RF EXPOSURE Test Report

Report No.:	MTi240710008-01E2
Date of issue:	2024-07-30
Applicant:	Modern Marketing Concepts, Inc.
Product:	RIFF RECORD PLAYER WITH SPEAKERS
Model(s):	CR7502A-WA, CR7502A-XX, CR7502X- XX can be replaced by letter from "A" to " Z", number from "0" to "9" or blank.
FCC ID:	AUSCR7502A

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Instructions

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4. This report is invalid if transferred, altered or tampered with in any form without authorization;
5. Any objection to this report shall be submitted to the laboratory within 15 days from the date of receipt of the report.

Test Result Certification	
Applicant:	Modern Marketing Concepts, Inc.
Address:	1220 E Oak St. Louisville Kentucky United States
Manufacturer:	Modern Marketing Concepts, Inc.
Address:	1220 E Oak St. Louisville Kentucky United States
Product description	
Product name:	RIFF RECORD PLAYER WITH SPEAKERS
Trademark:	CROSLEY
Model name:	CR7502A-WA
Serial Model:	CR7502A-XX, CR7502X- XX can be replaced by letter from "A" to " Z", number from "0" to "9" or blank.
Standards:	47 CFR Part 2.1091
Test procedure:	KDB 447498 D01 v06
Date of Test	
Date of test:	2024-07-24 to 2024-07-30
Test result:	Pass

Test Engineer	:	James Qin
		(James Qin)
Reviewed By	:	David. Lee
		(David Lee)
Approved By	:	Leon chen
		(Leon Chen)

RF EXPOSURE EVALUATION

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) Radiation as specified in §1.1307(b)

Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	$*900/f^2$	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	$*180/f^2$	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz * = Plane-wave equivalent power density

MPE Calculation Method

Friis transmission formula: $Pd= (Pout*G)\ (4*pi*R^2)$

Where

Pd= Power density in mW/cm^2

Pout=output power to antenna in mW

G= Numeric gain of the antenna relative to isotropic antenna

Pi=3.1415926

R= distance between observation point and center of the radiator in cm(20cm)

Pd the limit of MPE, $1mW/cm^2$. If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

Measurement Result

BT:

Operation Frequency: 2402-2480MHz,

Power density limited: 1mW/ cm^2

Antenna Type: PCB Antenna;

Antenna gain: 1.2 dBi

R=20cm

mW=10^(dBm/10)

Antenna gain Numeric=10^(dBi/10)= 10^(1.2/10)=1.32

BR+EDR:

Channel Freq. (MHz)	modulation	conducted power	Tune-up power (dBm)	Max		Antenna		Evaluation result	Power density Limits
		(dBm)		tune-up power		Gain		(mW/cm^2)	(mW/cm^2)
				(dBm)	(mW)	(dBi)	Numeric		
2402	GFSK	-10.67	-10±1	-9	0.126	1.2	1.32	0.000033	1
2441		-11.15	-11±1	-10	0.100	1.2	1.32	0.000026	1
2480		-12.08	-12±1	-11	0.079	1.2	1.32	0.000021	1
2402	π/4-DQPSK	-9.11	-9±1	-8	0.158	1.2	1.32	0.000042	1
2441		-9.7	-9±1	-8	0.158	1.2	1.32	0.000042	1
2480		-10.26	-10±1	-9	0.126	1.2	1.32	0.000033	1
2402	8DPSK	-8.54	-8±1	-7	0.200	1.2	1.32	0.000052	1
2441		-9.28	-9±1	-8	0.158	1.2	1.32	0.000042	1
2480		-10.52	-10±1	-9	0.126	1.2	1.32	0.000033	1

Conclusion:

For the max result: 0.000052≤ 1.0 SAR, No SAR is required.

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