



# GENERAL RESEARCH OF ELECTRONICS, INC.

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SHIBA NO.3 AMEREX BLDG.

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Federal Communications Commission

Authorization and Evaluation Division

Laboratory Division

7435 Oakland Mills Road

Colombia, MD 21046

Ref.: FCC ID: ADV0602903

This is to clarify that the above equipment is incapable of operating (tuning) or readily being altered by the user to operate, within the frequency bands to the Cellular Radiotelephone Service.

The frequencies in question are deleted from the ROM during manufacture, and cannot be restored through any readily available process or component such as: installation of cuts, jumper wires, resistors, diodes, or plug-in IC's; deletion of such items; or reprogramming via access codes or external devices such as a personal computer.

The receiver is incapable of converting digital cellular transmissions to analog voice audio.

## **Assessing the vulnerability of the receiver to possible modification**

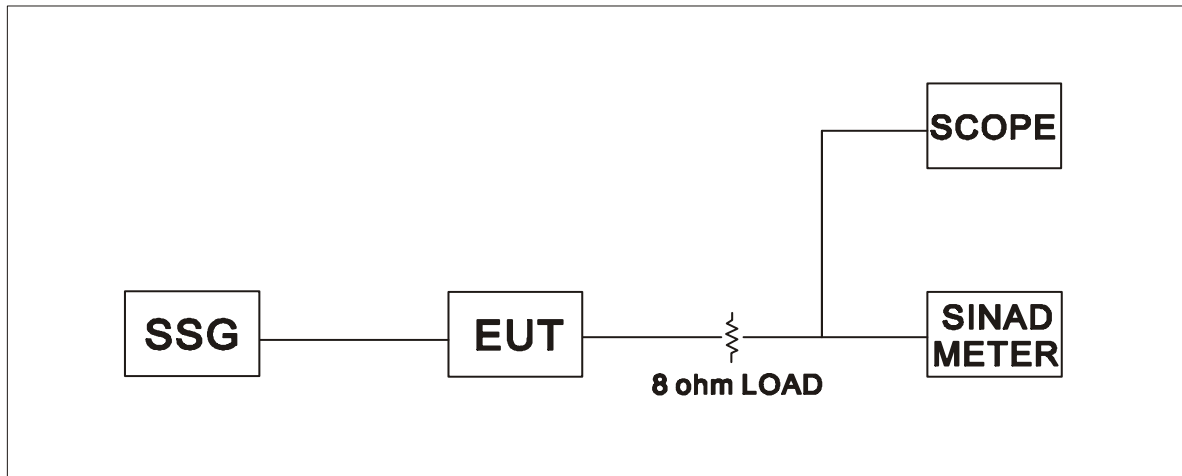
The receiver has the possibility of reducing the threshold value to discern transmissions from the Cellular Radiotelephone Service by making modification such as adding jumper wire to the UHF RF tuning circuit and UHF mixer circuit.

## **Design features that prevent modification of the receiver to receive Cellular Service**

The scanning receiver is designed to prevent any attempt for the user to modify the receiver to receive transmissions from the Cellular Radiotelephone Service by using epoxy to cover the required parts of the UHF RF tuning circuit.

**Testing method used to determine compliance with the 38 dB rejection ratio**

Test set-up:



Equipment Setup Block Diagram

Test conditions:

AF Signal : 1 kHz

FM Deviation : +/- 3kHz

AM Modulation : 60 %

Test frequencies: 824.00MHz, 832.03MHz, 840.06MHz, 848.09MHz

869.00MHz, 877.03MHz, 885.06MHz, 893.09MHz

Measurement method

- (1) To perform initial screening, adjust EUT's for the Squelched Threshold to suppress audio output.
- (2) Set SSG's frequency to a cellular band test frequency and apply 60dBuV RF level to EUT. (The 60dBuV signal level corresponds to approximately 66dB above the Squelch Threshold sensitivity of -6 dBuV.) This is approximately 66-38=28dB above the FCC limit.)
- (3) Turn EUT on and search cellular frequencies on all of the receiving ranges.
- (4) List all detected frequencies if EUT detects any.
- (5) Repeat the above procedure for each of the other cellular test frequencies.
- (6) To determine actual image rejection ratio for a detected frequency, perform the following steps.
- (7) Set both of EUT and SSG's frequency to the frequency gained by the above screening.
- (8) Adjust SSG's RF output on EUT for 12dB SINAD and record the gained level. Note the gained SSG's level is EUT's receiving sensitivity.

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- (9) Adjust SSG's frequency to the cellular frequency corresponding to the detected frequency gained in (5). Then adjust SSG's RF output on EUT for 12dB SINAD and record the gained level.
- (10) Cellular image rejection ratio is the ratio between the level gained in (8) and the level gained in (9).

Test Results: Spec. at least 38dB

| Cellular frequency<br>(MHz) | Image/Spurious frequency<br>(MHz) | Cellular Image Rejection ratio<br>(dB) |
|-----------------------------|-----------------------------------|----------------------------------------|
| 824.00                      | 771.850<br>866.800<br>951.325     | 53<br>52<br>62                         |
| 832.03                      | 773.909375<br>955.44375           | 54<br>62                               |
| 840.06                      | 773.5375<br>775.96875             | 65<br>55                               |
| 848.09                      | 819.275                           | 61                                     |
| 869.00                      | 911.800<br>1271.200               | 51<br>54                               |
| 877.03                      | 807.7875<br>919.825               | 63<br>53                               |
| 885.06                      | 927.8625                          | 51                                     |
| 893.09                      | 849.275<br>935.8875               | 60<br>51                               |

The above test results confirm that all the signal rejection ratios for the Cellular Radiotelephone Service Band are higher than 38 dB.

### Label Requirement

The scanning receiver has a label affixed to the product shown on the attached drawing of the model label, which reads as follows:

WARNING: MODIFICATION OF THIS DEVICE TO RECEIVE CELLULAR RADIOTELEPHONE SERVICE SIGNALS IS PROHIBITED UNDER FCC RULES AND FEDERAL LAW.

Based on the above, we hereby attest that the equipment in question compiles fully with the provisions of 15.121 of FCC Rules.



M. Ishizuka, Chief Engineer