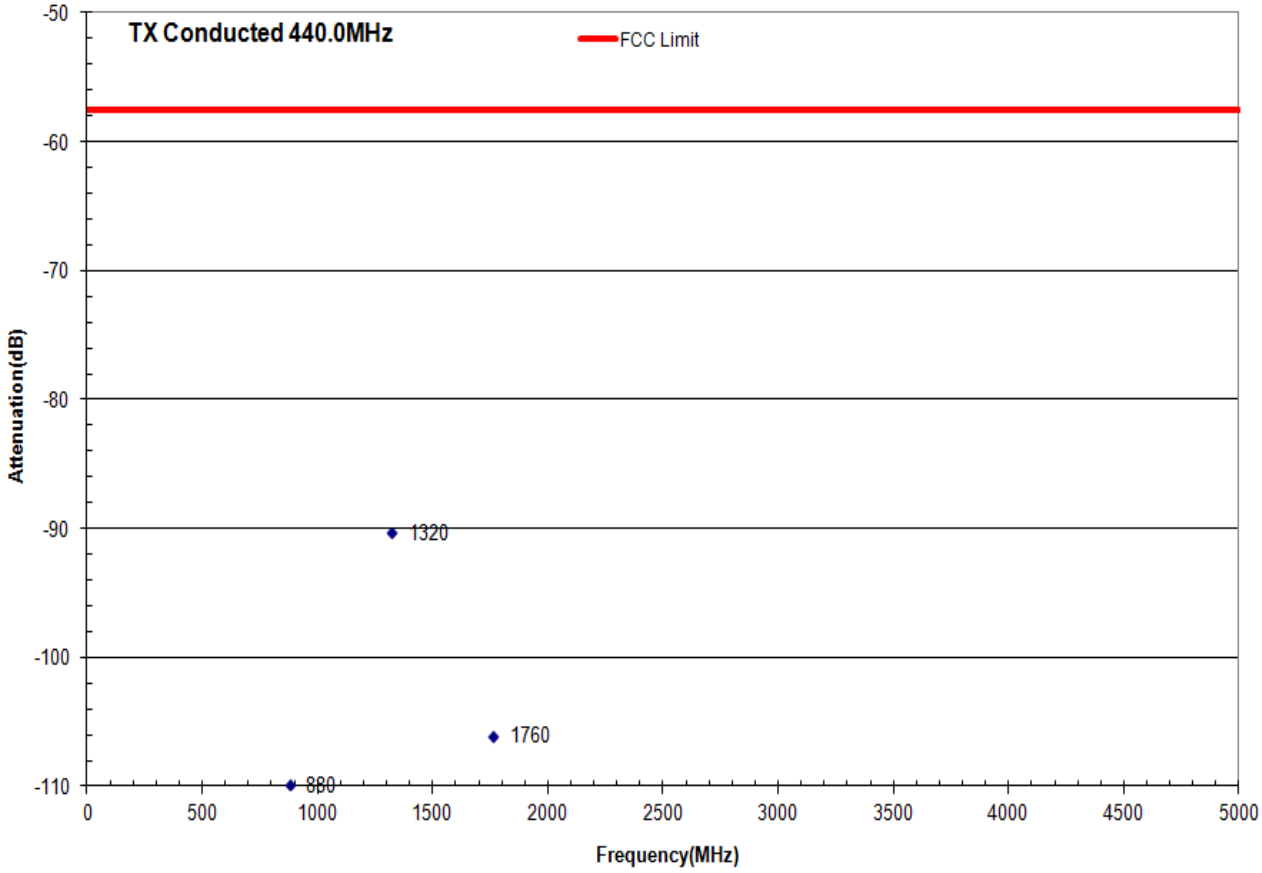
Transmit Conducted 380MHz



Transmit Conducted 410MHz



Transmit Conducted 440MHz



Transmit Conducted 470MHz