



Nemko Test Report: 6L0801RUS1Arev2

Applicant: E. F. Johnson
1440 Corporate Drive
Irving, TX 75038

**Equipment Under Test:
(E.U.T.)** 242-5377-001AAYB6

In Accordance With: MPE Requirements CFR 47, Part 2.1091

Tested By: Nemko USA, Inc.
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TESTED BY:

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DATE: 22 May 2007

APPROVED BY:

Harry Ward, Verifier

DATE: 22nd May 2007

Total Number of Pages: 13

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Section 1. Summary of Test Results

Test Rationale

This testing was patterned after testing done in FCC/OET document ASD-9601, "Measurements of Environmental Electromagnetic Fields at Amateur Radio Stations" and OET Bulletin 65 Edition 97-01, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields.

Emissions were measured using an isotropic field probe.

The probe reads directly in mW/cm².

Conclusion

In the configuration tested, the E.U.T. [complies](#) with the requirements of MPE Requirements of the FCC Part 2.1091 and 1.1310.

THIS TEST REPORT RELATES ONLY TO THE ITEM(S) TESTED.

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EQUIPMENT: 242-5377-001AAYB6

Section 2. Equipment Under Test (E.U.T.)

Manufacturer: E. F. Johnson

Model No.: 242-5377-001AAYB6

Serial No.: Prototype

☐

Production Unit



Pre-Production Unit

Description of E.U.T.

700/800 MHz Land Mobile Radio transceiver, 30/35 Watt

E.F. Johnson P/N	Antenna Type	Gain	Installation Type
501-0012-020	Whip	3 dBi	Magnetic mount - Automotive

The test data in this report is intended to demonstrate that the Occupational/Controlled Exposure RF Exposure limits of FCC 1.1310 are not exceeded with this antenna. This is the only antenna to be used with the radio.

Description of Installation

- Install antennas at the center of the roof or the center of the trunk deck taking into account the bystander exposure conditions of backseat passengers and the recommended minimum lateral distances. These mobile antenna installation guidelines are limited to metal body motor vehicles or vehicles with appropriate ground planes. The antenna installation should additionally be in accordance with: •

The requirements of the antenna manufacturer/supplier. •

Instructions in the Radio Installation Manual, including minimum antenna cable lengths.

•

The installation manual should provide specific information of how to install the antennas to facilitate recommended operating distances to all potentially exposed persons.

- Use only EFJohnson-approved supplied antenna or EFJohnson-approved replacement antenna. Unauthorized antennas, modifications, or attachments could damage the radio and may violate FCC regulations.

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Section 3. Equipment Configuration**Equipment Configuration List:**

Item	Description	Model No.	Serial.	Rev.
(A)	Radio transceiver	5300 Series	Prototype	
(B)	Whip Antenna	501-0012-020	None	
(C)				
(D)				
(E)				
(F)				
(G)				

Inter-connection Cables:

There are no interconnecting cables. The antenna coax is integrated into the antenna assembly.

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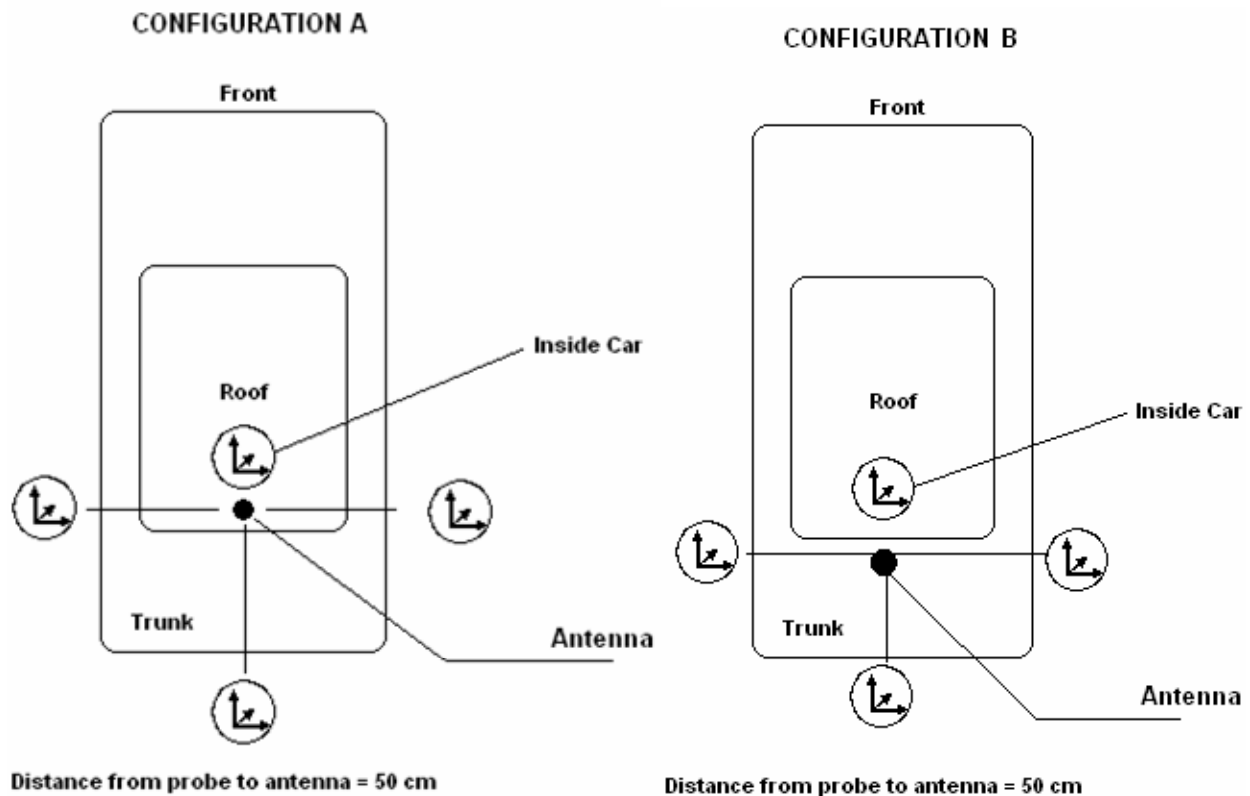
Configuration of the Equipment Under Test (E.U.T)

The 5300 radio is set to to maximum RF output (35 watts) continuous transmission.

Configuration A is with the transmit antenna mounted at the center rear of the automobile roof.

Configuration B is with the transmit antenna mounted at the center of the trunk lid, closest to the rear window.

Measurements were made at positions 50 cm to each side of the antenna as well as to the rear and inside the automobile.



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Section 4. Test Results

Transmit antenna: 501-0012-020

Configuration	Measurement Distance (cm)	Maximum Measured Power Density (mW/cm ²)	Maximum Allowable Exposure Time (minutes)	FCC Occupational Exposure Power Density Limits (mW/cm ²)	Averaging Time (minutes)
A	50	1.8	Not limited	2.7	No averaging
B	50	2.5	Not limited	2.7	No averaging

Limits for Occupational/Controlled Exposures

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time (minutes)
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f ²)	6
30-300	61.4	0.163	1.0	6
300-1500	---	---	f/300	6
1500-100,000	---	---	5	6

F = Frequency in MHz

* = Plane-wave equivalent power density

Measurement made at 815 MHz.

$$815/300 = 2.72 \text{ mW/cm}^2$$

Test Equipment: Narda 8616 s/n 13037. Calibration Due 6/30/08

Section 5. Photographs

Configuration A



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Configuration A



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Configuration B



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Configuration B



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Measurements were made at the 50 cm mark.

