

CD&T

FCC ID: PAV-IMIC2020

A. DEVICE UNDER TEST

The device is a USB connectable computer peripheral device for converting audio signals into digital code and to reconvert digital coded audio back to analog. The device is powered from the computer through the 5 volt supply line of a USB port and is internally regulated down to 3.3 volts. The device is configured around a Philips UDA1325H USB codec clocked at 48 MHz. with an on board crystal. This device does not operate as a stand alone product.

B. MEASUREMENT PROCEDURE: RADIATED EMISSIONS

Testing of this device was conducted at the Hyak Laboratories facility in Spotsylvania, Virginia.

Field strength measurements were conducted according to the procedures set forth in ANSI C63.4 (1992). The device was connected to a current production desktop computer system and placed on a rotating turntable 0.8 meters high, centered at 3 meters distant from the measurement antenna. The device was positioned in the center of the turntable and tested as shown in the photographs. Interconnections between the test computer and the device were arranged to yield the maximum level of emissions.

The field strength measurements were taken using an HP8596E spectrum analyzer, a Compliance Design biconical antenna set and an Avantek UJ210 preamp. The device was scanned from 30MHz. to 1GHz. and all emissions were noted. During the test, the device was periodically disconnected from the test computer in order to separate out the emissions that were emanating from the computer and to determine if any emissions generated by the computer were increased by the presence of the device.

At each detected frequency of emission, the device was measured by rotating the turntable and adjusting the antenna height over a range of 1 to 4 meters to obtain the maximum output level. This procedure was performed with both horizontal and vertical antenna polarizations with the device placed in the position described above. The peak reading for each frequency was recorded. The readings and calculated field strength appear in Table 1.

C. MEASUREMENT PROCEDURE: CONDUCTED EMISSIONS

Line conducted measurements were taken using an HP8591E spectrum analyzer and a Compliance Design LISN. Scans were run from 450KHz to 30MHz and plotted on an HP7475A pen plotter. Peaks are identified with markers. To determine the contribution by the device to the overall conducted emissions; a separate set of plots was taken to record the conducted levels generated by the test computer. These plots are identified as "computer ambient".

Table 1

RADIATED EMISSIONS				FCC ID: PAV-IMIC2020 MODEL: IMIC-1500			
CFR V47 15.109(a)		ANTENNA: BICONICALS		TEST DATE: 29-JAN-01			
Frequency MHz.	Ant. H/V	Ant. Factor dB	Peak reading dBm	Duty cycle dB	Peak power uV/m@3m	Adjusted power uV/m@3m	FCC limit uV/m3m
31.530	V	9.8	-97.06		10		100
33.351	V	9.7	-98.22		8		100
35.032	V	9.4	-99.81		7		100
48.000	H	10.3	-84.17		45		100
48.330	V	10.3	-92.73		17		100
52.721	H	10.6	-91.07		21		100
57.113	H	10.4	-90.84		21		100
60.050	H	10.1	-86.33		35		100
61.443	V	9.6	-86.60		32		100
64.004	V	9.1	-84.78		37		100
65.880	H	8.5	-83.99		38		100
66.650	H	8.1	-96.14		9		100
68.004	V	7.6	-92.40		13		100
70.268	H	7.1	-89.23		18		100
72.004	H	6.6	-85.94		24		100

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Table 1 cont.

Frequency MHz.	Ant. H/V	Ant. Factor dB	Peak reading dBm	Duty cycle dB	Peak power uV/m@3m	Adjusted power uV/m@3m	FCC limit uV/m3m
73.725	H	6.3	-90.26		14		100
83.258	H	6.8	-90.03		15		100
87.758	H	8.4	-86.22		29		100
90.981	H	9.5	-91.36		18		150
96.000	H	10.4	-90.71		22		150
98.302	H	10.6	-92.13		19		150
100.086	H	10.9	-97.43		11		150
104.448	H	11.6	-93.38		18		150
109.767	H	12.7	-95.81		16		150
118.546	H	12.6	-92.73		22		150
120.099	H	12.5	-92.06		24		150
128.006	H	12.3	-93.42		20		150
131.760	H	12.4	-94.54		17		150
144.001	H	12.8	-92.67		23		150
147.450	H	12.9	-95.90		16		150
153.802	H	13.7	-98.03		14		150
159.336	H	15.2	-96.55		19		150
163.540	H	16.2	-99.48		15		150
168.001	V	17.3	-98.10		20		150
173.413	V	18.2	-99.71		19		150
181.207	V	15.6	-97.45		18		150
240.005	H	19.0	-102.47		15		200
288.007	H	22.1	-98.78		33		200
336.005	H	23.5	-99.03		37		200
384.008	H	23.8	-96.11		54		200
432.009	H	25.1	-101.03		36		200
480.010	H	26.0	-99.34		48		200
492.006	V	26.1	-101.78		37		200
528.011	V	26.9	-102.73		36		200
533.117	H	27.7	-105.95		27		200
576.011	V	28.3	-102.40		44		200
624.012	V	28.6	-105.29		33		200
672.014	V	29.0	-108.51		24		200
720.014	V	29.6	-110.35		21		200
768.016	V	30.3	-109.24		25		200
788.916	H	30.5	-114.84		14		200
816.017	H	30.7	-112.99		17		200
864.019	H	31.1	-119.82		8		200
877.583	H	31.3	-116.58		12		200
879.750	H	31.3	-119.26		9		200