



Test report No:
NIE: 64305REM.002

Test report

FCC Rules and Regulations CFR 47, Part 15, Subpart B (10-1-19 Edition) & ICES-003 Issue 6 (Updated 2019-04)

(*) Identification of item tested	New S7000 series Philips shavers with Bluetooth (S79xx)
(*) Trademark	Philips (or Philips Norelco in the US)
(*) Model and /or type reference	S7900 series
Other identification of the product	HW version: 1.0 SW version: 286 FCC ID: 2AICSS79 IC: 21912-S79
(*) Features	Bluetooth 4.1
Manufacturer	PHILIPS CONSUMER LIFESTYLE B.V. Tussendiepen 4 9206 AD Drachten, THE NETHERLANDS
Test method requested, standard	FCC CFR 47, Part 15, Subpart B (10-1-19 Edition) & ICES-003 Issue 6 (Updated 2019-04)
Summary	IN COMPLIANCE
Approved by (name / position & signature)	Rafael López Martín EMC Consumer & RF Lab. Manager
Date of issue	2020-09-15
Report template No	FDT08_22 (*) "Data provided by the client"

Index

Competences and guarantees	3
General conditions	3
Uncertainty	3
Data provided by the client.....	4
Usage of samples	4
Test sample description	4
Identification of the client.....	6
Testing period and place.....	6
Document history	6
List of equipment used during the test.....	7
Environmental conditions	8
Remarks and comments	9
Testing verdicts.....	9
Summary	9
Appendix A: Test results	10

Competences and guarantees

DEKRA Testing and Certification 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.

DEKRA Testing and Certification is a FCC recognized accredited testing laboratory with appropriate scope of accreditation that include testing performed in this test report, FCC designation number ES0004.

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

DEKRA Testing and Certification 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 at the time of performance of the test.

DEKRA Testing and Certification 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.
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 and the Accreditation Bodies.

Uncertainty

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

The total uncertainty of the measurement system for the measured radio disturbance characteristics of EUT from 30 MHz to 1000 MHz is $l = \pm 4,9$ dB for quasi-peak measurements, $l = \pm 4,6$ 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 12.75 GHz is $l = \pm 2,6$ dB for peaks and average measurements ($k=2$).

Data provided by the client

The following data has been provided by the client:

1. Information relating to the description of the sample ("Identification of the item tested", "Trademark", "Model and/or type reference tested").
2. The sample consists of a New S7900 series Philips shavers with Bluetooth. Identification: all shaver types starting with S79xx are part of this range. Bluetooth connected shaver.

DEKRA declines any responsibility with respect to the information provided by the client and that may affect the validity of results.

Usage of samples

Samples under test have been selected by: The client.

Sample S/01 is composed by the following elements:

Control N°	Description	Model	Serial N°	Date of reception
64305/001	AC/DC adapter	AD21163HF	---	2020-07-13
60899/011	Test shavers	S7900 Series	---	2019-09-10

Sample S/02 is composed by the following elements:

Control N°	Description	Model	Serial N°	Date of reception
64305/001	AC/DC adapter	AD21163HF	---	2020-07-13
60899/010	Test shavers	S7900 Series	---	2019-09-10

Test sample description

Ports..... :	Port name and description		Cable				
			Specified length [m]	Attached during test		Shielded	
	N/A			☐		☐	
				☐		☐	
Supplementary information to the ports..... :							
Rated power supply	Voltage and Frequency		Reference poles				
			L1	L2	L3	N	PE
	☒	AC: 12Vac/24Vac (Receiver)	☒	☐	☐	☒	☐
	☒	DC: 3.6Vdc (Internal battery)					
Rated Power	Not provided data						
Clock frequencies.....	Not provided data						
Other parameters	Not provided data						
Software version	286						
Hardware version	1.0						
Dimensions in mm (L x W x D)....	Not provided data						
Mounting position	☐	Table top equipment					
	☐	Wall/Ceiling mounted equipment (Receiver)					
	☐	Floor standing equipment					
	☒	Hand-held equipment					
	☐	Other:					
Modules/parts.....	Module/parts of test item		Type			Manufacturer	
	N/A						
Accessories (not part of the test item)	Description		Type			Manufacturer	
	N/A						
Documents as provided by the applicant.....	Description		File name			Issue date	
	N/A						

Identification of the client

PHILIPS CONSUMER LIFESTYLE B.V.
Oliemolenstraat 5
9203 ZN. Drachten. THE NETHERLANDS.

Testing period and place

Test Location	DEKRA Testing and Certification S.A.U.
Date (start)	2020-07-20
Date (finish)	2020-07-27

Document history

Report number	Date	Description
64305REM.002	2020-09-15	First release

List of equipment used during the test

Control Number	Description	Model	Manufacturer	Next Calibration
2942	EMI TEST RECEIVER 20Hz-40GHz	ESU40	ROHDE AND SCHWARZ	2021-09-17
3541	HYBRID BILOG ANTENNA 30MHz-6GHz	JB6	SUNOL SCIENCES CORPORATION	2021-10-10
3545	USB TEMPERATURE AND HUMIDITY SENSOR	HUMIDIPROBE	PICO TECHNOLOGY	2021-04-22
4523	EMI TEST RECEIVER 20Hz-26.5GHz	ESU26	ROHDE AND SCHWARZ	2022-05-27
6121	PRE-AMPLIFIER G>40dB 10MHz-6GHz	BLNA 0160-01N	BONN ELEKTRONIK	---
6132	ETHERNET TEMPERATURE AND HUMIDITY LOGGER	HWg-STE	HW GROUP	2021-04-20
6195	PRE-AMPLIFIER G>55dB 1-18GHz	AMF-7D-01001800-22-10P	NARDA	2021-05-19
6496	HORN ANTENNA 1-18GHz	BBHA 9120 D	SCHWARZBECK	2023-08-24
7853	EMI RECEIVER 10Hz-30MHz	PMM 9010F	NARDA	2021-10-30
7859	THREE-PHASE ARTIFICIAL NETWORK 32A	PMM L3-32	NARDA	2021-11-20

Environmental conditions

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

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

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

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

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

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

Remarks and comments

The test have been performed by the technical personnel: Victoria Oviedo & Carlos Haro.

