

# IEC/EN 62311:2008; RF exposure assessment report

**Product:** VentilatorPAL Pro

**Model:**

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## **CONTENTS:**

- RF exposure assessment report for device under mobile of fixed RF-exposure conditions (distance between the device antennas and the user > 20cm) according to EN 62311:2008: *“Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz-300GHz)”*

*Title* Stogger B.V (VentilatorPAL Pro)  
EN 62311:2008 RF exposure assessment report

*Keywords* EMC; WiFi

*Abstract* This report describes the assessment according to EN 62311:2008  
which were performed for the VentilatorPAL Pro product

The VentilatorPAL Pro product complies with the requirements of the  
EN 62311:2008

*Number of Pages* 9

Applicant : Stogger B.V

Evaluation Date : 09-04-2020

Evaluated by : R. Brett

Date : 09-04-2020

Signature :



## Table of contents

<b>1</b>	<b>Introduction .....</b>	<b>4</b>
1.1	Reference documents: .....	5
<b>2</b>	<b>Evaluation Report Information.....</b>	<b>6</b>
<b>3</b>	<b>Applied standard .....</b>	<b>7</b>
<b>4</b>	<b>Procedure for assessment: .....</b>	<b>8</b>
<b>5</b>	<b>Assessment result .....</b>	<b>9</b>

## 1 Introduction

This report describes the EMC measurements which are performed for the VentilatorPAL according to the 2014/53/EU Directive.



**Figure 1:** Photo of the VentilatorPAL Pro

FreeBreathing started with the mission to provide a high-quality, low-cost and open-source solution to the shortage of medical ventilators during the coronavirus pandemic.

The VentilatorPAL Pro was developed to meet the requirements of healthcare workers at the forefront of the COVID-19 crisis. The device makes it possible to treat patients when conventional ventilators are not available.

## 1.1 Reference documents:

- [1]: 9042020          EMC and Radio pre-compliance evaluation report
- EN 301 489-1 V2.2.0,
  - EN 301 489-17 V2.2.1
  - EN 200 328 V2.1.1

## 2 Evaluation Report Information

### Equipment Under Test (EUT):

Equipment:	VentilatorPAL Pro		
Model #:	1032-455-00	Serial #:	M0056200
Software & Firmware #:	N/A	Mains configuration	N/A
Supply voltage	24V d.c.		D.C.
AC/DC power cords are:	Adapter	N/A	N/A
Equipment is:	Medical and Wireless (WiFi/Bluetooth)		
Wireless Class	Class 1		

### Company:

Company name:	Stogger B.V.		
Address:	Haagveld 1a	Zip:	5981PK
City:	Panningen	Country:	Netherlands

### Optional Equipment (OE): AC/DC adapter

Model #:	MeanWell GSM25E24-P1J	Compliance test report
Input voltage:	80-264Vac, 47 - 63Hz; 0.35A (230V)	Report No. S4C-M020-1304-409
Output voltage	24V 1.04A	

### Integrated Wireless Module

Model #:	ESP-Wroom-32	Compliance certificate to RED
Max output RF power	20dBm	Certificate No. B1803062

### 3 Applied standard

The following EMC standard was used:

EN 62311:2008:

*“Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz-300GHz)”*

## 4 Procedure for assessment:

The procedure for the assessment of involves the decision tree drawing on information from Tables 1 and 2 of EN 62311:2008.

(1): The equipment was characterized to determine the nature of EMF emissions as documented in references [1] and [2].

(2): By measurements (see [1] and [2]). The quantities are below the relevant reference levels, taking into account waveform/frequency content, and any allowed time and spatial averaging.

Therefore the equipment is deemed to be “low power/inherently compliant” and meets the requirements in this standard.

This process is summarized in the flowchart in Figure 1.

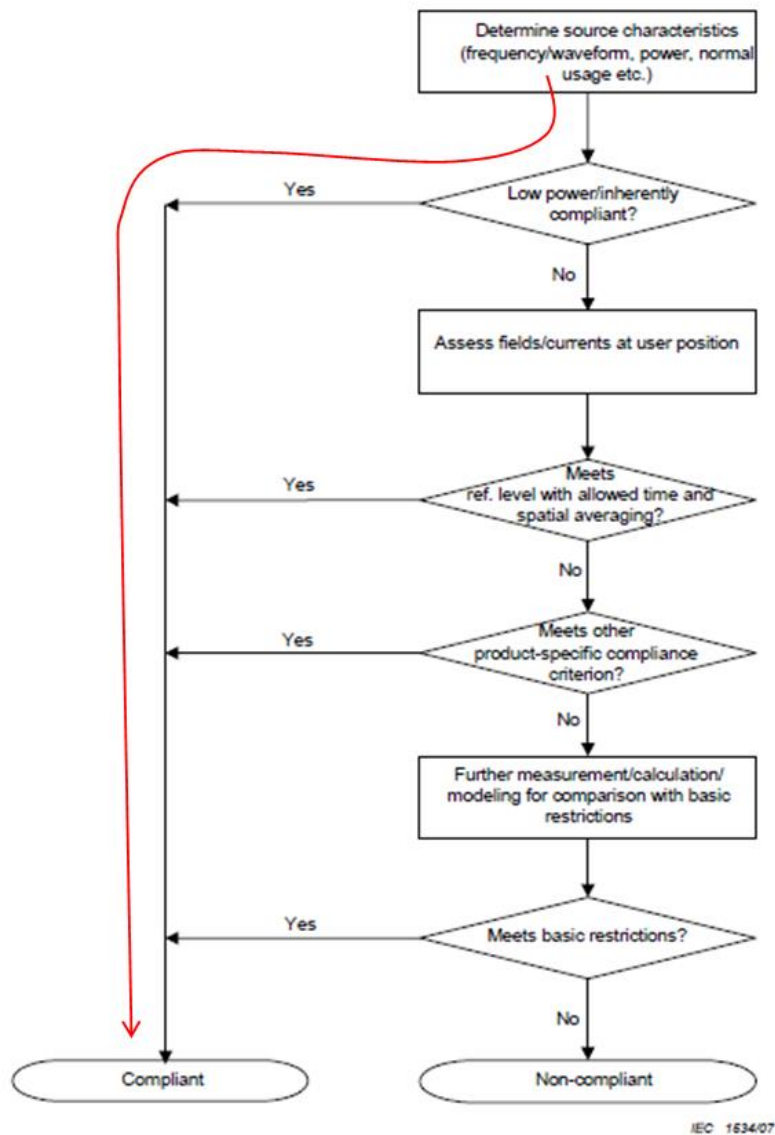


Figure 1 – Assessment flowchart



## 5 Assessment result

By measurements (see [1]). The quantities are below the relevant reference levels, taking into account waveform/frequency content, and any allowed time and spatial averaging.

Therefore due to the equipment low RF power (<20dBm), it is deemed to be a class 1 wireless system and is inherently compliant