

(10) Receiver Power Output—

The Standard Power Output for loudspeaker reception shall be 100 mW measured into a resistance substantially equal to the modulus of the impedance of the loudspeaker at 1000 Hz, the value of which shall be declared by the manufacturer.

(11) Standard Test Receiver—The Standard Test Receiver shall consist of a receiver, suitable for the reception of the relevant class of emission, which complies with clauses 7 (2) and 7 (4) of this Part of this Schedule.

(12) Test Frequencies—For the purpose of type-testing, the equipment may be tested on any frequency within the range 1605 kHz to 6525 kHz. The normal test frequencies will be 1606 kHz, 2182 kHz, 4139.5 kHz, and 6213.5 kHz.

6. Transmitter Performance—(I) Power Rating—The rated peak envelope power of the transmitter shall for the purpose of this Schedule be taken as the maximum peak envelope power of the transmitter as declared by the manufacturer.

The rated peak envelope power of the transmitter shall be not more than 400 watts nor less than 60 watts in the full power condition and not more than 50 watts nor less than 5 watts in the reduced power condition.

(2) Frequency—The transmitter shall be operated under Standard Test Conditions, except that A3H and A3A emissions shall be unmodulated. The following conditions shall be met:

(a) **Frequency Error—**The maximum deviation of the output frequency with respect to the nominal carrier or reference frequency, whichever is relevant, shall not exceed ± 100 Hz under any condition of test:

(b) **Short Term Stability—**Over a 15-minute period, at Standard Ambient Temperature and Standard Test Voltage, the difference between the maximum and minimum output frequency shall not exceed 20 Hz:

(c) **Frequency Variation due to Vibration—**During the vibration test (clause 5 (5)), any frequency deviation of the output signal shall be measured using a suitable discriminator and shall not exceed ± 25 Hz.

(3) Overall Modulation Requirement—The transmitter microphone shall be subjected to a 1000 Hz sinusoidal sound tone (with less than $2\frac{1}{2}$ percent distortion) at a level, in the plane of the mouthpiece, 94dB above the audio reference level of 2×10^{-5} N/m².

In the A3H mode, the transmitter shall modulate to at least 50 percent (sideband power of 6dB or less below the carrier power).

In the A3J and A3A modes, the measured peak envelope power shall not be more than 6dB below the rated peak envelope power as stated by the manufacturer.

(4) Transmitter Audio-frequency Response—The audio-frequency response shall include the close-talking response of the microphone by either suitable acoustic coupling or by adjustment of the level of the signal source replacing the microphone so that it conforms with the measured close-talking response of the microphone.

The audio-frequency response of the microphone and transmitter together shall either—

(a) Be within ± 7.5 dB of a value which rises at the rate of 6dB per octave from 350 to 2700 Hz; or

(b) Cover the frequency range 350 to 2700 Hz with a maximum permissible amplitude variation of 8dB.

In either case, the response relative to the response at 1000 Hz shall be more than 30dB down at frequencies above 4000 Hz. During this test the sideband level shall be set low enough to preclude operation of any audio-frequency compression, and the measurement shall be made by observation of the sideband level variation on a spectrum analyser.

(5) Unwanted Emissions—

(a) **Definition—**For the purpose of this Schedule, unwanted emissions shall include intermodulation and harmonic products, lower sideband, and spurious emissions:

(b) **Conditions of Test—**The transmitter shall be modulated simultaneously with 2 sinusoidal tones applied to the microphone input terminals at frequencies of 700 Hz and 2300 Hz, respectively, and at such a level that at Standard Ambient Air Temperature and Standard Test Voltage the following conditions are obtained:

(i) For A3H emissions, at a level such that each tone, if applied separately, would give 25 percent modulation (sideband power of 12dB below the carrier power):

(ii) For A3J and A3A emissions, at a level such that each tone, if applied separately, would give 25 percent of the rated peak envelope power as stated by the manufacturer.

The level of the tones shall then be increased by 14dB.

Following the above procedure, the transmitter shall be operated under Standard Test Conditions with the exception of clause 5 (6) 'Transmitter Modulation'.

(c) **Specified Limits—**The power of any unwanted emission supplied by the transmitter to the antenna transmission line on any discrete frequency shall be in accordance with the following:

| Separation, Δ , in kHz Between the Frequency of the Unwanted Emission and the Assigned Frequency | Minimum Attenuation Below Peak Envelope Power (measured) dB |
|---|---|
| $\Delta = 0$ and $\Delta = + 0.7$ | 25 |
| $1.6 < \Delta \leq 4.8$ | 28 |
| $4.8 < \Delta \leq 8.0$ | 38 |
| $8.0 < \Delta$ | 43 |

(6) Compressor Characteristics—With the test conditions of subclause (5) (b) of this clause, after increasing the audio frequency input signal by 14dB as a step function, the time taken—

(a) To reduce the output by 63 percent of the amplitude difference between the initial peak and final value; or

(b) For the output after the initial peak to reach a level not more than 0.5dB above the final value, whichever is the greater—shall not exceed 3 milliseconds.

Alternatively the output shall not at any time exceed a value 0.5dB above the final value after the input has been increased by 14dB, in which case the above conditions shall not apply.

If the transient output decreases below the final value, the time taken for the output to increase again to a level not more than 1dB below the final value shall not exceed 100 milliseconds, this time being measured from the time of application of the 14dB level change.

(7) Power Output—With the test conditions of subclause (5) (b) of this clause, before and after increasing the audio frequency input signal by 14dB, the measured value of peak envelope power output shall be within the limits +1dB and -3dB relative to the rated peak envelope power (subclause (1) of this clause), but not less than 60 watts in the full power condition.

(8) Reduced Power Operation—In the reduced power condition, the transmitter shall meet the following requirements at Standard Ambient Air Temperature and Standard Test Voltage:

(a) **Frequency—**Subclause (2) of this clause:

(b) **Overall Modulation Requirement—**Subclause (3) of this clause:

(c) **Unwanted Emissions—**Subclause (5) of this clause:

(d) **Compressor Characteristics—**Subclause (6) of this clause: