

ISED CABid: ES1909
Lab. Company Number: 4621A

Test Report No:
78472RRF.005

Test Report

USA FCC Part 15.209

CANADA RSS-Gen, RSS-210

(*) Identification of item tested	Charger for Wellness ring
(*) Trademark	OURA
(*) Model and /or type reference	OA12
(*) Other identification of the product	FCC ID: 2AD7V-OURA2402 IC: 20635-OURA2402
(*) Features	Features: Inductive charging HW version: 01 SW version: 2.0.7
Manufacturer	Oura Health Oy Elektroniikkatie 10, 90590 Oulu, Finland
Test method requested, standard	USA FCC Part 15.209 (10-1-20 Edition): Radiated emission limits; general requirements. CANADA RSS-Gen Issue 5 amendment 1 (March 2019). General Requirements for Compliance of Radio Apparatus. CANADA RSS-210 Issue 10 (December 2019). Licence-Exempt Radio Apparatus: Category I Equipment ANSI C63.10-2013: American National Standard for Testing Unlicensed Wireless Devices.
Summary	IN COMPLIANCE
Approved by (name / position & signature)	José Manuel Gómez Galván EMC Consumer & RF Lab. Manager
Date of issue	2024-05-08
Report template No.	FDT08_24 (*) "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.

DEKRA Testing and Certification is an FCC-recognized accredited testing laboratory with appropriate scope of accreditation that covers the performed tests in this report.

DEKRA Testing and Certification is an ISED-recognized accredited testing laboratory, CABid: ES1909, Company Number: 4621A, with the appropriate scope of accreditation that covers the performed tests in this report.

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.
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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.

The total uncertainty of the measurement system for the radiated emissions of EUT from 30 MHz to 1 GHz is:
Measurement uncertainty $\leq \pm 5,35$ dB with factor ($k = 2$).

The total uncertainty of the measurement system for the conducted testing of EUT is:
Occupied Channel Bandwidth: Measurement uncertainty $\leq \pm 1,17$ %

Measurement uncertainty $\leq \pm 1.53$ dB with factor ($k = 2$).

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 Charger for Wellness ring. OURA is a revolutionary wellness ring and app, designed to help user gets more restful sleep and performs better. It enables user to learn how the lifestyle choices affect user's sleep, and how the quality of the sleep affects user's ability to perform. The OURA ring can automatically tell when user is sleeping. When user goes to sleep, the OURA ring analyzes the quality of the rest and recovery by measuring the heart rate (optically), respiration rate, body temperature, and movement. While user is awake, it monitors the duration and intensity of the activities, and the time user spends sitting. The OURA app integrates and visualizes this data to identify patterns between the sleep quality and daily activities. By understanding how well user slept and recharged, it can determine the readiness to perform and help user adjust the intensity and duration of the day's activities. It can also uncover actionable insights for changes to the daily activities that can help user sleep better.

DEKRA Testing and Certification S.A.U. 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.

Id	Control Number	Description	Model	Serial N°	Date of Reception	Application
S/01	78472_10.1	USB-C Cable	--	--	2024-03-05	Element Under Test
	78472_11.1	OA12 size 10 (Charger)	OA12	--	2024-03-05	Element Under Test
	78472_12.1	OA11 size 10 (Ring)	OA11	--	2024-03-05	Auxiliary Element
	78472_6.1	AC/DC Charger	A2347	--	2024-03-05	Auxiliary Element

Test sample description

Ports..... :	Port name and description	Cable					
		Specified max length [m]	Attached during test	Shielded	Coupled to patient ⁽³⁾		
	USB-C	1	[X]	[]	[]		
	[]	[]	[]		
	[]	[]	[]		
	[]	[]	[]		
	[]	[]	[]		
Supplementary information to the ports..... :						
Rated power supply	Voltage and Frequency		Reference poles				
			L1	L2	L3	N	PE
	[]	AC:	[]	[]	[]	[]	[]
	[]	AC:	[]	[]	[]	[]	[]
	[X]	DC: 5V					
[]	DC:						
Rated Power						
Clock frequencies..... :						
Other parameters						
Software version	2.0.7						
Hardware version	01						
Dimensions in cm (W x H x D)	5.0 x 5.0 x 1.69						
Mounting position	[X]	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

⁽³⁾ Only for Medical Equipment

Identification of the client

Oura Health Oy
Elektroniikkatie 10, 90590 Oulu, Finland

Testing period and place

Test Location	DEKRA Testing and Certification S.A.U.
Date (start)	2024-03-10
Date (finish)	2024-03-10

Document history

Report number	Date	Description
78472RRF.005	2024-05-08	First release.

