

# ApexRadio, Inc.

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Federal Communications Commission  
Authorization and Evaluation Division  
Laboratory Division  
7435 Oakland Mills Road  
Colombia, MD 21046

Ref.:

Equipment: Monitoring receiver  
Trademark(s): ApexRadio  
Model(s): ALSETAC 35GR  
FCC ID: DF335GR

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 plug-in IC's, cuts, jumper wires, resistors, or diodes; 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.

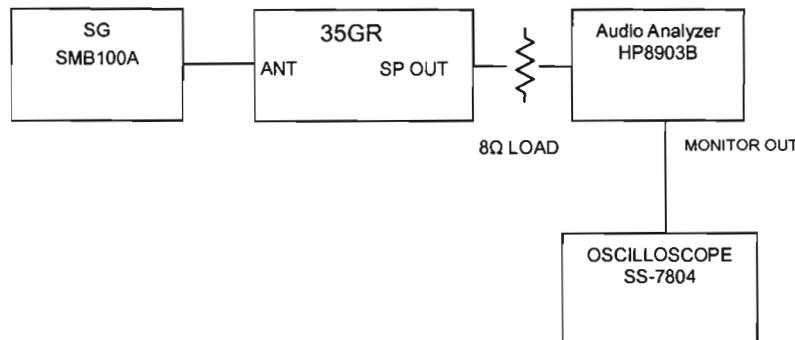
## **Assessing the vulnerability of the receiver to possible modification**

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.

## 1. Testing method for image response



Equipment set up diagram

Equipments:	Signal Generator	ROHDE&SCHWARZ	SMB100A
	Audio Analyzer	HEWLETT PACKARD	8903B
	Oscilloscope	IWATSU	SS-7804

Test conditions:	AF signal	1kHz
	FM Deviation	+/- 3kHz
	AM Modulation	60%

Test frequencies:	824.00MHz	832.03MHz	840.06MHz	848.09MHz
	869.00MHz	877.03MHz	885.06MHz	893.09MHz

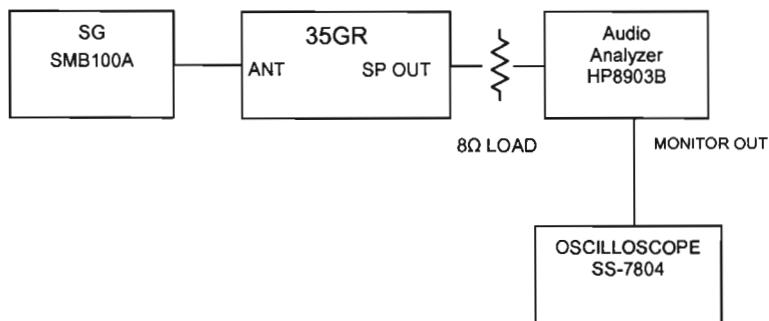
### Measurement method

- (1) Turn 35GR to F1 frequency. Note: F1 is receiving frequency for image receiving of each IF with from test frequencies.
- (2) Get 35GR's receiving sensitivity on F1. (A)
- (3) Set SG frequency to test frequency.
- (4) Adjust SG's RF output on 35GR for 12dB SINAD and record the gained level. (B)
- (5) calculating : Image rejection ratio = (B) – (A)
- (6) Repeat the above procedure for each of the other cellular test frequencies.

### Test results:

Test frequency (MHz)	35GR F1 (MHz)			Image sensitivity (dBm)			Image rejection (dBc)		
	1st-IF Image	2nd-IF Image	3rd-IF Image	B	B	B	1st - IF	2nd - IF	3rd - IF
824.00MHz	76.00	802.60	823.09	16+	-39.1	16+	134+	79.9	134+
832.03MHz	84.09	810.63	831.12	16+	-38.7	16+	134+	80.3	134+
840.06MHz	92.18	818.66	839.15	16+	-38.0	16+	134+	80.3	134+
848.09MHz	100.27	826.69	847.18	16+	-37.8	16+	134+	80.6	134+
869.00MHz	123.00	847.60	868.09	16+	-39.8	16+	134+	79.1	134+
877.03MHz	131.09	855.63	876.12	16+	-39.7	16+	134+	79.2	134+
885.06MHz	139.18	863.66	884.15	16+	-39.1	16+	134+	79.8	134+
893.09MHz	147.27	871.69	892.18	16+	-38.4	16+	134+	80.0	134+

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



Equipment set up diagram

Equipments:	Signal Generator Audio Analyzer Oscilloscope	ROHDE&SCHWARZ HEWLETT PACKARD IWATSU	SMB100A 8903B SS-7804
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Test conditions:	RF Level	-52dBm (The -62dBm signal level corresponds to 66dB above the sensitivity of -118dBm)	
	AF signal	1kHz	
	FM Deviation	+/- 3kHz	
	AM Modulation	60%	

Test frequencies:	824.00MHz 869.00MHz	832.03MHz 877.03MHz	840.06MHz 885.06MHz	848.09MHz 893.09MHz
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**Measurement method**

- (1) Adjust 35GR's for the squelched threshold to suppress audio output.
- (2) Turn 35GR on and search cellular frequencies on all of the receiving ranges (1kHz step)
- (3) List all detected frequencies if 35GR detects any.
- (4) Repeat the above procedure for each of the other cellular test frequencies.

**Test result:**

The image reception was not detected at the test frequencies mentioned above.

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

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

# **ApexRadio, Inc.**

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The following manufacturer is responsible for this declaration:

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