



Informe de ensayo n°:  
 Test report No:

NIE: 52611REM.002A1

## Test report (Modification 1)

FCC Rules and Regulations CFR 47, Part 15, Subpart B (10-1-15 Edition)  
 &  
 ICES-003 ISSUE 6 (2016)

<b>Identificación del objeto ensayado.....:</b> Identification of item tested	Dive computer
<b>Marca .....</b> Trade	Suunto
<b>Modelo y/o referencia tipo .....</b> Model and /or type reference	DW171
<b>Other identification of the product .....</b>	Commercial name: EON Core
<b>Final HW version .....</b>	E
<b>Final SW version .....</b>	1.5
<b>FCC ID .....</b>	RYP23821
<b>IC .....</b>	5175A- 23821
<b>Características .....</b> Features	Suunto EON Core is advanced dive computer. It can calculate several important parameter for diver. EON Core can measure depth with pressure sensor and direction with compass sensor, EON Core has Bluetooth LE connectivity to transfer logs to a computer.
<b>Peticionario .....</b> Applicant	SUUNTO OY Tammiston kauppatie 7A 01510 Vantaa. (FINLAND)
<b>Método de ensayo solicitado, norma.....:</b> Test method requested, standard	FCC CFR 47, Part 15, Subpart B (10-1-15 Edition) & ICES-003 ISSUE 6 (2016)
<b>Resultado.....:</b> Summary	IN COMPLIANCE
<b>Aprobado por (nombre / cargo y firma) .....</b> Approved by (name / position & signature)	Rafael López Martín LAB EMC Manager
<b>Fecha de realización .....</b> Date of issue	2017-07-14
<b>Formato de informe No.....:</b> Report template No	FDT11_20

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## Competences and guarantees

DEKRA Testing and Certification, S.A.U. is a testing laboratory accredited by the National Accreditation Body (ENAC - Entidad Nacional de Acreditación), to perform the tests indicated in the Certificate No. 51/LE 147.

In order to assure the traceability to other national and international laboratories, DEKRA Testing and Certification, S.A.U. has a calibration and maintenance program for its measurement equipment.

DEKRA Testing and Certification, S.A.U. guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated on the report and, it is based on the knowledge and technical facilities available at DEKRA Testing and Certification, S.A.U. at the time of performance of the test.

DEKRA Testing and Certification, S.A.U. is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

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## General conditions

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA Testing and Certification, S.A.U.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA Testing and Certification, S.A.U. and the Accreditation Bodies.

## Uncertainty

Uncertainty (factor  $k=2$ ) was calculated according to the DEKRA Testing and Certification, S.A.U. internal document PODT000.

## Usage of samples

Samples under test have been selected by: the Client.

Sample S/01, (Configuration 1), is composed of the following elements:

Control N°	Description	Model	Serial number	Reception date
52611/001	Dive Computer	DW171	---	2017-04-18
52611/008	USB Cable	---	---	2017-04-18

Sample S/02, (Configuration 2), is composed of the following elements:

Control N°	Description	Model	Serial number	Reception date
52611/001	Dive Computer	DW171	---	2017-04-18
52611/008	USB Cable	---	---	2017-04-18

Sample s/02 is used with a PC according to ANSI C63.4:2014

## Test sample description

The sample consist of an Suunto EON Core is advanced dive computer. It can calculate several important parameter for diver. EON Core can measure depth with pressure sensor and direction with compass sensor, EON Core has Bluetooth LE connectivity to transfer logs to a computer

## Test samples supplier

SUUNTO OY  
Tammiston kauppatie 7A  
01510. Vantaa. (FINLAND)

## Testing period

The performed test started on 2017-04-24 and finished on 2017-04-27.  
The tests have been performed at DEKRA Testing and Certification, S.A.U.

## Environmental conditions

In the control chamber, the following limits were not exceeded during the test:

<b>Temperature</b>	Min. = 15 °C Max. = 35 °C
<b>Relative humidity</b>	Min. = 30 % Max. = 75 %
<b>Air pressure</b>	Min. = 860 mbar Max. = 1060 mbar

In the semianechoic chamber, the following limits were not exceeded during the test.

<b>Temperature</b>	Min. = 15 °C Max. = 35 °C
<b>Relative humidity</b>	Min. = 30 % Max. = 75 %
<b>Air pressure</b>	Min. = 860 mbar Max. = 1060 mbar

In the chamber for conducted measurements, the following limits were not exceeded during the test:

<b>Temperature</b>	Min. = 15 °C Max. = 35 °C
<b>Relative humidity</b>	Min. = 30 % Max. = 60 %
<b>Air pressure</b>	Min. = 860 mbar Max. = 1060 mbar

## Modifications to the reference test report

It was introduced the following modifications in respect to the test report number 52611REM.001 related with the same samples, in the next clauses and sub-clauses:

By client request it was separated the photographs appendix “Appendix B” from the test report.

This modification test report cancels and replaces the test report 52611REM.001.

## Remarks and comments

The tests have been realized by the technical personnel: Alberto Parada.

The total uncertainty of the measurement system for the measured radio disturbance characteristics of EUT from 30 to 1000 MHz is  $I = \pm 4,9$  dB for quasi-peak measurements,  $I = \pm 4.6$  dB for peak measurements ( $k = 2$ ).

The total uncertainty of the measurement system for the measured radio disturbance characteristics of EUT from 1000 MHz to 26GHz is  $I = \pm 2.6$  dB for peaks and average measurement ( $k=2$ )

## Testing verdicts

<b>Not applicable</b> .....	N/A
<b>Pass</b> .....	P
<b>Fail</b> .....	F
<b>Not measured</b> .....	N/M

## Appendix A – Test result

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## DESCRIPTION OF THE OPERATION MODES

The operation modes described in this paragraph constitute a functionality of the sample under test for itself. In the following table appears the operation modes used by the samples tested to that it refers the present test report.

