RF Exposure Evaluation Report

APPLICANT	**:**	**Vlado L.L.C.**
EQUIPMENT	**:**	**HDMI Digital Media Receiver**
MODEL NAME	**:**	**LY73PR**
FCC ID	**:**	**2AE6S-0948**
STANDARD	**:**	**47 CFR Part 2.1091**

We, SPORTON INTERNATIONAL INC., would like to declare that the device has been evaluated in accordance with 47 CFR Part 2.1091, and pass the limit. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by: Eric Huang / Deputy Manager

Approved by: Jones Tsai / Manager

Testing Laboratory
1190

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA632203-01	Rev. 01	Initial issue of report	Jul. 25, 2016

1. Administration Data

1.1. Testing Laboratory

Testing Laboratory	
Test Site	SPORTON INTERNATIONAL INC.
Test Site Location	No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978

Applicant	
Company Name	Vlado L.L.C.
Address	101 Eisenhower Pkwy, Suite 300, Roseland, NJ, 07068, US 07068

2. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	HDMI Digital Media Receiver
Model Name	LY73PR
FCC ID	2AE6S-0948
Wireless Technology and Frequency Range	WLAN 2.4GHz Band: 2412 MHz ~ 2472 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz
Mode	・802.11a/b/g/n/ac HT20/HT40/VHT20/VHT40/VHT80 ・Bluetooth EDR/LE
Antenna Type	Fixed Internal Antenna
Remark: 1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.	

3. Maximum RF average output power among production units

Mode / Band	Average Power (dBm)			
	1Mbps (GFSK)	2Mbps (π/4-DQPSK)	3Mbps (8-DPSK)	BT4.0-LE (GFSK)
2.4 GHz Bluetooth	11.0	7.0	7.0	7.5

2.4GHz Band	IEEE 802.11 Average Power (dBm)			
Channel / Mode	11b	11g	HT20	
			ANT 1	ANT 1+2
CH 01	20.0	16.0	17.0	17.0
CH 06	20.0	17.0	17.0	20.0
CH 11	19.0	16.0	15.0	18.5
CH 12	16.5	14.0	13.0	15.0
CH 13	14.0	11.5	11.5	13.5

5.2GHz Band	IEEE 802.11 Average Power (dBm)										
Channel / Mode	11a	HT20		HT40		VHT20		VHT40		VHT80	
		ANT 1	ANT 1+2	ANT 1	ANT 1+2	ANT 1	ANT 1+2	ANT 1	ANT 1+2	ANT 1	ANT 1+2
CH 36	17.0	17.0	20.0			17.0	20.0				
CH 38				14.5	17.5			14.5	17.5		
CH 40	17.0	17.0	20.0			17.0	20.0				
CH 42										14.0	16.0
CH 44	17.0	17.0	20.0			17.0	20.0				
CH 46				17.0	20.0			17.0	20.0		
CH 48	17.0	17.0	20.0			17.0	20.0				

5.8GHz Band	IEEE 802.11 Average Power (dBm)										
Channel / Mode	11a	HT20		HT40		VHT20		VHT40		VHT80	
		ANT 1	ANT 1+2	ANT 1	ANT 1+2	ANT 1	ANT 1+2	ANT 1	ANT 1+2	ANT 1	ANT 1+2
CH 149	17.0	17.0	20.0			17.0	20.0				
CH 151				17.0	20.0			17.0	20.0		
CH 155										17.0	20.0
CH 157	17.0	17.0	20.0			17.0	20.0				
CH 159				17.0	20.0			17.0	20.0		
CH 165	17.0	17.0	20.0			17.0	20.0				

4. RF Exposure Limit Introduction

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

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 Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f2)	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			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/f2)	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$S = \frac{PG}{4\pi R^2}$$

Where:
S = Power Density
P = Output Power at Antenna Terminals
G = Gain of Transmit Antenna (linear gain)
R = Distance from Transmitting Antenna

5. Radio Frequency Radiation Exposure Evaluation

5.1. Standalone Power Density Calculation

Band	Frequency (MHz)	Antenna Gain (dBi)	Maximum Power (dBm)	Maximum EIRP (dBm)	Maximum EIRP (W)	Average EIRP (mW)	Power Density at 20cm (mW/cm^2)	Limit (mW/cm^2)
Bluetooth	2402.0	3.19	11.00	14.190	0.026	26.242	0.005	1.000
2.4GHz WLAN	2412.0	3.19	20.00	23.190	0.208	208.449	0.041	1.000
5GHz WLAN	5180.0	3.71	20.00	23.710	0.235	234.963	0.047	1.000

Note: For conservativeness, the lowest frequency of each band is used to determine the MPE limit of that band

Conclusion:

According to 47 CFR §2.1091, the RF exposure analysis concludes that the RF Exposure is FCC compliant.