

FCC TEST REPORT FCC 47 CFR Part 15C Industry Canada RSS-210 Digital transmission systems operating within the 2400 – 2483.5 MHz band	
Report Reference No.	G0M-1406-3920-TFC247BL-V01
Testing Laboratory	Eurofins Product Service GmbH
Address	Storkower Str. 38c 15526 Reichenwalde Germany
Accreditation	  A2LA Accredited Testing Laboratory, Certificate No.: 1983.01 FCC Filed Test Laboratory, Reg.-No.: 96970 IC OATS Filing assigned code: 3470A
Applicant's name	GN Netcom A/S
Address	Lautrupbjerg 7 2750 Ballerup DENMARK
Test specification: Standard: 47 CFR Part 15C KDB Publication No. 558074 RSS-210, Issue 8, 2010-12 RSS-Gen, Issue 3, 2010-12 ANSI C63.4:2009	
Equipment under test (EUT): Product description: Bluetooth headset Model No.: OTE20 Additional Model(s): None Brand Name(s): Jabra Hardware version: 28-03918 Firmware / Software version: 2-10 FCC-ID: BCE-OTE20 IC: 2386C-OTE20	
Test result	Passed

Possible test case verdicts:

- neither assessed nor tested: N/N
- required by standard but not appl. to test object.....: N/A
- required by standard but not tested.....: N/T
- not required by standard for the test object: N/R
- test object does meet the requirement.....: P (Pass)
- test object does not meet the requirement.....: F (Fail)

Testing:

Test Lab Temperature.....: 20 – 23 °C

Test Lab Humidity: 32 – 38 %

Date of receipt of test item: 2014-06-23

Date (s) of performance of tests: 2014-06-23 – 2014-06-25

Compiled by: Matthias Handrik

Tested by (+ signature).....: Matthias Handrik 

(Responsible for Test)

Approved by (+ signature): Christian Weber 

Date of issue: 2014-07-02

Total number of pages: 82

General remarks:

The test results presented in this report relate only to the object tested.

The results contained in this report reflect the results for this particular model and serial number. It is the responsibility of the manufacturer to ensure that all production models meet the intent of the requirements detailed within this report.

This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

Additional comments:

Version History

Version	Issue Date	Remarks	Revised by
01	2014-07-02	Initial Release	

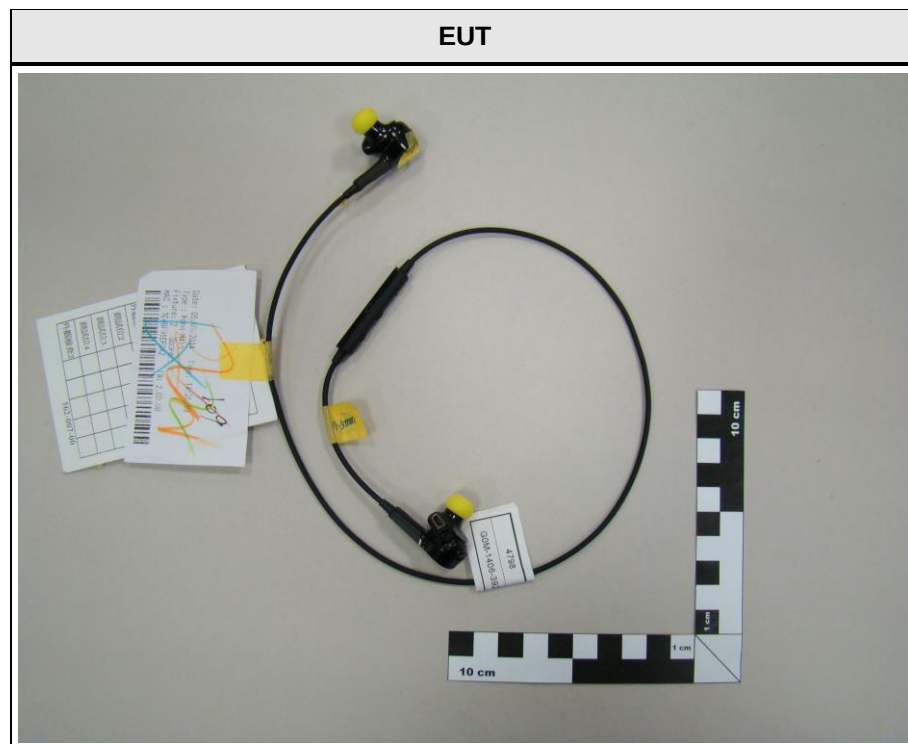
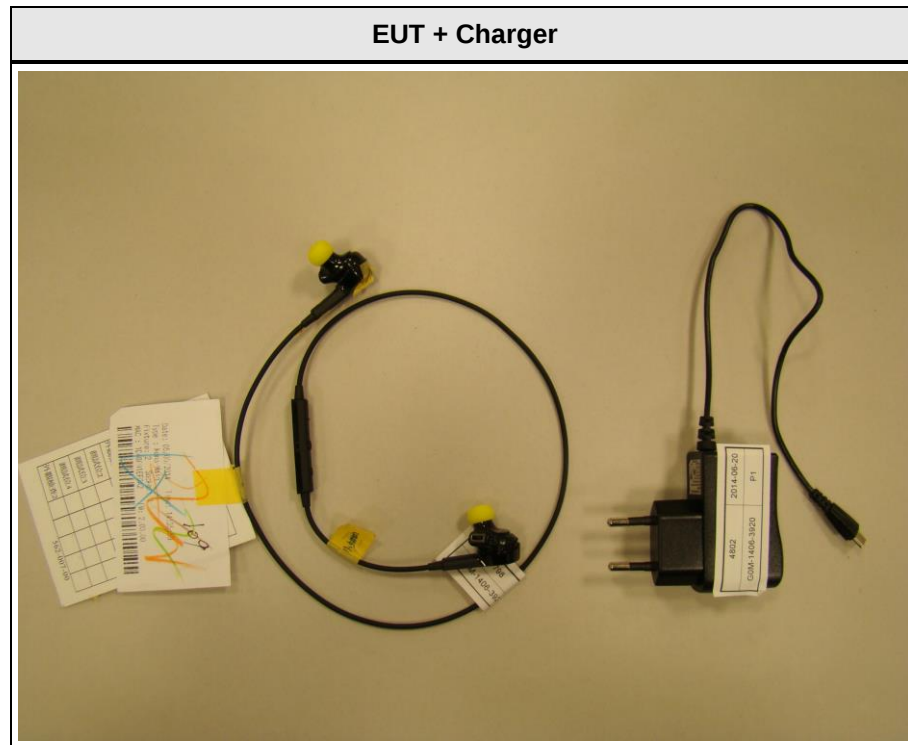
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1 Equipment (Test item) Description

Description	Bluetooth headset	
Model	OTE20	
Additional Model(s)	None	
Brand Name(s)	Jabra	
Serial number	None	
Hardware version	28-03918	
Software / Firmware version	2-10	
FCC-ID	BCE-OTE20	
IC	2386C-OTE20	
Equipment type	End product	
Radio type	Transceiver	
Radio technology	Bluetooth 4.0 Low Energy	
Operating frequency range	2402 - 2480 MHz	
Assigned frequency band	2400 - 2483.5 MHz	
Main test frequencies	F _{LOW}	2402 MHz
	F _{MID}	2440 MHz
	F _{HIGH}	2480 MHz
Spreading	Frequency Hopping	
Modulations	GFSK	
Number of channels	40	
Channel spacing	2MHz	
Number of antennas	1	
Antenna	Type	integrated
	Model	-
	Manufacturer	GN Netcom
	Gain	3.1 dBi
Manufacturer	GN Netcom A/S Lautrupbjerg 7 2750 Ballerup DENMARK	
Power supply	V _{NOM}	3.7 VDC
	V _{MIN}	3.2 VDC
	V _{MAX}	4.2 VDC
AC/DC-Adaptor	Model	SSA-5W-05 EU 050060F
	Vendor	SIL Switching Adapter
	Input	100-240V ~ 50/60Hz 0.2A
	Output	5.0V DC 800mA

