



Test report issued under the responsibility of:  
EMITECH MONTPELLIER laboratory  
MRA US-EU Designation Number: FR0006  
Canadian CAB Identifier: FR0003

## EMF TEST REPORT

KDB 447498 D01 V06

**Company** ..... : **XPLORER**  
**Address**..... : 40 chemin du Moulin  
31320 MERVILLA  
FRANCE

**Test item description** ..... : **Headset for wireless metal detection sensor**  
**Trade Mark** ..... : WS6  
**Manufacturer**..... : XPLORER  
**Model/Type reference**..... : XPWS6 / Headset WS6  
**FCC ID**..... : XFJWS6  
**IC** ..... : 8392A-XS6  
**Ratings**..... : 3.45Vdc to 4.2Vdc

**Testing Laboratory** ..... : **EMITECH MONTPELLIER laboratory**  
**Address**..... : 145 rue de Massacan  
34740 VENDARGUES  
FRANCE

**Report Reference No**..... : **RT410-20-101751-4A**  
**Test procedure** ..... : FCC IC Certification  
**Diffusion**..... : Mr LOUBET  
**Applicant's name** ..... : XPLORER  
**Date of issue**..... : November 4, 2021  
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**Compiled by**..... : Alexis TOUZET  
**Approved by (+ signature)** ..... : Olivier HEYER (Laboratory Manager)

*Duplication of this test report is only permitted for an integral photographic facsimile. It includes the number of pages referenced here above. This document is the result of testing a specimen or a sample of the product submitted. It does not imply an assessment of the conformity of the whole manufactured products of the tested sample.*

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**REVISION HISTORY:**

Revision	Date	Modified pages	Modifications
0	November 4, 2021	/	Creation



## 2. REFERENCE DOCUMENT(S)

### **NORMATIVE REFERENCES:**

The following referenced documents are necessary for the application of the present test report.

**FCC 47 CFR PART 15: April 2020**

Code of federal regulations – Title 47 telecommunication  
Part 15- Radio frequency devices

**KDB 447498 D01 v06**

RF exposure procedures and equipment authorization policies for mobile and portable devices.

**RR410-20-101751-14A Ed.0**

Radio Test Report Emitech.

Although the product standard uses obsolete technical standards, the latest versions of standards achievable by the laboratory will be used for testing.

### **INFORMATIVE REFERENCES:**

The following referenced documents are not necessary for the application of the present test report but they assist the user with regard to a particular subject area.

### 3. EQUIPMENT TECHNICAL DESCRIPTION

#### 3.1. Test Conditions

Test item description. .... : Headset for wireless metal detection system  
Model/Type reference..... : XPWS6 / Headset WS6  
Trade Mark. .... : WS6  
FCC ID..... : XFJWS6  
IC. .... : 8392A-XS6  
Serial number (S/N)..... : Not communicated  
Part number (P/N). .... : Not communicated  
Software version..... : 20210126  
Firmware version. .... : *Not communicated*  
Type of sample. .... : Pre-serial  
Function(s)..... : Headset for wireless object detection system  
Manufacturer name. .... : XPLOER  
Address. .... : 8 rue du Développement - ZI de Vic  
31320 CASTANET-TOLOSAN  
FRANCE

**General product information:**

N/A

### 3.2.EUT General view



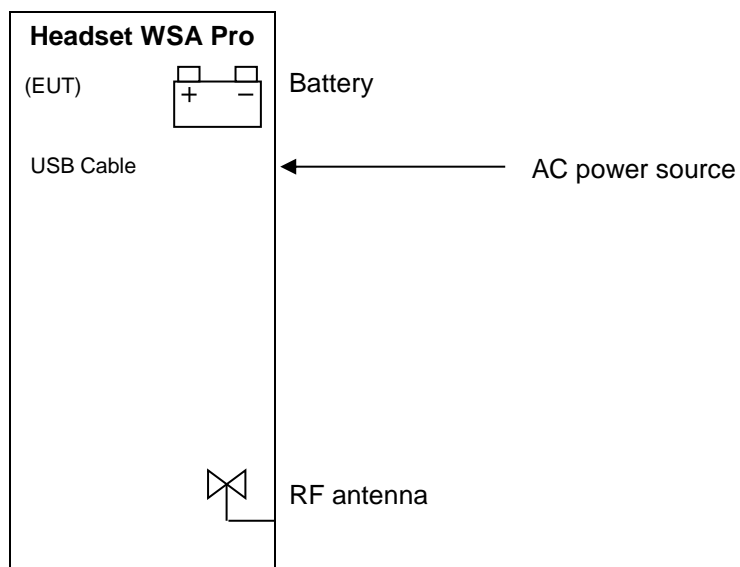
### 3.3. EUT Mechanical and Electrical Design

