



Test report No:
NIE: 60899REM.001A1

Test report

FCC Rules and Regulations CFR 47, Part 15, Subpart B (10-1-16 Edition) & ICES-003 (January 2016, Updated April 2017)

(*) Identification of item tested	New S7000 series Philips shavers with Bluetooth
(*) Trademark	Philips (or Philips Norelco in the US)
(*) Model and /or type reference tested	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 (10-1-16 Edition) & ICES-003 (January 2016, updated April 2017)
Summary	IN COMPLIANCE
Approved by (name / position & signature)	Rafael López EMC Consumer & RF Lab. Manager  RAFAEL LÓPEZ MARTÍN 2019.11.04 10:07:43 +01'00'
Date of issue	2019-11-04
Report template No	FDT08_22 (*) "Data provided by the client"

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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.

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.

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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.
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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 conducted disturbance characteristics of EUT from 150 kHz to 30 MHz is $I = \pm 3,9$ dB for quasi-peak measurements, $I = \pm 3,2$ dB for average measurements ($k = 2$).

The total uncertainty of the measurement system for the measured radio disturbance characteristics of EUT from 30 MHz 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 18GHz is $I = \pm 2,6$ 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 S7000 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 of the following elements:

Control N°	Description	Model	Serial N°	Date of reception
60899/001	Bluetooth connected shaver	S7900 series	---	2019-07-24
60899/007	AC/DC adapter	HQ8505	---	2019-07-24

Test sample description

Ports..... :	Port name and description		Cable				
			Specified length [m]	Attached during test	Shielded		
	--			☐	☐		
				☐	☐		
Supplementary information to the ports..... :	--						
Rated Power supply..... :	Voltage and Frequency		Reference poles				
			L1	L2	L3	N	PE
	☐	AC:	☐	☐	☐	☐	☐
	☒	AC: 230/115 Vac	☒	☐	☐	☒	☐
	☐	DC:					
Rated Power	--						
Internal operating frequencies	--						
Other parameters..... :	--						
Software version	286						
Hardware version..... :	1.0						
Dimensions in cm (L x W x D)	--						
Mounting position..... :	☐	Table top equipment					
	☐	Wall/Ceiling mounted equipment					
	☐	Floor standing equipment					
	☒	Hand-held equipment					
	☐	Other:					
Modules/parts	Module/parts of test item		Type		Manufacturer		
	--						
Accessories (not part of the test item)	Description		Type		Manufacturer		
	--						
Documents as provided by the applicant..... :	Description		File name		Issue date		
	--						

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)	2019-07-26
Date (finish)	2019-09-11

Document history

Report number	Date	Description
60899REM.001	2019-09-26	First release
60899REM.001A1	2019-11-04	First modification. Correction of typo. This modification test report cancels and replaces the test report 60899REM.001

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: Daniel Lopez & Carlos Haro.

Testing verdicts

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

List of equipment used during the test

Control Number	Description	Model	Manufacturer	Next Calibration
3545	USB TEMPERATURE AND HUMIDITY SENSOR	HUMIDIPROBE	PICO TECHNOLOGY	2020-04-03
4523	EMI TEST RECEIVER 20Hz-26.5GHz	ESU26	ROHDE AND SCHWARZ	2020-02-21
4612	HORN ANTENNA 1-18GHz	BBHA 9120 D	SCHWARZBECK MESS-ELEKTRONIK	2021-06-14
5152	TRANSIENT LIMITER 10DB N CONNECTOR	VTSD 9561-F	SCHWARZBECK	2021-04-15
5641	HYBRID BILOG ANTENNA 30MHz-6GHz	3142E	ETS LINDGREN	2021-07-31
6126	ETHERNET TEMPERATURE AND HUMIDITY LOGGER	HWg-STE	HW GROUP	2020-04-03
6129	ETHERNET TEMPERATURE AND HUMIDITY LOGGER	HWg-STE	HW GROUP	2020-04-03
6132	ETHERNET TEMPERATURE AND HUMIDITY LOGGER	HWg-STE	HW GROUP	2020-04-05
6195	PRE-AMPLIFIER G>55dB 1-18GHz	AMF-7D-01001800-22-10P	NARDA	2020-02-21