Testing verdicts

Not applicable :	N/A
Pass :	P
Fail :	F
Not measured :	N/M

Summary

Emission Test		
Requirement – Test case	Verdict	Remark
Radiated emission. Electromagnetic field measure (30 MHz – 1000 MHz)	P	---
Radiated emission. Electromagnetic field measure (1 GHz – 12.75 GHz)	P	---
Radiated emission. Electromagnetic field measure (12.75 GHz – 40 GHz)	N/A	(1)
Continuous conducted emission (150 KHz – 30 MHz)	P	---
<u>Supplymentary information and remarks:</u>		
(1) Range: f>12.75 GHz. Test required only if the 5 th harmonics of the maximum internal work frequency in the EUT is higher than 12.75GHz.		

Appendix A: Test results

Appendix A content

DESCRIPTION OF THE OPERATION MODES..... 12

RADIATED EMISSION. ELECTROMAGNETIC FIELD MEASURE..... 13

CONTINUOUS CONDUCTED EMISSION.....21

DESCRIPTION OF THE OPERATION MODES

The operation modes described in this paragraph constitute a functionality of the sample under test for itself. The operation modes used by the samples to which the present report refers, are shown in the following table:

OPERATION MODE	DESCRIPTION
OM#01	EUT ON. Charging battery. Bluetooth without communication established. Power supply: 115Vac.
OM#02	EUT ON. Charging battery. Bluetooth ON with communication established. Power supply: 115 Vac.
OM#03	EUT ON. Shaver working continuously. Bluetooth without communication established. Power supply: 3.6Vdc (internal battery).

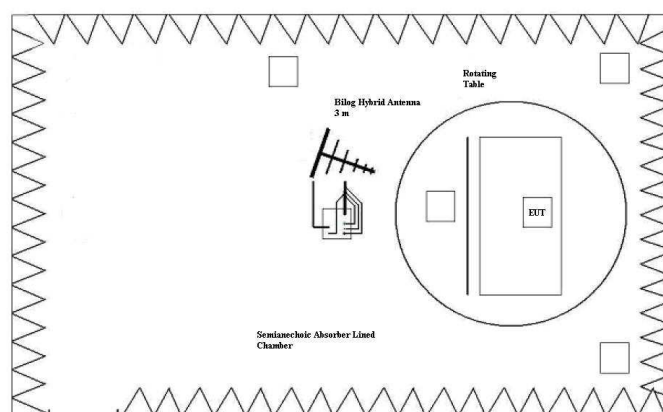
RADIATED EMISSION. ELECTROMAGNETIC FIELD MEASURE

LIMITS:	Product standard:	FCC CFR 47, Part 15, Subpart B (10-1-19 Edition) & ICES-003 Issue 6 (Updated 2019-04)
	Test standard:	FCC CFR 47, Part 15, Subpart B (10-1-19 Edition) & ICES-003 Issue 6 (Updated 2019-04)

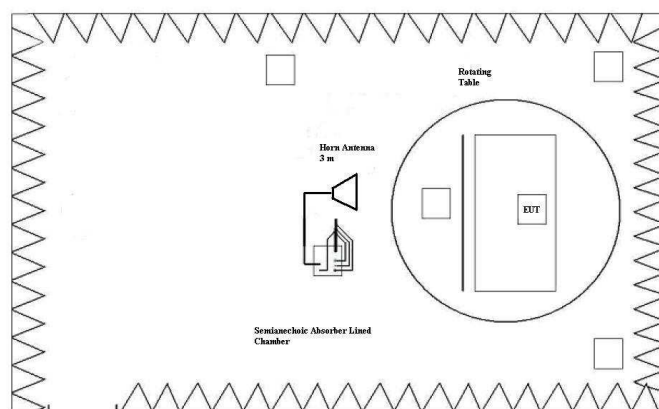
Limits of interference Class B

The applied limit for radiated emissions, 3 m distance, according with the requirements of FCC Rules and Regulations 47 CFR Part 15, Subpart B (10-1-19 Edition), Secs. 15.109 & ICES-003 Issue 6 (Updated 04-2019)

Frequency of emission (MHz)	Field strength (microvolt/meter)
30-88	100
88-216	150
21-960	200
Above 960	500



Setup for measurements < 1GHz.



Setup for measurements > 1GHz.

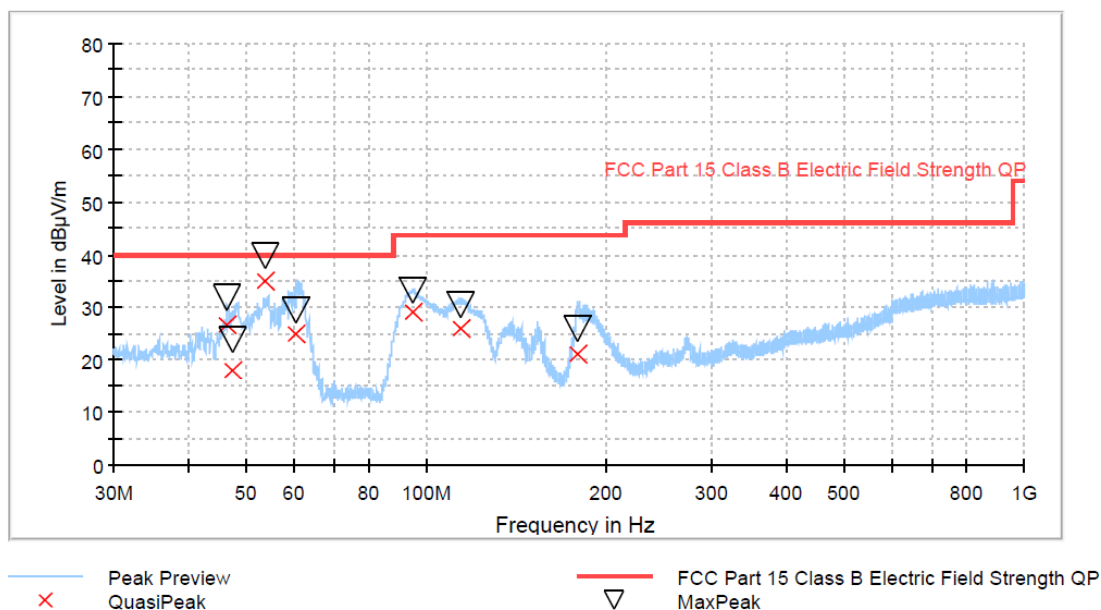
TESTED SAMPLE:	S/02
TESTED OPERATION MODES:	OM#01 & OM#03
TEST RESULTS:	CRmmnnRRPP: CR, Radiated Condition; mm: Sample number; nn: Operation mode; RR: Range; PP: Polarization.