Power supply..... : 3.7Vdc  
 Power supply range..... : 3.45Vdc to 4.2Vdc  
 Power type..... : Battery powered  
 Power (W)..... : 5  
 Nominal current (A). ..... : 1  
 Dimensions (L x W x H) (m). ..... : 0.15x0.15x0.07  
 Weight (kg). ..... : 0.8  
 Temperature range (°C). ..... : -5°C to +40°C  
 Ground bounding strap..... : No

**Comments:**

N/A

### 3.4. EUT Input/Output ports



PORT	NAME	TYPE	LENGTH	CABLE TYPE	COMMENTS
0	Main frame	N/E	N/A	Plastic	
1	Battery	DC	N/A	N/A	
2	AC power source	AC/DC	1m	2P	
3	RF antenna	RF	N/A	N/A	2.4GHz

AC/DC : AC/DC Converter port      AC.....: Alternative current port      DC.....: Discontinuous current port  
 I/O .....: Input or Output port      TP .....: Telecommunication port      RF .....: Radio frequency port  
 N/E .....: Non Electrical port

**3.5. Supporting Equipment Used During Test**

Sample subject to the tests was tested with following equipment.

PRODUCT TYPE	MANUFACTURER	MODEL	N°EMITECH / COMMENTS
Battery charger (AC/DC)	Sinohero Industrial Ltd.	SJ-0510-E	Used for conducted emission

**BATTERY CHARGER (AC/DC) (AE)**



### 3.6. EUT Radio Specifications

<b>a) GENERAL INFORMATIONS</b>	
According to manufacturer's declarations :	
EUT type.....	: <i>Transmitter</i>
Technology .....	: <i>SRD 2.4GHz</i>
Environmental profile.....	: <i>Data transmissions</i>
Temperature range.....	: <i>-5°C to +40°C</i>
Antenna type .....	: <i>Integral</i>
Antenna Gain.....	: <i>Not communicated</i>
<b>Comments:</b>	
<i>N/A</i>	
<b>b) TRANSMITTER PARAMETERS (Tx)</b>	
Frequency bands.....	: <i>2400 MHz to 2483.5MHz</i>
RF Power.....	: <i>Not communicated</i>
Number of channels / Separation .....	: <i>Multiple</i>
Modulation type .....	: <i>GFSK</i>
Duty cycle .....	: <i>Not communicated</i>
Tested frequency.....	: <i>2404MHz Low channel</i> <i>2440MHz Mid channel</i> <i>2476 High channel</i>
<b>c) RECEIVER PARAMETERS (Rx)</b>	
Frequency bands.....	: <i>2400 MHz to 2483.5MHz</i>
Category/Class .....	: <i>Category 2</i>
Bandwidth.....	: <i>2404MHz to 2476MHz</i>

#### 4. RESULT SUMMARY

TEST DESIGNATION	SEVERITY	VERDICT	BASIC STANDARDS / COMMENTS
<b>SAR evaluation (exclusion consideration for handheld product 10-g)</b> <ul style="list-style-type: none"><li>- Low channel</li><li>- Mid channel</li><li>- High channel</li></ul>	3.0 w/kg 3.0 w/kg 3.0 w/kg	<b>PASS</b> <b>PASS</b> <b>PASS</b>	KDB 447498 D01 v06 §4.3.1

## 5. RESULTS

### 5.1. SAR EVALUATION

<b>Reference document:</b>	KDB 447498 D01 v06
<b>Calculation method:</b>	KDB 447498 D01 v06 §4.3.1
<p><b>General test setup (in test report RR410-20-101751-14A Ed.0):</b> It is acceptable to employ a different resolution bandwidth, and a correspondingly different peak emission limit, following the procedures described in §15.521. For <math>f &gt; 1\text{GHz}</math>, EUT is set on an insulating support at 150cm above the ground reference plane. Measurements are performed in a semi-anechoic chamber. For portable equipments a research of maximum level is done on the 3 axes. Only the highest levels are recorded.</p>	

TESTED CONFIGURATION	SAR VALUE	SEVERITY	VERDICT
Low channel (2404 MHz)	0.52 W/kg	3.0 W/kg	<b>PASS</b>
Mid channel (2440 MHz)	0.79 W/kg	3.0 W/kg	<b>PASS</b>
High channel (2476 MHz)	1.41 W/kg	3.0 W/kg	<b>PASS</b>

SAR EVALUATION			
TESTED CONFIGURATION	POWER (dBm)	POWER (mW)	SAR (W/kg)
Low channel (2404 MHz)	-1,22	0,76	0,52
Mid channel (2440 MHz)	0,55	1,14	0,79
High channel (2476 MHz)	3,01	2,00	1,41

The calculation of the SAR is done using the equation in §4.3.1 of the KDB KDB 447498 D01 v06 document for a minimum distance (5mm). The product is a remote control that could be set on the body. The evaluated value is compared to the 1-g limit (3.0 W/kg).

●●● End of evaluation report ●●●