

Nemko Test Report:	2014 258170 FCC PT9	0 rev3	
Applicant:	E.F. Johnson 1440 Corporate Drive Irving, TX 75038		
Equipment Under Test: (E.U.T.)	242-5720		
In Accordance With:	CFR 47 Part 90, Subpa Industry Canada RSS Private Land Mobile Tra	·119, Issue	: 11
FCC Identifier:	ATH2425720		
IC Identifier:	933B-2425720		
Tested By:	Nemko USA Inc. 2210 Faraday Ave. Suite 150 Carlsbad, CA 92008		
TESTED BY:	vid Light, Wireless Engineer	DATE:	08 Sept. 2014 Date
APPROVED BY:	Bketterling	DATE:	08 Sept. 2014
TBI	Ketterling, EMC Manager		Date
	Number of Pages: 12		

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CFR 47 PART 90, SUBPART I and Industry Canada RSS-119 PRIVATE LAND MOBILE TRANSMITTER

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Section 1.	Summary of Test Re	esults		
Manufacturer	E.F. Johnson			
Model No.:	242-5720			
Serial No.:	None			
General:	All measurements are	All measurements are traceable to national standards.		
demonstrating	vere conducted on a sample of t g compliance with CFR Part 90, VTIA 603 and ANSI C63.4:2003 ts.	Subpart I and	d Industry Canada RSS-119,	
	New Submission		Production Unit	
	Class II Permissive Change		Pre-Production Unit	
	THIS TEST REPORT RELATES C	NLY TO THE I	TEM(S) TESTED.	
THE FOLLOW	ING DEVIATIONS FROM, ADDITI SPECIFICATIONS H See " Summary	IAVE BEEN MA		
	NAI			
	NVLAP Lab Code	200116-0		
This was and marries	t not be considered and allow new doct on wifing	diam annual a	r and are are and by NIVI AD NICT or	

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Summary of Test Data

NAME OF TEST	PARA. NO.	RESULT
RF Power Output	90.205 / 5.4.5	NT(1)
Audio Frequency Response	TIA EIA-6.3.2.6	NT(1)
Audio Low Pass Filter Response	TIA EIA-6.3.2.6	NT(1)
Modulation Limiting	TIA EIA-6.3.2.6	NT(1)
Spurious Emissions at Antenna Terminals	90.210 / 5.8.9.2	Complies
Field Strength of Spurious Emissions	90.210 / 5.8.9.2	NT(1)
Frequency Stability	90.213 / 5.3	NT(1)
Transient Frequency Behavior	90.214 / 5.9	NA(1)
Adjacent Channel Power	90.543 / 5.8.9.1	NA(1)
Receiver Spurious Emissions	RSS-Gen 6.1	NT(1)

Footnotes For N/A's:

NA(1) Not required for this frequency band.

NT(1) Class II permissive change. Adding emission designator 8K10F7E. The only test needed were spurious emissions at antenna.

Revisions:

- 1) Applied emission mask 90.210(d) to test. Section 3.
- 2) Remeasured spurious using filter to reduce drive on analyzer front end. Page 8.
- 3) Revised model number and ID numbers.

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Section 2. General Equipment Specification

Supply Voltage Input: 7.5 Vdc

Frequency Range: 380 - 470 MHz

Emission Designator: 8K10F7E

Output Impedance: 50 Ohms

RF Power Output (rated): $\frac{4.5}{3.5}$ W

Operator Selection of Pre-programmed channel selection

Operating Frequency:

Power Output Adjustment None

Capability:

System Description

4.5 Watt UHF Land Mobile Radio transceiver

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Section 3. Spurious Emissions at Antenna Terminals

NAME OF TEST: Spurious Emissions @ Antenna PARA. NO.: 2.1051

Terminals

TESTED BY: David Light DATE: 31 July 2014

Test Results: Complies.

Test Data: See attached plot(s).

