

## RF EXPOSURE REPORT

OF

**Applicant:** Catapult Sports Pty Ltd  
75-83 High St, Prahran, Melbourne Victoria 3181 AUS

**Product Name:** Receiver/Anchor

**Brand Name:** Catapult

**Model No.:** VR7401

**Model Difference:** N/A

**Report Number:** ER/2019/50162

**FCC ID** 2ADAL-VR7401

**FCC Rule Part** Part 2.1091

**Issue Date:** Jul. 31, 2019

**Date of Test:** May 30, 2019 ~ Jun. 19, 2019

**Date of EUT Received:** May 30, 2019

**We hereby certify that:**

The above equipment was tested by SGS Taiwan Ltd. The test data, data evaluation in this report is in compliance with FCC Rules Part 2.

The test results of this report relate only to the tested sample identified in this report.

**Approved By:**

John Teh

**John Yeh / Assistant Manager**

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## Revision History

Report Number	Revision	Description	Effected Page	Issue Date	Revised By
ER/2019/50162	Rev.00	Initial creation of document	All	Jul. 02, 2019	Elle Chang
ER/2019/50162	Rev.01	Revised conducted power and Added note	Page 8	Jul. 31, 2019	Elle Chang

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## 1 DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)

General:

Product Name:	Receiver/Anchor	
Brand Name:	Catapult	
Model No.:	VR7401	
Hardware Version:	N/A	
Software Version:	N/A	
Power Supply:	3.7Vdc from Rechargeable Li-polymer Battery	
	Battery:	Model No.: 105085, Supplier: XPOWER SOLUTION TECHNOLOGY

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## Antenna Information:

Antenna Type	Supplier	Main / Aux	Antenna Part No.	Freq. (MHz)	Peak Antenna Gain (dBi)	Worst Antenna Gain
PCB	catapultsports	Main	KO-EM-24-P-044G	2.4GHz	4.79	V

Antenna Type	Supplier	Main / Aux	Antenna Part No.	Frequency (MHz)	Peak Antenna Gain (dBi)	Worst Antenna Gain
PCB	catapultsports	Main	KO-EM-24-P-044G	5150~5250	<b>4.03</b>	V
				5725~5850	3.84	

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### WLAN 2.4GHz:

802.11	Freq. Range (MHz)	Channels	Modulation Technology	Rated Power (P-burst) (dBm)	Worst Case
b/g/n_HT20 n_HT40	2412-2472	13	DSSS & OFDM	13.89	V
Modulation type:		CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM			

### WLAN 5GHz (FCC):

Wi-Fi	Freq. Range (MHz)	Modulation Technology	Max. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Worst Case
11a	5150~5250	OFDM	13.98	4.03	18.01	V
	5725~5850		13.97	3.84	17.81	V
11n HT20	5150~5250		12.96	4.03	16.99	
	5725~5850		12.95	3.84	16.79	
11n HT40	5150~5250		9.39	4.03	13.42	
	5725~5850		9.34	3.84	13.18	
Modulation type		64QAM, 16QAM, QPSK, BPSK for OFDM				

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## 2 FCC MAXIMUM PERMISSIBLE EXPOSURE (MPE)

### 2.1 FCC Standard Applicable

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

This is a Mobile device, the MPE is required.

According to §1.1310 and §2.1091 RF exposure is calculated.

Limits for Maximum Permissive Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Averaging Time (minute)
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 <sup>2</sup> )	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-15000	/	/	1.0	30

f = frequency in MHz

\* = Plane-wave equipment power density

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## 2.2 Power Density Calculation (Worst Case)

Operation Mode	Evaluation Frequency (MHz)	Operation Distance (cm)	Max. output Power (dBm)	Antenna Gain (dBi)	Max. output Power EIRP (mW)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Pass / Fail
WLAN 2.4G	2442.00	20	13.89	4.79	73.79	0.015	1.000	Pass
WLAN 5G	5180.00	20	13.98	4.03	63.24	0.013	1.000	Pass

**Note:** For conservativeness, the lowest uplink frequency of each band is used to determine the MPE limit of that band.  
The 2.4GHz WLAN can not be simultaneous transmitting with both 5GHz WLAN and UWB.

~ End of Report ~

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