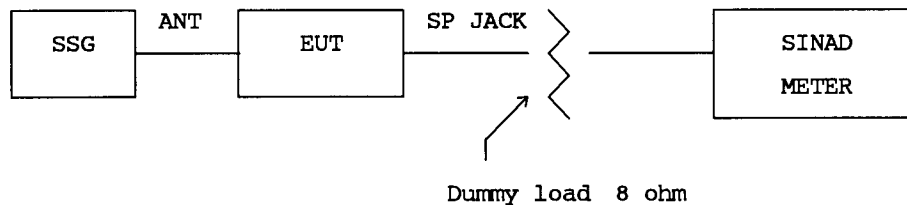## 5-3 Test Result: Cellular image rejection   15.121(b)

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:

```
 ┌────────┐  ANT   ┌────────┐  SP JACK  ⟩               ┌──────────┐
 │        │        │        │           ⟨               │  SINAD   │
 │  SSG   │────────│  EUT   │──────     ⟩────────────    │          │
 │        │        │        │           ⟨               │  METER   │
 └────────┘        └────────┘         ↗ ⟨               └──────────┘
                                    ╱
                                   ╱
                              Dummy load  8 ohm
```

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

UB-298Z (BC244CLT)

Cellular Frequency (MHz)	Image/sprious (Frequency stopped on EUT) (MHz)	Image Rjection Ratio (dB)
824.01	---	---
836.52	428.9625	60.8
	450.3625	57.6
849.00	435.200	57.6
	456.600	55.6
869.01	---	---
881.52	451.4625	53.8
	472.8625	52.8
894.00	457.700	52.0
	479.100	52.0

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