CRmmnnRRPP	Description	Result
CR0201LR	Range: 30 MHz - 1000 MHz.	P
CR0201HR_PH	Range: 1 GHz – 12.75 GHz. Horizontal polarization.	P
CR0201HR_PV	Range: 1 GHz – 12.75 GHz. Vertical polarization.	P
CR0203LR	Range: 30 MHz - 1000 MHz.	P
CR0203HR_PH	Range: 1 GHz – 12.75 GHz. Horizontal polarization.	P
CR0203HR_PV	Range: 1 GHz – 12.75 GHz. Vertical polarization.	P

Radiated Emission. CR0201LR

Project: 64305REM.002
Company: PHILIPS CONSUMER LIFESTYLE B.V.
Sample: S/02
Operation mode: OM#01
Description: EUT ON. Charging battery. Bluetooth ON without communication established. Power supply: 115 Vac.

Full Spectrum



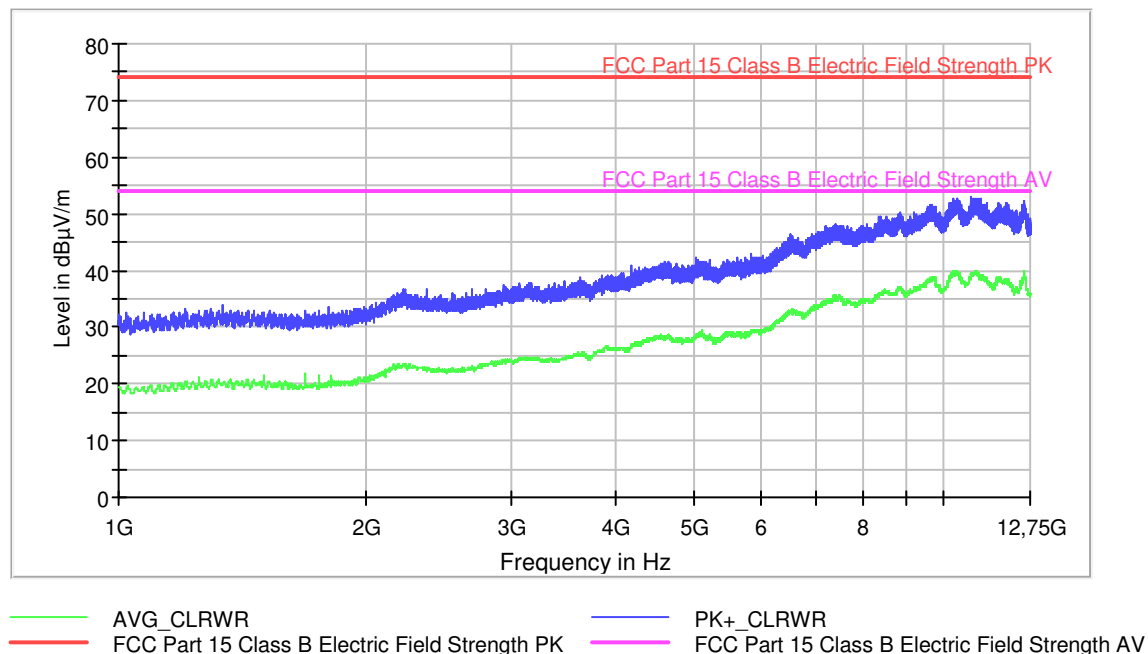
Maximizations

Frequency (MHz)	QuasiPeak (dBµV/m)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)
46.482000	26.57	32.00	40.00	13.43	102.0	H	92.0
47.313000	18.04	23.74	40.00	21.96	112.0	H	-100.0
53.662000	35.15	39.68	40.00	4.85	111.0	H	-54.0
60.675000	24.82	29.47	40.00	15.19	233.0	H	-123.0
94.973000	29.20	33.11	43.52	14.32	114.0	H	-137.0
114.142000	26.00	30.31	43.52	17.52	102.0	H	-88.0
178.420000	21.11	25.87	43.52	22.41	167.0	V	-58.0

Radiated Emission. CR0201HR_PH

Project: 64305REM.002
Company: PHILIPS CONSUMER LIFESTYLE B.V.
Sample: S/02
Operation mode: OM#01
Description: EUT ON. Charging battery. Bluetooth without communication established. Power supply: 115 Vac PH.