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. = 860mbar Max. = 1060mbar

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. = 860mbar Max. = 1060mbar

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. = 75 %
Air pressure	Min. = 860mbar Max. = 1060mbar

Remarks and comments

The tests have been performed by the technical personnel: Victoria Olmedo Villalba.

Testing verdicts

Fail	F
Inconclusive	I
Not applicable	N/A
Not measured	N/M
Pass	P

List of equipment used during the test

Control No.	Equipment	Model	Manufacturer	Next Calibration
07762	ACTIVE LOOP ANTENNA 9kHz-30MHz	FMZB 1519B	SCHWARZBECK	2025-12-01
09968	HYBRID BILOG ANTENNA 30MHz-6GHz	3142E	ETS LINDGREN	2026-09-22
08130	SEMIANECHOIC ABSORBER LINED CHAMBER	P29419	ALBATROSS	--
08134	SHIELDED ROOM	P29419	ALBATROSS PROJECTS GMBH	--
07549	TEMPERATURE AND HUMIDITY PROBE	HWg-STE	HW GROUP	2024-05-02
07550	TEMPERATURE AND HUMIDITY PROBE	HWg-STE	HW GROUP	2024-05-02
10304	EMI TEST RECEIVER 2Hz-44GHz	ESW44	ROHDE AND SCHWARZ	2026-02-16

Summary

1. SRD 6.78 MHz:

FCC PART 15.209 / RSS-Gen, RSS-210 PARAGRAPH		
Requirement – Test case	Verdict	Remark
Occupied bandwidth	P	--
FCC 15.209 (a) / RSS-Gen 8.9, RSS-210 7.2 General field strength and Transmitter emission limits	P	--
<u>Supplementary information and remarks:</u> None.		

Appendix A: Test results

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TEST CONDITIONS

(*) Declared by the Applicant

POWER SUPPLY (*):

Vnominal: 5 Vdc
Type of Power Supply: External power supply.

ANTENNA (*):

Maximum Declared Antenna Gain: N/A

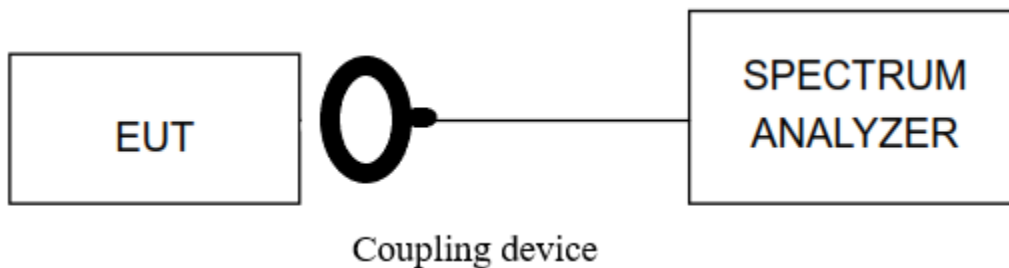
TEST FREQUENCIES (*):

Nominal Operating Frequency: 6.78 MHz

Test setup

CONDUCTED MEASUREMENTS:

The equipment under test EUT was set up in a shielded room and it is connected to the spectrum analyzer through a RF cable and a coupling device.



RADIATED MEASUREMENTS:

All radiated tests were performed in a semi-anechoic chamber. The measurement antenna is situated at a distance of 3 m (Loop antenna for the range 9 kHz to 30 MHz and Bilog antenna for the range 30 MHz to 200 MHz).