OPERATION MODE	DESCRIPTION
MO#01	EUT ON. Bluetooth IDLE Mode. Radio TX/RX 123KHz IDLE Mode. Battery charging by USB port (5Vdc).
MO#02	EUT ON. IDLE Bluetooth. Radio TX/RX 123KHz IDLE Mode. Battery charging and transferring data with the PC by USB port from a laptop (115 VAC).
MO#03	EUT ON. IDLE Bluetooth. RadioTX/RX 123KHz active and transceiver mode. Battery charging and transferring data with the PC by USB port from a laptop (115 VAC).
MO#04	EUT ON. Bluetooth link established. RadioTX/RX 123KHz deactivated. Battery charging and transferring data with the PC by USB port from a laptop (115 VAC).

## CONTINUOUS CONDUCTED EMISSION ON POWER LEADS

<b>LIMITS :</b>	Product standard :	FCC CFR 47, Part 15, Subpart B (10-1-15 Edition), Secs. 15.107 and Subpart C (10-1-15 Edition) Secs. 15.207 & ICES -003 Issue 6 (2016)
	Test standard :	FCC CFR 47, Part 15, Subpart B (10-1-15 Edition), Secs. 15.107 and Subpart C (10-1-15 Edition) Secs. 15.207 & ICES -003 Issue 6 (2016)

### CLASS B

The applied limit for continuous conducted emissions in power leads, according with the requirements of FCC Rules and Regulations 47 CFR Part 15, Subpart B (10-01-15 Edition), Secs. 15.107 and Subpart C (10-1-15 Edition) Secs. 15.207 & ICES-003 Issue 6 (2016), in the frequency range 0,15 to 30 MHz, for Class B equipment was:

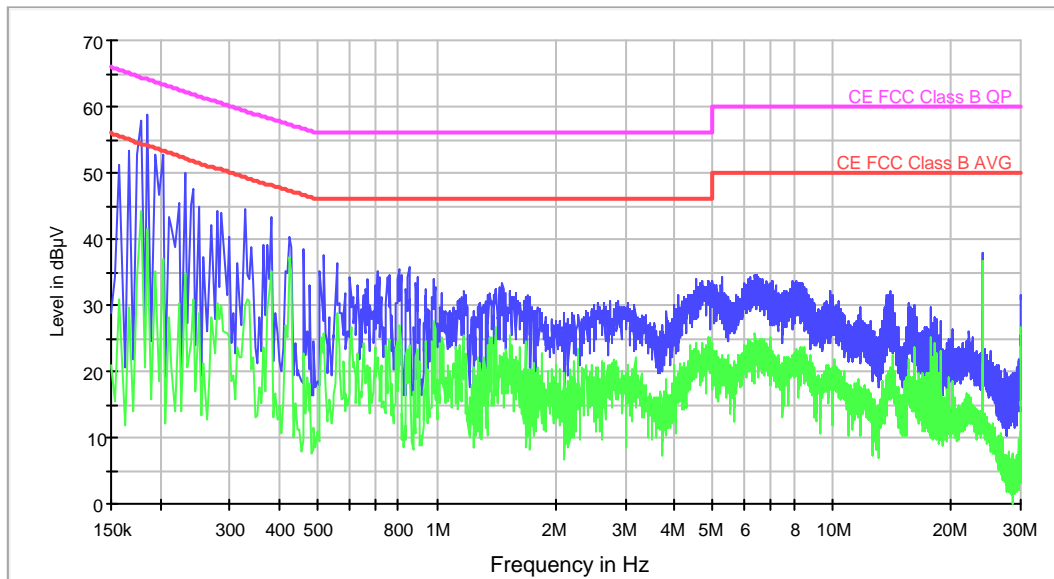
Frequency range (MHz)	Limit (dB $\mu$ V)	
	Quasi-peak	Average
0,15 to 0,5	66-56	56-46
0,5 to 5	56	46
5 to 30	60	50

<b>TESTED SAMPLES:</b>	S/02
<b>TESTED OPERATION MODES:</b>	OM#02 & OM#03 & OM#04
<b>TEST RESULTS :</b>	CCmmnnhh: CC, Conducted Condition; mm: Sample number; nn: Operation mode; hh: wire

CCmmnnhh	Description	Result
CC0202N	Neutral wire noise	P
CC0202L1	Phase wire noise	P
CC0203N	Neutral wire noise	P
CC0203L1	Phase wire noise	P
CC0204N	Neutral wire noise	P
CC0204L1	Phase wire noise	P

Project: 52611REM002  
 Company: SUUNTO  
 Sample: S/02  
 Operation mode: OM#02  
 Description: EUT ON. IDLE Bluetooth. Radio TX/RX 123KHz IDLE Mode.  
 Battery charging and transferring data with the PC by USB port  
 from a laptop (115 VAC). Neutral wire noise.

