



FCC ID.: JFZLP120XBT
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IEEE C95.1
KDB 447498 D03
47 C.F.R. Part 1, Subpart I, Section 1.1310
47 C.F.R. Part 2, Subpart J, Section 2.1091

RF EXPOSURE REPORT

For

DIRECT DRIVE Turntable

Model: AT-LP120XBT-USB

Data Applies To: N/A

Trade Name: audio-technica

Issued to

Audio-Technica Corporation
2-46-1 Nishi-naruse, Machida, Tokyo 194-8666, JAPAN

Issued By

Compliance Certification Services Inc.
No.11, Wugong 6th Rd., Wugu Dist.,
New Taipei City 24891, Taiwan. (R.O.C.)
Issued Date: August 22, 2019

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部分複製。

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REVISION HISTORY

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	July 16, 2019	Initial Issue	ALL	Angel Cheng
01	August 22, 2019	See the following note rev.01	ALL	Angel Cheng

Note:

- ※ Rev.00 Issue Date: July 16, 2019
Original Report
- ※ Rev.01 Issue Date: August 22, 2019
Revise modulation technique.



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1. TEST RESULT CERTIFICATION

We hereby certify that:

The equipment has been tested by Compliance Certification Services Inc., and found compliance with the requirement of the applicable standards. The test record, data evaluation and Equipment under Test (EUT) configurations represented herein are true and accurate accounts of the measurement of the sample's RF characteristics under the conditions specified in this report.

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
IEEE C95.1 2005 KDB 447498 D03 47 C.F.R. Part 1, Subpart I, Section 1.1310 47 C.F.R. Part 2, Subpart J, Section 2.1091	No non-compliance noted
Statements of Conformity	
Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.	

Approved by:

Reporter:

Kevin Tsai
Deputy Manager
Compliance Certification Services Inc.

Angel Cheng
Report coordinator
Compliance Certification Services Inc.

2. LIMIT

According to §15.247(i), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. See § 1.1307(b)(1) of this chapter.

3. EUT SPECIFICATION

EUT	DIRECT DRIVE Turntable		
Model	AT-LP120XBT-USB		
Brand	audio-technica		
RF Module	GT-TRONICS	Model:	BC870
Frequency band (Operating)	<input type="checkbox"/> 802.11b/g/n HT20: 2412MHz ~ 2462MHz 802.11n HT40: 2422MHz ~ 2452MHz <input checked="" type="checkbox"/> Others 2402MHz ~ 2480MHz (BT3.0 BT 4.0)		
Device category	<input type="checkbox"/> Portable (<20cm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation) <input type="checkbox"/> Others		
Exposure classification	<input type="checkbox"/> Occupational/Controlled exposure (S = 5mW/cm ²) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1.65mW/cm ²)		
Antenna Specification	Multilayer Chip Antenna / Gain:	1.5 dBi	(Numeric gain: 1.41) worst
Maximum Output power	GFSK: 8-DPSK GFSK(4.0)	-10.13 dBm -6.06 dBm -6.16 dBm	(0.097 mW) (0.248 mW) (0.242 mW)
Maximum Average output power	GFSK: 8-DPSK GFSK(4.0)	-12.12 dBm -12.42 dBm -8.69 dBm	(0.061 mW) (0.057 mW) (0.135 mW)
Maximum Tune up Power	GFSK: 8-DPSK: GFSK(4.0)	-11.62 dBm -11.92 dBm -8.19 dBm	(0.069 mW) (0.064 mW) (0.152 mW)
Evaluation applied	<input checked="" type="checkbox"/> MPE Evaluation* <input type="checkbox"/> SAR Evaluation <input type="checkbox"/> N/A		
Reported Date	July 16, 2019		

4. TEST RESULTS

No non-compliance noted.

Calculation

Given $E = \frac{\sqrt{30 \times P \times G}}{d}$ & $S = \frac{E^2}{377}$

Where E = Field strength in Volts / meter

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{377 d^2}$$

Changing to units of mW and cm, using:

$$P \text{ (mW)} = P \text{ (W)} / 1000 \text{ and}$$

$$d \text{ (cm)} = d \text{ (m)} / 100$$

Yields

$$S = \frac{30 \times (P/1000) \times G}{377 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2} \quad \text{Equation 1}$$

Where d = Distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²



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5. MAXIMUM PERMISSIBLE EXPOSURE

Substituting the MPE safe distance using $d = 20$ cm into Equation 1:

$$S = 0.000199 \times P \times G$$

Where P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

GFSK:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)	Result
Low	2402	0.069	1.41	20	0.00002	1	Pass

8-DPSK:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)	Result
Low	2402	0.064	1.41	20	0.00002	1	Pass

GFSK(4.0):

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)	Result
Mid	2442	0.152	1.41	20	0.00004	1	Pass