

RF EXPOSURE REPORT



Applicant: Opticon sensors Europé B.V.
Opaallaan 35, 2132 XV Hoofddorp, The Netherlands
Product Name: Companion scanner
Brand Name: Opticon
Model No.: RS-3000
Model Difference: N/A
Report Number: E2/2021/60086
FCC ID Q2Q-RS3000
Issue Date: Aug.11,2021
Date of EUT Received: Jun.30,2021

Approved By

John Yeh

We hereby certify that:

The above equipment was evaluate by SGS Taiwan Ltd. The evaluation in this report is in compliance with FCC Rule Part §2.1093.

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

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.
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Revision History

Report Number	Revision	Description	Issue Date	Revised By
E2/2021/60086	Rev.00	Original.	Aug.11,2021	Viola Su

Note:

- 1、Antenna information is provided by the applicant, test results of this report are applicable to the sample EUT received.

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1 DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)

1.1 Product Description

Product Name:	Companion scanner
Brand Name:	Opticon
Model No.:	RS-3000
Model Difference:	N/A
Hardware Version:	N/A
Firmware Version:	N/A
EUT Series No.:	000028
Power Supply:	3.7V DC

1.2 Antenna Information:

1.2.1 BT / BLE

Antenna Type	Freq. (MHz)	Peak Antenna Gain (dBi)	Worst Antenna Gain
PIFA	2.4GHz	-1.00	V
Note: 1. Pre-scanned was done on the above antennas, measurements were demonstrated by using the antenna with the highest gain as the worst case scenarios. 2. Antenna information is provided by the applicant.			

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2 FCC STANDARD APPLICABLE

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.

As per KDB 447498 D01 4.3.1,

Step a: For 100 MHz to 6 GHz and test separation distances ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot$

$[\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g Head & Body SAR and ≤ 7.5 for 10-g extremity Hand SAR, where

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison
- The values 3.0 and 7.5 are referred to as numeric thresholds in **step b)** below

Step b: For 100 MHz to 6 GHz and test separation distances > 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following (also illustrated in Appendix B):

1) $\{[\text{Power allowed at numeric threshold for 50 mm in step a)}] + [(\text{test separation distance} - 50 \text{ mm}) \cdot (f(\text{MHz})/150)]\}$ mW, for 100 MHz to 1500 MHz

2) $\{[\text{Power allowed at numeric threshold for 50 mm in step a)}] + [(\text{test separation distance} - 50 \text{ mm}) \cdot 10]\}$ mW, for > 1500 MHz and ≤ 6 GHz

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2.2 Measurement Result:

Step a:					
This is a portable device and the max. output power including tune-up tolerance is 5.152 (mW), lower than the threshold given and derived as formula given above, where					
$=5.152(\text{mW})/5(\text{mm})*\sqrt{2.402(\text{GHz})} = 1.597 < 7.5$					
Frequency (MHz)	Max. output power including tune-up tolerance(dBm)	Max. output power including tune-up tolerance(mW)	Distance (mm)	Result	≤ 7.5 for 10-g extremity SAR
2402	7.12	5.152	5	1.597	TRUE

As the result of calculation result indicates, the RF exposure generating from given transmitter (transmitter employed digital modulation) can be excluded from SAR measurement, and is deemed compliant with RF exposure as per FCC.

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