

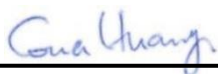
# RF EXPOSURE EVALUATION REPORT

FCC ID : TYM-J100  
Equipment : Wireless Module  
Brand Name : AVAYA  
Model Name : J100  
Applicant : AVAYA  
250 Sidney Street, Belleville, Ontario, K8P 3Z3, Canada  
Manufacturer : Wistron Corporation  
21th Fl., 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien  
221, Taiwan, R.O.C.  
Standard : 47 CFR Part 2.1091

We, SPORTON INTERNATIONAL INC has been evaluated this product in accordance with 47 CFR Part 2.1091 and it complies with applicable limit.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.



Approved by: Cona Huang / Deputy Manager

**SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory**  
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## History of this test report

Report No.	Version	Description	Issued Date
FA980514	Rev. 01	Initial issue of report	Nov. 07, 2019

**1. Description of Equipment Under Test (EUT)**

Product Feature & Specification	
EUT Type	Wireless Module
Brand Name	AVAYA
Model Name	J100
FCC ID	TYM-J100
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	WLAN: 802.11a/b/g/n/ac HT20 / HT40 / VHT20 / VHT40 / VHT80 Bluetooth BR/EDR/LE
EUT Stage	Production Unit

**Remark:** The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

**Reviewed by: Jason Wang**

**Report Producer: Wan Liu**

## 2. Maximum RF average output power among production units

Band / Mode	Average Power (dBm)			
	BR / EDR			LE
	1M	2M	3M	GFSK
Bluetooth	0	0.5	0.5	0

Band / Channel / Frequency (MHz)			IEEE 802.11 Average Power (dBm)			
			11b	11g	HT20	HT40
2.4GHz WLAN (DTS)	Ch 1	2412	16.5	15	13	
	Ch 3	2422				12
	Ch 6	2437	16.5	17	17	14
	Ch 9	2452				12
	Ch 11	2462	16.5	12	13	

Band / Channel / Frequency (MHz)			IEEE 802.11 Average Power (dBm)					
			11a	HT20	HT40	VHT20	VHT40	VHT80
5.2GHz WLAN (U-NII-1)	Ch 36	5180	14	14		14		
	Ch 38	5190			10.5		10.5	
	Ch 40	5200	14	14		14		
	Ch 42	5210						7
	Ch 46	5230			13		13	
	Ch 48	5240	14	14		14		
5.8GHz WLAN (U-NII-3)	Ch 149	5745	13.5	13.5		13.5		
	Ch 151	5755			12.5		12.5	
	Ch 155	5775						12
	Ch 157	5785	13.5	13.5		13.5		
	Ch 159	5795			12.5		12.5	
	Ch 165	5825	13.5	13.5		13.5		

### 3. 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 <sup>2</sup> )	Averaging time (minutes)
<b>(A) Limits for Occupational/Controlled Exposures</b>				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f <sup>2</sup> )	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6
<b>(B) Limits for General Population/Uncontrolled Exposure</b>				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f <sup>2</sup> )	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



## **4. Radio Frequency Radiation Exposure Evaluation**

### **4.1. 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 <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
2.4GHz WLAN	2412.0	2.10	17.00	19.100	0.081	81.283	0.0162	1.000
5GHz WLAN	5180.0	2.40	14.00	16.400	0.044	43.652	0.0087	1.000
Bluetooth	2402.0	2.10	0.50	2.600	0.002	1.820	0.0004	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.