RE FCC Part 15 ClassB 1-12,75 GHz



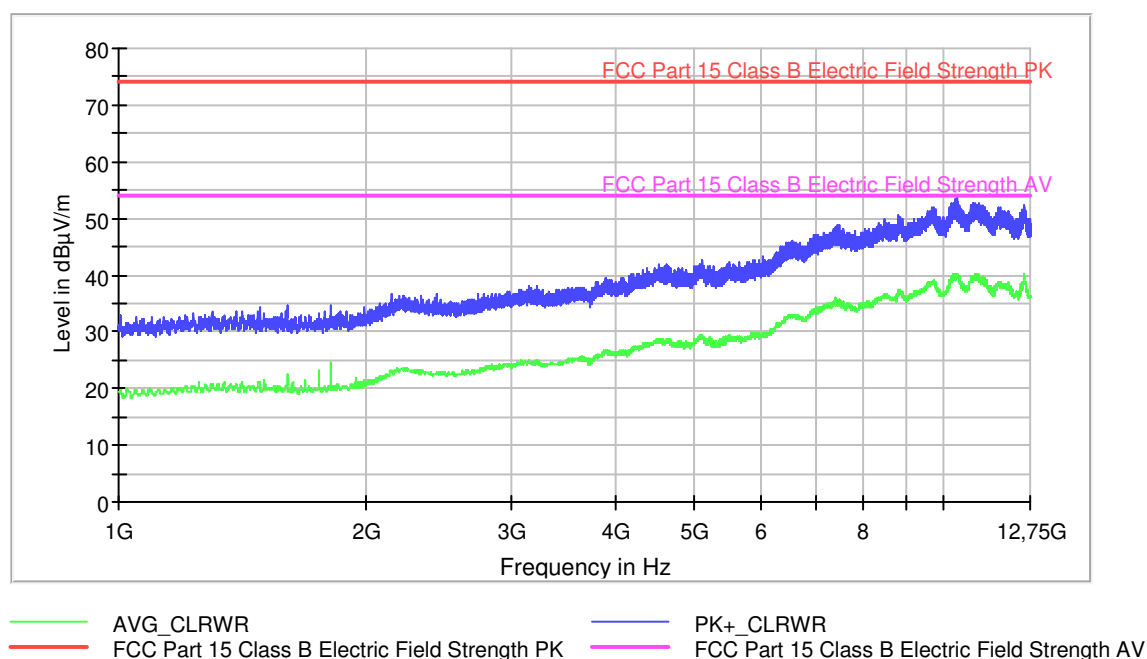
Subrange Maxima

Frequency (MHz)	PK+_CLRWR (dBµV/m)	AVG_CLRWR (dBµV/m)
2160.000000	35.7	23.2
3162.400000	37.8	24.5
4180.000000	40.9	26.7
5641.600000	42.2	29.0
6535.200000	46.3	32.7
7402.000000	48.2	35.4
8876.000000	50.1	37.0
10393.600000	52.7	39.7
10809.200000	52.9	39.1
12551.200000	52.3	39.4

Radiated Emission. CR0201HR_PV

Project: 64305REM.002
Company: PHILIPS CONSUMER LIFESTYLE B.V.
Sample: S/02
Operation mode: OM#01
Description: EUT ON. Charging battery. Bluetooth without communication established. Power supply: 115 Vac.

RE FCC Part 15 ClassB 1-12,75 GHz



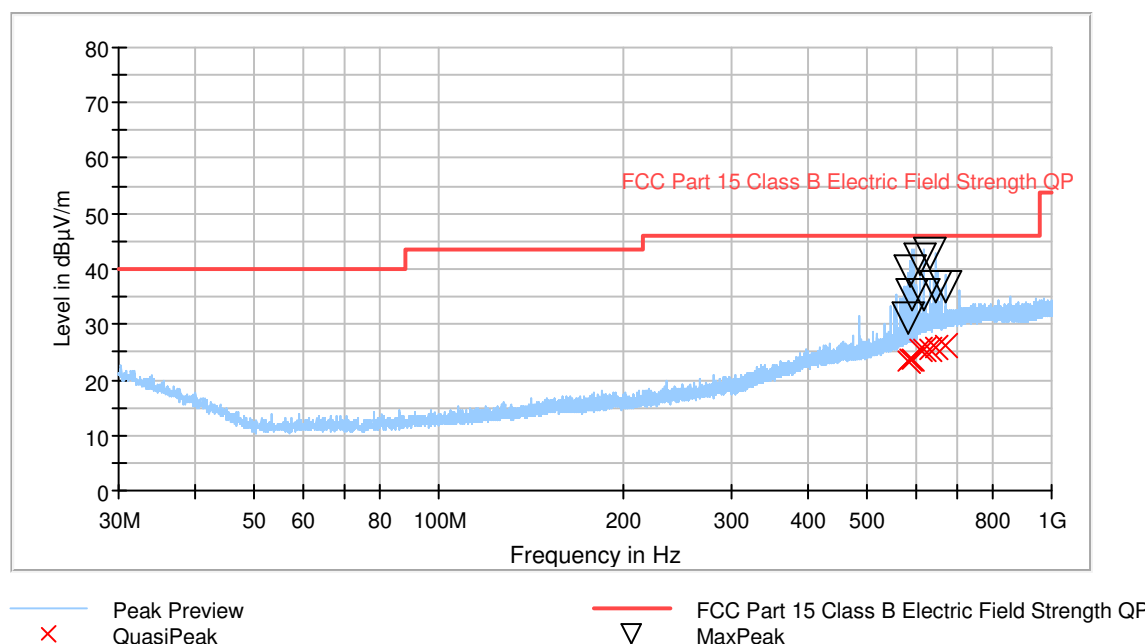
Subrange Maxima

Frequency (MHz)	PK+_CLRWR (dBμV/m)	AVG_CLRWR (dBμV/m)
2142.800000	36.7	23.2
3149.200000	37.9	24.7
4514.800000	41.8	28.3
5089.600000	42.5	29.2
6550.800000	45.9	33.0
7462.400000	48.9	35.4
8839.600000	50.4	37.1
10366.800000	53.5	39.5
10404.800000	53.6	40.2
12561.200000	52.2	39.6

Radiated Emission. CR0203LR

Project: 64305REM.002
Company: PHILIPS CONSUMER LIFESTYLE B.V.
Sample: S/03
Operation mode: OM#03
Description: EUT ON. Shaver working continuously. Bluetooth ON without communication established. Power supply: 3.6Vdc (internal battery). Vertical and Horizontal polarization.