Summary

Emission Test		
Requirement – Test case	Verdict	Remark
Radiated emission test (30 MHz – 1000 MHz)	Pass	N/A
Radiated emission test (1 GHz – 18GHz)	Pass	N/A
Conducted emission test (150 kHz to 30 MHz)	Pass	N/A

Appendix A: Test results

Appendix A Content

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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. 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. Bluetooth off. Charging battery. Power supply: 115Vac
OM#02	EUT ON. Bluetooth ON. Communication established. Charging battery. Power supply: 115Vac

RADIATED EMISSION. ELECTROMAGNETIC FIELD MEASURE

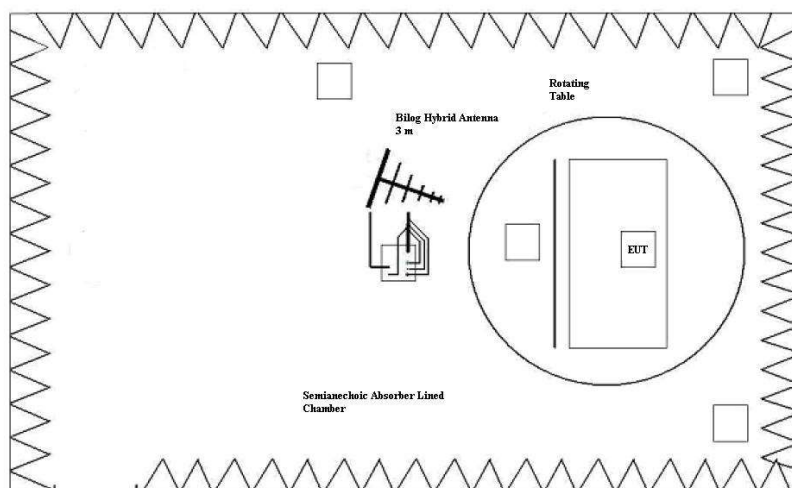
LIMITS:

Product standard:	FCC CFR 47, Part 15, Subpart B (10-1-16 Edition), Secs. 15.109; ICES-003 (January 2016, updated April 2017)
Test standard:	FCC CFR 47, Part 15, Subpart B (10-1-16 Edition), Secs. 15.109; ICES-003 (January 2016, updated April 2017)

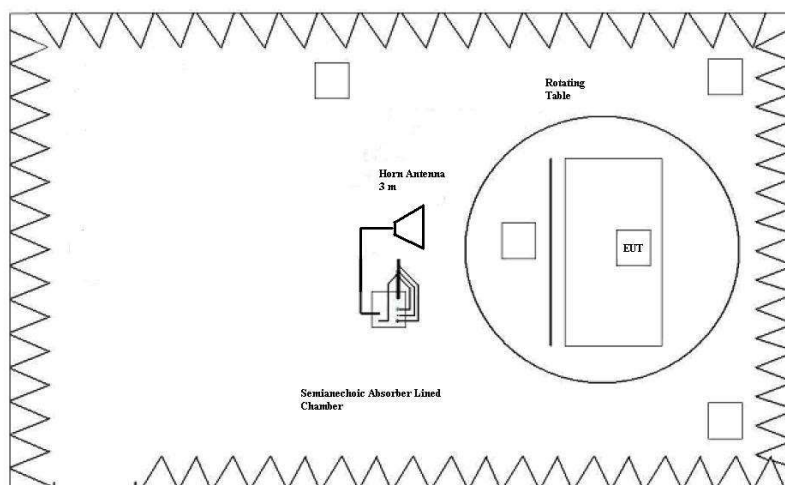
Limits of interference Class B

The applied limit for radiated emissions, 3 m distance, according with the requirements of FCC Rules and Regulations 47 CFR Part 15, Subpart B (10-1-16 Edition), Secs. 15.109 & ICES-003 (January 2016, updated April 2017) 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



Setup for measurements < 1GHz.



Setup for measurements > 1GHz.