## EC FCC Class B



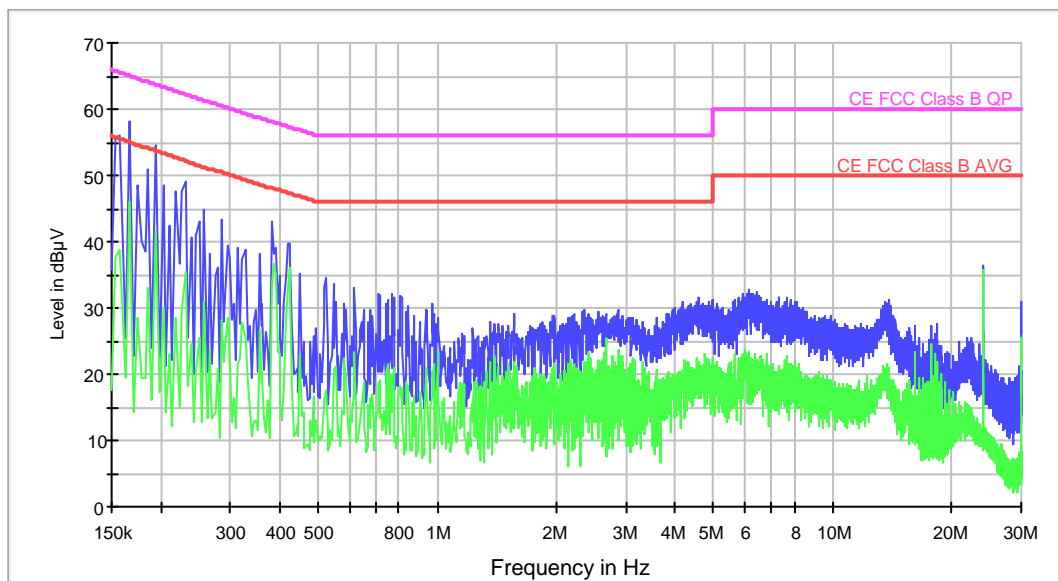
— Peak Scan    — Average Scan    — CE FCC Class B AVG    — CE FCC Class B QP

## Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.186000	58.7	41.6
0.326000	44.5	30.1
0.462000	38.5	22.9
0.850000	35.7	19.5
1.466000	33.3	18.5
2.874000	30.7	19.9
5.266000	34.1	22.5
6.390000	34.6	25.8
13.970000	32.0	18.9
24.038000	37.7	36.7

Project: 52611REM002  
 Company: SUUNTO  
 Sample: S/02  
 Operation mode: OM#02  
 Description: EUT ON. IDLE Bluetooth. Radio TX/RX 123KHz IDLE Mode. Battery charging and transferring data with the PC by USB port from a laptop (115 VAC). Phase wire noise.

## EC FCC Class B



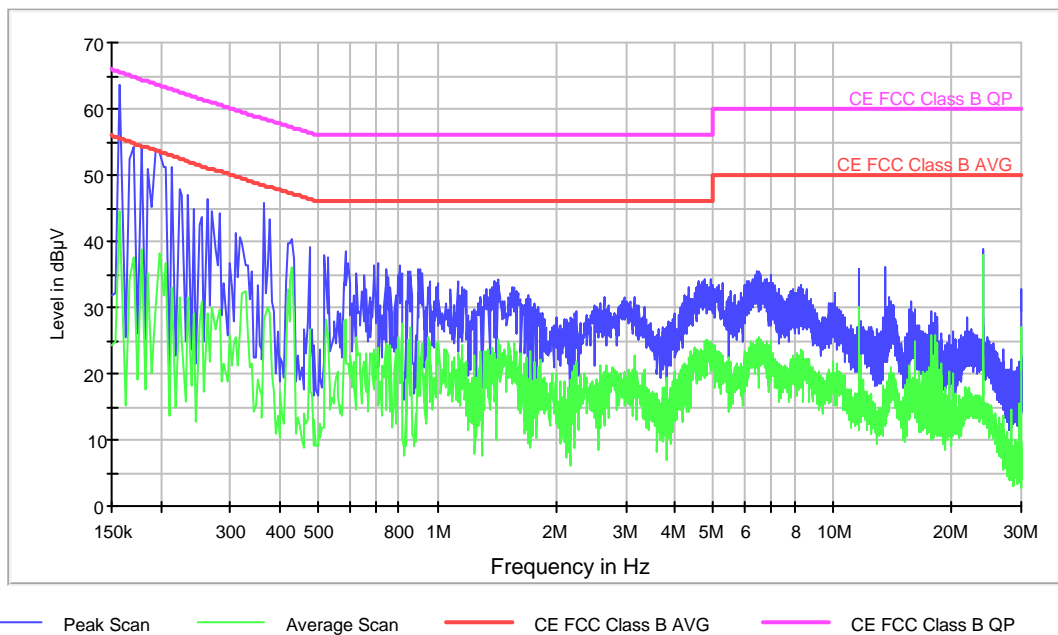
— Peak Scan    — Average Scan    — CE FCC Class B AVG    — CE FCC Class B QP

## Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.166000	58.2	45.9
0.258000	44.7	31.0
0.450000	35.1	22.7
0.770000	32.1	19.8
1.562000	29.0	21.9
2.366000	29.7	15.1
6.034000	32.2	19.2
6.150000	32.7	22.9
13.846000	31.3	18.9
24.038000	36.5	35.7

Project: 52611REM002  
 Company: SUUNTO  
 Sample: S/02  
 Operation mode: OM#03  
 Description: EUT ON. IDLE Bluetooth. RadioTX/RX 123KHz active and transceiver mode. Battery charging and transferring data with the PC by USB port from a laptop (115 VAC). Neutral wire noise.

