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NAME OF TEST: Scanning Receivers Cellular Band Rejection

SPECIFICATION: FCC: 47 CFR 15.121(b)

TEST EQUIPMENT: As per attached page

<u>GUIDE</u>: <u>47 CFR 15.121(b):</u> Except as provided in

paragraph (c) of this section, scanning

receivers shall reject any signals from Cellular Radiotelephone Service frequency bands that are

38 dB or higher based upon a 12 dB SINAD

measurement, which is considered the threshold where a signal can be clearly discerned from any

interference that may be present.

WARNING: MODIFICATION OF THIS DEVICE TO RECEIVE CELLULAR

RADIOTELEPHONE SERVICE SIGNALS IS PROHIBITED

UNDER FCC RULES AND FEDERAL LAW.

## MEASUREMENT PROCEDURE

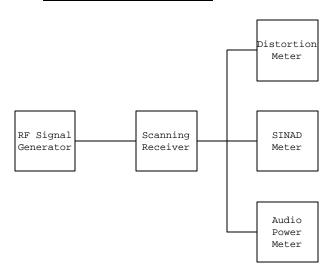
1. Equipment was connected as illustrated in the block diagram.

- 2. A standard signal was applied to the receiver input terminals.
- 3. Receiver output audio output was adjusted for rated output and with distortion no greater than 10%.
- 4. The RF Signal generator was adjusted to produce 12dB SINAD without the audio output power dropping by more than 3dB.
- 5. This was repeated at three frequencies across all bands to establish a reference sensitivity level. The reference sensitivity taken was the lowest, or worst-case sensitivity for all of the bands
- 6. The output of the signal generator was then adjusted to a level of +60dB above the reference level sensitivity established in step 5 and set to the first of three frequencies in the cellular subscriber transmit band.
- 7. Receiver squelch threshold, the signal level required to open the squelch, should be set to open no greater than +20dB above the reference sensitivity.
- 8. The receiver was then put in the scanning mode and allowed to scan across it's complete receive range.
- 9. If the receiver unsquelched or stopped on any frequency, the displayed frequency was recorded. The signal generator was then adjusted in output level until a 12dB SINAD from the receiver was produced. The signal generator level associated with this response was also noted.
- 10. This procedure was repeated for three frequencies in the cellular base station transmit band.
- 11. The difference in between the signal generator output for any response recorded and the reference sensitivity is the rejection ratio.

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## **SCANNING RECEIVER:**



Reference Level Sensitivity measured in step 5 = -125 dBm

RF Signal	Displayed	Level for 12 dB	Rejection, dB
Generator, MHz	Frequency, MHz	SINAD, dBm	
836.4	452.925	-63	-62
824.04	*		
848.97	*		
881.40	*		
869.04	*		
893.97	*		

SUPERVISED BY:

Morton Flom, P. Eng.

<sup>\*</sup>No other image responses found.