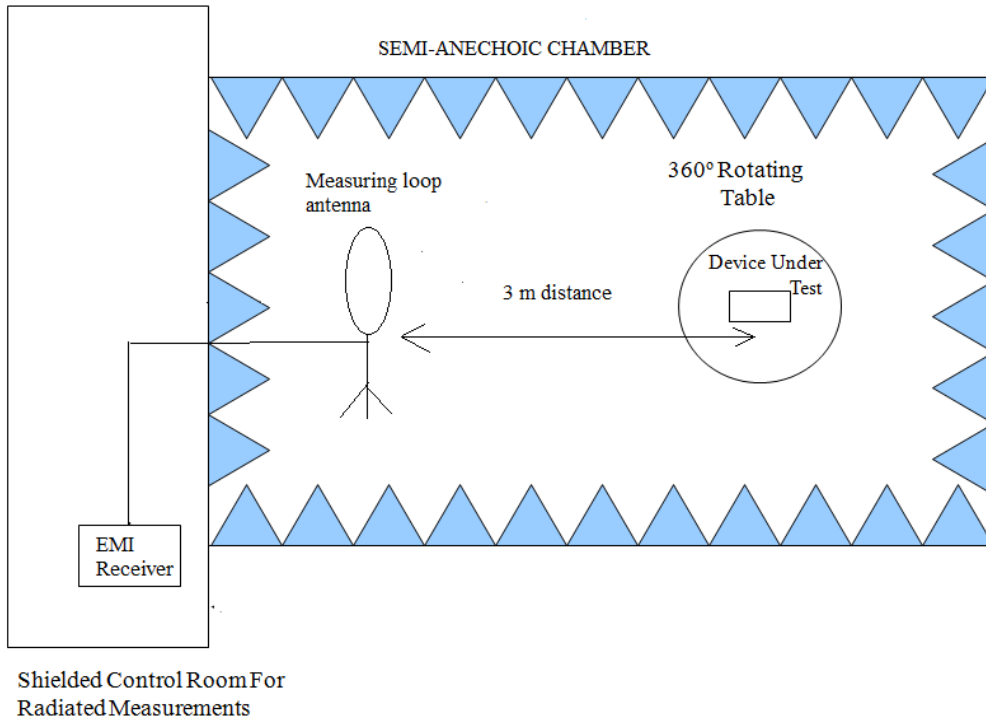
For radiated emissions in the range 9 kHz to 30 MHz performed at a distance closer than the distance specified in the standard, an inverse proportionality factor of 40 dB per decade is used to normalize the measured data for determining compliance.

The equipment under test was set up on a non-conductive platform above the ground plane and its situation and orientation were varied to find the maximum radiated emission. It was also rotated 360°.

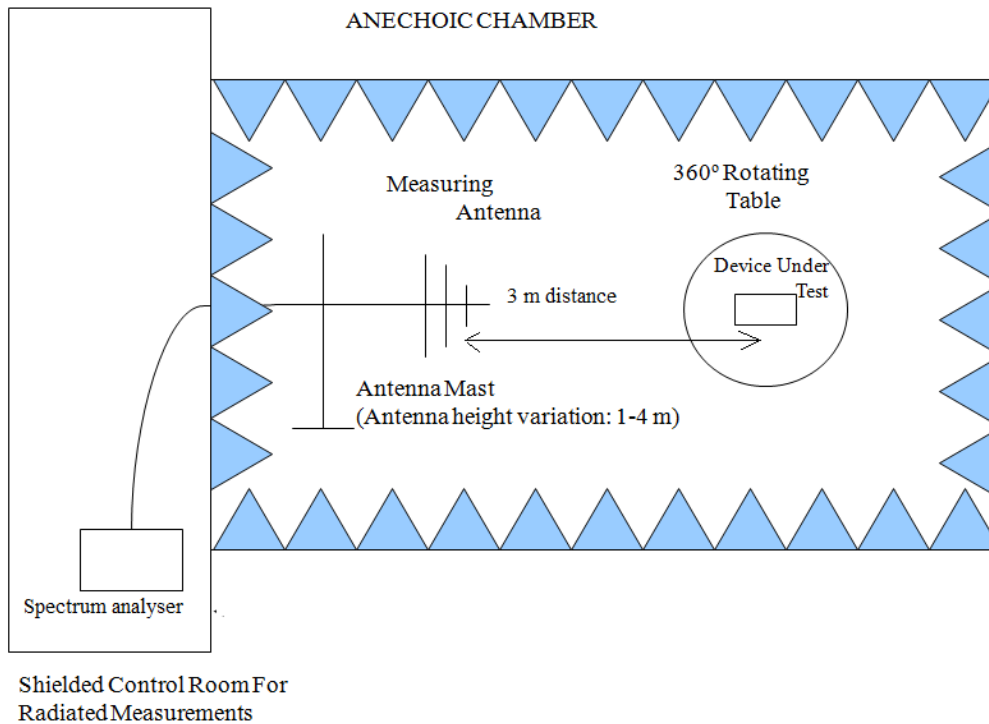
In the range between 9 kHz and 30 MHz the measurements were made in the three different orientation planes of the loop antenna to determine the maximum received field.

