

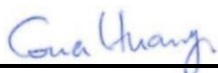
# RF EXPOSURE EVALUATION REPORT

FCC ID : 2A2SECAG-0100  
Equipment : Communication Appliance  
Brand Name : CASWELL  
Model Name : CAG-0100xxxxxxxx, CAP-0100xxxxxxxx  
(x can be 0-9, A-Z, a-z, "-" or blank)  
Applicant : CASWELL, INC.  
8 F, No. 242, Bo-Ai St., Shu-Lin Dist., New  
Taipei City 23845, Taiwan  
Manufacturer : CASWELL, INC.  
8 F, No. 242, Bo-Ai St., Shu-Lin Dist., New  
Taipei City 23845, Taiwan  
Standard : 47 CFR Part 2.1091

We, SPORTON INTERNATIONAL INC has been evaluated this product in accordance with 47 CFR Part2.1091 and it complies with applicable limit.

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190) and the FCC designation No. TW1190 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC evaluation.

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**

<b>Report No.</b>	<b>Version</b>	<b>Description</b>	<b>Issued Date</b>
FA161721	Rev. 01	Initial issue of report	Nov. 05, 2021

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

Product Feature & Specification	
EUT Type	Communication Appliance
Brand Name	CASWELL
Model Name	CAG-0100xxxxxxxx, CAP-0100xxxxxxxx (x can be 0-9, A-Z, a-z, "-" or blank)
FCC ID	2A2SECAG-0100
Wireless Technology and Frequency Range	RFID : 902 MHz ~ 928 MHz
Mode	RFID:ASK
HW Version	ZR3

**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:** Paula Chen

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

Mode	Maximum Average Power (dBm)
RFID	7.79

### **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	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> )
RFID	3.06	7.79	10.9	0.01	1.53	0.000	0.601

#### **Conclusion:**

According to 47 CFR §1.1307, the RF exposure analysis concludes that the RF Exposure is FCC compliant.