Sec. 15.121
Scanning receivers and frequency converters used with scanning receivers.

Reference: Sporty's Model SP-125, FCC ID: DY7RT2013:

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 Radio telephone 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

The scanning receiver prevents transmissions more than 38 dB from the Cellular Radiotelephone Service from being received for the following reasons:

1. The image frequencies in the frequency range from 0.53 MHz to 1.63 MHz are shown as follows:

FR = 0.53 to 1.63 MHz
IF=0.45MHz
FR+2xIF=IMAGE FREQ.
(.53 to 1.63)+(2x0.45) = 1.43MHz to 2.53MHz ---------------------------- IMAGE FREQ.

These image frequencies are not included within the Cellular Radiotelephone Service Frequency Band.

2. The image frequencies in the frequency range from 88 to 107.2 MHz, shown as follows:

FR=88 to 107.2MHz
IF=10.7MHz
FR+2xIF=IMAGE FREQ.
(88 to 107.2)+(2x10.7)=109.4 to 128.6MHz   --------IMAGEFREQ.

These image frequencies are not included within the Cellular Radiotelephone Service Frequency Band.

3. The image frequencies in the frequency range from 107.3 to 108 MHz, shown as follows:

FR=107.3 to 108MHz
IF=10.7MHz
FR-2xIF=IMAGE FREQ.
(88 to 107.2)-(2x10.7)=85.9 to 86.6MHz ------------------   ---IMAGEFREQ.

These image frequencies are not included within the Cellular Radiotelephone Service Frequency Band.

4. The image frequencies in the frequency range from 118 to 142.975 MHz, shown as follows:

FR=118 to 142.975MHz
IF=21.4MHz
FR+2xIF=IMAGE FREQ.
(118 to 142.975)+(2x21.4)=160.8 to 185.775MHz ----   ----IMAGEFREQ.

These image frequencies are not included within the Cellular Radiotelephone Service Frequency Band.

The 12 dB SINAD measurement method in the Cellular Radiotelephone Service used for frequencies that the receiver tunes and the signal rejection ratio gained by the measurement.
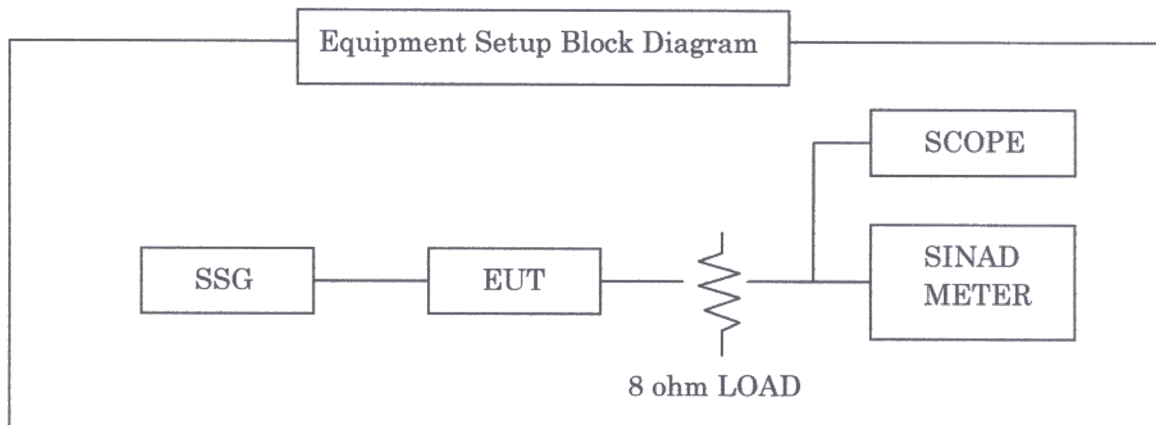
Measurement method

Tune the receiver to the received frequency and output the receiving frequency from SG to obtain its 12 dB SINAD.Then output the interference frequency to obtain its 12 dB SINAD.The signal rejection ratio is the ratio between these two SSG output levels.