Measurements above 30 MHz up to 200 MHz were made in both horizontal and vertical planes of polarization and the measuring antenna height was varied from 1 to 4 meters to find the maximum radiated emission.

Radiated measurements setup $f < 30$ MHz:



Radiated measurements setup $f > 30$ MHz up to 200 MHz:

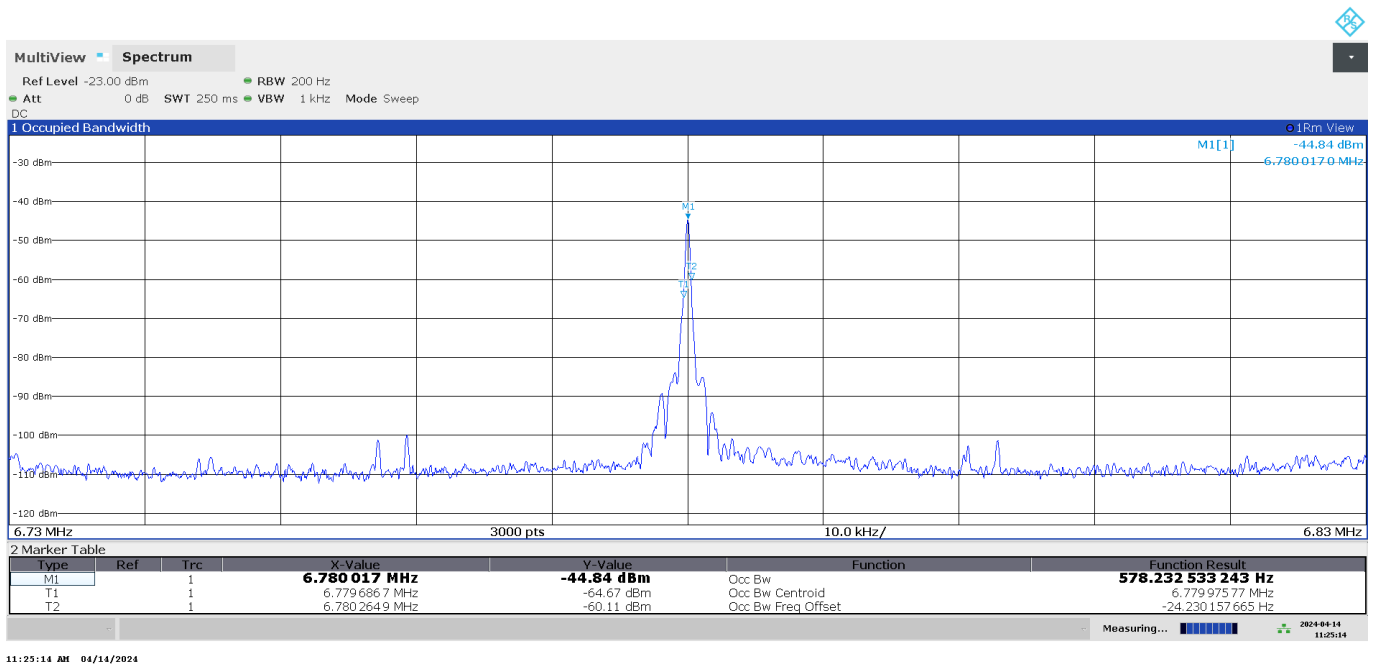


Occupied Bandwidth

Results

99% Bandwidth (kHz)	0.578
Measurement uncertainty (kHz)	< ±1.42

Attachments



General field strength and Transmitter emission limits

Limits

The emissions from an intentional radiator shall not exceed the field strength levels specified in the following table (see §15.205(c) / RSS-Gen):

Frequency Range (MHz)	Field strength ($\mu\text{V/m}$)	Field strength ($\text{dB}\mu\text{V/m}$)	Magnetic field strength (H-Field) ($\mu\text{A/m}$)	Measurement distance (m)
0.009 - 0.490	2400/F(kHz)	-	6.37/ F(kHz)	300
0.490 - 1.705	24000/F(kHz)	-	63.7/ F(kHz)	30
1.705 - 30.0	30	29.54	0.08	30
30 - 88	100	40	-	3
88 - 216	150	43.5	-	3
216 - 960	200	46	-	3
Above 960	500	54	-	3

Note: For an intentional radiator, the spectrum shall be investigated from the lowest radio frequency signal generated in the device, without going below 9 kHz, up to at least the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

Additionally, the level of any transmitter unwanted emission shall not exceed the level of the transmitter's fundamental emission.

