in the safe harbor for that channel or programming.

(*2*) If the follow-up spot check shows noncompliance with the ATSC A/85 RP, the cable operator or other MVPD will not be in the safe harbor with respect to commercials contained in programming for which the spot check showed noncompliance until a subsequent spot check shows that the programming is in compliance.

(4) *Use of a real-time processor*. A cable operator or other MVPD that installs, maintains and utilizes a real-time processor in a commercially reasonable manner will be deemed in compliance with the ATSC A/85 RP with regard to any commercial advertisements on which it uses such a processor, so long as it also:

(i) Provides records showing the consistent and ongoing use of this equipment in the regular course of business and demonstrating that the equipment has undergone commercially reasonable periodic maintenance and testing to ensure its continued proper operation;

(ii) Certifies that it either has no actual knowledge of a violation of the ATSC A/85 RP, or that any violation of which it has become aware has been corrected promptly upon becoming aware of such a violation; and

(iii) Certifies that its own transmission equipment is not at fault for any pattern or trend of complaints.

(5) *Commercials locally inserted by a cable operator or other MVPD's agent—safe harbor*. With respect to commercials locally inserted, which for the purposes of this provision are commercial advertisements added to a programming stream for the cable operator or other MVPD by a third party after it has been received from the programmer but prior to or at the time of transmission to viewers, a cable operator or other MVPD may demonstrate compliance with the ATSC A/85 RP by relying on the third party local inserter's certification of compliance with the ATSC A/85 RP, provided that:

(i) The cable operator or other MVPD has no reason to believe that the certification is false;

(ii) The cable operator or other MVPD certifies that its own transmission equipment is not at fault for any pattern or trend of complaints; and

(iii) The cable operator or other MVPD performs a spot check, as defined in § 76.607(a)(3)(iv)(A), (B), (D), and (E), on the programming at issue in response to an enforcement inquiry concerning a pattern or trend of complaints regarding commercials inserted by that third party.

(6) Instead of demonstrating compliance pursuant to paragraphs (a)(2) through (5) of this section, a cable operator or other MVPD may demonstrate compliance with paragraph (a)(1) of this section in response to an enforcement inquiry prompted by a pattern or trend of complaints by demonstrating actual compliance with ATSC A/85 RP with regard to the commercial advertisements that are the subject of the inquiry, and certifying that its own transmission equipment is not at fault for any such pattern or trend of complaints.

NOTE TO § 76.607(A): For additional information regarding this requirement, *see* Implementation of the Commercial Advertisement Loudness Mitigation (CALM) Act, FCC 11–182.

(b) [Reserved]

[77 FR 40300, July 9, 2012]

EFFECTIVE DATE NOTE: At 77 FR 40300, July 9, 2012, § 76.607 was added, effective Dec. 13, 2012.

§ 76.609 Measurements.

(a) Measurements made to demonstrate conformity with the performance requirements set forth in §§ 76.601 and 76.605 shall be made under conditions which reflect system performance during normal operations, including the effect of any microwave relay operated in the Cable Television Relay (CARS) Service intervening between pickup antenna and the cable distribution network. Amplifiers shall be operated at normal gains, either by the insertion of appropriate signals or by manual adjustment. Special signals inserted in a cable television channel for measurement purposes should be operated at levels approximating those used for normal operation. Pilot tones, auxiliary or substitute signals, and nontelevision signals normally carried on the cable television system should

be operated at normal levels to the extent possible. Some exemplary, but not mandatory, measurement procedures are set forth in this section.

(b) When it may be necessary to remove the television signal normally carried on a cable television channel in order to facilitate a performance measurement, it will be permissible to disconnect the antenna which serves the channel under measurement and to substitute therefor a matching resistance termination. Other antennas and inputs should remain connected and normal signal levels should be maintained on other channels.

(c) As may be necessary to ensure satisfactory service to a subscriber, the Commission may require additional tests to demonstrate system performance or may specify the use of different test procedures.

(d) The frequency response of a cable television channel may be determined by one of the following methods, as appropriate:

(1) By using a swept frequency or a manually variable signal generator at the sending end and a calibrated attenuator and frequency-selective voltmeter at the subscriber terminal; or

(2) By using either a multiburst generator or vertical interval test signals and either a modulator or processor at the sending end, and by using either a demodulator and either an oscilloscope display or a waveform monitor display at the subscriber terminal.

(e) System noise may be measured using a frequency-selective voltmeter (field strength meter) which has been suitably calibrated to indicate rms noise or average power level and which has a known bandwidth. With the system operating at normal level and with a properly matched resistive termination substituted for the antenna, noise power indications at the subscriber terminal are taken in successive increments of frequency equal to the bandwidth of the frequency-selective voltmeter, summing the power indications to obtain the total noise power present over a 4 MHz band centered within the cable television channel. If it is established that the noise level is constant within this bandwidth, a single measurement may be taken which is corrected by an appropriate factor representing the ratio of 4 MHz to the noise bandwidth of the frequency-selective voltmeter. If an amplifier is inserted between the frequency-selective voltmeter and the subscriber terminal in order to facilitate this measurement, it should have a bandwidth of at least 4 MHz and appropriate corrections must be made to account for its gain and noise figure. Alternatively, measurements made in accordance with the NCTA Recommended Practices for Measurements on Cable Television Systems, 2nd edition, November 1989, on noise measurement may be employed.