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

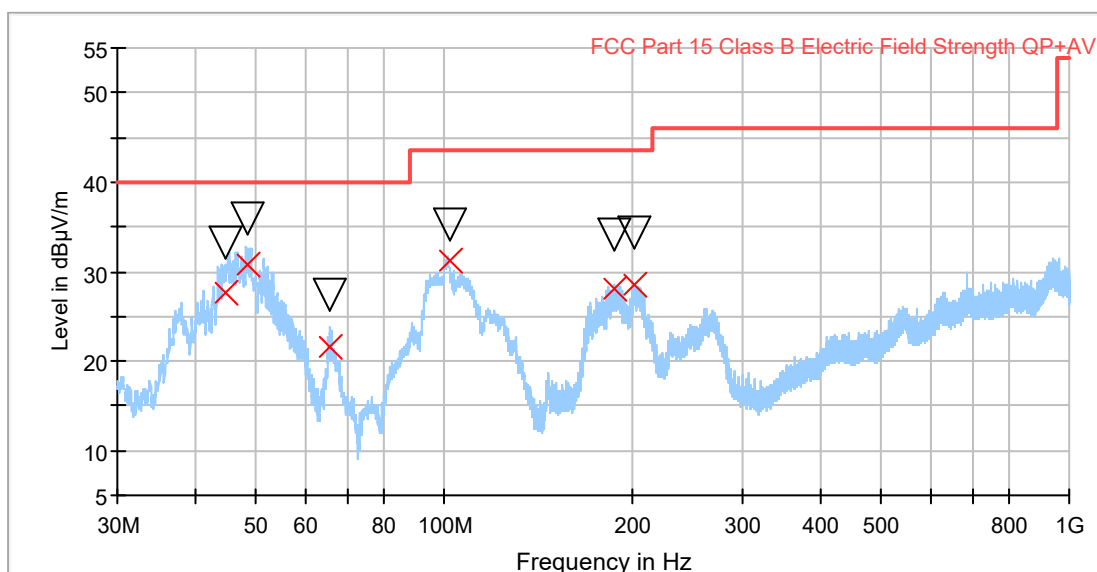
CRmmnnRRPP	Description	Result
CR0101LR	Range: 30 MHz - 1000 MHz.	P
CR0101HR1_VP	Range: 1GHz – 18GHz. Vertical polarization	P
CR0101HR1_HP	Range: 1GHz – 18GHz. Horizontal polarization	P

Note: Range: $f > 18$ GHz. Test required only to the 5th harmonics of the maximum internal work frequency in the EUT.

Radiated Emission: CR0101LR

Project: 60899REM.001
Company: PHILIPS CONSUMER LIFESTYLE B.V.
Sample: S/01
Operation mode: OM#01
Description: EUT ON. Bluetooth off. Charging battery. Power supply: 115Vac

FCC Part15 Class B



— Peak Preview
▽ MaxPeak
— FCC Part 15 Class B Electric Field Strength QP+AV
× QuasiPeak