1.1 Photos – Equipment External



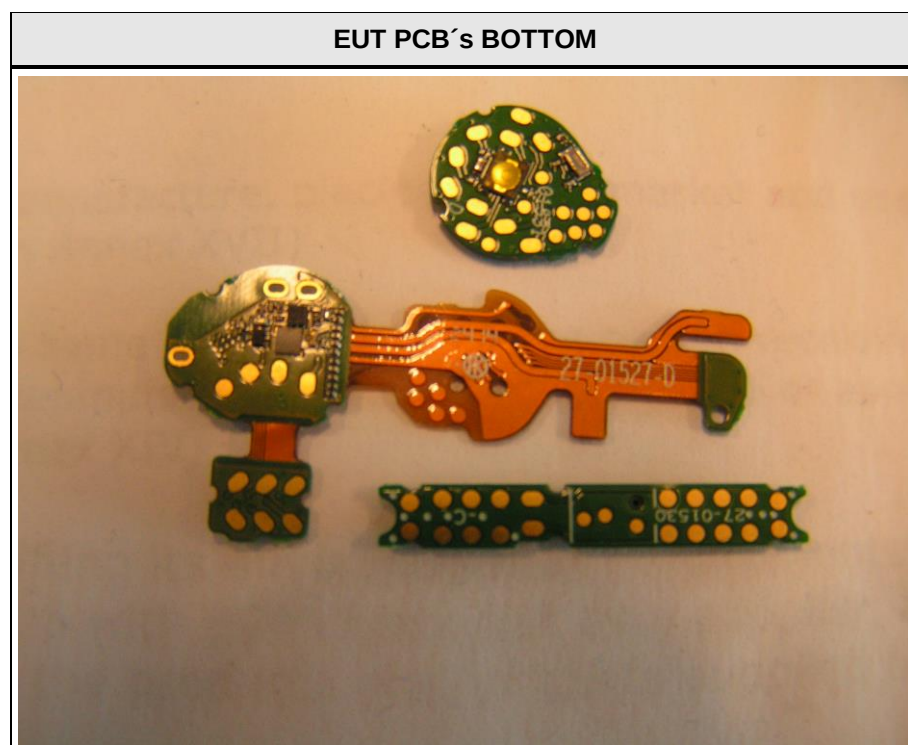
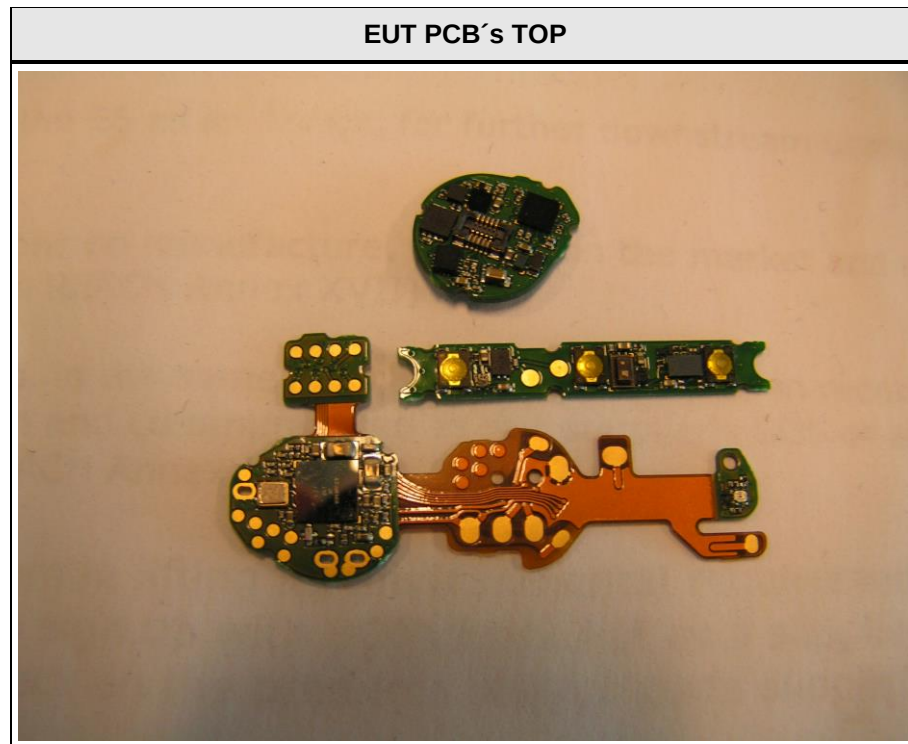
EUT Headset



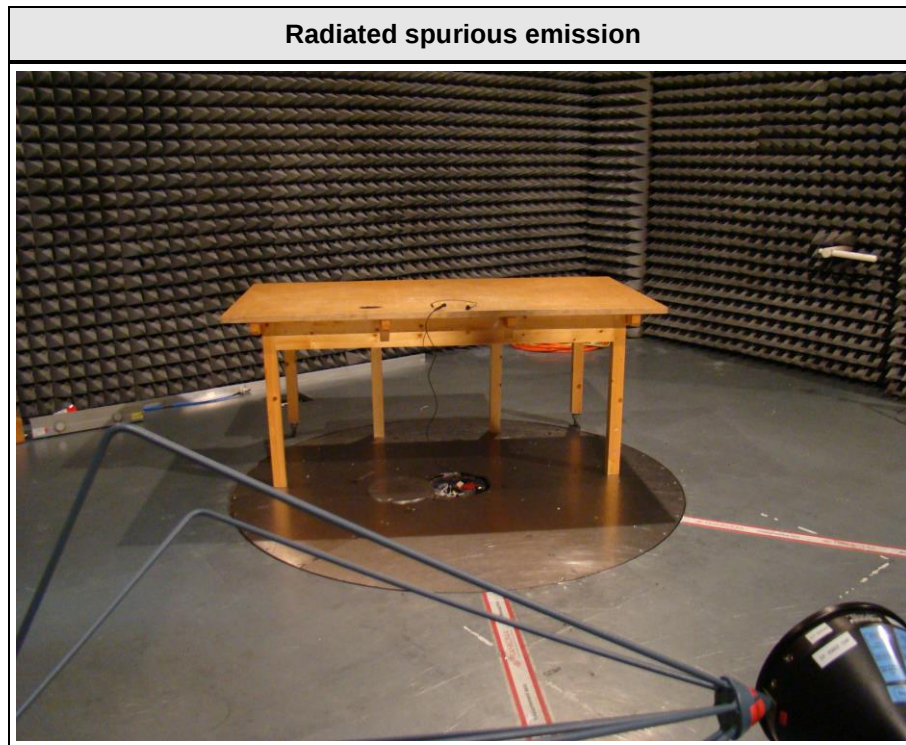
EUT Multi-function button



1.2 Photos – Equipment internal



1.3 Photos – Test setup



1.4 Supporting Equipment Used During Testing

Product Type*	Device	Manufacturer	Model No.	Comments
AE	Laptop	Samsung	NP-X20I	
AE : Auxiliary/Associated Equipment				

1.5 Test Modes

Mode #	Description	
Transmit	General conditions:	EUT powered by internal battery.
	Radio conditions:	Mode = standalone transmit Spreading = Hopping stopped (single hopping channel) Modulation = GFSK Data rate = 1 Mbps Bandwidth = 2 MHz Duty cycle = 100 % Power level = Maximum
Receive	General conditions:	EUT powered by internal battery.
	Radio conditions:	Mode = standalone receive (scan mode) Spreading = On Modulation = GFSK
AC-Powerline	General conditions:	EUT powered by commercial Laptop
	Radio conditions:	Mode = Transmit Spreading = On

1.6 Test Equipment Used During Testing

Measurement Software			
Description	Manufacturer	Name	Version
EMC Test Software	Dare Instruments	Radimation	2014.1.15

Occupied Bandwidth					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum analyzer	R&S	FSW43	EF00896	2014-02	2015-02

6dB Bandwidth					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum analyzer	R&S	FSW43	EF00896	2014-02	2015-02

Maximum peak conducted power					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum analyzer	R&S	FSW43	EF00896	2014-02	2015-02

Power spectral density					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum Analyzer	R&S	FSP 30	EF00312	2014-02	2015-02

Band edge compliance					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum analyzer	R&S	FSW43	EF00896	2014-02	2015-02

Conducted spurious emissions					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum Analyzer	R&S	FSP 30	EF00312	2014-02	2015-02

Radiated spurious emissions					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Semi-anechoic chamber	Frankonia	AC 1	EF00062	-	-
Spectrum Analyzer	R&S	FSEK30	EF00168	2014-01	2015-01
Biconical Antenna	R&S	HK 116	EF00012	2013-02	2016-02
LPD Antenna	R&S	HL 223	EF00187	2014-03	2017-03
LPD Antenna	R&S	HL 025	EF00327	2013-02	2016-02

AC powerline conducted emissions					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
AMN	R&S	ESH2-Z5	EF00182	2012-10	2014-10
EMI Test Receiver	R&S	ESCS 30	EF00295	2013-10	2014-10

1.7 Sample emission level calculation

The following is a description of terms and a sample calculation, as appears in the radiated emissions data table. The numbers used in the calculation are for example only. There is no direct correlation to the specific data taken for the product described in this document:

Reading:

This is the reading obtained on the spectrum analyzer in dBμV. Any external preamplifiers used are taken into account through internal analyzer settings.

A.F.:

This is the antenna factor for the receiving antenna. It is a conversion factor, which converts electric fields strengths to voltages, which can be measured directly on the spectrum analyzer. It is treated as a loss in dB. Cable losses have been included with the A.F. to simplify the calculations. The antenna factor is used in calculations as follows:

$$\text{Reading on Analyzer (dB}\mu\text{V)} + \text{A.F. (dB)} = \text{Net field strength (dB}\mu\text{V/m)}$$

Net:

This is the net field strength measurement (as shown above).

Limit:

This is the FCC Class B radiated emission limit (in units of dBμV/m). The FCC limits are given in units of μV/m. The following formula is used to convert the units of μV/m to dBμV/m:

$$\text{Limit (dB}\mu\text{V/m)} = 20 * \log (\mu\text{V/m})$$

Margin:

This is the margin of compliance below the FCC limit. The units are given in dB. A negative margin indicates the emission was below the limit. A positive margin indicates that the emission exceeds the limit.

Example only:

Reading	+	AF	=	Net Reading	:	Net reading - FCC limit	=	Margin
21.5 dBμV	+	26 dB	=	47.5 dBμV/m	:	47.5 dBμV/m - 57.0 dBμV/m	=	-9.5 dB

2 Result Summary

FCC 47 CFR Part 15C, IC RSS-210				
Product Specific Standard Section	Requirement – Test	Reference Method	Result	Remarks
RSS-Gen 4.6.1	Occupied Bandwidth	RSS-Gen 4.6.1	N/R	Informational only
FCC § 15.247(a)(2) IC RSS-210 § A8.2	6dB Bandwidth	KDB Publication No. 558074	PASS	
FCC § 15.247(b)(3) IC RSS-210 § A8.4	Maximum peak conducted power	KDB Publication No. 558074	PASS	
FCC § 15.247(e) IC RSS-210 § A8.2	Power spectral density	KDB Publication No. 558074	PASS	
47 CFR 15.207 RSS-Gen 7.2.4	AC power line conducted emissions	KDB Publication No. 558074 / ANSI C63.4	PASS	
FCC § 15.247(d) IC RSS-210 § A8.5	Band edge compliance	KDB Publication No. 558074	PASS	
FCC § 15.247(d) IC RSS-210 § A8.5	Conducted spurious emissions	KDB Publication No. 558074	PASS	
FCC § 15.247(d) FCC § 15.209 IC RSS-210 A8.5 IC RSS-Gen 4.9 IC RSS-Gen 7.2.5	Transmitter radiated spurious emissions	KDB Publication No. 558074 / ANSI C 63.4	PASS	
IC RSS-Gen 4.10 IC RSS-Gen 6.1	Receiver radiated spurious emissions	ANSI C 63.4	PASS	
Remarks:				

