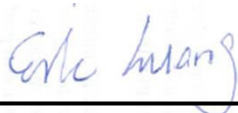


RF Exposure Evaluation Report

APPLICANT : TP-Link Technologies Co., Ltd.
EQUIPMENT : AC1200 Wi-Fi Range Extender
BRAND NAME : TP-Link
MODEL NAME : RE305
FCC ID : TE7RE305
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 / Manager



Approved by: Jones Tsai / Manager



SPORTON INTERNATIONAL INC.

No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Taoyuan City, Taiwan (R.O.C.)



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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA690205-01	Rev. 01	Initial issue of report	Mar. 01, 2017



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	TP-Link Technologies Co., Ltd.
Address	Building 24 (floors 1,3,4,5) and 28 (floors1-4) Central Science and Technology Park,Shennan Rd, Nanshan, Shenzhen,China

Manufacturer	
Company Name	TP-Link Technologies Co., Ltd.
Address	Building 24 (floors 1,3,4,5) and 28 (floors1-4) Central Science and Technology Park,Shennan Rd, Nanshan, Shenzhen,China



2. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	AC1200 Wi-Fi Range Extender
Brand Name	TP-Link
Model Name	RE305
FCC ID	TE7RE305
Wireless Technology and Frequency Range	WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5700 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz
Mode	802.11 a/b/g/n/ac HT20/HT40/VHT20/VHT40/VHT80
EUT Stage	Identical Prototype
Remark:	
1. Variant report to enable 5.3GHz and 5.5GHz WLAN.	



3. Maximum RF average output power among production units

Band / Frequency (MHz)		IEEE 802.11 Average Power (dBm)					
		11a	HT20	HT40	VHT20	VHT40	VHT80
5.3GHz Band	5260	22.0	22.0		22.0		
	5270			22.5		22.5	
	5290						16.5
	5300	22.0	22.0		22.0		
	5310			17.5		17.5	
	5320	22.0	22.0		22.5		

Band / Frequency (MHz)		IEEE 802.11 Average Power (dBm)					
		11a	HT20	HT40	VHT20	VHT40	VHT80
5.5GHz Band	5500	21.0	21.0		22.0		
	5510			17.5		18.0	
	5530						16.5
	5550			22.0		22.0	
	5580	20.5	21.5		21.5		
	5610						21.5
	5670			22.0		22.0	
	5700	20.0	19.0		19.5		



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/cm²)	Limit (mW/cm²)
5.3 / 5.5 GHz WLAN	5270.0	3.00	22.50	25.500	0.355	354.813	0.071	1.000

Note:

1. For 2.4GHz WLAN / 5.2GHz WLAN / 5.8GHz WLAN standalone power density calculation can refer to Sporton RF Exposure Evaluation Original Report, Report No: FA690205.

Conclusion:

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