Results

All tests were performed in a semi-anechoic chamber at a distance of 3 m. The maximum peak value of the fundamental emission was measured as the worst case.

The spectrum was inspected from 9 kHz to 67.8 MHz for spurious signals search.

The field strength is calculated by adding correction factor to the measured level from the spectrum analyser. This correction factor includes antenna factor and cable loss.

Fundamental emission:

E ($\text{dB}\mu\text{V/m}$) measured at 3 m (Peak value)	34.39
E ($\text{dB}\mu\text{V/m}$) extrapolated to 30 m (40 dB/decade)	-5.61
Equivalent level ($\text{dB}\mu\text{A/m}$) at 30 m	-57.11
Measurement uncertainty (dB)	< ± 3.08

Verdict

Pass

Frequency range 9 kHz - 30 MHz:

Frequency (MHz)	QuasiPeak (dBµV/m)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)
6.780750	-11.19	---	29.54	40.73	1000.0
6.780750	---	-5.61	---	---	1000.0

Measurement uncertainty (dB) < ±3.08

Frequency range 30 - 200 MHz:

Frequency (MHz)	QuasiPeak (dBµV/m)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol
61.025000	19.12	---	40.00	20.88	1000.0	136.0	V
61.025000	---	23.19	---	---	1000.0	136.0	V
67.774000	---	27.89	---	---	1000.0	138.0	V
67.774000	21.58	---	40.00	18.42	1000.0	138.0	V
74.582500	28.38	---	40.00	11.62	1000.0	224.0	V
74.582500	---	32.40	---	---	1000.0	224.0	V
81.323000	---	28.37	---	---	1000.0	136.0	V
81.323000	23.11	---	40.00	16.89	1000.0	136.0	V