3 Test Conditions and Results

3.1 Test Conditions and Results – Occupied Bandwidth

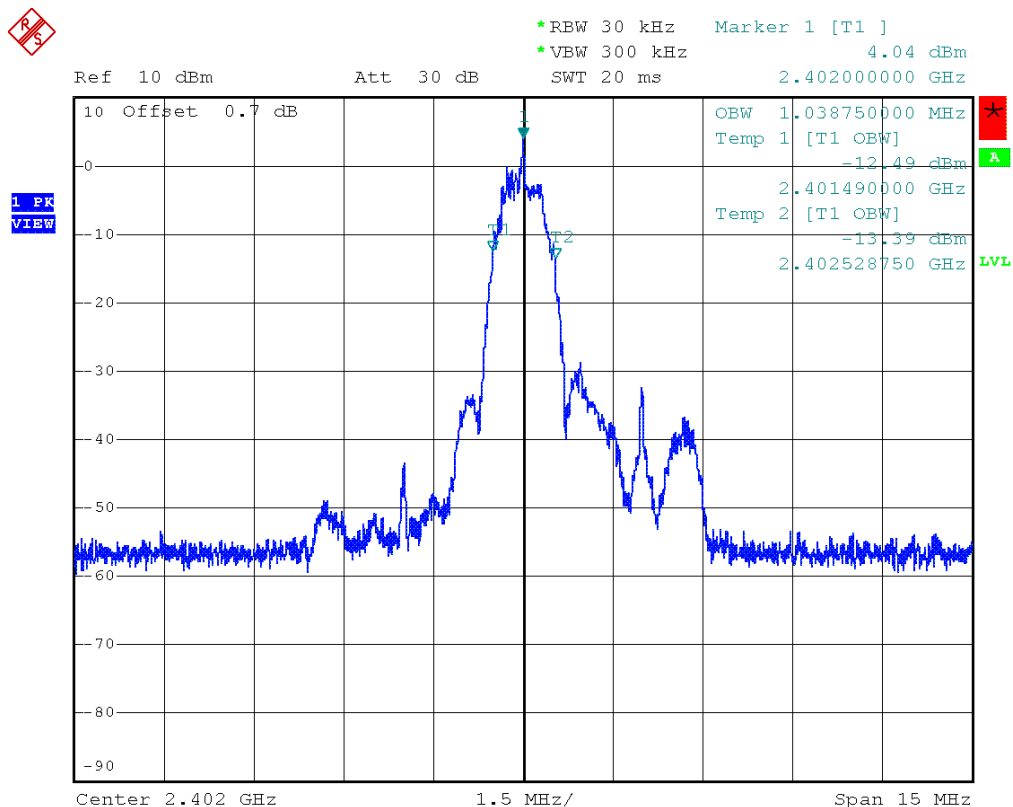
Occupied Bandwidth acc. IC RSS-Gen			Verdict: PASS
Test according to measurement reference	Reference Method		
	RSS-Gen 4.6.1		
Test frequency range	Tested frequencies		
	F _{LOW} / F _{MID} / F _{HIGH}		
Limits			
None (Informational only)			
Test setup			
Spectrum Analyzer EUT			
Test procedure			
1. EUT set to test mode (Communication tester is used if needed) 2. Span set to at least twice the emission spectrum 3. Resolution bandwidth set to 1 % of span 4. Occupied Bandwidth (99 %) measurement with spectrum analyzer built in measurement function			
Test results			
Channel	Frequency [MHz]	Mode	Occupied Bandwidth [kHz]
F _{LOW}	2402	Transmit	1038.75
F _{MID}	2440	Transmit	1023.75
F _{HIGH}	2480	Transmit	1027.5
Comments:			

Occupied Bandwidth – F_{Low}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1406-3920

Applicant: GN Netcom A/S
EUT Name: Jabra
Model: OTE20
Test Site: Eurofins Product Service GmbH
Operator: Matthias Handrik
Test Conditions: Tnom / Vnom
Mode: Tx, BT-LE, 2402 MHz, modulated
Test Date: 2014-06-23
Verdict: PASS
Note 1: A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2: OBW= 1.03875 MHz



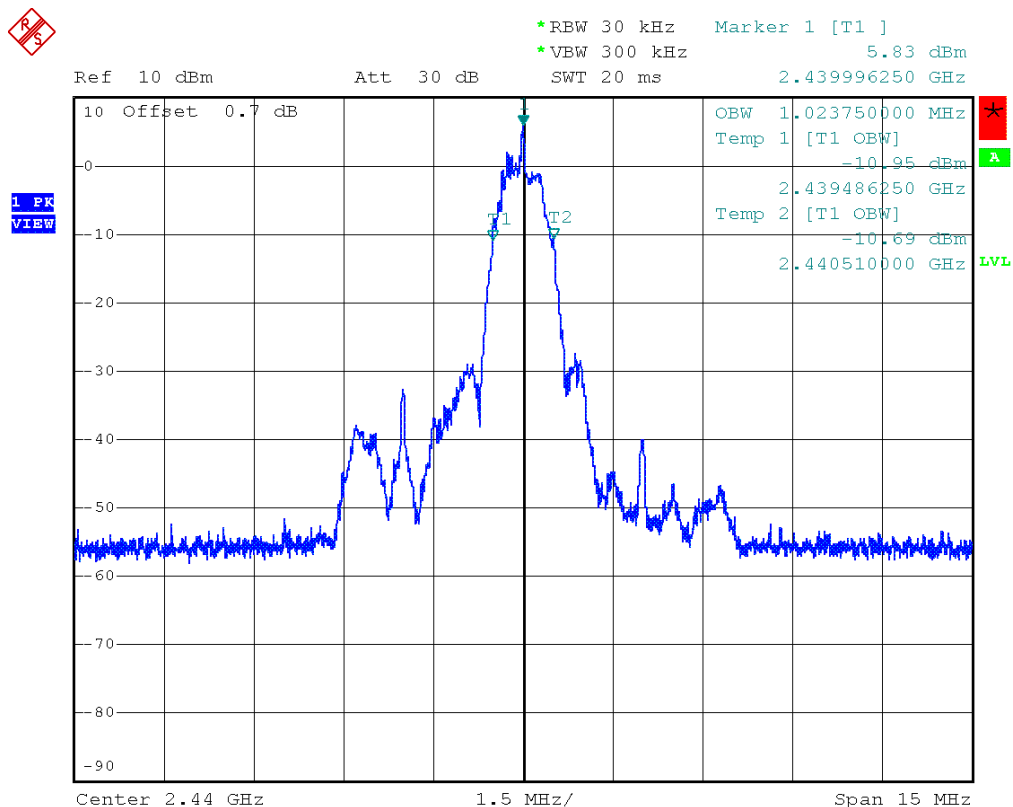
Comment: Occupied bandwidth: 1038.8 KHz
Date: 23.JUN.2014 15:49:29

Occupied Bandwidth – F_{MID}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1406-3920

Applicant: GN Netcom A/S
EUT Name: Jabra
Model: OTE20
Test Site: Eurofins Product Service GmbH
Operator: Matthias Handrik
Test Conditions: Tnom / Vnom
Mode: Tx, BT-LE, 2440 MHz, modulated
Test Date: 2014-06-23
Verdict: PASS
Note 1: A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2: OBW= 1.02375 MHz



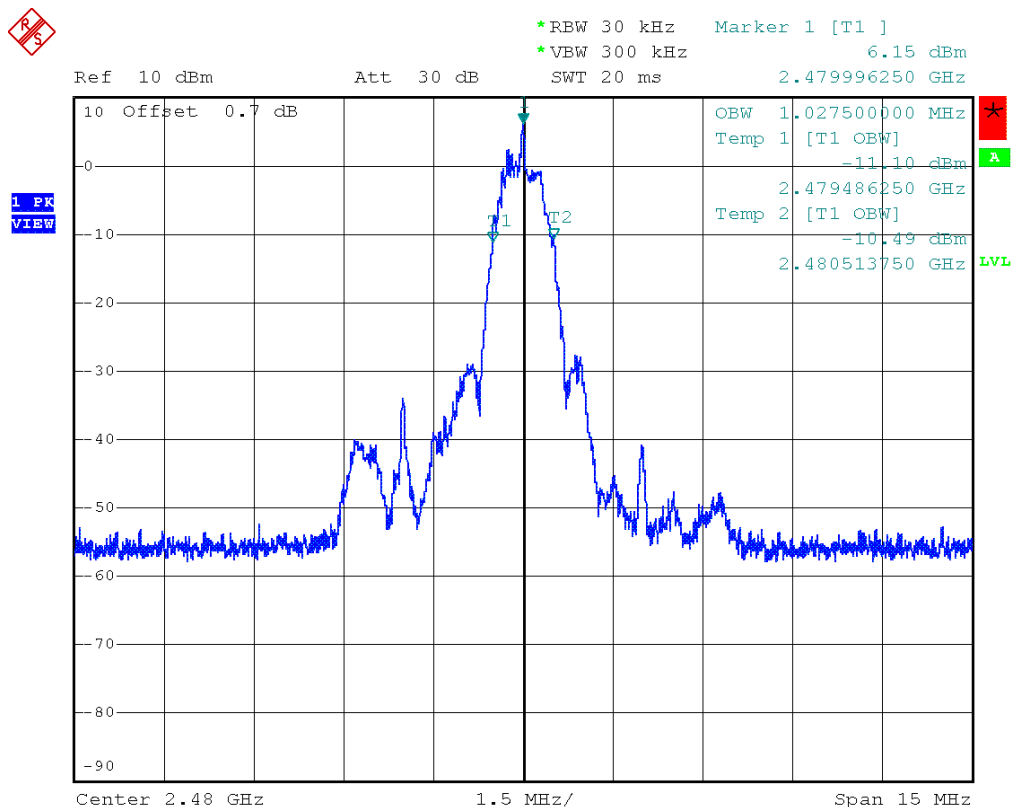
Comment: Occupied bandwidth: 1023.8 KHz
Date: 23.JUN.2014 15:48:08

Occupied Bandwidth – F_{HIGH}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1406-3920

Applicant: GN Netcom A/S
EUT Name: Jabra
Model: OTE20
Test Site: Eurofins Product Service GmbH
Operator: Matthias Handrik
Test Conditions: Tnom / Vnom
Mode: Tx, BT-LE, 2480 MHz, modulated
Test Date: 2014-06-23
Verdict: PASS
Note 1: A spectrum analyzer with an integrated 99% power bandwidth function is used
Note 2: OBW= 1.0275 MHz



