

Federal Communications Commission

§2.1517

Amplitude scale: 5 dB/div.
Scan width: 10 kHz/div.
Center frequency: 121.5 MHz

Step (3) Record the amplitude in dBm.

Step (4) Calculate the total power output by adding $10 \log(D)$, where D is the modulation duty cycle determined in §2.1513(d) of this part, to the recorded signal level.

Step (5) Set the spectrum analyzer controls as follows:

I.F. bandwidth: 60 Hz or less
Video filter: OFF or as wide as possible
Scan time: 10 sec./div.
Amplitude scale: 5 dB/div.
Scan width: 20 Hz/div.
Center frequency: 121.5 MHz

Step (6) Measure and record the carrier power dBm as displayed on the spectrum analyzer.

Step (7) Calculate the ratio of carrier power to total power from Steps 4 and 6 using the following formula:

$$\frac{\text{carrier power}}{\text{total power}} = \log_{10}^{-1} \left[\frac{\text{dB}_c - \text{dB}_T}{10} \right]$$

dB_c = carrier power in step 6

dB_T = total power in step 4

Step (8) Record instrument settings, sample calculation and the percent of power within ± 30 Hz at 121.5 MHz or ± 60 Hz at 243 MHz of the carrier frequency.

Step (9) Repeat the above measurement Steps 1 through 8 for 243 MHz. For the higher frequency, the I.F. bandwidth in step 5 must be 120 Hz or less.

(d) *Carrier frequency test.* The setup specified in §2.1515(a) is to be used in measuring the carrier frequency.

Step (1) Activate the EPIRB and locate the 121.5 MHz signal on the spectrum analyzer. Adjust location of receiving antenna and spectrum analyzer controls to obtain a suitable signal level.

Step (2) Set the spectrum analyzer controls as follows:

I.F. bandwidth: 100 Hz
Video filter: OFF or as wide as possible
Scan time: 10 sec./div.
Amplitude scale: 10 dB/div.
Scan width: 20 Hz/div.
Center frequency: 121.5 MHz

Step (3) Combine the output of the signal generator with the EPIRB signal at the input to the spectrum analyzer.

Step (4) Adjust amplitude and frequency of signal generator output to determine center of carrier frequency component.

Step (5) Measure signal generator frequency with frequency counter with accuracy of 5 PPM or better and record as carrier frequency.

Step (6) If applicable, change the type of modulation of the EPIRB and record the shift in carrier frequency as observed on the spectrum analyzer display.

Step (7) Repeat the above measurement Steps 1 through 6 for 243 MHz.

[56 FR 11683, Mar. 20, 1991; 60 FR 47302, Sept. 12, 1995]

DATA RECORDING/REPORTING REQUIREMENTS

§2.1517 Data recording/reporting requirements.

The test report for an EPIRB shall contain the following information:

(a) Specific identification, including the FCC ID, model and serial numbers, of the EPIRB under test.

(b) The name and location of the test sites used for the measurements.

(c) A description of the instrumentation and equipment, including antennas, used to perform the tests. For purchased equipment, the type, manufacturer and model number are generally sufficient as a description.

(d) The test results and associated comparative information.

(e) A description of any modifications made to the EUT or other system components during the testing.

(f) A description and justification of all deviations from the procedures described herein.

(g) The name and qualifications of the person responsible for the tests.

(h) The date the tests were performed.

(i) A statement signed by the individual responsible for the test that the EPIRB as tested complies or does not comply with the applicable FCC rules.

(j) A statement signed by the individual responsible, either directly or indirectly, for production or marketing of the device tested that the unit tested is representative of the equipment that all be marketed.