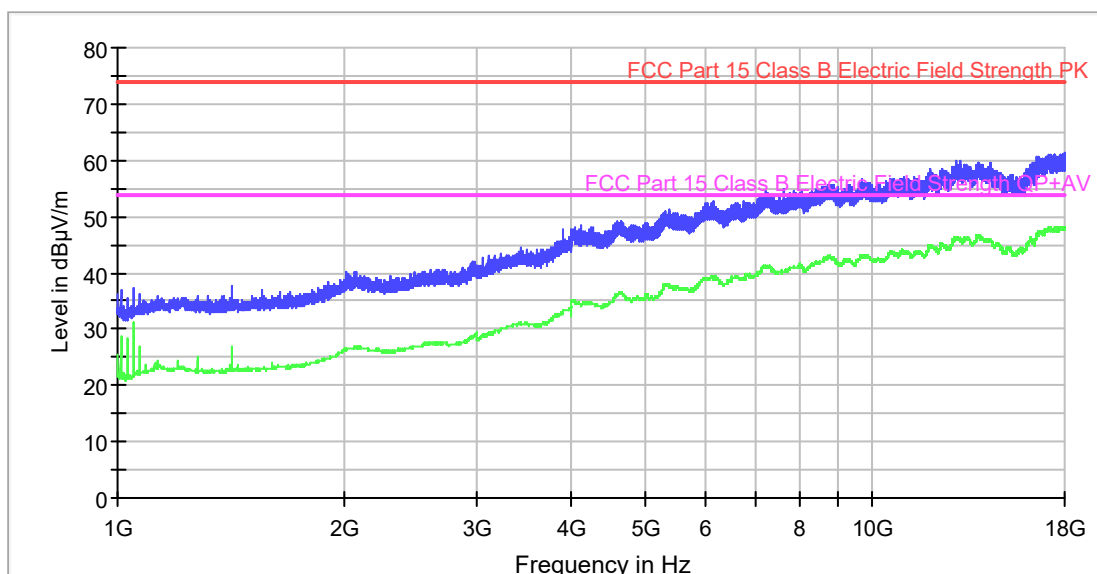
Maximizations

Frequency (MHz)	MaxPeak (dBµV/m)	QuasiPeak (dBµV/m)	Height (cm)	Pol	Azimuth (deg)
44.855000	33.35	27.61	104.0	V	179.0
48.610000	35.95	30.82	108.0	V	193.0
65.795000	27.34	21.51	120.0	V	6.0
101.840000	35.30	31.33	215.0	H	40.0
187.855000	34.18	28.09	168.0	H	275.0
200.935000	34.30	28.47	134.0	H	283.0

Radiated Emission: CR0101HR1_HP

Project: 60899REM.001
Company: PHILIPS CONSUMER LIFESTYLE B.V.
Sample: S/01
Operation mode: OM#01
Description: Bluetooth off. Charging battery. Power supply: 115Vac. Horizontal Polarization

FCC Part 15 Class B 1-18 GHz



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

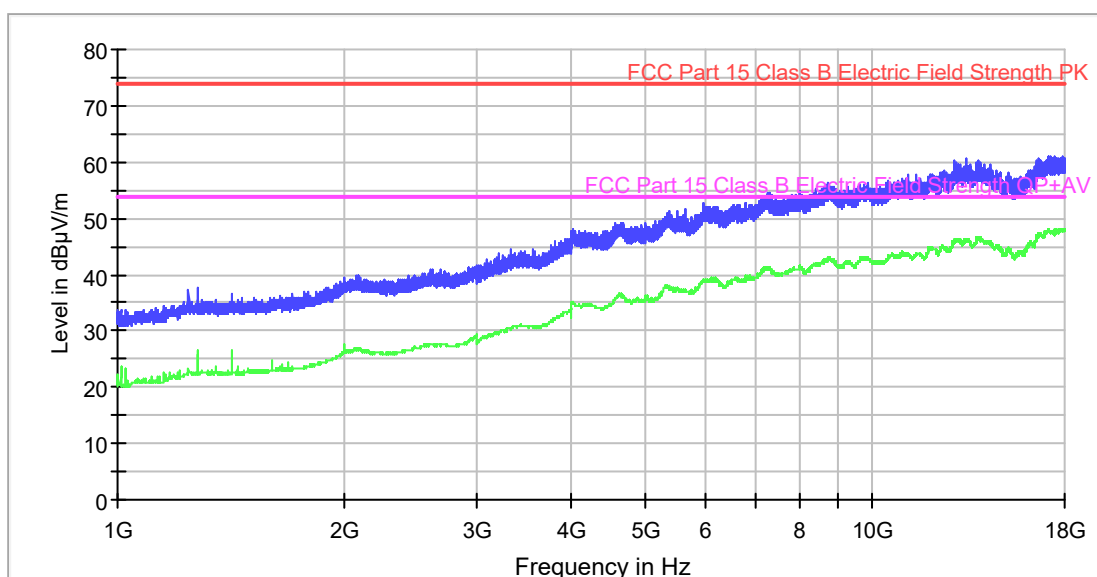
Subrange Maxima

Frequency (MHz)	PK+ CLRWR (dBµV/m)	AVG CLRWR (dBµV/m)
1050.000000	37.4	31.0
1420.400000	37.6	27.0
2066.000000	40.3	26.8
3164.800000	43.1	29.8
4124.000000	48.6	34.3
5370.800000	51.2	37.8
7236.800000	54.5	41.2
9721.600000	56.6	43.0
13080.400000	59.8	46.0
17981.200000	61.4	47.9