Comment: Occupied bandwidth: 1027.5 KHz
Date: 23.JUN.2014 15:46:16

3.2 Test Conditions and Results – 6 dB Bandwidth

6dB Bandwidth acc. FCC 15.247 / IC RSS-210				Verdict: PASS	
EUT requirement rule parts and clause		Reference			
		FCC 15.247(a)(2) / IC RSS-210 A8.2			
Test according to measurement reference		Reference Method			
		FCC KDB Publication No. 558074			
Test frequency range		Tested frequencies			
		F _{LOW} / F _{MID} / F _{HIGH}			
Limits					
Limit					
≥ 500kHz					
Test setup					
Spectrum Analyzer EUT					
Test procedure					
1. EUT set to test mode 2. Span set to at least twice the emission spectrum 3. Detector set to peak and max hold and RBW is set to 100 kHz 4. Envelope peak value of emission spectrum is selected 5. Marker on envelope of spectrum is set to level of -6 dB to the left of the peak 6. Marker on envelope of spectrum is set to level of -6 dB to the right of the peak 7. 6 dB Bandwidth is determined by marker frequency separation					
Test results					
Channel	Frequency [MHz]	Mode	6 dB Bandwidth [kHz]	Limit [kHz]	Result
F _{LOW}	2402	Transmit	752.4	500	PASS
F _{MID}	2440	Transmit	734.4	500	PASS
F _{HIGH}	2480	Transmit	734.4	500	PASS
Comments:					

6 dB Bandwidth – F_{Low}
Minimum 6 dB Bandwidth acc. to FCC 15.247

Project Number: G0M-1406-3920

Applicant: GN Netcom A/S
 EUT Name: Jabra
 Model: OTE20
 Test Site: Eurofins Product Service GmbH
 Operator: Matthias Handrik
 Test Conditions: Tnom / Vnom
 Mode: Tx, BTLE, 2402 MHz, modulated
 Test Date: 2014-06-23
 Verdict: PASS
 Note 1: Procedure 8.1 DTS (558074 D01 Meas Guidance)
 Note 2: Minimum 6 dB Bandwidth conducted



Comment: 6 dB bandwidth: 752.4 KHz > 500 KHz; verdict: PASS
 Date: 23.JUN.2014 15:38:05

6 dB Bandwidth – F_{MID}
Minimum 6 dB Bandwidth acc. to FCC 15.247

Project Number: G0M-1406-3920

Applicant: GN Netcom A/S
 EUT Name: Jabra
 Model: OTE20
 Test Site: Eurofins Product Service GmbH
 Operator: Matthias Handrik
 Test Conditions: Tnom / Vnom
 Mode: Tx, BTLE, 2440 MHz, modulated
 Test Date: 2014-06-23
 Verdict: PASS
 Note 1: Procedure 8.1 DTS (558074 D01 Meas Guidance)
 Note 2: Minimum 6 dB Bandwidth conducted



Comment: 6 dB bandwidth: 734.4 KHz > 500 KHz;
 Date: 23.JUN.2014 15:41:22
 verdict: PASS

6 dB Bandwidth – F_{HIGH}
Minimum 6 dB Bandwidth acc. to FCC 15.247

Project Number: G0M-1406-3920

Applicant: GN Netcom A/S
 EUT Name: Jabra
 Model: OTE20
 Test Site: Eurofins Product Service GmbH
 Operator: Matthias Handrik
 Test Conditions: Tnom / Vnom
 Mode: Tx, BTLE, 2480 MHz, modulated
 Test Date: 2014-06-23
 Verdict: PASS
 Note 1: Procedure 8.1 DTS (558074 D01 Meas Guidance)
 Note 2: Minimum 6 dB Bandwidth conducted



Comment: 6 dB bandwidth: 734.4 KHz > 500 KHz; verdict: PASS
 Date: 23.JUN.2014 15:43:40

3.3 Test Conditions and Results – Maximum peak conducted power

Maximum peak conducted power acc. FCC 15.247 / IC RSS-210		Verdict: PASS
EUT requirement rule parts and clause	Reference	
	FCC 15.247(b)(3) / IC RSS-210 A8.4	
Test according to measurement reference	Reference Method	
	FCC KDB Publication No. 558074	
Test frequency range	Tested frequencies	
	F _{LOW} / F _{MID} / F _{HIGH}	
Measurement mode	Peak	
Maximum antenna gain	0.9 dBi ⇒ Limit correction = 0 dB	
Limits		
1 W (30 dBm)		
The conducted output power limit specified above is based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in the table, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.		
Test setup		
Spectrum Analyzer EUT		
Test procedure		
1. EUT set to test mode (Communication tester is used if needed) 2. Center frequency set to test channel center frequency 3. Span set to twice the 20 dB bandwidth and detector to peak and max hold 4. Resolution bandwidth is set to 3 MHz 5. Peak conducted power is determined from peak of spectrum envelope		

Test results							
Channel	Frequency [MHz]	Voltage	Mode	Peak power [dBm]	Peak power [W]	Limit [dBm]	Margin [dB]
F _{LOW}	2402	V _{nom} = 3.7V	Transmit	5.47	0.004	30	-24.53
F _{MID}	2440	V _{nom} = 3.7V	Transmit	7.14	0.005	30	-22.86
F _{HIGH}	2480	V _{nom} = 3.7V	Transmit	7.49	0.006	30	-22.51
Comment:							

3.4 Test Conditions and Results – Power spectral density

Power spectral density acc. FCC 15.247 / IC RSS-210					Verdict: PASS	
EUT requirement rule parts and clause			Reference			
			FCC 15.247(e) / IC RSS-210 A8.2			
Test according to measurement reference			Reference Method			
			FCC KDB Publication No. 558074			
Test frequency range			Tested frequencies			
			F _{LOW} / F _{MID} / F _{HIGH}			
Measurement mode			Peak			
Limits						
8 dBm / 3 kHz						
Test setup						
Spectrum Analyzer EUT						
Test procedure						
1. EUT set to test mode (Communication tester is used if needed) 2. Center frequency set to test channel center frequency 3. Span is set large enough to capture maximum emissions in passband, RBW is set to 3kHz 4. Peak power density is determined from peak emission of envelope						
Test results						
Channel	Frequency [MHz]	Test mode	Peak frequency [MHz]	Peak power density [dBm/100kHz]	Limit [dBm/3kHz]	Margin [dB]
F _{LOW}	2402	Transmit	2402	4.96	8.0	-03.04
F _{MID}	2440	Transmit	2440	6.69	8.0	-01.31
F _{HIGH}	2480	Transmit	2480	7.02	8.0	-00.98
Comments:						

3.5 Test Conditions and Results – AC power line conducted emissions

Power line conducted emissions acc. FCC 47 CFR 15.207 / IC RSS-Gen				Verdict: PASS	
Test according referenced standards		Reference Method			
		ANSI C63.4			
Fully configured sample scanned over the following frequency range		Frequency range			
		0.15 MHz to 30 MHz			
Points of Application		Application Interface			
AC Mains		LISN			
EUT test mode		AC power line			
Limits and results					
Frequency [MHz]	Quasi-Peak [dBμV]	Result	Average [dBμV]	Result	
0.15 to 5	66 to 56*	PASS	56 to 46*	PASS	
0.5 to 5	56	PASS	46	PASS	
5 to 30	60	PASS	50	PASS	
Comments:					
* Limit decreases linearly with the logarithm of the frequency.					

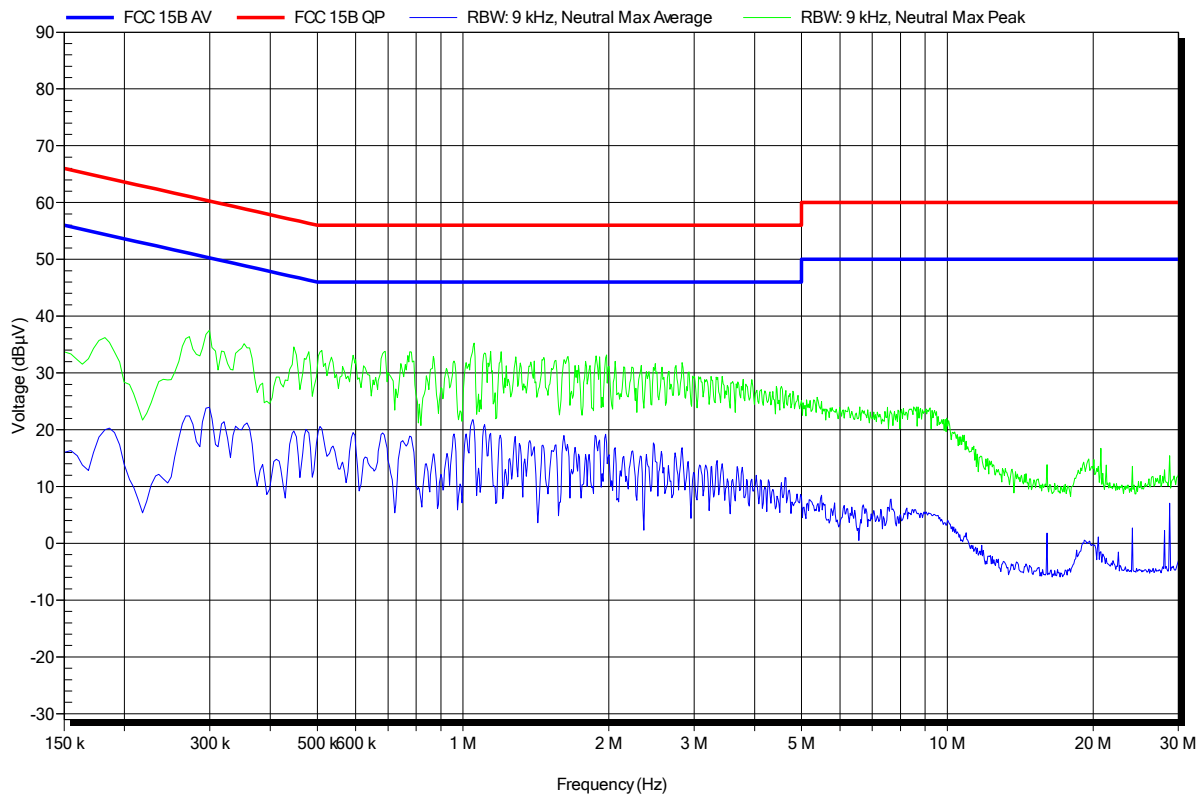
Conducted Emissions

EMI voltage test in the ac-mains according to FCC 15B

Project number: G0M-1406-3920

Manufacturer: GN Netcom A/S
 EUT Name: Bluetooth headset
 Model: Jabra / OTE20
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Handrik
 Test Conditions: Tnom: 22°C, Unom: 120 V AC (AC/DC adaptor)
 LISN: ESH2-Z5 N
 Mode: charging
 Test Date: 2014-06-25
 Note:

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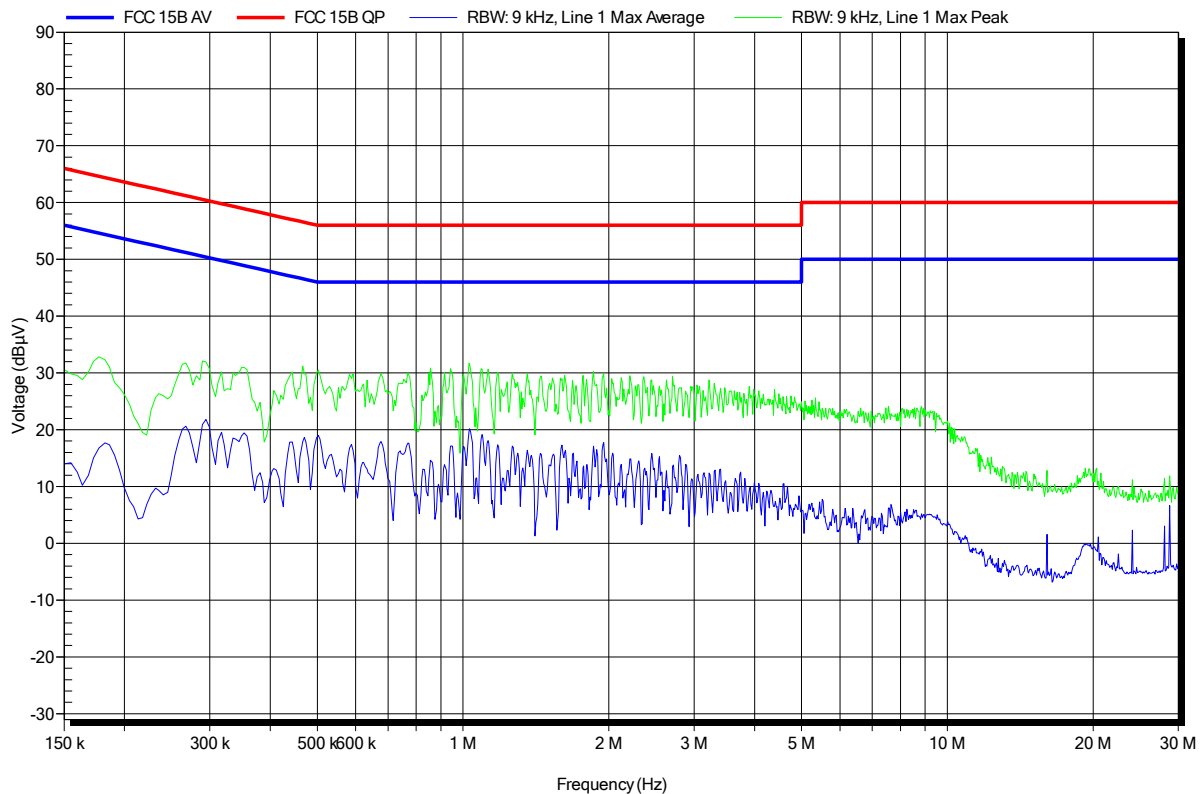
Conducted Emissions

EMI voltage test in the ac-mains according to FCC 15B

Project number: G0M-1406-3920

Manufacturer: GN Netcom A/S
 EUT Name: Bluetooth headset
 Model: Jabra / OTE20
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Handrik
 Test Conditions: Tnom: 22°C, Unom: 120 V AC (AC/DC adaptor)
 LISN: ESH2-Z5 L
 Mode: charging
 Test Date: 2014-06-25
 Note:

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3.6 Test Conditions and Results – Band edge compliance

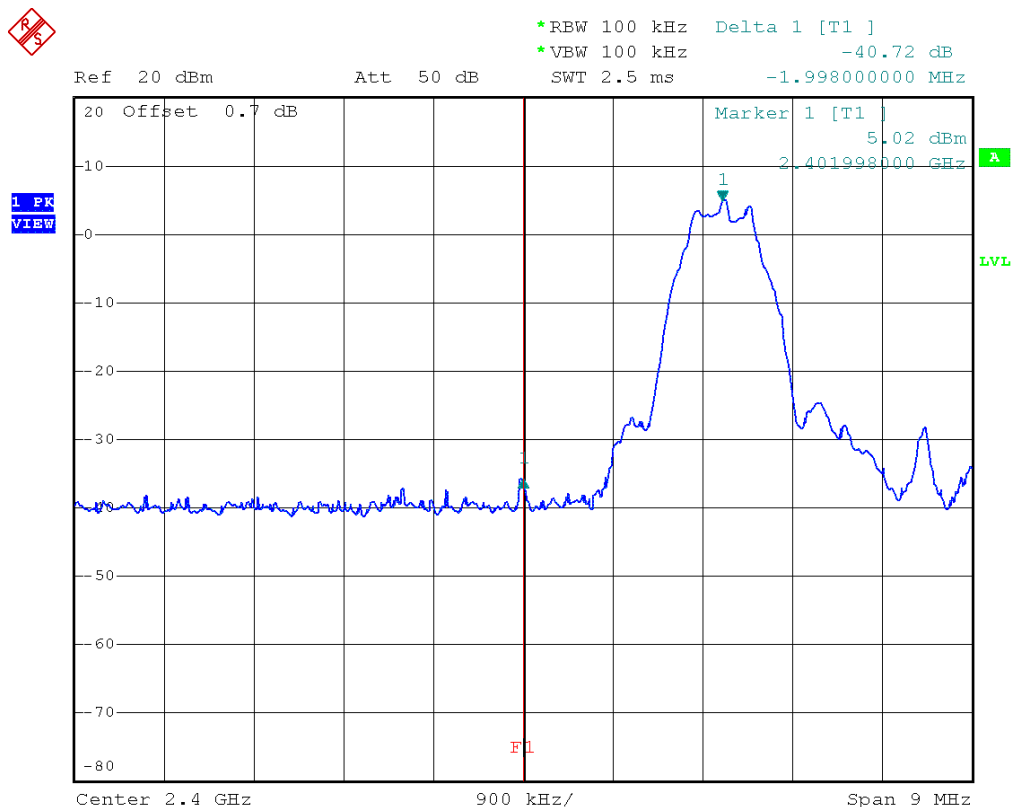
Band-edge compliance acc. FCC 15.247 / IC RSS-210					Verdict: PASS
EUT requirement rule parts and clause		Reference			
		FCC 15.247(d) / IC RSS-210 A8.5			
Test according to measurement reference		Reference Method			
		FCC KDB Publication No. 558074			
Test frequency range		Tested frequencies			
		F _{LOW} / F _{HIGH}			
Measurement mode		Peak			
Limits					
Limit			Condition		
≤ -20 dB / 100 kHz			Peak power measurement detector = Peak		
≤ -30 dB / 100 kHz			Peak power measurement detector = RMS		
Test setup					
Spectrum Analyzer EUT					
Test procedure					
1. EUT set to test mode (Communication tester is used if needed) 2. Span set around lower band edge and detector is set to peak and max hold 3. Resolution bandwidth is set to 100 kHz 4. Markers are set to peak emission levels within frequency band and outside frequency band 5. Band edge attenuation is determined from level difference					
Test results					
Channel	Frequency [MHz]	Mode	Level [dBc]	Limit [dBc]	Margin [dB]
F _{LOW}	2402	Transmit	-40.72	-20	-20.72
F _{HIGH}	2480	Transmit	-45.83	-20	-25.83
Comments:					

Band-edge compliance

Band-edge compliance acc. to FCC 15.247

Project Number: G0M-1406-3920

Applicant: GN Netcom A/S
EUT Name: Jabra
Model: OTE20
Test Site: Eurofins Product Service GmbH
Operator: Matthias Handrik
Test Conditions: Tnom / Vnom
Mode: Tx, BTLE, 2402 MHz, modulated
Test Date: 2014-06-23
Verdict: PASS
Note 1: Procedure 13.2 Marker-delta method (558074 D01 Meas Guidance)
Note 2: upper Band-edge, conducted measurement