Full Spectrum



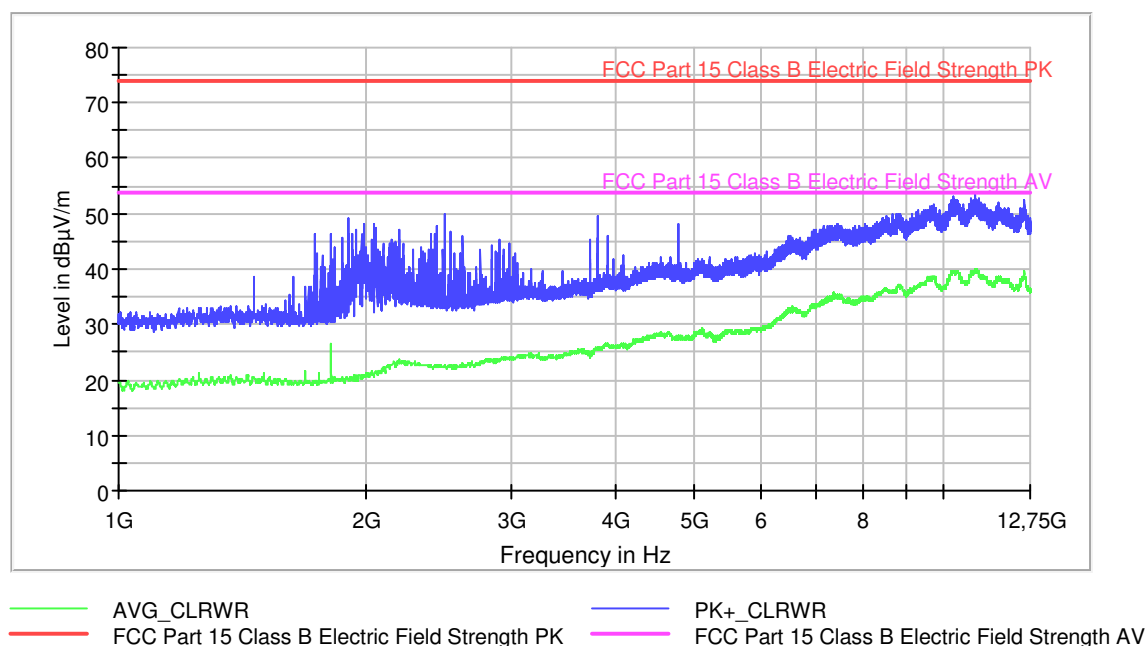
Maximisations

Frequency (MHz)	QuasiPeak (dBµV/m)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)
583.394000	23.37	31.29	46.00	22.63	395.0	V	28.0
587.174000	23.57	39.71	46.00	22.43	144.0	H	30.0
593.683000	23.63	35.44	46.00	22.37	367.0	V	-98.0
609.374000	25.66	41.89	46.00	20.34	130.0	V	90.0
620.404000	25.47	35.35	46.00	20.53	246.0	V	-62.0
634.043000	25.66	42.80	46.00	20.34	140.0	V	139.0
645.741000	25.83	36.86	46.00	20.17	330.0	V	91.0
673.362000	26.37	36.94	46.00	19.63	112.0	V	115.0

Radiated Emission. CR0203HR_PH

Project: 64305REM.002
Company: PHILIPS CONSUMER LIFESTYLE B.V.
Sample: S/02
Operation mode: OM#03
Description: EUT ON. Shaver working continuously. Bluetooth without communication established. Power supply: 3.6Vdc (internal battery).
PH

RE FCC Part 15 ClassB 1-12,75 GHz



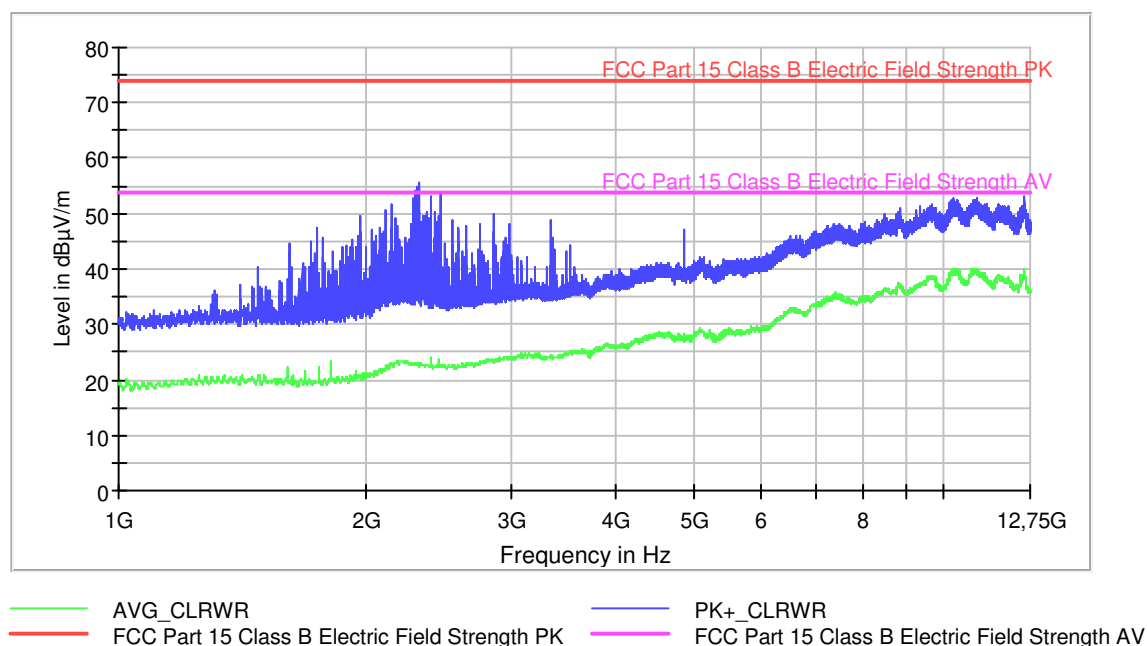
Subrange Maxima

Frequency (MHz)	PK+_CLRWR (dBμV/m)	AVG_CLRWR (dBμV/m)
1902.400000	49.3	19.9
2489.200000	49.9	22.4
3822.000000	49.7	25.7
4776.800000	48.3	27.7
6542.800000	46.0	32.8
8030.400000	48.2	34.6
8869.200000	50.0	36.9
10296.000000	52.9	39.6
10957.600000	53.3	39.6
12540.400000	52.3	39.4