Radiated Emission: CR0101HR1_VP

Project: 60899REM.001
Company: PHILIPS CONSUMER LIFESTYLE B.V.
Sample: S/01
Operation mode: OM#01
Description: Bluetooth off. Charging battery. Power supply: 115Vac. Vertical Polarization

FCC Part 15 Class B 1-18 GHz



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

Subrange Maxima

Frequency (MHz)	PK+ CLRWR (dBµV/m)	AVG CLRWR (dBµV/m)
1278.400000	37.6	26.5
1766.400000	37.0	23.5
2079.200000	40.0	26.7
2480.800000	81.0	46.7
4013.600000	47.9	35.1
5646.800000	51.5	37.2
7254.800000	54.5	41.2
9847.600000	56.4	42.9
13342.000000	60.7	46.3
17149.600000	61.1	48.1

CONTINUOUS CONDUCTED EMISSION

LIMITS:	Product standard :	FCC CFR 47, Part 15, Subpart B (10-1-16 Edition) & ICES-003 (January 2016, updated April 2017)
	Test standard :	FCC CFR 47, Part 15, Subpart B (10-1-16 Edition) & ICES-003 (January 2016, updated April 2017)

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 (10-1-17 Edition), Secs. 15.107 & ICES-003 (January 2016, updated April 2017), in the frequency range 0,15 to 30 MHz, for Class B equipment was:

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

*Decreases with the logarithm of the frequency.

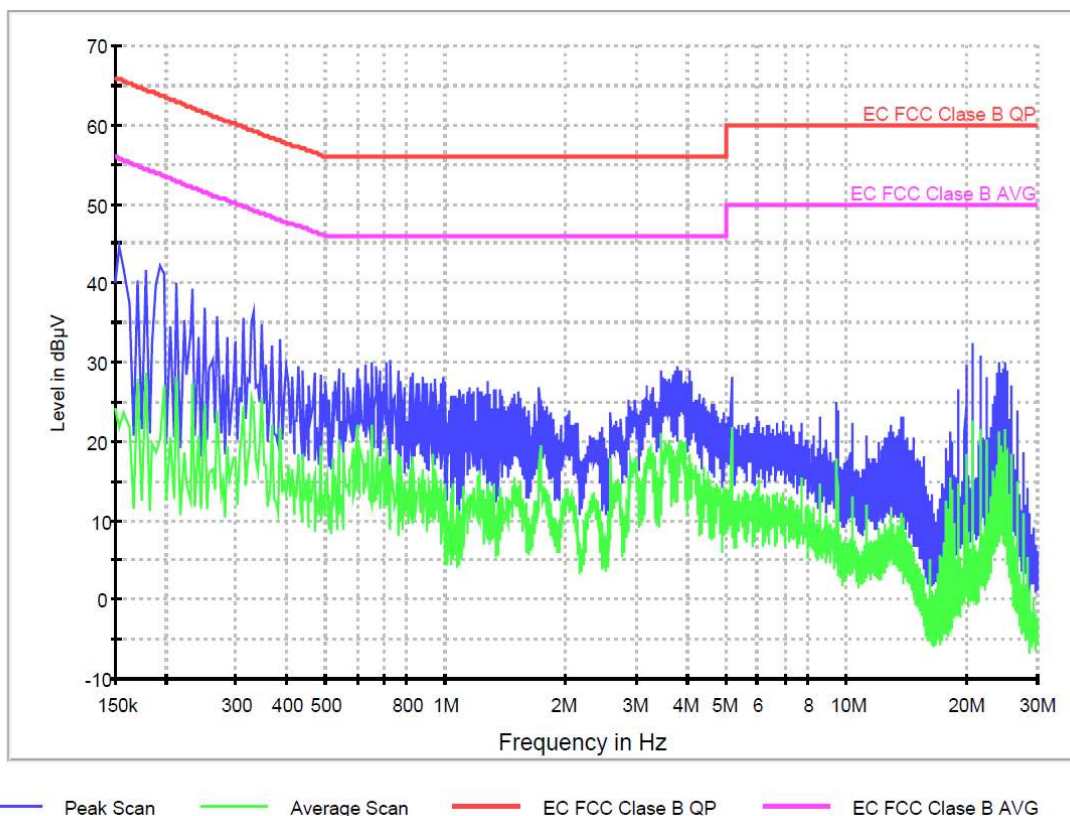
TESTED SAMPLES:	S#01
TESTED OPERATION MODES:	OM#01 & OM#02
TEST RESULTS:	CCmmnnhh: CC, Conducted Condition; mm: Sample number; nn: Operation mode; hh: wire