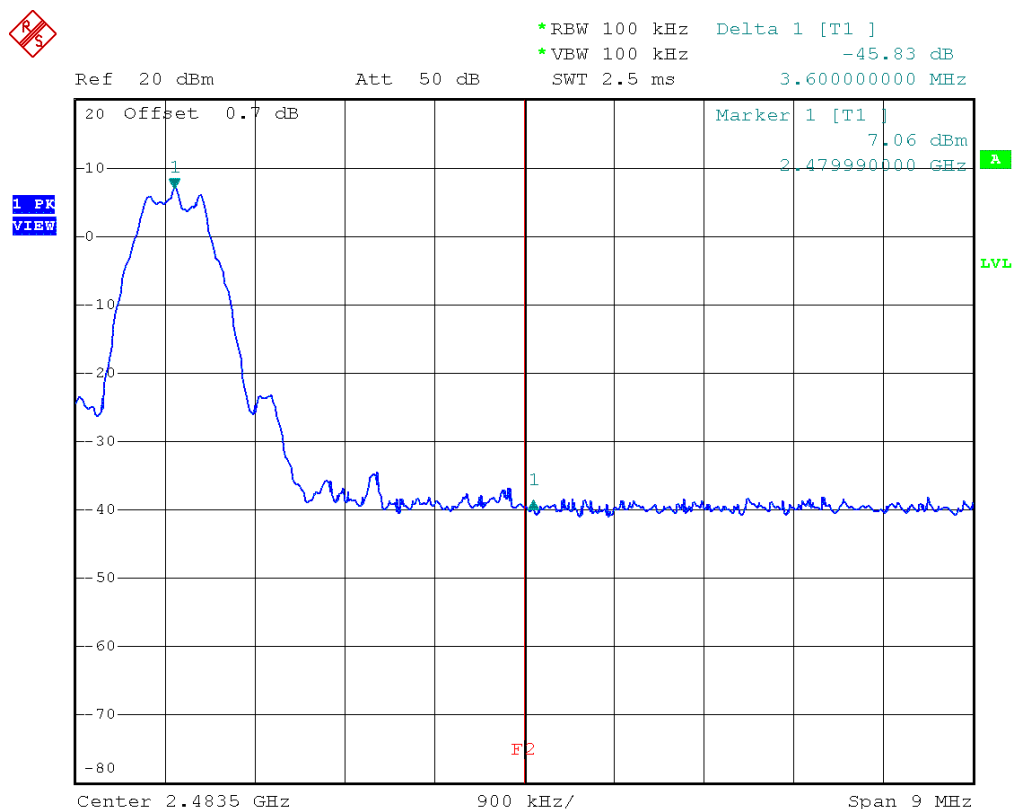
Comment: Limit: Marker Delta value >20 dB; Result: PASS
Date: 23.JUN.2014 15:54:14

Band-edge compliance

Band-edge compliance acc. to FCC 15.247

Project Number: G0M-1406-3920

Applicant:	GN Netcom A/S
EUT Name:	Jabra
Model:	OTE20
Test Site:	Eurofins Product Service GmbH
Operator:	Matthias Handrik
Test Conditions:	Tnom / Vnom
Mode:	Tx, BTLE, 2480 MHz, modulated
Test Date:	2014-06-23
Verdict:	PASS
Note 1:	Procedure 13.2 Marker-delta method (558074 D01 Meas Guidance)
Note 2:	upper Band-edge, conducted measurement



Comment: Limit: Marker Delta value >20 dB; Result: PASS
Date: 23.JUN.2014 15:52:38

3.7 Test Conditions and Results – Conducted spurious emissions

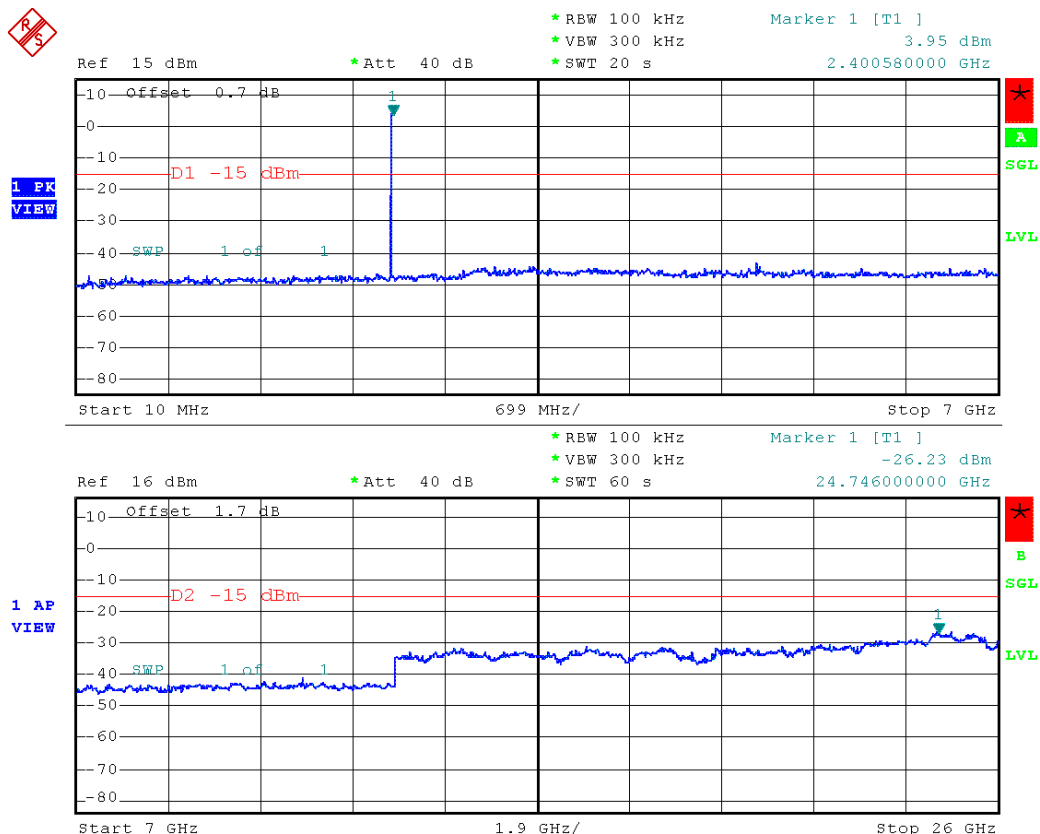
Conducted spurious emissions acc. FCC 15.247 / IC RSS-210						Verdict: PASS	
EUT requirement rule parts and clause			Reference				
			FCC 15.247(d) / IC RSS-210 A8.5				
Test according to measurement reference			Reference Method				
			FCC KDB Publication No. 558074				
Test frequency range			Tested frequencies				
			10 MHz – 10 th Harmonic				
Measurement mode			Peak				
Limits							
Limit				Condition			
≤ -20 dB / 100 kHz				Peak power measurement detector = Peak			
≤ -30 dB /100 kHz				Peak power measurement detector = RMS			
Test setup							
Spectrum Analyzer EUT							
Test procedure							
1. EUT set to test mode (Communication tester is used if needed) 2. Span it set according to measurement range 3. Resolution bandwidth is set to 100 kHz and detector to peak and max hold 4. Markers are set to peak emission levels within frequency band 5. Emission level is determined by second marker on emission peak 6. Attenuation is determined from level difference							
Test results							
Channel	Frequency [MHz]	Mode	Emission [MHz]	Emission Level [dbm]	Peak power [dBm]	Limit [dBm]	Margin [dB]
F _{LOW}	2402	no significant spurious emissions					
F _{MID}	2442	no significant spurious emissions					
F _{HIGH}	2480	no significant spurious emissions					
Comments:							

Conducted spurious emissions – F_{Low}

Spurious Emissions acc. to FCC 15.247

Project Number: G0M-1406-3920

Applicant: GN Netcom A/S
 EUT Name: Jabra
 Model: OTE20
 Test Site: Eurofins Product Service GmbH
 Operator: Matthias Handrik
 Test Conditions: Tnom / Vnom
 Mode: Tx, BTLE, 2402 MHz, modulated
 Test Date: 2014-06-23
 Verdict: PASS
 Note 1: Spurious in non-restricted frequency bands (558074 D01 Meas Guidance)
 Note 2: conducted measurement



Date: 23.JUN.2014 15:58:19

Test Report No.: G0M-1406-3920-TFC247BL-V01

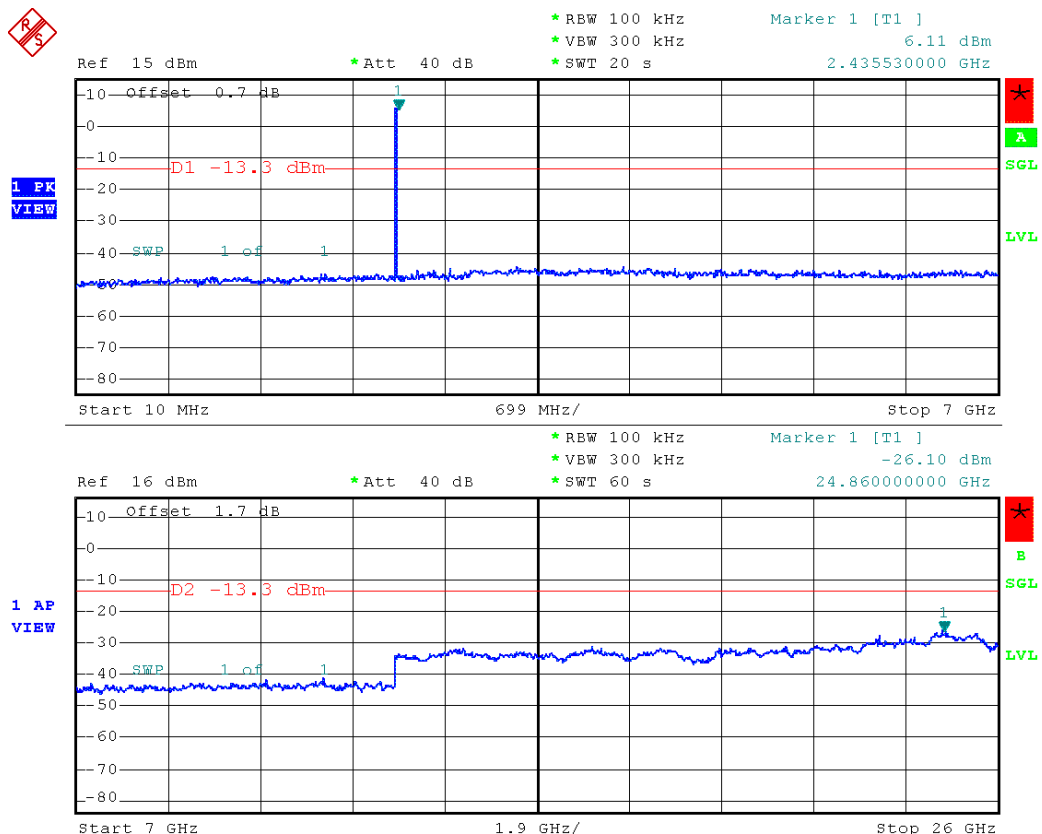
Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Conducted spurious emissions – F_{MID}