## EC FCC Class B

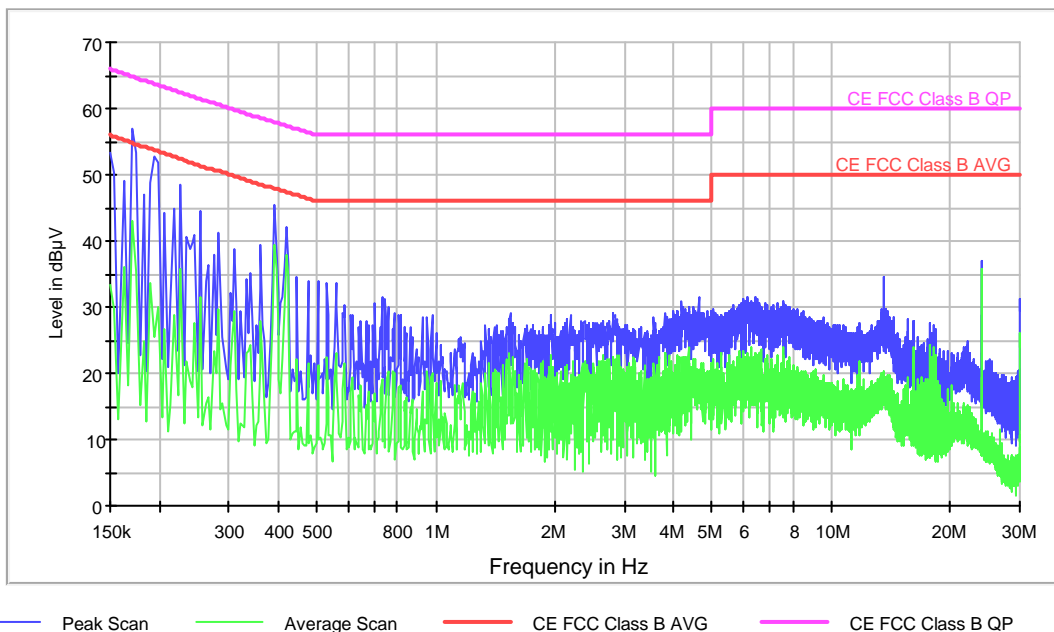


## Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.158000	63.7	44.4
0.262000	46.5	29.0
0.474000	39.0	26.7
0.802000	36.5	20.0
1.422000	34.1	23.6
2.638000	31.6	18.1
4.730000	34.3	25.0
6.398000	35.6	24.6
13.566000	36.0	16.6
24.038000	38.7	37.9

Project: 52611REM002  
 Company: SUUNTO  
 Sample: S/02  
 Operation mode: OM#03  
 Description: EUT ON. IDLE Bluetooth. RadioTX/RX 123KHz active and transceiver mode. Battery charging and transferring data with the PC by USB port from an laptop (115 VAC). Phase wire noise.

## EC FCC Class B

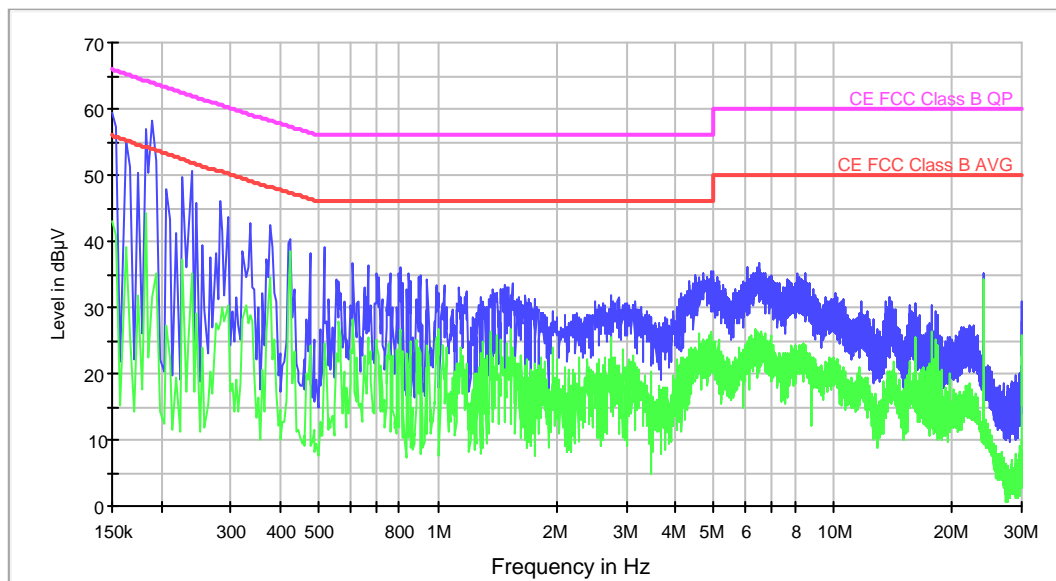


## Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.170000	57.0	43.0
0.390000	45.5	39.4
0.446000	34.5	22.0
0.746000	31.1	13.7
1.542000	29.1	16.8
2.818000	29.2	14.5
4.610000	31.6	20.6
6.146000	31.4	21.6
13.558000	34.7	20.0
24.038000	36.8	35.8

Project: 52611REM002  
 Company: SUUNTO  
 Sample: S/02  
 Operation mode: OM#04  
 Description: EUT ON. Bluetooth link established. RadioTX/RX 123KHz desactivated. Battery charging and transferring data with the PC by USB port from a laptop (115 VAC). Neutral wire noise.