Test Results 1

Frequency range (MHz)	Cellular frequency range included (MHz)	Received frequency (MHz)	Interference frequency (MHz)	Signal rejection ratio (dB)	Equation for interference frequency reception (MHz)
118.000	857.800	118.000	857.800	89	(FR+IF)*6+IF= 857.800
		119.000	863.800	110	(FR+IF)*6+IF= 863.800
		120.000	869.800	94	(FR+IF)*6+IF= 869.800
to	to	121.000	875.800	92	(FR+IF)*6+IF= 875.800
		122.000	881.800	94	(FR+IF)*6+IF= 881.800
		123.000	887.800	94	(FR+IF)*6+IF= 887.800
124.000	893.800	124.000	893.800	94	(FR+IF)*6+IF= 893.800
139.000	823.400	139.000	823.400	82	(FR+IF)*5+IF= 823.400
		140.000	828.400	86	(FR+IF)*5+IF= 828.400
to	to	141.000	833.400	90	(FR+IF)*5+IF= 833.400
		142.000	838.400	90	(FR+IF)*5+IF= 838.400
143.000	843.400	143.000	843.400	90	(FR+IF)*5+IF= 843.400
119.000	821.000	119.000	821.000	86	(FR+IF)*6-IF= 821.000
		120.000	827.000	110	(FR+IF)*6-IF= 827.000
		121.000	833.000	110	(FR+IF)*6-IF= 833.000
		122.000	839.000	98	(FR+IF)*6-IF= 839.000
		123.000	845.000	90	(FR+IF)*6-IF= 845.000
		124.000	851.000	90	(FR+IF)*6-IF= 851.000
to	to	125.000	857.000	90	(FR+IF)*6-IF= 857.000
		126.000	863.000	90	(FR+IF)*6-IF= 863.000
		127.000	869.000	90	(FR+IF)*6-IF= 869.000
		128.000	875.000	90	(FR+IF)*6-IF= 875.000
		129.000	881.000	84	(FR+IF)*6-IF= 881.000
		130.000	887.000	86	(FR+IF)*6-IF= 887.000
131.000	893.000	131.000	893.000	90	(FR+IF)*6-IF= 893.000

FR = received frequency

IF= 21.4 MHz

Test Results 2

Frequency range (MHz)	Cellular frequency range included (MHz)	Received frequency (MHz)	Interference frequency (MHz)	Signal rejection ratio (dB)	Equation for interference frequency reception (MHz)
0.530 to	824.710 to 893.310	0.530	824.710 to 893.310	110	(FR+IF)*842−IF= 824.710 (FR+IF)*912−IF= 893.310
1.080 to	824.220 to 893.070	1.080	824.220 to 893.070	110	(FR+IF)*539−IF= 824.220 (FR+IF)*584−IF= 893.070
1.630	825.310 to 893.950	1.630	825.310 to 893.950	110	(FR+IF)*397−IF= 825.310
0.530 to	824.630 to 893.230	0.530	824.630 to 893.230	110	(FR+IF)*911−IF= 893.230
1.080 to	823.590 to 893.970	1.080	823.590 to 893.970	110	(FR+IF)*538−IF= 823.590 (FR+IF)*584−IF= 893.970
1.630	824.130 to 892.770	1.630	824.130 to 892.770	110	(FR+IF)*396−IF= 824.130 (FR+IF)*429−IF= 892.770

FR = received frequency

IF= 0.45 MHz

Test Results 3

Frequency range (MHz)	Cellular frequency range included (MHz)	Received frequency (MHz)	Interference frequency (MHz)	Signal rejection ratio (dB)	Equation for interference frequency reception (MHz)
91.000	824.300	91.000	824.300	110	(FR+IF)*8+IF= 824.300
		92.000	832.300	110	(FR+IF)*8+IF= 832.300
		93.000	840.300	110	(FR+IF)*8+IF= 840.300
		94.000	848.300	110	(FR+IF)*8+IF= 848.300
to	to	95.000	856.300	110	(FR+IF)*8+IF= 856.300
		96.000	864.300	110	(FR+IF)*8+IF= 864.300
		97.000	872.300	110	(FR+IF)*8+IF= 872.300
		98.000	880.300	110	(FR+IF)*8+IF= 880.300
		99.000	888.300	110	(FR+IF)*8+IF= 888.300
99.700	893.900	99.700	893.900	110	(FR+IF)*8+IF= 893.900
105.500	824.100	105.500	824.100	110	(FR+IF)*7+IF= 824.100
to	to	106.000	827.600	110	(FR+IF)*7+IF= 827.600
		107.000	834.600	110	(FR+IF)*7+IF= 834.600
107.200	836.000	107.200	836.000	110	(FR+IF)*7+IF= 836.000
107.300	880.100	107.300	880.100	110	(FR−IF)*9+IF= 880.100
to	to				
108.000	886.400	108.000	886.400	110	(FR−IF)*9+IF= 886.400
94.000	826.900	94.000	826.900	110	(FR+IF)*8−IF= 826.900
		95.000	834.900	110	(FR+IF)*8−IF= 834.900
		96.000	842.900	110	(FR+IF)*8−IF= 842.900
		97.000	850.900	110	(FR+IF)*8−IF= 850.900
to	to	98.000	858.900	110	(FR+IF)*8−IF= 858.900
		99.000	866.900	110	(FR+IF)*8−IF= 866.900
		100.000	874.900	110	(FR+IF)*8−IF= 874.900
		101.000	882.900	110	(FR+IF)*8−IF= 882.900
		102.000	890.900	110	(FR+IF)*8−IF= 890.900
102.300	893.300	102.300	893.300	110	(FR+IF)*8−IF= 893.300
107.300	858.700	107.300	858.700	110	(FR+IF)*9−IF= 858.700
to	to				
108.000	865.000	108.000	865.000	110	(FR+IF)*9−IF= 865.000

FR = received frequency

IF= 10.7 MHz

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

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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 RADIOTELEPHONESERVICE 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.