Spurious Emissions acc. to FCC 15.247

Project Number: G0M-1406-3920

Applicant: GN Netcom A/S
 EUT Name: Jabra
 Model: OTE20
 Test Site: Eurofins Product Service GmbH
 Operator: Matthias Handrik
 Test Conditions: Tnom / Vnom
 Mode: Tx, BTLE, 2440 MHz, modulated
 Test Date: 2014-06-23
 Verdict: PASS
 Note 1: Spurious in non-restricted frequency bands (558074 D01 Meas Guidance)
 Note 2: conducted measurement



Date: 23.JUN.2014 16:01:05

Test Report No.: G0M-1406-3920-TFC247BL-V01

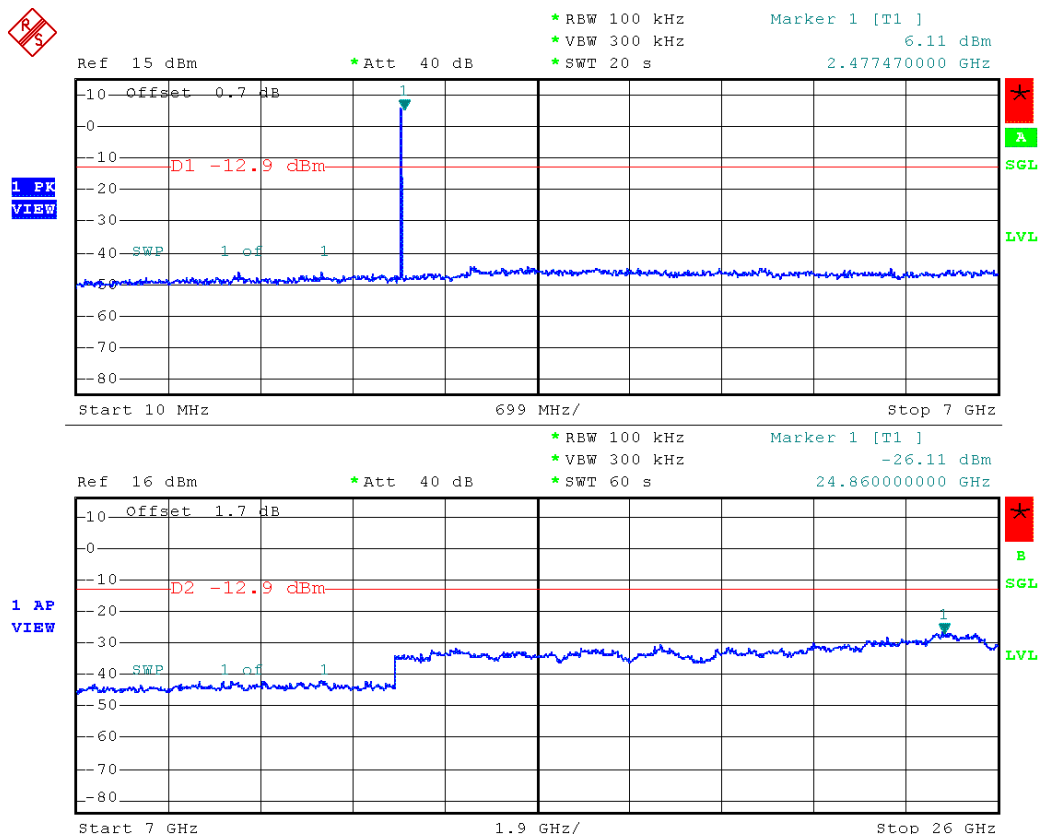
Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Conducted spurious emissions – F_{HIGH}

Spurious Emissions acc. to FCC 15.247

Project Number: G0M-1406-3920

Applicant: GN Netcom A/S
 EUT Name: Jabra
 Model: OTE20
 Test Site: Eurofins Product Service GmbH
 Operator: Matthias Handrik
 Test Conditions: Tnom / Vnom
 Mode: Tx, BTLE, 2480 MHz, modulated
 Test Date: 2014-06-23
 Verdict: PASS
 Note 1: Spurious in non-restricted frequency bands (558074 D01 Meas Guidance)
 Note 2: conducted measurement

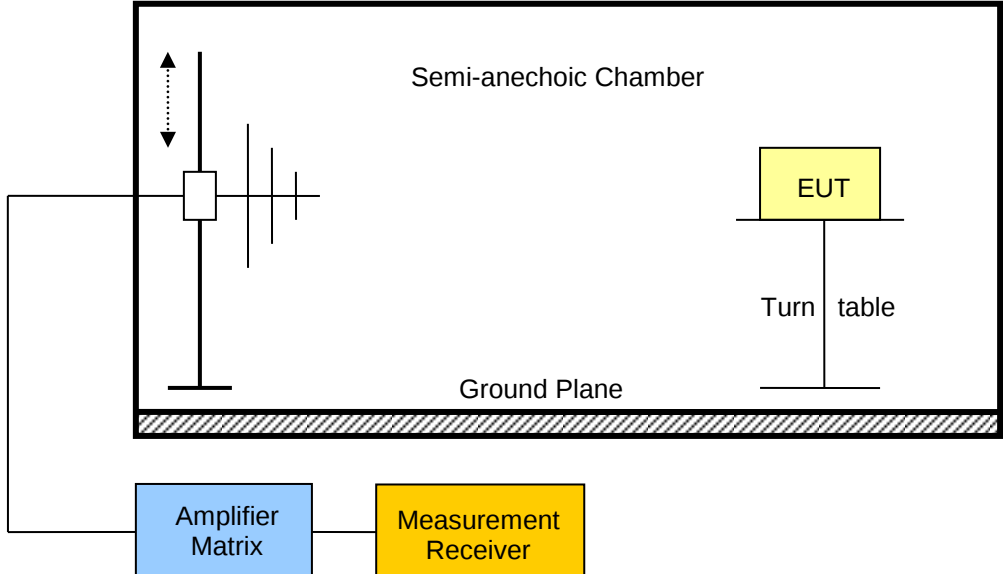


Date: 23.JUN.2014 16:03:34

Test Report No.: G0M-1406-3920-TFC247BL-V01

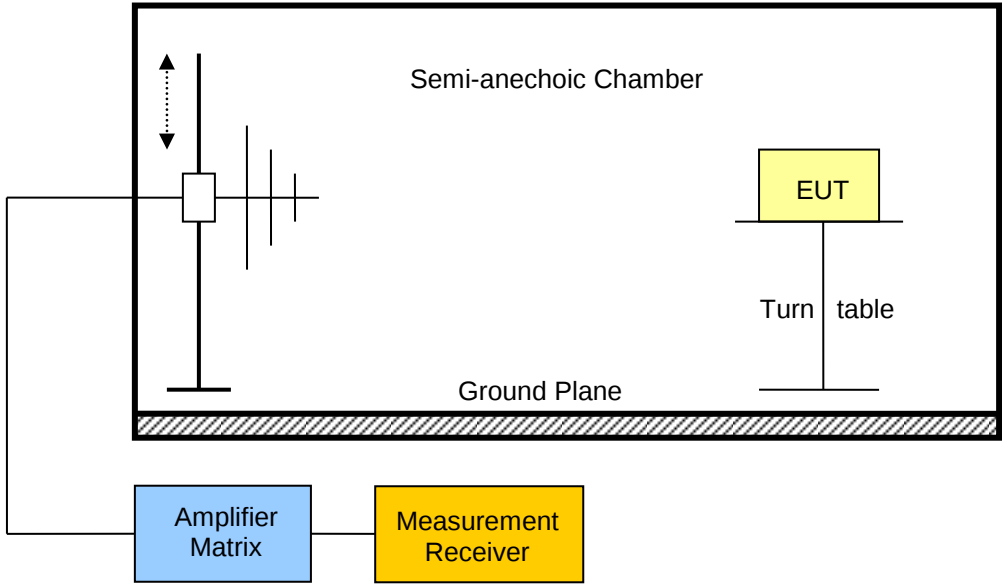
Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

3.8 Test Conditions and Results – Transmitter radiated emissions

Transmitter radiated emissions acc. FCC 47 CFR 15.247 / IC RSS-210				Verdict: PASS
Test according referenced standards	Reference Method			
	FCC 15.247(d) / IC RSS-210 A8.5			
Test according to measurement reference	Reference Method			
	FCC KDB Publication No. 558074 / ANSI C63.4			
Test frequency range	Tested frequencies			
	30 MHz – 10 th Harmonic			
Limits				
Frequency range [MHz]	Detector	Limit [µV/m]	Limit [dBµV/m]	Limit Distance [m]
30 – 88	Quasi-Peak	100	40	3
88 – 216	Quasi-Peak	150	43.5	3
216 – 960	Quasi-Peak	200	46	3
960 – 1000	Quasi-Peak	500	54	3
> 1000	Average	500	54	3
Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)). When average radiated emission measurements are specified, including average emission measurements below 1000 MHz, there also is a limit on the peak level of the radio frequency emissions. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit applicable to the equipment under test.				
Test setup				
				