CCmmnnhh	DESCRIPTION	RESULT
CC0102N	Range: 150kHz – 30MHz. Neutral wire noise.	P
CC0102L1	Range: 150kHz – 30MHz. Phase wire noise.	P
CC0103N	Range: 150kHz – 30MHz. Neutral wire noise.	P
CC0103L1	Range: 150kHz – 30MHz. Phase wire noise.	P

Conducted Emission. CC0101L1

Project: 60899REM.001
Company: PHILIPS CONSUMER LIFESTYLE B.V.
Sample: S/01
Operation mode: OM#01
Description: EUT ON. Bluetooth Off. Charging battery. Power supply: 115Vac.
Phase wire noise

FCC Class B



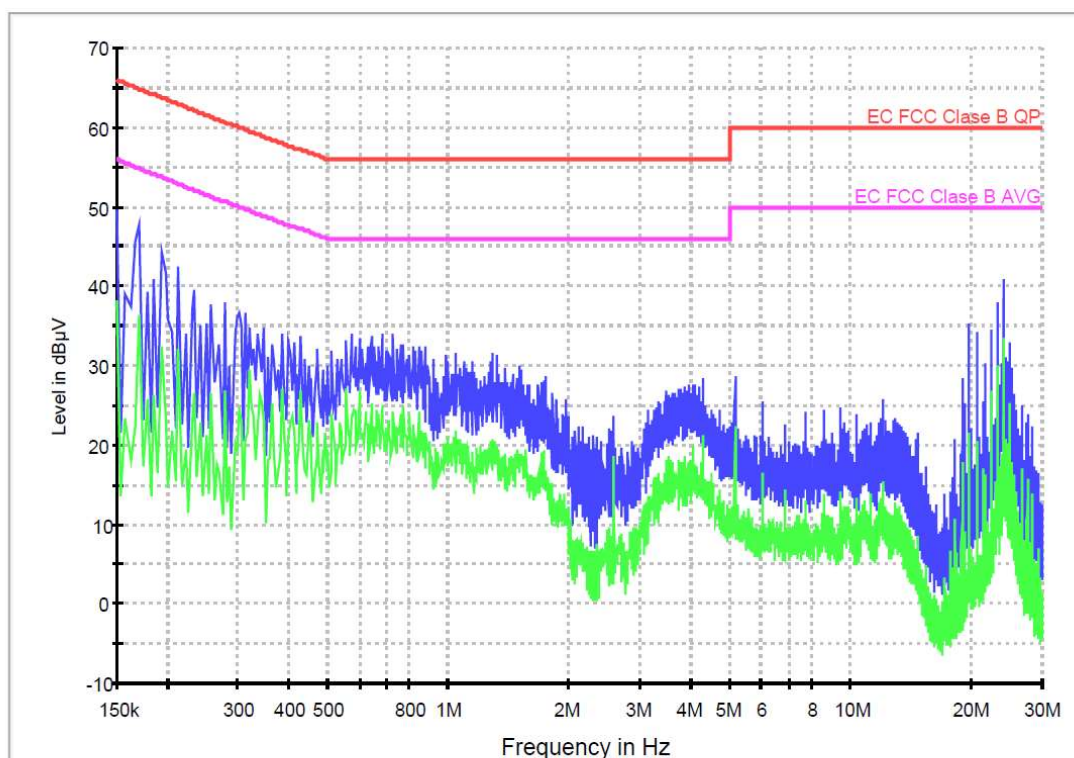
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.154000	44.5	21.7
0.334000	36.3	24.1
0.730000	30.1	16.9
0.758000	28.9	18.4
1.274000	27.6	14.6
3.442000	28.9	20.1
3.790000	29.4	18.9
9.474000	25.0	17.7
13.782000	23.1	10.8
20.686000	32.3	18.7

