Number of message circuits that modulate the transmitter	Number of dB by which the average power (P_{avg}) level test signal shall exceed the modulation reference level	Limits of P_{avg} (dBm0)
More than 3, but less than 12	To be specified by the equipment manufacturer subject to FCC approval.	
At least 12, but less than 60	$X+2 \log_{10} N_c$	X: −2 to +2.6
At least 60, but less than 240	$X+4 \log_{10} N_c$	X: −5.6 to −1.0
240 or more	$X+10 \log_{10} N_c$	X: −19.6 to −15.0

Where X represents the average power in a message circuit in dBm0; N_c is the number of circuits in the multiplexed message load. P_{avg} shall be selected by the transmitter manufacturer and included with the technical data submitted with the application for type acceptance. (See §2.202(e) in this chapter.)

(g) Transmitters in which the modulating baseband comprises not more than three independent channels— when modulated by the full complement of signals for which the transmitter is rated. The level of modulation for each channel should be set to that prescribed in rule parts applicable to the services for which the transmitter is intended. If specific modulation levels are not set forth in the rules, the tests should provide the manufacturer's maximum rated condition.

(h) Transmitters employing digital modulation techniques—when modulated by an input signal such that its amplitude and symbol rate represent the maximum rated conditions under which the equipment will be operated. The signal shall be applied through any filter networks, pseudo-random generators or other devices required in normal service. Additionally, the occupied bandwidth shall be shown for operation with any devices used for modifying the spectrum when such devices are optional at the discretion of the user.

(i) Transmitters designed for other types of modulation—when modulated by an appropriate signal of sufficient amplitude to be representative of the type of service in which used. A description of the input signal should be supplied.

(Secs. 4, 303, 307, 48 Stat., as amended, 1066, 1082, 1083; 47 U.S.C. 154, 303, 307)

[39 FR 5919, Feb. 15, 1974, as amended at 39 FR 35664, Oct. 3, 1974; 47 FR 13164, Mar. 29, 1982; 48 FR 16493, Apr. 18, 1983; 49 FR 18105, Apr. 27, 1984. Redesignated at 63 FR 36599, July 7, 1998]

§ 2.1051 Measurements required: Spurious emissions at antenna terminals.

The radio frequency voltage or powers generated within the equipment and appearing on a spurious frequency shall be checked at the equipment output terminals when properly loaded with a suitable artificial antenna. Curves or equivalent data shall show the magnitude of each harmonic and other spurious emission that can be detected when the equipment is operated under the conditions specified in §2.1049 as appropriate. The magnitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be specified.

[39 FR 5919, Feb. 15, 1974. Redesignated and amended at 63 FR 36599, July 7, 1998]

§ 2.1053 Measurements required: Field strength of spurious radiation.

(a) Measurements shall be made to detect spurious emissions that may be radiated directly from the cabinet, control circuits, power leads, or intermediate circuit elements under normal conditions of installation and operation. Curves or equivalent data shall be supplied showing the magnitude of each harmonic and other spurious emission. For this test, single sideband, independent sideband, and controlled carrier transmitters shall be modulated under the conditions specified in paragraph (c) of §2.1049, as appropriate. For equipment operating on frequencies below 890 MHz, an open field test is normally required, with the measuring instrument antenna located in the far-field at all test frequencies. In the event it is either impractical or impossible to make open field measurements (e.g. a broadcast transmitter installed in a building) measurements will be accepted of the equipment as installed. Such measurements must be accompanied by a description of the site where the measurements were made showing the location of any possible source of reflections which might distort the field