Radiated Emission. CR0203HR_PV

Project: 64305REM.002
Company: PHILIPS CONSUMER LIFESTYLE B.V.
Sample: S/02
Operation mode: OM#03
Description: EUT ON. Shaver working continuously. Bluetooth without communication established. Power supply: 3.6Vdc (internal battery).
PV

RE FCC Part 15 ClassB 1-12,75 GHz



Subrange Maxima

Frequency (MHz)	PK+_CLRWR (dBµV/m)	AVG_CLRWR (dBµV/m)
2139.600000	51.8	23.0
2316.400000	55.5	22.6
3353.200000	45.8	24.3
4852.000000	46.9	28.2
6723.200000	45.9	32.3
7946.000000	48.2	34.6
8860.800000	50.8	37.2
10277.600000	52.6	39.7
11022.400000	52.7	40.1
12533.600000	53.0	40.1

CONTINUOUS CONDUCTED EMISSION

LIMITS:	Product standard :	FCC CFR 47, Part 15, Subpart B (10-1-19 Edition), Secs. 15.107; ICES-003 Issue 6 (January 2016, updated April 2019)
	Test standard :	FCC CFR 47, Part 15, Subpart B (10-1-19 Edition), Secs. 15.107; ICES-003 Issue 6 (January 2016, updated April 2019)

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 (10-1-19 Edition), Secs. 15.107 & ICES-003 Issue 6 (January 2019), in the frequency range 0,15 to 30 MHz, for Class B equipment was:

Frequency range (MHz)	Limit (dBµV)	
	Quasi-peak	Average
0,15 to 0,5	66 - 56	56 - 46
0,5 to 5	56	46
5 to 30	60	50

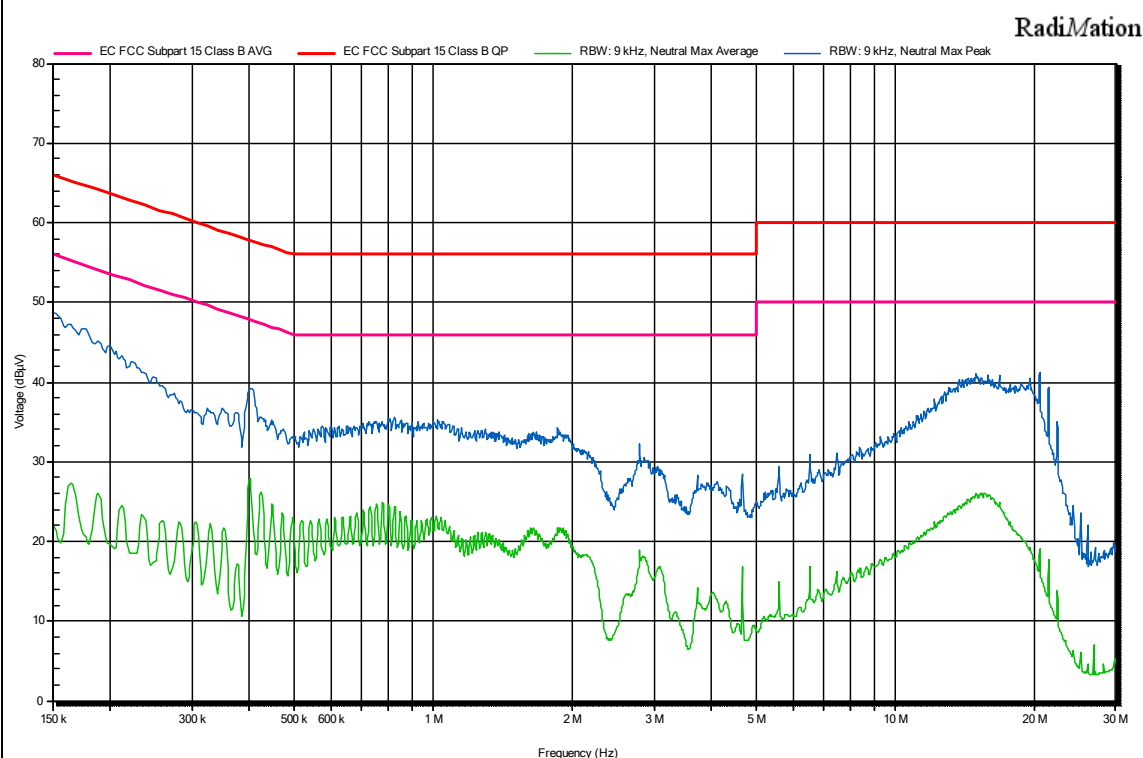
TESTED SAMPLES:	S/01
TESTED OPERATION MODES:	OM#01 & OM#02
TEST RESULTS:	CCmmnnhh: CC, Conducted Condition; mm: Sample number; nn: Operation mode; hh: wire

CCmmnnhh	DESCRIPTION	RESULT
CC01010N	Range: 150kHz – 30MHz. Neutral AC wire noise.	P
CC0101L1	Range: 150kHz – 30MHz. Phase AC wire noise.	P
CC01020N	Range: 150kHz – 30MHz. Neutral AC wire noise.	P
CC0102L1	Range: 150kHz – 30MHz. Phase AC wire noise.	P

Conducted Emission. CC01010N

Project: 64305REM.002
Company: PHILIPS CONSUMER LIFESTYLE B.V.
Sample: S/01
Operation mode: OM#01
Description: EUT ON. Charging battery. Bluetooth ON without communication established. Power supply: 115 Vac. Neutral wire noise.