## EC FCC Class B



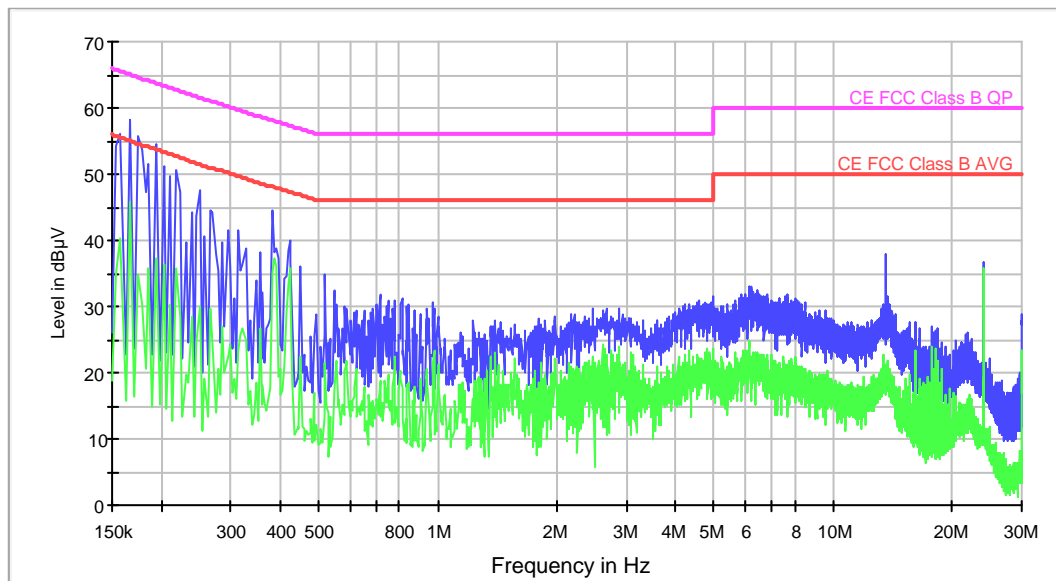
— Peak Scan    — Average Scan    — CE FCC Class B AVG    — CE FCC Class B QP

## Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.150000	59.3	43.1
0.282000	46.1	27.6
0.514000	39.2	24.4
0.806000	36.0	25.1
1.542000	33.6	22.7
2.750000	31.9	25.4
6.034000	36.0	23.3
6.510000	36.5	25.6
13.854000	31.6	19.5
24.038000	35.1	34.2

Project: 52611REM002  
 Company: SUUNTO  
 Sample: S/02  
 Operation mode: OM#04  
 Description: EUT ON. Bluetooth link established. RadioTX/RX 123KHz desactivated. Battery charging and transferring data with the PC by USB port from a laptop (115 VAC). Phase wire noise.

## EC FCC Class B



— Peak Scan    — Average Scan    — CE FCC Class B AVG    — CE FCC Class B QP

## Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.166000	58.3	45.7
0.382000	44.7	35.1
0.450000	36.0	22.4
0.810000	31.1	17.6
1.978000	28.5	19.4
2.478000	29.8	21.8
5.870000	31.9	19.0
6.150000	33.1	24.8
13.558000	37.7	20.2
24.038000	36.6	35.7



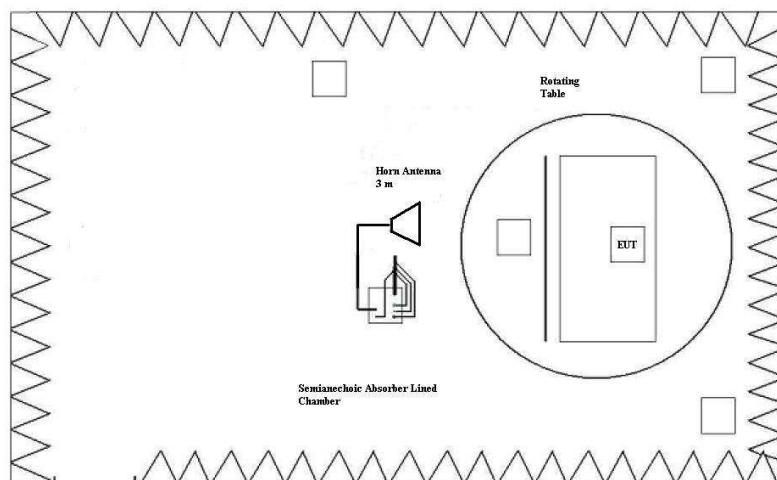
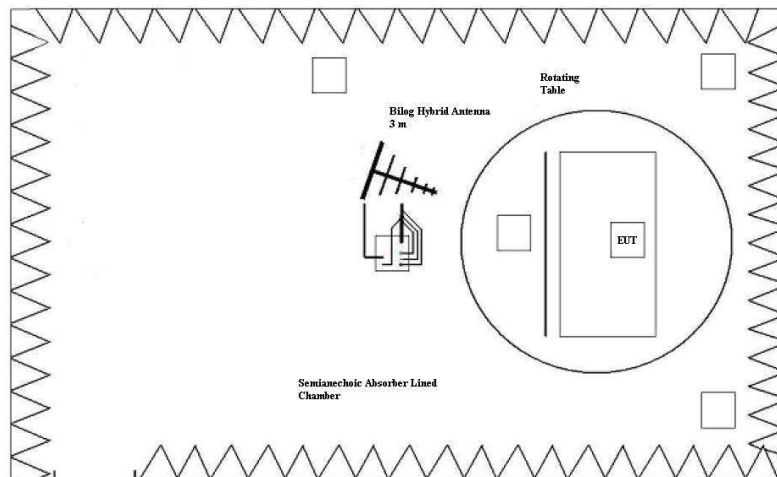
## RADIATED EMISSION. ELECTROMAGNETIC FIELD MEASURE.

<b>LIMITS:</b>	Product standard :	FCC CFR 47, Part 15, Subpart B (10-1-15 Edition), Secs. 15.107 and Subpart C (10-1-15 Edition) Secs. 15.207 & ICES -003 Issue 6 (2016)
	Test standard :	FCC CFR 47, Part 15, Subpart B (10-1-15 Edition), Secs. 15.107 and Subpart C (10-1-15 Edition) Secs. 15.207 & ICES -003 Issue 6 (2016)

### Limits of interference Class B

The applied limit for radiated emissions, 3 m distance, according with the requirements of FCC Rules and Regulations 47 CFR Part 15, Subpart B (10-01-15 Edition), Secs. 15.109 in the frequency range 30 MHz to 26 GHz for class B equipments.