(f) The amplitude of discrete frequency interfering signals within a cable television channel may be determined with either a spectrum analyzer or with a frequency-selective voltmeter (field strength meter), which instruments have been calibrated for adequate accuracy. If calibration accuracy is in doubt, measurements may be referenced to a calibrated signal generator, or a calibrated variable attenuator, substituted at the point of measurement. If an amplifier is used between the subscriber terminal and the measuring instrument, appropriate corrections must be made to account for its gain.

(g) The terminal isolation between any two terminals in the cable television system may be measured by applying a signal of known amplitude to one terminal and measuring the amplitude of that signal at the other terminal. The frequency of the signal should be close to the midfrequency of the channel being tested. Measurements of terminal isolation are not required when either:

(1) The manufacturer's specifications for subscriber tap isolation based on a representative sample of no less than 500 subscribers taps or

(2) Laboratory tests performed by or for the operator of a cable television system on a representative sample of no less than 50 subscriber taps, indicates that the terminal isolation standard of §76.605(a)(9) is met.

To demonstrate compliance with §76.605(a)(9), the operator of a cable television system shall attach either such

manufacturer's specifications or laboratory measurements as an exhibit to each proof-of-performance record.

(h) Measurements to determine the field strength of the signal leakage emanated by the cable television system shall be made in accordance with standard engineering procedures. Measurements made on frequencies above 25 MHz shall include the following:

(1) A field strength meter of adequate accuracy using a horizontal dipole antenna shall be employed.

(2) Field strength shall be expressed in terms of the rms value of synchronizing peak for each cable television channel for which signal leakage can be measured.

(3) The resonant half wave dipole antenna shall be placed 3 meters from and positioned directly below the system components and at 3 meters above ground. Where such placement results in a separation of less than 3 meters between the center of the dipole antenna and the system components, or less than 3 meters between the dipole and ground level, the dipole shall be repositioned to provide a separation of 3 meters from the system components at a height of 3 meters or more above ground.

(4) The horizontal dipole antenna shall be rotated about a vertical axis and the maximum meter reading shall be used.

(5) Measurements shall be made where other conductors are 3 or more meters (10 or more feet) away from the measuring antenna.

(i) For systems using cable traps and filters to control the delivery of specific channels to the subscriber terminal, measurements made to determine compliance with §76.605(a) (5) and (6) may be performed at the location immediately prior to the trap or filter for the specific channel. The effects of these traps or filters, as certified by the system engineer or the equipment manufacturer, must be attached to each proof-of-performance record.

(j) Measurements made to determine the differential gain, differential phase and the chrominance-luminance delay inequality (chroma delay) shall be made in accordance with the NCTA Recommended Practices for Measurements on Cable Television Systems, 2nd edition, November 1989, on these parameters.

[37 FR 3278, Feb. 12, 1972, as amended at 37 FR 13867, July 14, 1972; 41 FR 10067, Mar. 9, 1976; 42 FR 21782, Apr. 29, 1977; 49 FR 45441, Nov. 16, 1984; 57 FR 11004, Apr. 1, 1992; 57 FR 61011, Dec. 23, 1992; 58 FR 44952, Aug. 25, 1993]

§ 76.610 Operation in the frequency bands 108–137 and 225–400 MHz—scope of application.

The provisions of §§76.605(a)(12), 76.611, 76.612, 76.613, 76.614, 76.616, 76.617, 76.1803 and 76.1804 are applicable to all MVPDs (cable and non-cable) transmitting carriers or other signal components carried at an average power level equal to or greater than 10^{-4} watts across a 25 kHz bandwidth in any 160 microsecond period, at any point in the cable distribution system in the frequency bands 108–137 and 225–400 MHz for any purpose. Exception: Non-cable MVPDs serving less than 1000 subscribers and less than 1000 units do not have to comply with §76.1803.

[69 FR 57862, Sept. 28, 2004]

§ 76.611 Cable television basic signal leakage performance criteria.

(a) No cable television system shall commence or provide service in the frequency bands 108–137 and 225–400 MHz unless such systems is in compliance with one of the following cable television basic signal leakage performance criteria:

(1) Prior to carriage of signals in the aeronautical radio bands and at least once each calendar year, with no more than 12 months between successive tests thereafter, based on a sampling of at least 75% of the cable strand, and including any portion of the cable system which are known to have or can reasonably be expected to have less leakage integrity than the average of the system, the cable operator demonstrates compliance with a cumulative signal leakage index by showing either that (i) 10 log I_{3000} is equal to or less than -7 or (ii) 10 log I_{00} is equal to or less than 64, using one of the following formula:

$$I_{3000} = \frac{1}{\emptyset} \sum_{i=1}^{n} \frac{E_i^2}{R_i^2},$$