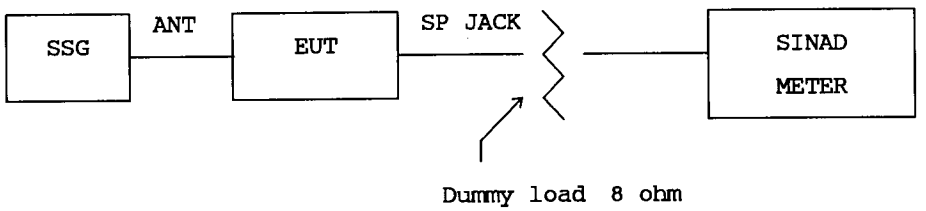
5-3 Test Result: Cellular image rejection 15.121(b)

Rationale:
In order for measuring image(spurious) rejection ratio on scanning receiver, use of one SSG method would be suitable rather than two or three SSG method since cellular image reception would be considered as unwanted reception solely at outside of cellular band.

Test set-up:



Conditions: AF Signal : 1 kHz
Deviation : +/- 3kHz (for frequency modulation)
Modulation : 60 % (for amplitude modulation)

Test frequencies: 824.01MHz, 836.52MHz, 849.00MHz
869.01MHz, 881.52MHz, 894.00MHz

A) Initial screening

A-1) Disable the output signal of SSG. Disconnect dummy load and enable the EUT to confirm the presence of audio noise on speaker.

A-2) Set the EUT with "Squelched Threshold" to prevent audio signal.

A-3) Set the frequency of SSG to cellular band, and apply 60dBuV of RF output to EUT. Note that 60dBuV signal level corresponds approx. 66dB above the "Squelched Threshold" sensitivity of -6dBuV (not, receiving sensitivity). This is approx. 28dB (= 66 - 38) above the FCC limit.

A-4) Enable EUT and search the cellular frequencies on the all of receiving range.

A-5) List the all of detected frequencies if EUT detects them, and the following steps shall be taken to determine the actual image rejection ratio individually.

A-6) Repeat the above procedure for remaining frequencies.

A-7) Go to Part B of the test.

B) Measuring the image rejection ratio

B-1) Based on Initial screening, both of EUT and SSG shall be set to the frequency at which obtained in A-5) in the above. Connect the dummy load and set the squelch volume of EUT to unsquelched for obtaining the audio signal.

B-2) Adjust and record the RF output of SSG to obtain 12dB SINAD on EUT. SSG level at which obtaining the 12dB SINAD is receiving sensitivity of EUT (not, tight squelch sensitivity).

B-3) Adjust the frequency of SSG to the corresponded cellular frequency associated with A-5. Adjust and record the RF output of SSG to obtain 12dB SINAD on EUT.

B-4) Image rejection ratio is obtained as differences between B-2) and B-3).

C) Test Data Spec. : At least 38dB

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Cellular Frequency (MHz)	Image/sprious (Frequency stopped on EUT) (MHz)	Image Rjection Ratio (dB)
824.01	818.5875	44.0
	823.1125	55.5
	942.3625	49.0
	1277.1125	51.5
836.52	814.8125	61.5
	924.2125	66.5
	941.8750	66.0
	946.8250	55.5
849.00	29.2000	64.0
	420.7375	72.5
	427.9625	69.0
	429.9250	68.0
	440.7750	72.0
	819.8000	66.0
	850.3000	58.5
	861.6375	67.0
	928.4750	64.5
	940.5000	53.0
869.01	863.5875	43.5
	868.1125	56.0
	910.4750	64.0
	919.8625	50.5
	1262.1125	51.5
881.52	808.7750	68.0
	859.8125	59.5
	859.8250	50.0
	924.3250	56.0
	939.2125	67.0
	950.8750	67.5
894.00	44.2000	56.5
	452.4250	72.5
	849.8000	70.5
	857.8000	64.0
	918.0000	54.0
	943.4750	65.0
	1298.7000	51.5

Note: All data not reported were more than 28 dB above the FCC limit.