Frequency range (MHz)	QP Limit for 3 m		PK Limit for 3 m
	( $\mu\text{V/m}$ )	( $\text{dB}\mu\text{V/m}$ )	( $\text{dB}\mu\text{V/m}$ )
30 to 88	100	40	---
88 to 216	150	43.5	---
216 to 960	200	46	---
Above 960	500	54	74

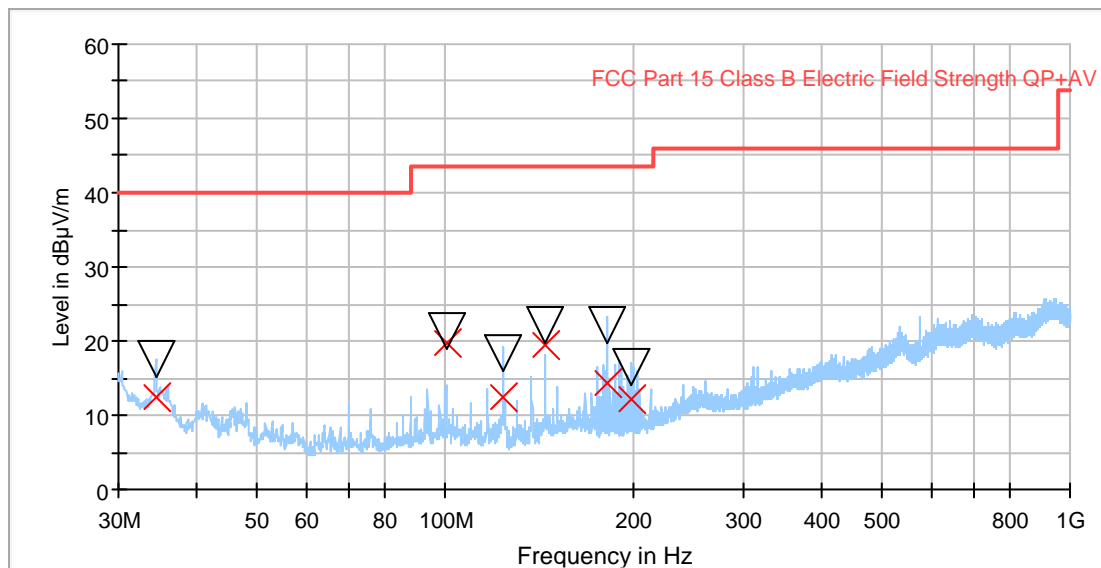


<b>TESTED SAMPLE:</b>	S#01& S#02
<b>TESTED OPERATION MODES:</b>	OM#01 & OM#02
<b>TEST RESULTS:</b>	CRmmnnRRPP: CR, Radiation Condition; mm: Sample number; nn: Operation mode; RR: Range; PP: Polarization.

CRmmnnRRPP	Description	Result
CR0101LR	Range: 30 MHz - 1000 MHz	P
CR0101HR1PH	Range: 1 - 18 GHz Horizontal polarization	P
CR0101HR1PV	Range: 1 - 18 GHz Vertical polarization	P
CR0101HR2PH	Range: 18 - 26 GHz Horizontal polarization	P
CR0101HR2PV	Range: 18 - 26 GHz Vertical polarization	P
CR0202LR	Range: 30 MHz - 1000 MHz	P
CR0202HR1PH	Range: 1 - 18 GHz Horizontal polarization	P
CR0202HR1PV	Range: 1 - 18 GHz Vertical polarization	P
CR0202HR2PH	Range: 18 - 26 GHz Horizontal polarization	P
CR0202HR2PV	Range: 18 - 26 GHz Vertical polarization	P

Project: 52611REM.002  
 Company: SUUNTO  
 Sample: S/01  
 Operation mode: OM#01  
 Description: EUT ON. Bluetooth IDLE Mode. Radio TX/RX 123KHz IDLE Mode. Battery charging by USB port (5Vdc).

Full Spectrum



- Preview Result 1-PK+
- FCC Part 15 Class B Electric Field Strength QP+AV
- X QuasiPeak-QPK
- ▽ MaxPeak-PK+