Conducted Emission. CC0101N

Project: 60899REM.001
Company: PHILIPS CONSUMER LIFESTYLE B.V.
Sample: S/01
Operation mode: OM#01
Description: EUT ON. Bluetooth off. Charging battery. Power supply: 115Vac.
Neutral wire noise

FCC Class B



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

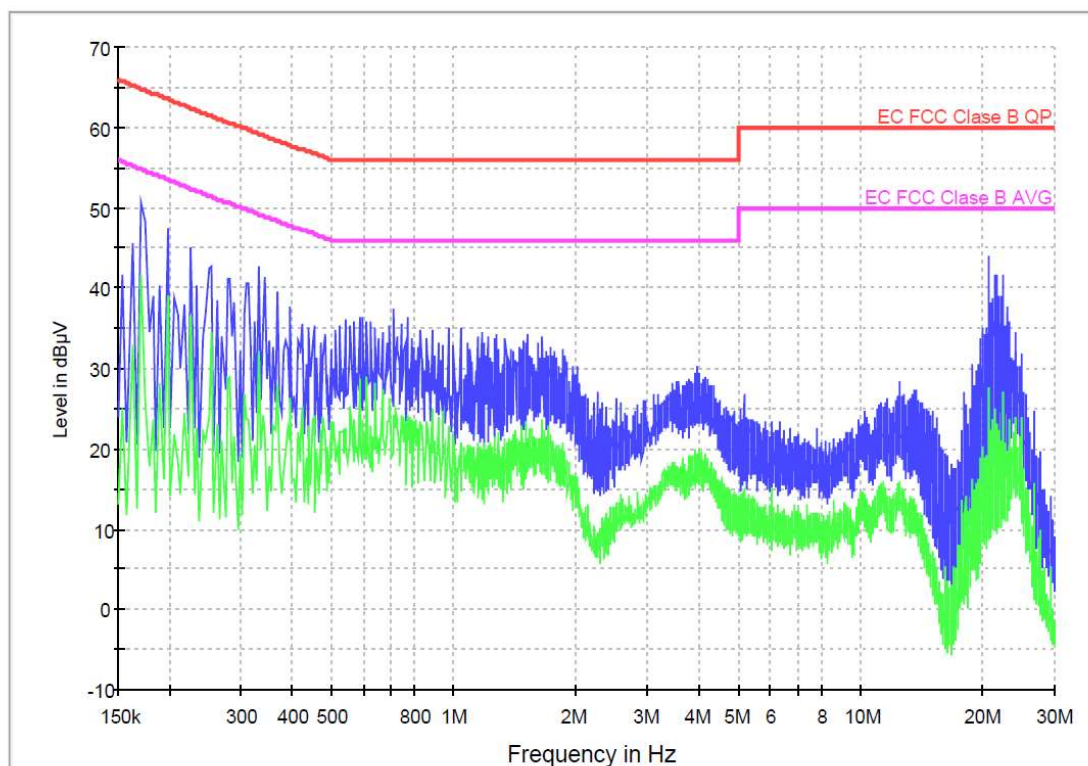
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.150000	49.6	38.3
0.278000	38.0	26.8
0.730000	34.1	24.2
0.758000	32.8	23.9
1.290000	31.7	20.7
3.470000	26.8	15.5
5.170000	28.8	20.0
9.470000	24.6	13.6
12.034000	25.8	13.5
24.074000	40.8	33.5

