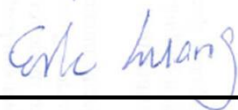


RF Exposure Evaluation Report

APPLICANT : Enda Gormley Sile LLC
EQUIPMENT : HDMI Digital Media Receiver
MODEL NAME : W87CUN
FCC ID : 2ABDU-0509
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



SPORTON INTERNATIONAL INC.

No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.



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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA441920-02	Rev. 01	Initial issue of report	Jul. 18, 2014



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 Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978

Applicant	
Company Name	Enda Gormley Sile LLC
Address	Debbie Maynerich 11670 Fountains Drive Suite 200 Maple Grove, Minnesota, 55369

2. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	HDMI Digital Media Receiver
Model Name	W87CUN
FCC ID	2ABDU-0509
Wireless Technology and Frequency Range	WLAN 2.4GHz Band: 2412 MHz ~ 2462 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 HT20/HT40 •Bluetooth v3.0+EDR
Antenna Type	WLAN: PCB printing Antenna Bluetooth: PCB printing Antenna

Remark: 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

Band / Frequency (MHz)		IEEE 802.11 Average Power (dBm)				
		Ant 0		Ant 1		Ant 0+1
		11b	11g	11b	11g	HT20
2.4GHz Band	2412	17.50	14.50	17.50	16.50	16.50
	2437	17.50	19.00	17.50	19.50	21.00
	2462	17.50	12.50	17.50	14.50	17.00

Band / Frequency (MHz)		IEEE 802.11 Average Power (dBm)			
		Ant 0	Ant 1	Ant 0+1	
		11a	11a	HT20	HT40
5.2GHz Band	5180	17.00	17.00	17.00	
	5190				14.00
	5220				
	5230				19.00
	5240				
5.8GHz Band	5745	17.00	17.00	17.00	
	5755				12.50
	5785			19.50	
	5795				18.50
	5825			17.50	

Band / Mode	Average Power (dBm)
	v3.0+EDR
Bluetooth	10.00



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/f ²)	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/f ²)	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)	Power Density / Limit
2.4GHz WLAN	2412.0	3.90	21.00	24.900	0.309	309.030	0.062	1.000	0.062
5GHz WLAN	5180.0	7.20	19.50	26.700	0.468	467.735	0.093	1.000	0.093
Bluetooth	2402.0	3.90	10.00	13.900	0.025	24.547	0.005	1.000	0.005

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

5.2. Collocated Power Density Calculations

Maximum WLAN Power Density / Limit	Maximum Bluetooth Power Density / Limit	Σ (Power Density / Limit) of WLAN + Bluetooth
0.093	0.005	0.098

Note:

- Σ (Power Density / Limit): This is a summation of [(power density for each transmitter/antenna included in the simultaneous transmission)/ (corresponding MPE limit)], for WLAN + Bluetooth.
- Considering the WALN collocation with the Bluetooth transmitter of the EIRP performance listed in the table above, the aggregated (power density /limit) is smaller than 1, and MPE of 2 collocated transmitters is compliant

Conclusion:

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