Full Spectrum



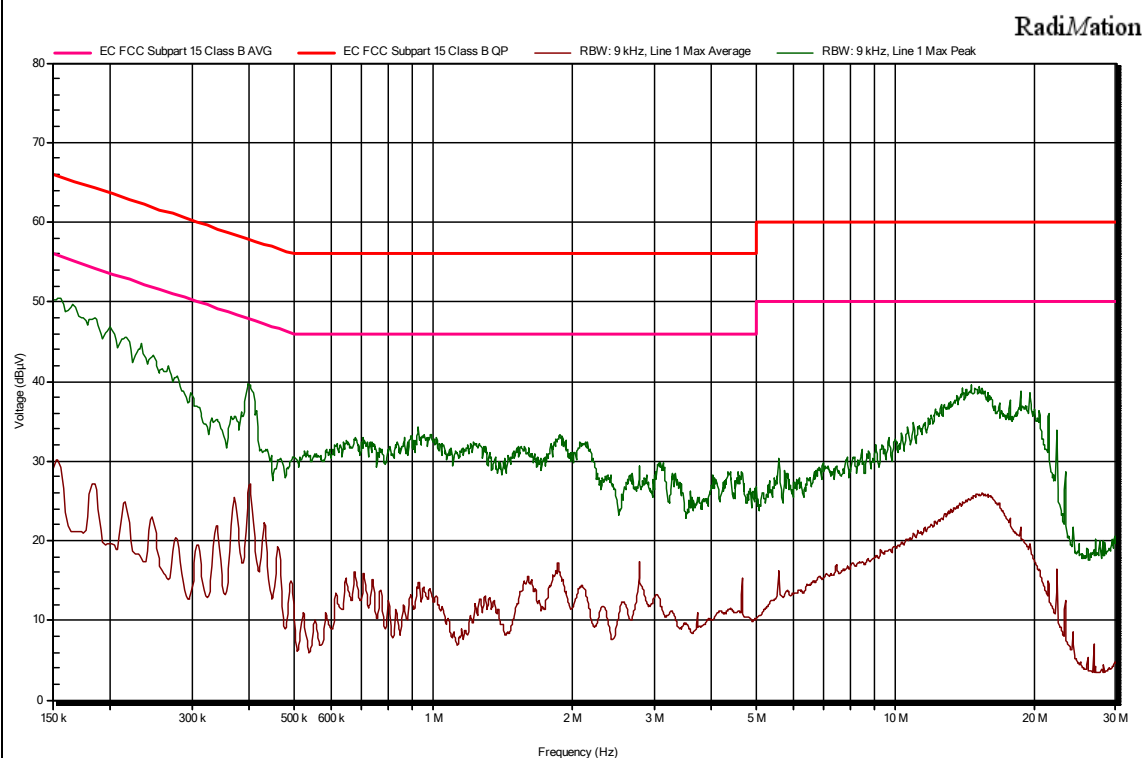
Subrange Maxima

Frequency	Peak	Average
150 kHz	48,8 dBμV	22 dBμV
188,849 kHz	45,1 dBμV	25,9 dBμV
211,34 kHz	43,2 dBμV	24,4 dBμV
233,832 kHz	41,1 dBμV	23,3 dBμV
403,54 kHz	39,2 dBμV	26,5 dBμV
728,644 kHz	34,7 dBμV	24,3 dBμV
800,208 kHz	35,3 dBμV	24,8 dBμV
822,699 kHz	35,6 dBμV	24,3 dBμV
14,98 MHz	41 dBμV	25,8 dBμV
20,499 MHz	40,9 dBμV	18,4 dBμV

Conducted Emission. CC0101L1

Project: 64305REM.002
Company: PHILIPS CONSUMER LIFESTYLE B.V.
Sample: S/01
Operation mode: OM#01
Description: EUT ON. Charging battery. Bluetooth ON without communication established. Power supply: 115 Vac. Phase wire noise.