## Maximizations

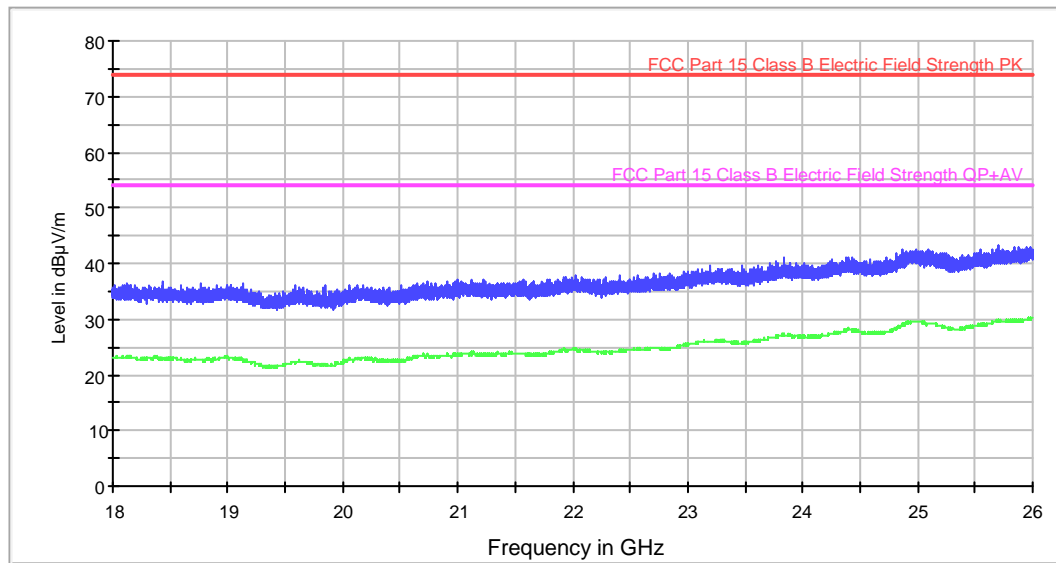
Frequency (MHz)	QuasiPeak (dBµV/m)	MaxPeak (dBµV/m)	Height (cm)	Pol	Azimuth (deg)
34.400000	12.39	17.53	235.0	V	161.0
100.432468	19.63	21.45	109.0	V	188.0
123.754545	12.40	18.27	123.0	V	357.0
144.377922	19.39	22.10	104.0	V	253.0
182.019481	14.26	22.20	189.0	H	277.0
198.181818	12.26	16.57	203.0	H	150.0





Project: 52611REM.002  
 Company: SUUNTO  
 Sample: S/01  
 Operation mode: OM#01  
 Description: EUT ON. Bluetooth IDLE Mode. Radio TX/RX 123KHz IDLE Mode.  
 Battery charging by USB port (5Vdc). Horizontal polarization.

## ER EMI FCC 15 Class B(18-26GHz)



— Peak Scan  
 — Average Scan  
 — FCC Part 15 Class B Electric Field Strength PK  
 — FCC Part 15 Class B Electric Field Strength QP+AV

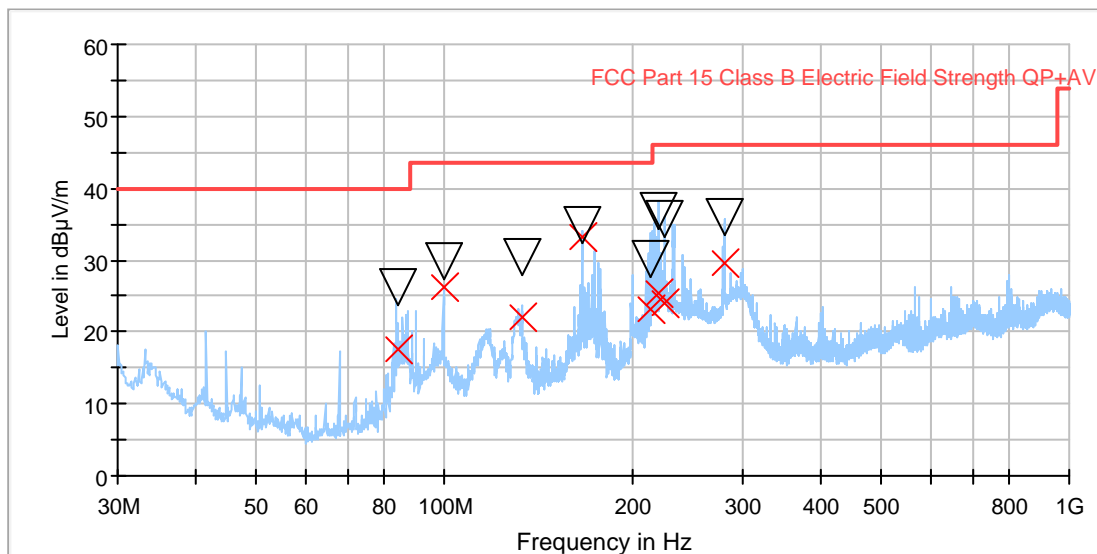
## Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV/m)	Average-ClearWrite (dBµV/m)
18430.000000	36.6	23.1
18767.600000	36.4	22.7
19849.600000	36.1	21.7
20731.200000	36.8	23.5
21111.200000	37.2	23.6
22413.200000	37.9	24.3
23200.400000	39.7	26.0
23834.000000	41.1	27.3
24990.000000	42.6	29.6
25703.200000	43.1	29.6



Project: 52611REM.002  
 Company: SUUNTO  
 Sample: S/02  
 Operation mode: OM#02  
 Description: EUT ON. IDLE Bluetooth. Radio TX/RX 123KHz IDLE Mode. Battery charging and transferring data with the PC by USB port from a laptop (115 VAC).

Full Spectrum



- Preview Result 1-PK+
- FCC Part 15 Class B Electric Field Strength QP+AV
- X QuasiPeak-QPK
- ▽ MaxPeak-PK+