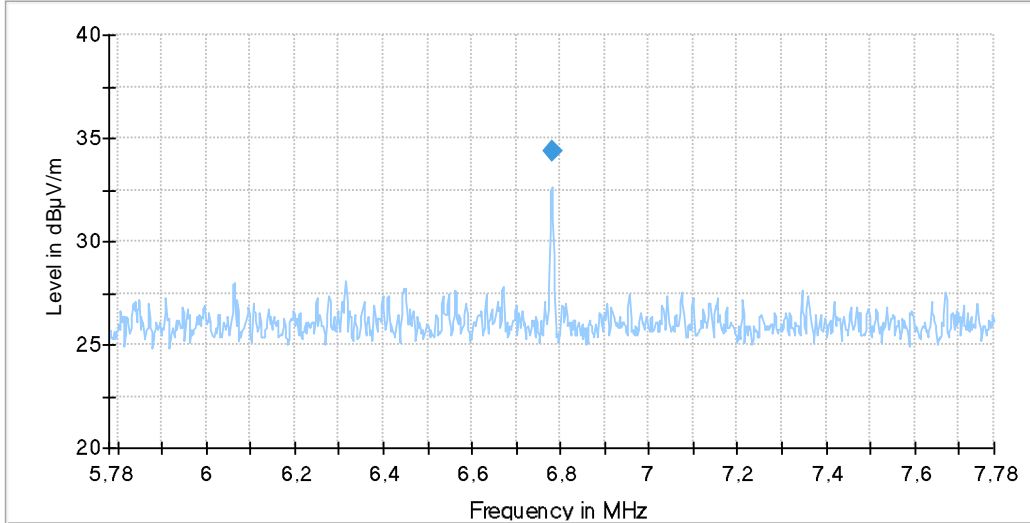
Measurement uncertainty (dB) < ±5.15

Verdict

Pass

Attachments

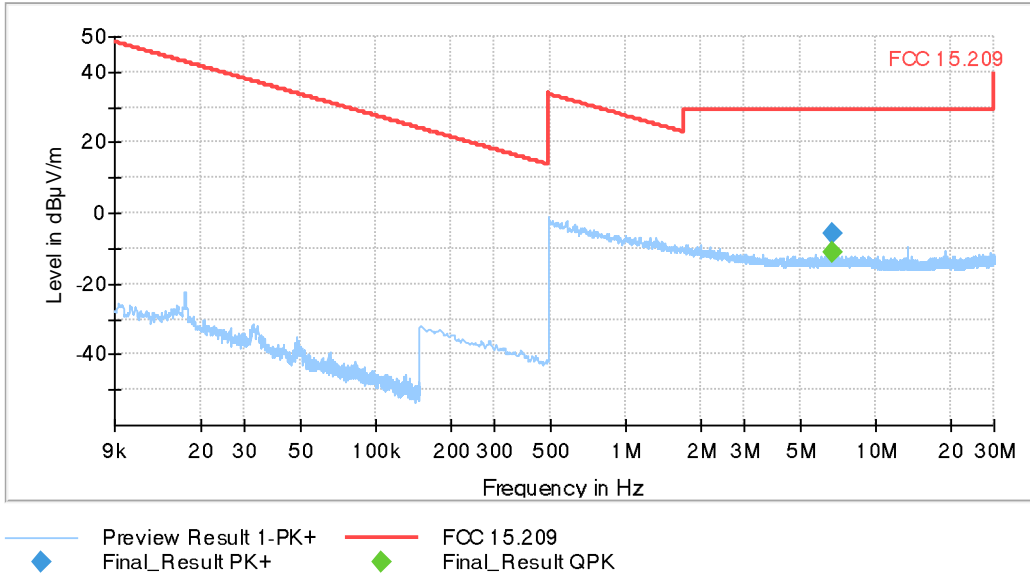
• **FUNDAMENTAL EMISSION**



— Preview Result 1-PK+ ◆ Final_Result PK+

	Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
	Receiver: [ESW 44]					
	150 kHz - 30 MHz	2,25 kHz	PK+	9 kHz	100 ms	0 dB

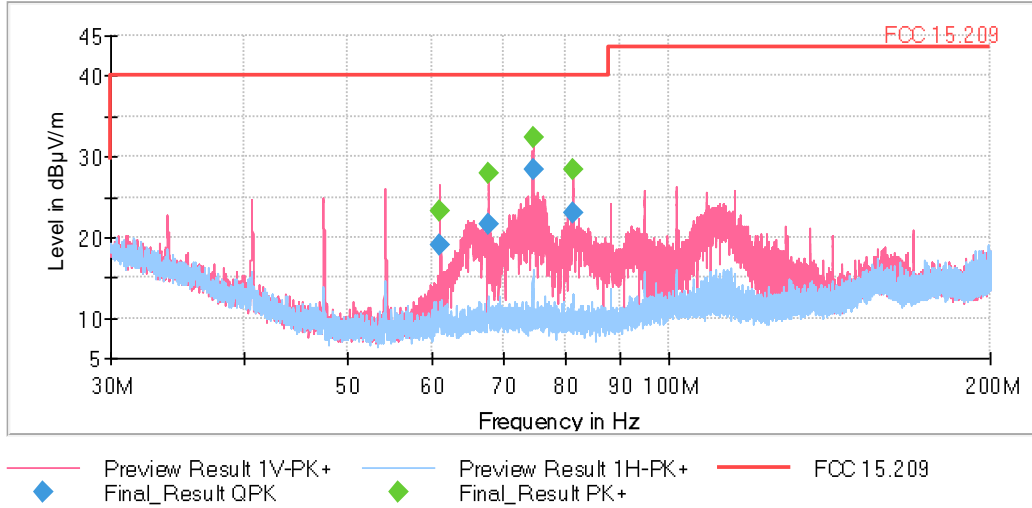
• **FREQUENCY RANGE 9 kHz - 30 MHz:**



Note: The scan is performed with a peak detector.

	Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
	Receiver: [ESW 44]					
	9 kHz - 150 kHz	50 Hz	PK+	200 Hz	100 ms	0 dB
	150 kHz - 30 MHz	2,25 kHz	PK+	9 kHz	100 ms	0 dB

• **FREQUENCY RANGE 30 - 200 MHz:**



Note: The scan is performed with a peak detector.

	Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
	Receiver: [ESW 44]					
	30 MHz - 200 MHz	40 kHz	PK+	100 kHz	10 ms	0 dB