

ISED CABid: ES1909

Lab. Company Number: 4621A

Test Report No:

78857RRF.007

Test Report

USA FCC Part 15.209

CANADA RSS-Gen, RSS-210

(*) Identification of item tested	Receiver In the Ear Hearing Aid (RIE)
(*) Trademark	ReSound, Beltone, Jabra, Interton, Audigy, Danavox
(*) Model and /or type reference	DURR1A
Other identification of the product	BLE (1 & 2 Mbit), Proximity, wireless charging, MI FCC ID: X26DURR1A IC: 6941C-DURR1A
(*) Features	HW version: V3,C6.0AI SW version: Dooku3
Applicant	GN Hearing A/S Lautrupbjerg 7, 2750 Ballerup, Denmark
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 11 (June 2024). 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  Firmado digitalmente por 53680346W JOSE MANUEL GOMEZ (C:A29507456)
Date of issue	2024-11-06
Report template No	FDT08_25 (*) "Data provided by the client"

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Acronyms

Acronym ID	Acronym Description
99OBW	99% Occupied Channel Bandwidth
Avg Field	Average Field Strength
Detector	Detector used
Ebw	Emission Bandwidth
Equipment	Equipment Type
Freq	Frequency
Freq Rng	Frequency Range
MP	Measurement Point
Mod	Modulation
Pk Field	Peak Field Strength
Pol	Polarization
Unwanted Freq	Unwanted Emissions Frequency
Unwanted Lvl	Unwanted Emissions Level

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.

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

DEKRA Testing and Certification S.A.U. 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 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.
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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 9 KHz to 30 MHz is:
Measurement uncertainty $\leq \pm 3,08$ dB with factor ($k = 2$).

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:
Field strength of fundamental and harmonic emissions: Measurement uncertainty $\leq \pm 4,32$ dB
Occupied Channel Bandwidth: Measurement uncertainty $\leq \pm 1,40$ %

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 receiver In the Ear Hearing Aid. The hearing aid features a sound amplification of the sound received by the microphone, wireless streaming via BLE, proximity, MI and wireless charging.

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. The laboratory is not responsible for such information and it is not covered by accreditation.

Usage of samples

Samples undergoing test have been selected by: The client.

Id	Control Number	Description	Model	Serial N°	Date of Reception	Application
S/01	78857F_78.1	Pocket Device	DURR1A	2400805469	2024-08-14	Element Under Test
S/02	78857F_70.1	Hearing aid	DURR1A	2400805449	2024-08-14	Element Under Test

Notes referenced to samples during the project:

Id	Type
S/01	Sample for Conducted tests
S/02	Sample for Radiated tests

Test sample description

Ports..... :	Port name and description		Cable				
			Specified max length [m]	Attached during test	Shielded	Coupled to patient ⁽³⁾	
Supplementary information to the ports..... :							
Rated power supply :	Voltage and Frequency		Reference poles				
			L1	L2	L3	N	PE
	AC:						
	AC:						
	DC: 3.7 V (rechargeable battery)						
	DC:						
Rated Power :	3.7 – 3.85V, 19.5 – 24.5 mAh						
Clock frequencies..... :	CPU XTAL: 32MHz						
Other parameters :							
Software version :	Dooku3						
Hardware version :	V3,C6.0AI						
Dimensions in cm (W x H x D)..... :	0.7 x 1.2 x 2.6						
Mounting position :	Table top equipment						
	Wall/Ceiling mounted equipment						
	Floor standing equipment						
	Hand-held equipment						

	☒ [X]	Other: HA behind the ear with receiver in the ear.	
Modules/parts..... :	Module/parts of test item	Type	Manufacturer
	HA (Hearing Aid)	DURR1A	GN Hearing A/S
Accessories (not part of the test item)..... :	Description	Type	Manufacturer
	Charger	C-1	GN Hearing A/S
	USB-C power cord	-	-
	Power adapter_EU, type: A806A-050100U-EU1	-	Dongguang Aohai
	Power adapter_US, type: A18A-050100U-US2	-	Dongguang Aohai
Documents as provided by the applicant..... :	Description	File name	Issue date
	Uploaded to DEKRA ftp		

⁽³⁾ Only for Medical Equipment

Identification of the client

GN Hearing A/S
Lautrupbjerg 7, 2750 Ballerup, Denmark

Testing period and place

Test Location	DEKRA Testing and Certification S.A.U.
Date (start)	2024-09-02
Date (finish)	2024-10-02

Document history

Report number	Date	Description
78857RRF.007	2024-11-06	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. = 20 % Max. = 75 %

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

Temperature	Min. = 15 °C Max. = 35 °C
Relative humidity	Min. = 20 % Max. = 75 %

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. = 20 % Max. = 75 %

Remarks and comments

The tests have been performed by the technical personnel: Jia Hao Luo Chen and Ruben Mora Fernandez.
Used instrumentation:

Control No.	Equipment	Model	Manufacturer	Next Calibration
07762	ACTIVE LOOP ANTENNA 9kHz-30MHz	FMZB 1519B	SCHWARZBECK	2025-12-01
07702	DC POWER SUPPLY 30V/3A 90W	GPS-3030D	GW INSTEK	--
07755	DIGITAL MULTIMETER	175	FLUKE	2024-11-13
10418	EMI TEST RECEIVER 1Hz-26.5GHz	ESW26	ROHDE & SCHWARZ	2025-02-13
09968	HYBRID BILOG ANTENNA 30MHz-6GHz	3142E	ETS LINDGREN	2026-09-22
08130	SEMIANECHOIC ABSORBER LINED CHAMBER	P29419	ALBATROSS	--
08661	SHIELDED ROOM	-	SIEPEL	--
08134	SHIELDED ROOM	P29419	ALBATROSS PROJECTS GMBH	--
08835	SIGNAL AND SPECTRUM ANALYZER 2Hz-50GHz	FSW50	ROHDE AND SCHWARZ	2025-02-08
04848	SOFTWARE FOR EMC/RF TESTING	EMC32	ROHDE AND SCHWARZ	--
07550	TEMPERATURE AND HUMIDITY PROBE	HWg-STE	HW GROUP	2025-04-24
07549	TEMPERATURE AND HUMIDITY PROBE	HWg-STE	HW GROUP	2025-04-24
07552	TEMPERATURE AND HUMIDITY PROBE	HWg-STE	HW GROUP	2025-04-24

Testing verdicts

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

Summary

MI 10.66MHz.

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 B.4 Fundamental emission	P	--
FCC 15.209 (a) / RSS-Gen 8.9 / RSS-210 B.4 General field strength limits	P	--
<u>Supplementary information and remarks:</u> None.		

Appendix A: Test results. MI 10.66MHz.

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TEST CONDITIONS

(*): Data provided by the client.

POWER SUPPLY (*):

Vnominal:	3.7 V
Type of Power Supply:	Internal rechargeable battery

ANTENNA (*):

Type of Antenna:	N/A
Maximum Declared Antenna Gain:	N/A

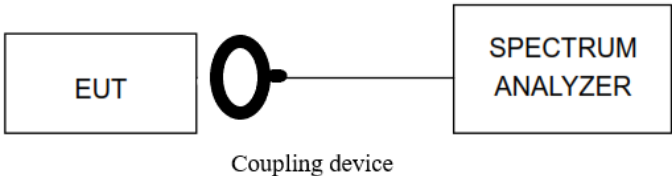
TEST FREQUENCIES (*):

Modulation	Data rates	Channel
Proprietary protocol MI	Proprietary	10.66 MHz

During transmitter test the EUT was controlled by a SW tool provided by the client to operate in a continuous transmit mode on the modulation schemes and test channels as required.

CONDUCTED MEASUREMENTS:

The equipment under test was set up in a shielded room and it is connected to the TS8997 using a low loss RF cable. The reading of the spectrum analyser is corrected taking into account the cable loss.



RADIATED MEASUREMENTS:

All radiated tests were performed in a semi-anechoic chamber. The measurement antenna is situated at a distance of 3 m (Bilog antenna for the range 30 MHz to 200 MHz) and at a distance of 1 m (Loop antenna for the range 9 kHz to 30 MHz) due to its extremely low emission. The maximum peak value of the fundamental emission was measured as the worst case.

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.

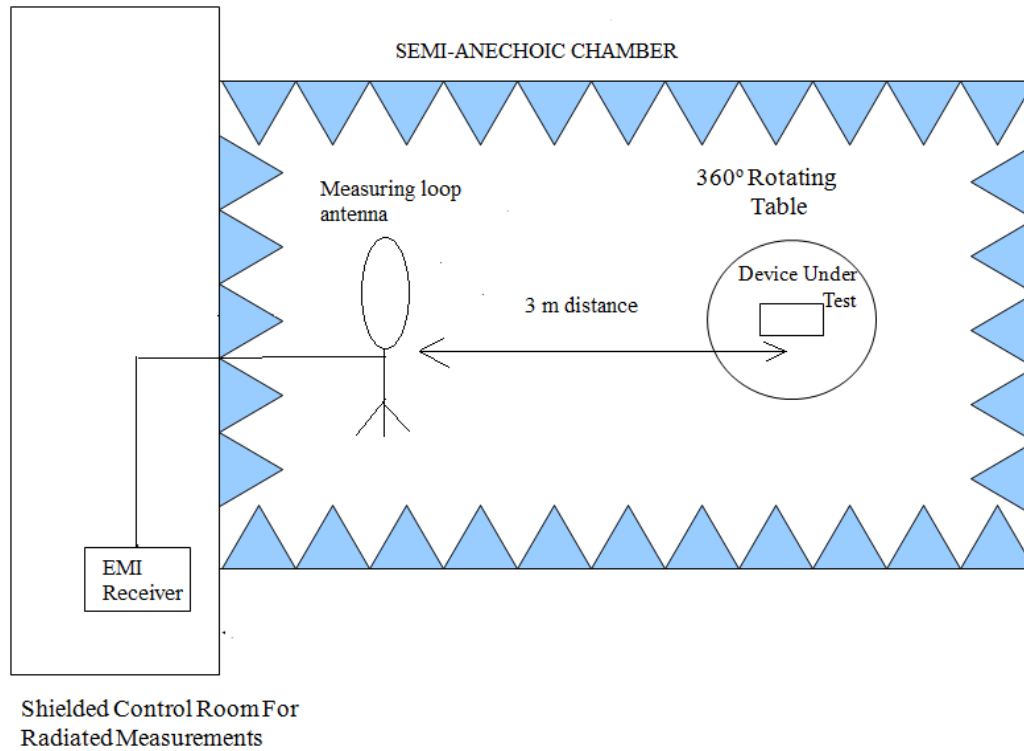
The equipment under test was set up on a non-conductive platform above the ground plane and its situation and orientation were varied to find the maximum radiated emission. It was also rotated 360°.

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.

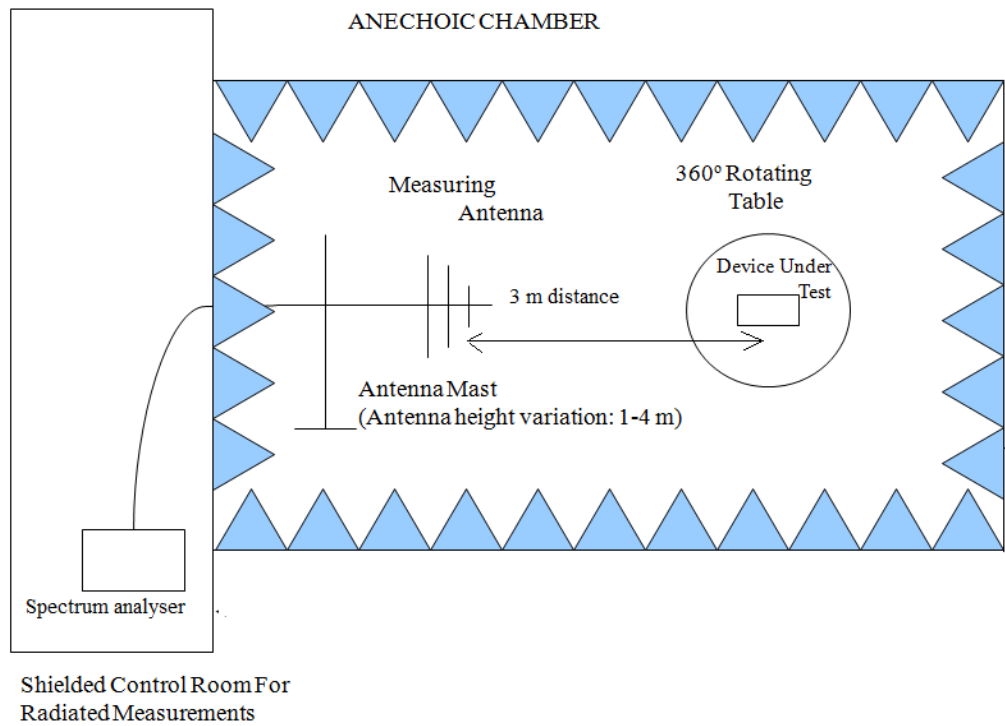
Measurements above 30 MHz up to 200 MHz were made in both horizontal and vertical planes of polarization and the measuring antenna height was varied from 1 to 4 meters to find the maximum radiated emission.

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.

Radiated measurements setup $f < 30$ MHz:



Radiated measurements setup from 30 MHz to 200 MHz:



TEST CASES DETAILS

Occupied Channel Bandwidth 99%

Limits

Specification

* RSS-Gen Issue 5, Clause 6.7 Occupied bandwidth (or 99% emission bandwidth):

The occupied bandwidth or the “99% emission bandwidth” is defined as the frequency range between two points, one above and the other below the carrier frequency, within which 99% of the total transmitted power of the fundamental transmitted emission is contained. The occupied bandwidth shall be reported for all equipment in addition to the specified bandwidth required in the applicable RSSs.

Modulation: MI

Results

Freq (MHz)	99OBW (MHz)
10.66000	3.354

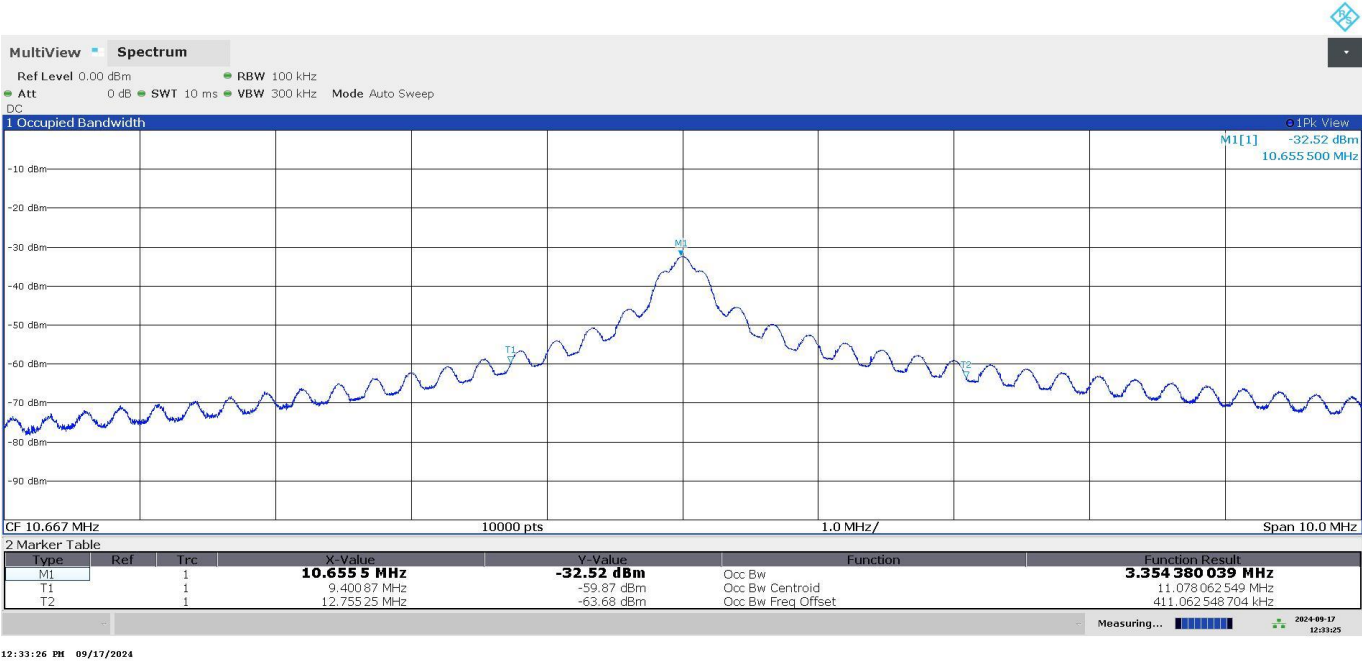
Verdict

Pass

Attachments

Modulation = MI Frequency MHz = 10.66000

Images:



FCC 15.209 (a) / RSS-Gen 8.9 / RSS-210 B.4 (Fundamental emission)

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 (µV/m)	Field strength (dBµV/m)	Magnetic field strength (H-Field) (µA/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

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

Modulation: MI

Results

Freq (MHz)	Pk Field (dBµV/m)
10.58891	32.72

E (dBµV/m) measured at 1 m (Peak value)	32.72
E (dBµV/m) extrapolated to 30 m (40 dB/decade)	-26.36
Equivalent level (dBµA/m) at 30 m	-77.88

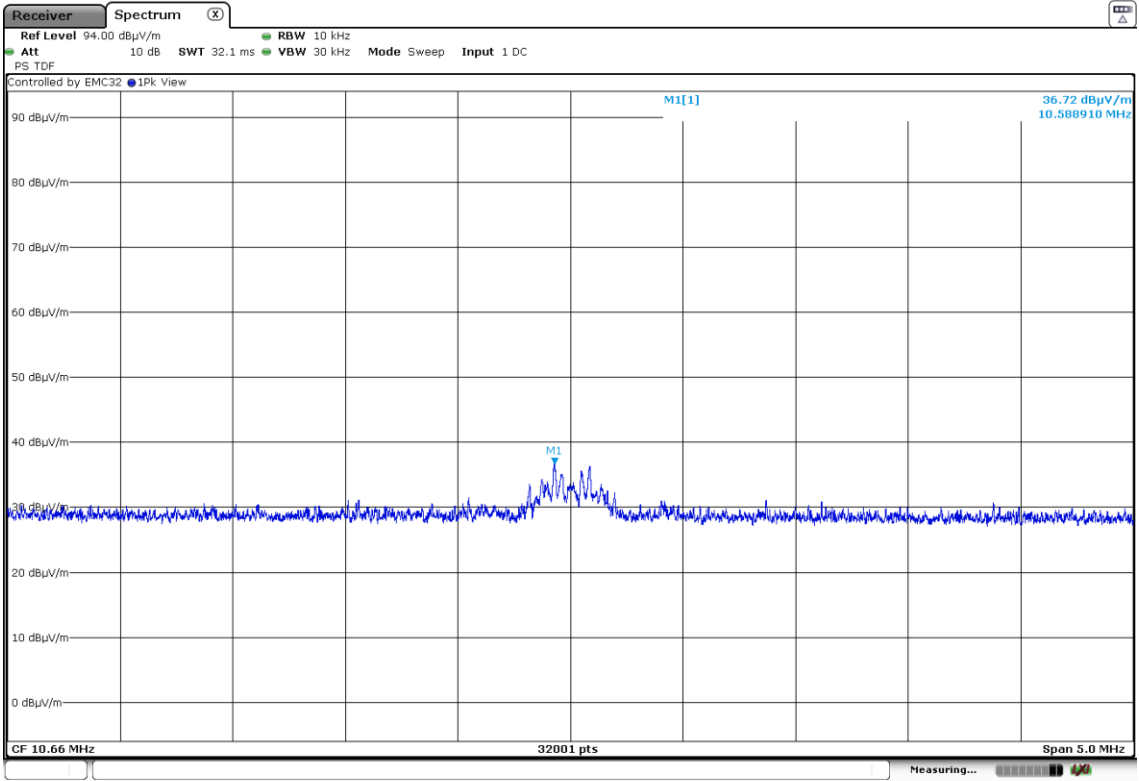
Verdict

Pass

Attachments

Modulation = MI Frequency MHz = 10.58891

Images:



FCC 15.209 (a) / RSS-Gen 8.9 / RSS-210 B.4 (General field strength)

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 (µV/m)	Field strength (dBµV/m)	Magnetic field strength (H-Field) (µA/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

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

Modulation: MI

Results

No spurious frequencies detected at less than 20dB above the limit.

