

Response to Inquiry to FCC (Tracking Number 679491).txt

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From: Generic Office of Engineering Technology <oetech@fccsun27w.fcc.gov>
Subject: Response to Inquiry to FCC (Tracking Number 679491)
To: dbare@elliottlabs.com

Inquiry:

Proposed test procedure for a FM transmitter for use with Apple iPods.

The EUT connects directly to an Apple iPod. The transmitter's signal is received by standard FM receivers.

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Unless otherwise stated, the test will be performed with the product connected to an iPod playing a 0dB 1kHz audio file.

Fundamental Measurement

On a 3m OATS or Semi Anechoic Chamber (SAC) -

Place the EUT on the turntable, lying flat

Set EUT to transmit at the lowest channel in the operating range of the EUT, typically 88.1 MHz.

Maximize the emissions by rotating the turntable, changing the antenna height, and polarity.

Measure the fundamental using an average detector.

Record the measurement and compare to a limit of 48 dBuV/m.

Repeat steps 2-5 with the EUT standing vertically

Repeat steps 2-5 with the EUT lying on a side

Repeat all steps with the EUT tuned to a middle channel, typically 98.1 MHz, and high channel, typically 107.9 MHz

If all measurements are compliant with the 48 dBuV/m requirement, then the unit is compliant with the fundamental requirement of 15.239(b).

Spurious Emissions

On a 3m OATS or SAC -

Set EUT to transmit at the lowest channel in the operating range of the EUT, typically 88.1 MHz.

Place the EUT on the turntable in the orientation that resulted in the highest emissions level at the fundamental for the channel selected

Perform a standard FCC Part 15 Class B radiated emissions test.

Ignore the emissions from the fundamental.

All emissions, other than the fundamental, must meet the FCC Part 15.209 emissions limit

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If all the measurements are compliant with the FCC 15.209 requirement, then the unit is compliant with the fundamental requirement 15.239(c).

Bandwidth Measurement

Set EUT to transmit at the lowest channel in the operating range of the EUT, typically 88.1 MHz.

Using a near field probe located close the EUT, set up a spectrum analyzer with the signal from the EUT centered on the display.

Set the RS BW to 10kHz, and the VB to 30 kHz.

Using the Elliott software, capture the -20dB bandwidth of the emission

Record the value reported back. It should be less than 200 kHz.

Repeat the above steps for the middle and high channel.

If the -20dB measurements are less than 200 kHz, then the EUT is compliant with the requirement 15.239 (a) and 15.209 at the bandedge.

Response:

The test signal used for all tests must be a typical music audio file with volume turned up to maximum level.

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