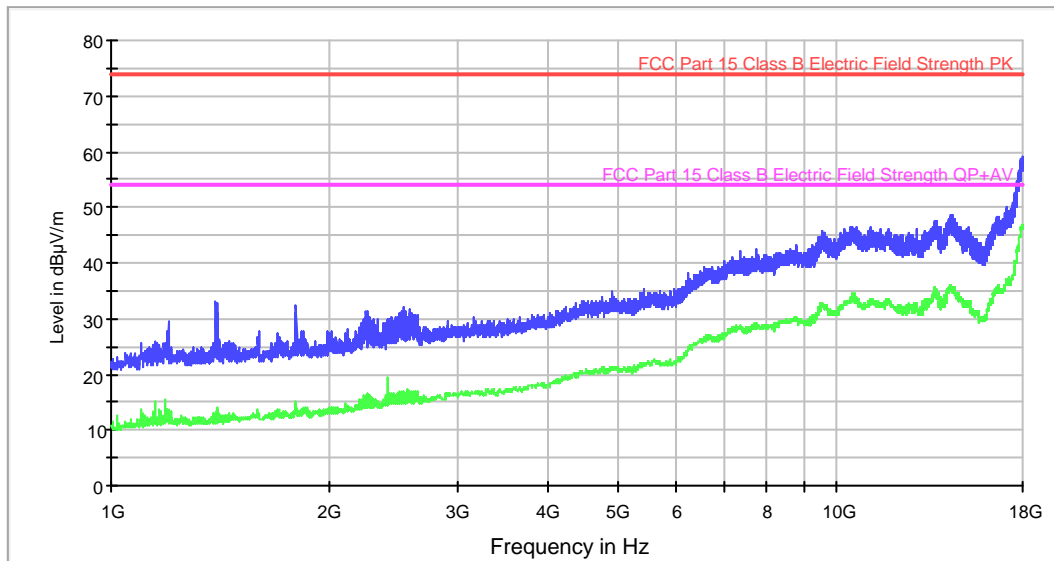
### Maximizations

Frequency (MHz)	QuasiPeak (dBµV/m)	MaxPeak (dBµV/m)	Height (cm)	Pol	Azimuth (deg)
84.068831	17.63	26.22	365.0	H	15.0
99.593506	26.36	29.79	239.0	H	242.0
132.787013	22.08	30.48	156.0	H	142.0
166.587013	33.21	35.00	205.0	H	36.0
214.342857	23.15	30.12	157.0	H	269.0
219.806494	25.43	36.85	144.0	H	288.0
225.129870	24.04	35.79	129.0	H	280.0
279.918182	29.45	35.88	115.0	H	88.0



Project: 52611REM.002  
 Company: SUUNTO  
 Sample: S/02  
 Operation mode: OM#02  
 Description: EUT ON. IDLE Bluetooth. Radio TX/RX 123KHz IDLE Mode. Battery charging and transferring data with the PC by USB port from a laptop (115 VAC). Horizontal polarization.

## ER EMI FCC 15 Class B (1-18GHz)



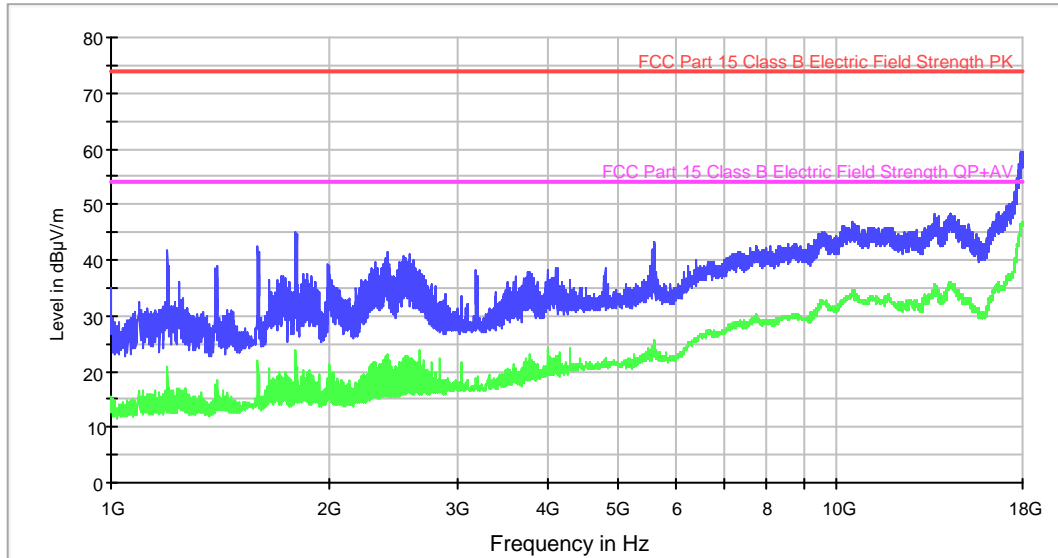
— Peak Scan  
 — FCC Part 15 Class B Electric Field Strength PK  
 — Average Scan  
 — FCC Part 15 Class B Electric Field Strength QP+AV

## Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV/m)	Average-ClearWrite (dBµV/m)
1199.000000	29.4	13.7
1395.000000	33.0	13.0
1799.000000	32.6	14.4
2523.000000	32.1	16.8
4225.000000	32.1	19.7
5408.000000	35.4	21.8
7331.000000	42.1	28.4
9510.000000	45.8	32.5
10461.000000	46.6	33.5
17993.000000	59.2	46.4

Project: 52611REM.002  
 Company: SUUNTO  
 Sample: S/02  
 Operation mode: OM#02  
 Description: EUT ON. IDLE Bluetooth. Radio TX/RX 123KHz IDLE Mode. Battery charging and transferring data with the PC by USB port from a laptop (115 VAC). Vertical polarization.

## ER EMI FCC 15 Class B (1-18GHz)



— Peak Scan  
— FCC Part 15 Class B Electric Field Strength PK  
— Average Scan  
— FCC Part 15 Class B Electric Field Strength QP+AV

## Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV/m)	Average-ClearWrite (dBµV/m)
1198.000000	41.7	21.0
1595.000000	42.5	21.9
1794.000000	45.0	23.0
2398.000000	41.6	23.1
4116.000000	38.5	21.7
5591.000000	43.3	24.3
7328.000000	41.4	28.8
9619.000000	45.2	32.2
10491.000000	46.7	34.2
17942.000000	59.5	46.5