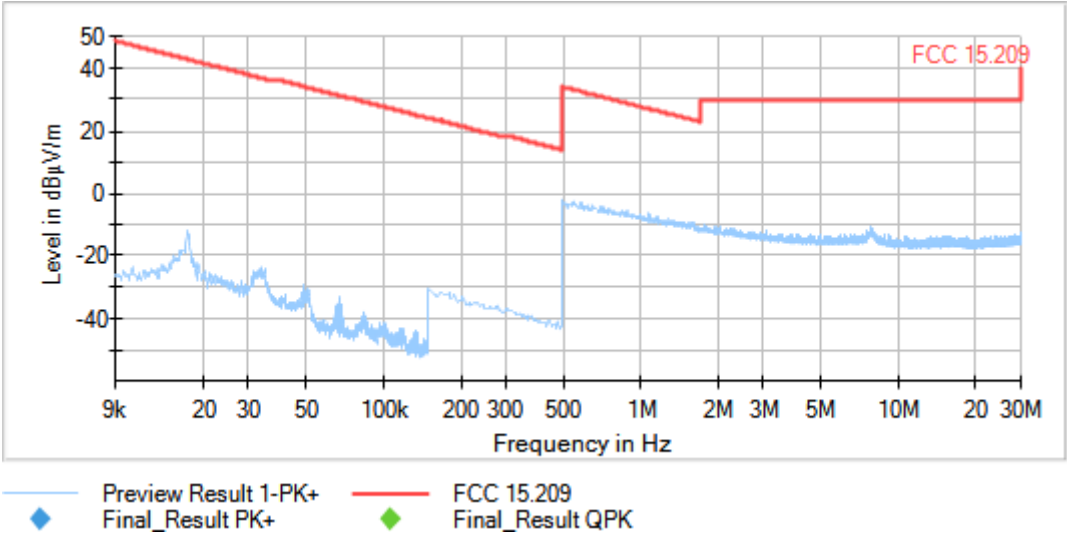
Verdict

Pass

Attachments

Modulation = MI
Frequency MHz = 10.66000
Frequency Range GHz = [0.000009, 0.03]

Images:



Tables:

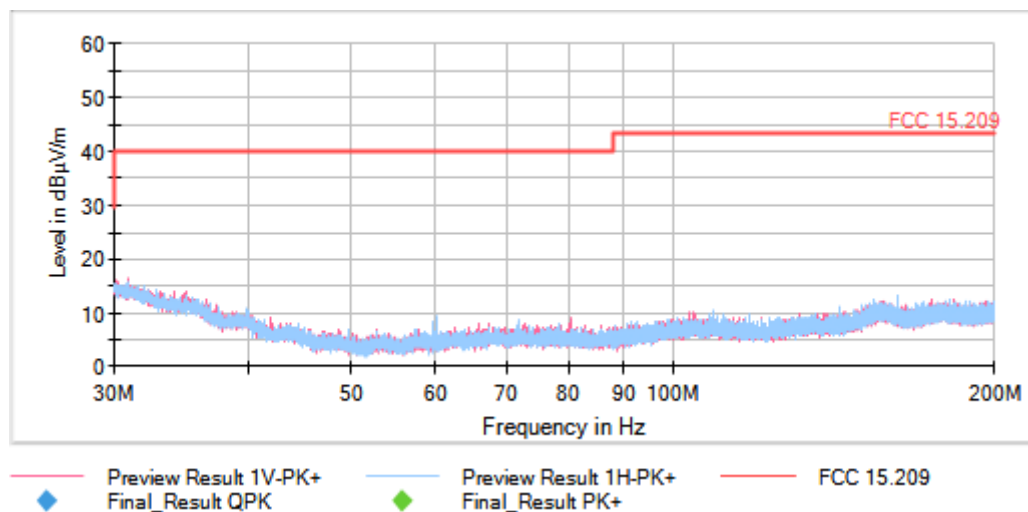
Spectrum Analyzer Parameters

	Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
	Receiver: [ESW 26]					
	9 kHz - 150 kHz	50 Hz	PK+	200 Hz	0,1 s	0 dB
	150 kHz - 30 MHz	2,25 kHz	PK+	9 kHz	0,1 s	0 dB

Frequency MHz = 10.66000

Frequency Range GHz = [0.03, 0.2]

Images:



Tables:

Spectrum Analyzer Parameters

	Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
	Receiver: [ESR 7]					
	30 MHz - 1 GHz	48,5 kHz	PK+	100 kHz	1 s	20 dB