Full Spectrum



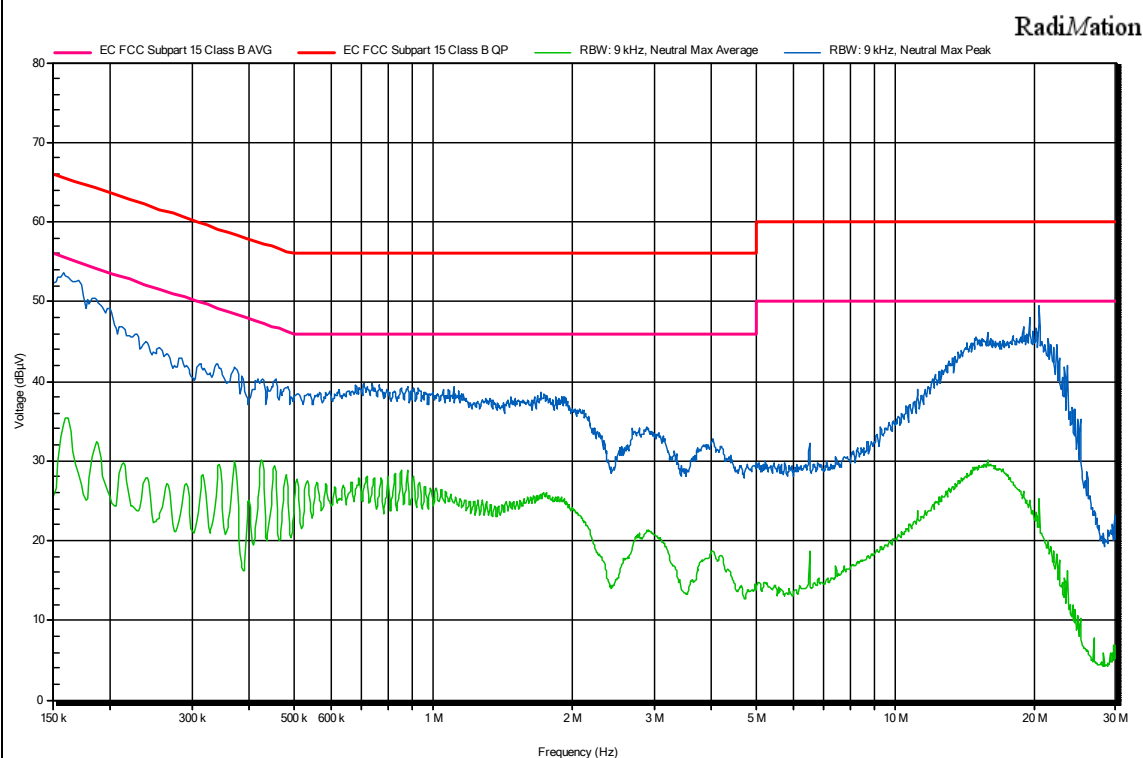
Subrange Maxima

Frequency	Peak	Average
150 kHz	50,2 dBμV	29 dBμV
184,76 kHz	48 dBμV	27,2 dBμV
215,43 kHz	45,6 dBμV	24,9 dBμV
246,1 kHz	43,1 dBμV	22,9 dBμV
276,77 kHz	40,5 dBμV	20,4 dBμV
370,825 kHz	35,7 dBμV	25,5 dBμV
401,495 kHz	39,6 dBμV	27,1 dBμV
926,978 kHz	34,2 dBμV	14,4 dBμV
14,571 MHz	39,6 dBμV	25,2 dBμV
18,611 MHz	38,7 dBμV	21,3 dBμV

Conducted Emission. CC01020N

Project: 64305REM.002
Company: PHILIPS CONSUMER LIFESTYLE B.V.
Sample: S/01
Operation mode: OM#02
Description: EUT ON. Charging battery. Bluetooth ON with communication established. Power supply: 115 Vac. Neutral wire noise.

Full Spectrum



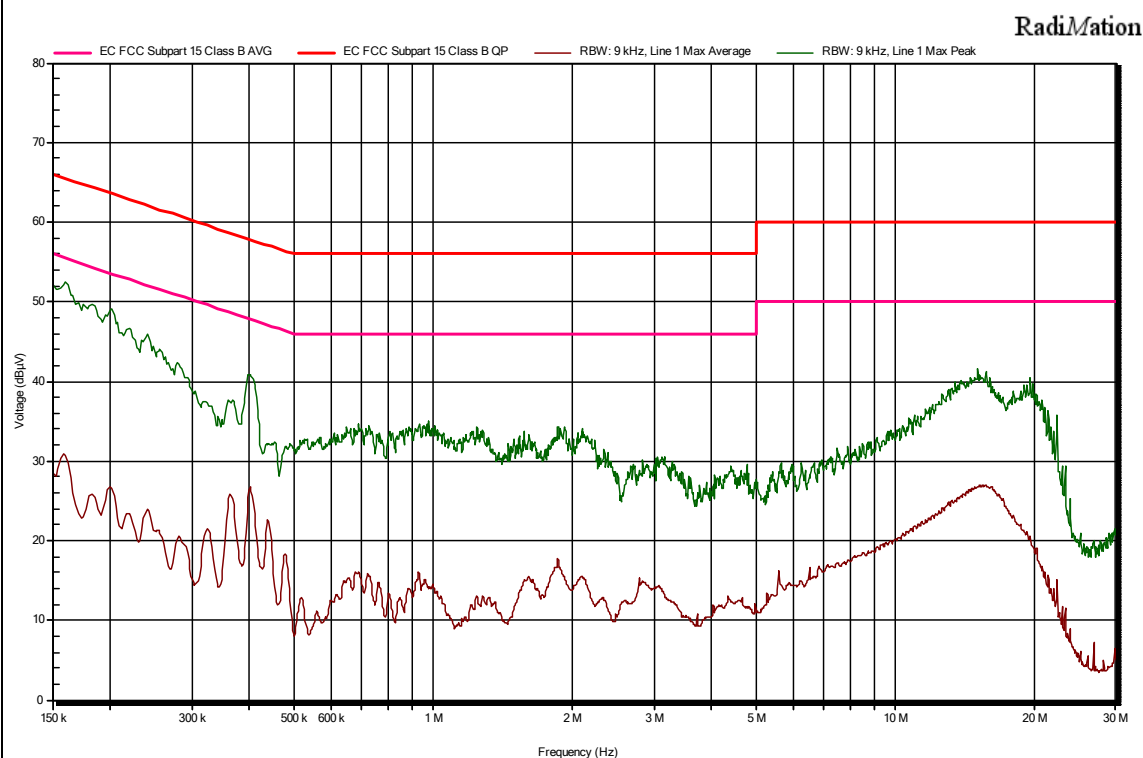
Subrange Maxima

Frequency	Peak	Average
158,179 kHz	53,6 dBμV	34,7 dBμV
186,804 kHz	50,2 dBμV	32,4 dBμV
213,385 kHz	46,7 dBμV	29,7 dBμV
370,825 kHz	41,8 dBμV	30 dBμV
450,568 kHz	39,8 dBμV	29,1 dBμV
877,905 kHz	39,1 dBμV	28,8 dBμV
15,802 MHz	45,9 dBμV	30 dBμV
19,523 MHz	47,9 dBμV	25 dBμV
20,45 MHz	48,9 dBμV	24,9 dBμV
22,296 MHz	44,5 dBμV	18,3 dBμV

Conducted Emission. CC0102L1

Project: 64305REM.002
Company: PHILIPS CONSUMER LIFESTYLE B.V.
Sample: S/01
Operation mode: OM#02
Description: EUT ON. Charging battery. Bluetooth ON with communication established. Power supply: 115 Vac. Phase wire noise.

Full Spectrum



Subrange Maxima

Frequency	Peak	Average
158,179 kHz	52,1 dBμV	30,9 dBμV
239,966 kHz	45,9 dBμV	24 dBμV
282,904 kHz	41,7 dBμV	20,3 dBμV
364,691 kHz	37,4 dBμV	25,7 dBμV
401,495 kHz	40,9 dBμV	26,8 dBμV
687,75 kHz	34,7 dBμV	16 dBμV
931,067 kHz	34,7 dBμV	15,9 dBμV
15,035 MHz	41,6 dBμV	26,6 dBμV
19,562 MHz	40,5 dBμV	19,8 dBμV
19,846 MHz	39,8 dBμV	18,9 dBμV