


# ELECTROMAGNETIC EMISSION COMPLIANCE REPORT FOR LOW-POWER, NON-LICENSED TRANSMITTER

**Test Report No.** : OT-183-RWD-044  
**AGR No.** : A17NA-430  
**Applicant** : omnic&s.Inc.  
**Address** : #314, 288 Digital-ro, Guro-gu, Daerung Post Tower 1cha, Seoul, 08390, South Korea  
**Manufacturer** : omnic&s.Inc.  
**Address** : #314, 288 Digital-ro, Guro-gu, Daerung Post Tower 1cha, Seoul, 08390, South Korea  
**Type of Equipment** : EEG measurement & brain training wireless headset  
**FCC ID.** : 2APFA-OCW-H20  
**Model Name** : OCW-H20  
**Multiple Model Name** : N/A  
**Serial number** : N/A  
**Total page of Report** : 7 pages (including this page)  
**Date of Incoming** : March 01, 2018  
**Date of issue** : March 30, 2018

## SUMMARY

The equipment complies with the regulation; *FCC PART 15 SUBPART C Section 15.247*  
 This test report only contains the result of a single test of the sample supplied for the examination.  
 It is not a generally valid assessment of the features of the respective products of the mass-production.

Reviewed by:   
 \_\_\_\_\_  
 Ki-Hong, Nam / Chief Engineer  
 ONETECH Corp.

Approved by:   
 \_\_\_\_\_  
 Keun-Young, Choi / Vice President  
 ONETECH Corp.

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**Revision History**

Rev. No.	Issue Report No.	Issued Date	Revisions	Section Affected
0	OT-183-RWD-044	2018.03.30	Initial Release	All

## 1. VERIFICATION OF COMPLIANCE

Applicant : omnic&s.Inc.  
 Address : #314, 288 Digital-ro, Guro-gu, Daerung Post Tower 1cha, Seoul, 08390, South Korea  
 Contact Person : Hyungmin, Kim / Dept. manager  
 Telephone No. : +82-2-70-7605-6127  
 FCC ID : 2APFA-OCW-H20  
 Model Name : OCW-H20  
 Serial Number : N/A  
 Date : March 30, 2018

EQUIPMENT CLASS	DSS – PART 15 SPREAD SPECTRUM TRANSMITTER
E.U.T. DESCRIPTION	EEG measurement & brain training wireless headset
THIS REPORT CONCERNS	Original Grant
MEASUREMENT PROCEDURES	ANSI C63.10: 2013
TYPE OF EQUIPMENT TESTED	Pre-Production
KIND OF EQUIPMENT AUTHORIZATION REQUESTED	Certification
EQUIPMENT WILL BE OPERATED UNDER FCC RULES PART(S)	FCC PART 15 SUBPART C Section 15.247
Modifications on the Equipment to Achieve Compliance	None
Final Test was Conducted On	3 m, Semi Anechoic Chamber

-. The above equipment was tested by ONETECH Corp. for compliance with the requirement set forth in the FCC Rules and Regulations. This said equipment in the configuration described in this report, shows the maximum emission levels emanating from equipment are within the compliance requirements.

## 2. GENERAL INFORMATION

### 2.1 Product Description

The omnic&s.Inc., Model OCW-H20 (referred to as the EUT in this report) is a EEG measurement & brain training wireless headset. Product specification information described herein was obtained from product data sheet or user’s manual.

Device Type	EEG measurement & brain training wireless headset		
Temperature Range	5 °C ~ + 40 °C		
Operating Frequency	Bluetooth LE	2 402 MHz ~ 2 480 MHz	
	Bluetooth	2 402 MHz ~ 2 480 MHz	
RF Output Power	Bluetooth LE	-2.83 dBm	
	Bluetooth	1 Mbps	8.77 dBm
		2 Mbps	7.84 dBm
		3 Mbps	8.01 dBm
Modulation Type	Bluetooth LE	DSSS Modulation(GFSK)	
	Bluetooth	1 Mbps: GFSK 2 Mbps: $\pi/4$ -QPSK 3 Mbps: 8-DPSK	
Antenna Type	Bluetooth LE : Ceramic Chip Antenna Bluetooth : Chip Antenna		
Antenna Gain	Bluetooth LE : 1.10 dBi Bluetooth : 2.30 dBi		
SW version	EA1.0.0		
HW version	HS ver1.0.1		
Electrical Rating	DC 3.70 V		
List of each Osc. or crystal Freq.(Freq. >= 1 MHz)	Bluetooth LE	26 MHz	
	Bluetooth	32.768 kHz, 38.4 MHz	

### 2.2 Alternative type(s)/model(s); also covered by this test report.

-. None

## 3. EUT MODIFICATIONS

-. None

## 4. MAXIMUM PERMISSIBLE EXPOSURE

### 4.1 RF Exposure Limit

According to the FCC rule §1.1310, the limit for General Population/Uncontrolled exposure is 1 mW/cm<sup>2</sup> for the device operating 1 500 ~ 100 000 MHz.

### 4.2 EUT Description

Kind of EUT	EEG measurement & brain training wireless headset		
Operating Frequency Band	<input checked="" type="checkbox"/> Bluetooth LE: 2 402 MHz ~ 2 480 MHz <input checked="" type="checkbox"/> Bluetooth: 2 402 MHz ~ 2 480 MHz <input type="checkbox"/> WLAN: 2 412 MHz ~ 2 462 MHz <input type="checkbox"/> WLAN: 2 422 MHz ~ 2 452 MHz		
Device Category	<input checked="" type="checkbox"/> Portable (< 20 cm separation) <input type="checkbox"/> Mobile (> 20 cm separation) <input type="checkbox"/> Others		
MAX. RF OUTPUT POWER	Bluetooth LE	-2.83 dBm	
	Bluetooth	1 Mbps	8.77 dBm
		2 Mbps	7.84 dBm
		3 Mbps	8.01 dBm
Antenna Gain	Bluetooth LE : 1.10 dBi Bluetooth : 2.30 dBi		
Exposure Evaluation Applied	<input type="checkbox"/> MPE <input type="checkbox"/> SAR <input checked="" type="checkbox"/> N/A		

**4.3 Test Result Test Result Calculated MPE Safe Distance**

According to the procedure, KDB 447498 D01, the standalone SAR test exclusion threshold is

$$[(\text{Max. Power of channel, including tune-up tolerance, mW})/(\text{Mim. test separation distance, mm})] \times [\sqrt{f(\text{GHz})}] < 3$$

$$= (7.94/5) \times \sqrt{2.480} = 2.50$$

Conclusion: The SAR test exclusion threshold is less than 3, so the device meets the RF Exposure Requirement and excluded SAR Test.

Mode	Frequency (MHz)	Target Power W/tolerance (dBm)	Max tune up power (dBm)	Max tune up power (mW)	Separation distance (mm)	RF exposure
BDR (1 Mbps)	2 480	8.50 ± 0.5	9.00	7.94	5	2.50
EDR (2 Mbps)	2 480	7.50 ± 0.5	8.00	6.31	5	1.99
EDR (3 Mbps)	2 480	8.00 ± 0.5	8.50	7.08	5	2.23



**Tested by: Yu-Seog, Sim / Assistant Manager**