Conducted Emission. CC0102L1

Project: 60899REM.001
Company: PHILIPS CONSUMER LIFESTYLE B.V.
Sample: S/01
Operation mode: OM#02
Description: EUT ON. Bluetooth ON, communication established. Charging battery. Power supply: 115Vac. Phase wire noise

FCC Class B



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

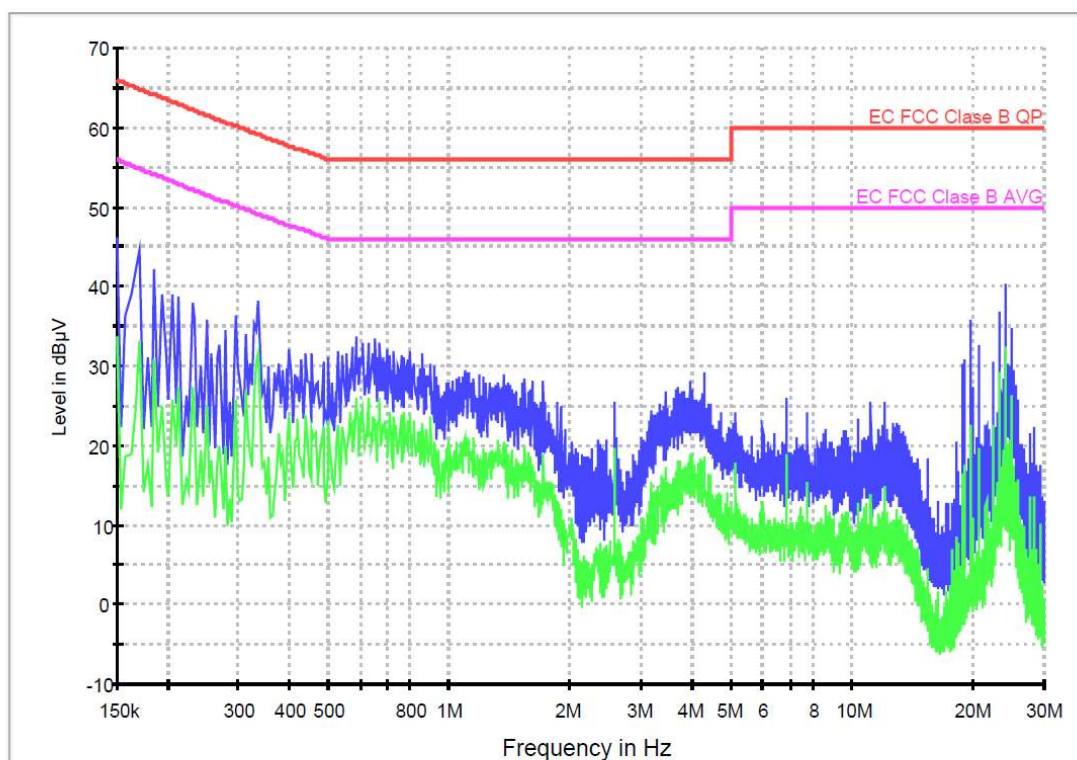
Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.170000	50.6	41.8
0.334000	42.8	32.0
0.714000	37.3	24.1
0.770000	36.2	24.1
1.270000	34.2	18.4
3.574000	28.5	17.5
3.970000	30.3	19.4
10.254000	24.8	14.1
12.510000	28.3	13.7
20.630000	44.0	27.6

Conducted Emission. CC0102N

Project: 60899REM.001
Company: PHILIPS CONSUMER LIFESTYLE B.V.
Sample: S/01
Operation mode: OM#02
Description: EUT ON. Bluetooth ON, communication established. Charging battery. Power supply: 115Vac. Neutral wire noise

FCC Class B



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

Subrange Maxima

Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.150000	46.1	33.8
0.338000	38.1	31.5
0.586000	33.8	26.1
0.802000	31.8	23.8
1.362000	29.0	20.5
3.442000	26.8	17.4
4.294000	29.3	18.7
6.870000	25.9	19.0
11.150000	25.6	10.8
24.078000	40.4	30.3