Equipment Used:

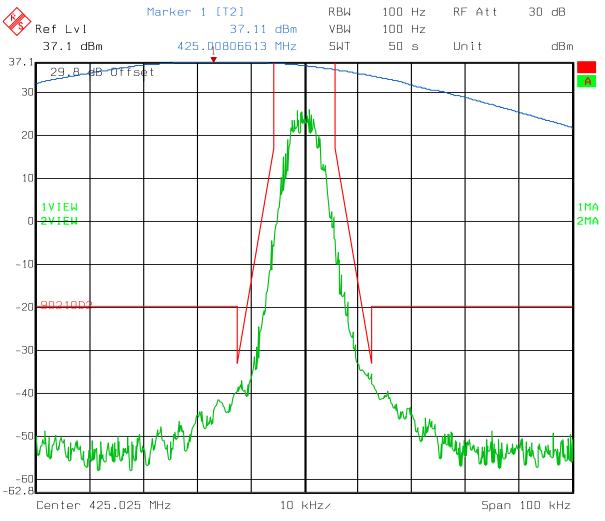
Asset Tag	Description	Manufacturer	Model	Serial #	Last Cal	Next Cal
1036	Spectrum	Rohde &	FSEK30	830844/006	15-Jul-2013	15-Jul-2015
	Analyzer	Schwartz				

Measurement Uncertainty: ___+/- 1.7 dB

Temperature: 22 °C

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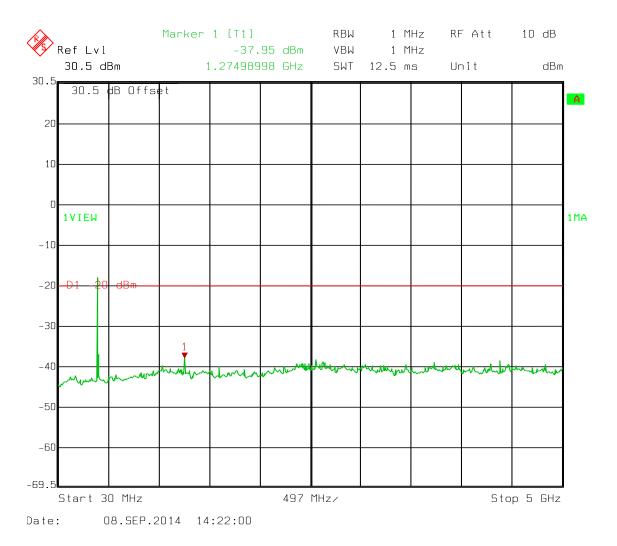
Test Data Spurious Emissions at Antenna Port



Date: 31.JUL.2014 09:16:40

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Test Data Spurious Emissions at Antenna Port



Carrier filtered.

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ANNEX A - TEST METHODOLOGIES

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NAME OF TEST: Spurious Emissions at Antenna PARA. NO.: 2.991
Terminals

Minimum Standard: 90.210, Table 1

Table 1

Frequency Band (MHz)	Mask for equipment with Low Pass Filter	Mask for equipment without Low Pass Filter
Below 25	A or B	A or C
25 - 50	В	С
72 - 76	В	С
150 - 174	B, D or E	C, D or E
150 Paging only	В	С
220 - 222	F	F
421 - 512	B, D or E	C, D or E
450 paging only	В	Н
806 - 821/851 - 866	В	G
821 - 824/ 866 - 869	В	Н
896 - 901/ 935 - 940	I	J
902 - 928	K	K
929 - 930	В	G
Above 940	В	С
All other bands	В	С

MASK	Spurious Limit	FS Limit Below 1 GHz	FS Limit Above 1 GHz
A,B,C,G,H,I	-13dBm	84.4 dBμV/m@3m	82.2 dBμV/m@3m
D,J	-20dBm	77.4 dBμV/m@3m	75.2 dBμV/m@3m
E,F,K	-25dBm	72.4 dB _μ V/m@3m	70.2 dBμV/m@3m

Test Method: RBW: 1% of emission bandwidth in the 0 - 1 GHz range.

1 MHz at frequencies above 1 GHz.

 $VBW: \Rightarrow RBW$

The spectrum is searched up to 10 times the fundamental frequency.

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ANNEX B - TEST DIAGRAMS

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Para. No. 2.991 - Spurious Emissions at Antenna Terminals