Test procedure									
1. EUT set to test mode (Communication tester is used if needed) 2. Span it set according to measurement range 3. Resolution bandwidth below 1 GHz is set according to CISPR 16 with peak/quasi-peak detector and RBW of 1 MHz with peak/average detector is used above 1 GHz 4. Markers are set to peak emission levels within restricted bands									
Test results									
Channel	Frequency [MHz]	Mode	Emission [MHz]	Level [dBμV/m]	Det.	Pol.	Limit [dBμV/m]	Limit dist. [m]*	Margin [dB]
F _{HIGH}	2480	Bluetooth LE	2483.5	56.40	pk	ver	74.00	3	-17.60
F _{HIGH}	2480	Bluetooth LE	2483.5	45.63	RMS	ver	54.00	3	-08.37
F _{HIGH}	2480	Bluetooth LE	2483.5	62.54	pk	hor	74.00	3	-11.46
F _{HIGH}	2480	Bluetooth LE	2483.5	51.67	RMS	hor	54.00	3	-02.33
F _{HIGH}	2480	Bluetooth LE	4959	60.74	pk	hor	74.00	3	-13.26
F _{HIGH}	2480	Bluetooth LE	4959	53.01	avg	hor	54.00	3	-00.99
F _{HIGH}	2480	Bluetooth LE	4960	57.55	pk	ver	74.00	3	-16.45
F _{HIGH}	2480	Bluetooth LE	4960	49.98	avg	ver	54.00	3	-04.02
F _{HIGH}	2480	Bluetooth LE	4960	49.88	pk	hor	74.00	3	-24.12
F _{HIGH}	2480	Bluetooth LE	4960	41.03	avg	hor	54.00	3	-12.97
F _{HIGH}	2480	Bluetooth LE	4960	49.74	pk	hor	74.00	3	-24.26
F _{MID}	2442	Bluetooth LE	4960	41.03	avg	hor	54.00	3	-12.97
F _{MID}	2442	Bluetooth LE	4879	56.41	pk	ver	74.00	3	-17.59
F _{MID}	2442	Bluetooth LE	4879	47.60	avg	ver	54.00	3	-06.40
F _{MID}	2442	Bluetooth LE	4879	58.65	pk	hor	74.00	3	-15.35
F _{MID}	2442	Bluetooth LE	4879	50.09	avg	hor	54.00	3	-03.91
F _{LOW}	2402	Bluetooth LE	4805	56.76	pk	ver	74.00	3	-17.24
F _{LOW}	2402	Bluetooth LE	4805	47.54	avg	ver	54.00	3	-06.46
F _{LOW}	2402	Bluetooth LE	4805	54.62	pk	hor	74.00	3	-19.38
F _{LOW}	2402	Bluetooth LE	4805	44.87	avg	hor	54.00	3	-09.13
Comments: * Physical distance between EUT and measurement antenna.									

3.9 Test Conditions and Results – Receiver radiated emissions

Receiver radiated emissions acc. IC RSS-210				Verdict: PASS
Test according referenced standards	Reference Method			
	IC RSS-210 A8.5			
Test according to measurement reference	Reference Method			
	ANSI C63.4			
Test frequency range	Tested frequencies			
	30 MHz – 3 th Harmonic			
EUT test mode	Receive			
Limits				
Frequency range [MHz]	Detector	Limit [μV/m]	Limit [dBμV/m]	Limit Distance [m]
30 – 88	Quasi-Peak	100	40	3
88 – 216	Quasi-Peak	150	43.5	3
216 – 960	Quasi-Peak	200	46	3
960 – 1000	Quasi-Peak	500	54	3
> 1000	Average	500	54	3
Test setup				
				

Test procedure							
1. EUT set to receive mode (Communication tester is used if needed) 2. Span it set according to measurement range 3. Resolution bandwidth below 1 GHz is set according to CISPR 16 with peak/quasi-peak detector and RBW of 1 MHz with peak/average detector is used above 1 GHz 4. Markers are set to peak emission levels							
Test results							
Channel	Frequency [MHz]	Emission [MHz]	Emission Level [db μ V/m]	Emission Level [μ V/m]	Det.	Limit [μ V/m]	Margin [μ V/m]
F _{MID}	2440	888	29.58	30.1	pk	200	-169.90
Comments: * Physical distance between EUT and measurement antenna. ** Emission level corresponds to ambient noise floor							

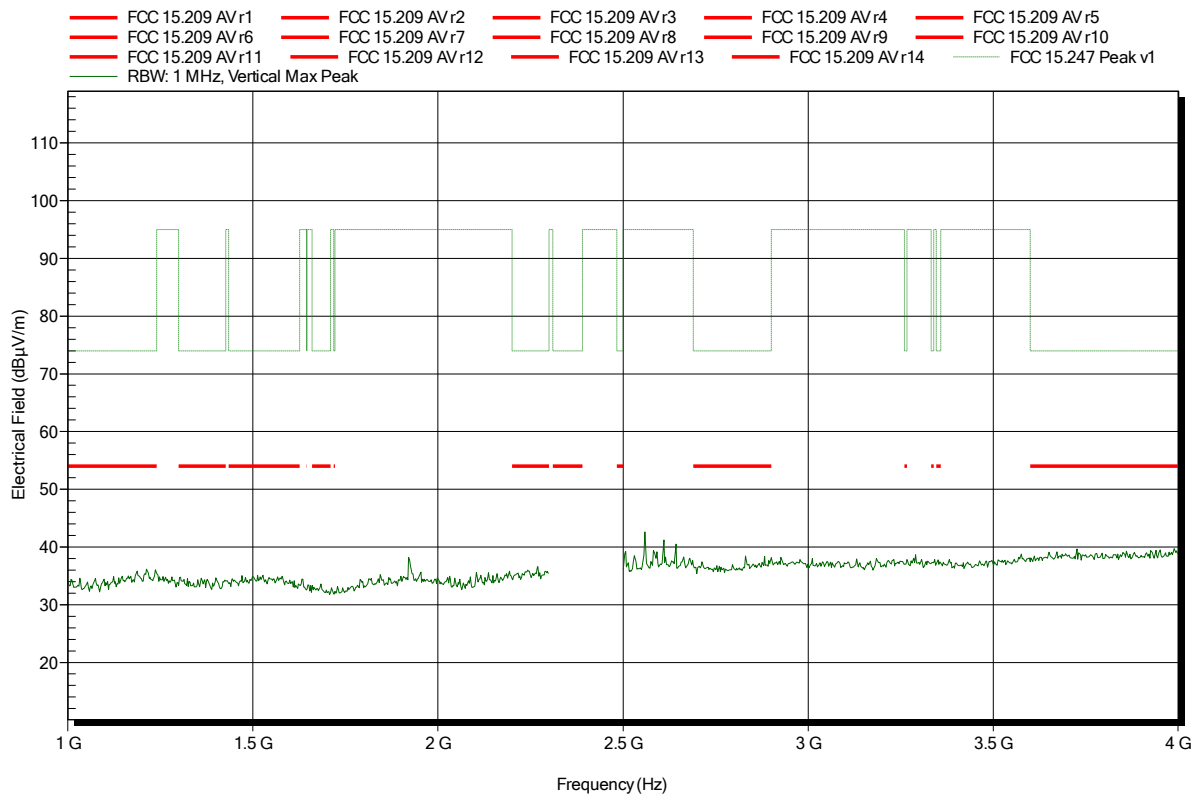
ANNEX A Transmitter radiated spurious emissions

Spurious emissions according to FCC 15.247

Project number: G0M-1406-3920

Applicant: GN Netcom A/S
 EUT Name: Bluetooth headset
 Model: Jabra / OTE20
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Handrik
 Test Conditions: Tnom: 22°C, Vnom: 3.7V DC (battery)
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 3 m
 Mode: TX; Bluetooth LE; Ch.: 0
 Test Date: 2014-06-24
 Note:

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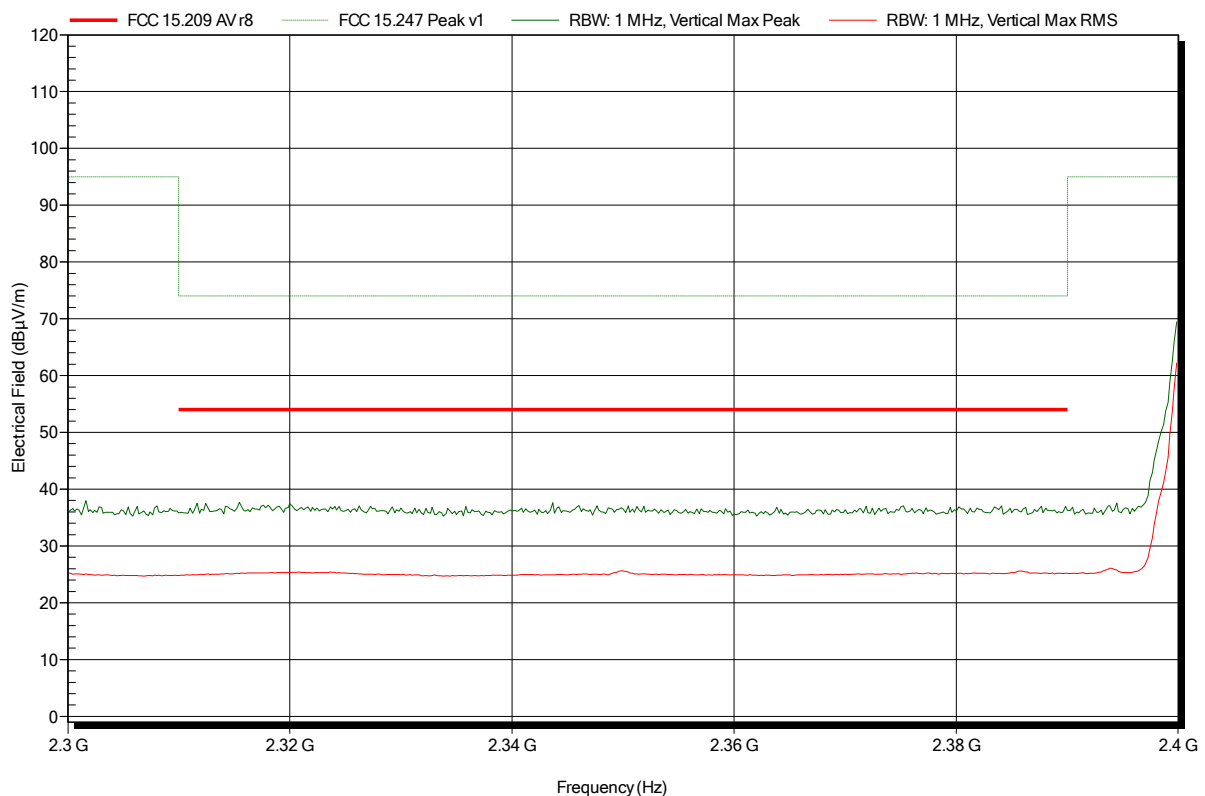


Spurious emissions according to FCC 15.247

Project number: GOM-1406-3920

Applicant: GN Netcom A/S
 EUT Name: Bluetooth headset
 Model: Jabra / OTE20
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Handrik
 Test Conditions: Tnom: 22°C, Vnom: 3.7V DC (battery)
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 3 m
 Mode: TX; Bluetooth LE; Ch.: 0
 Test Date: 2014-06-24
 Note: lower bandedge

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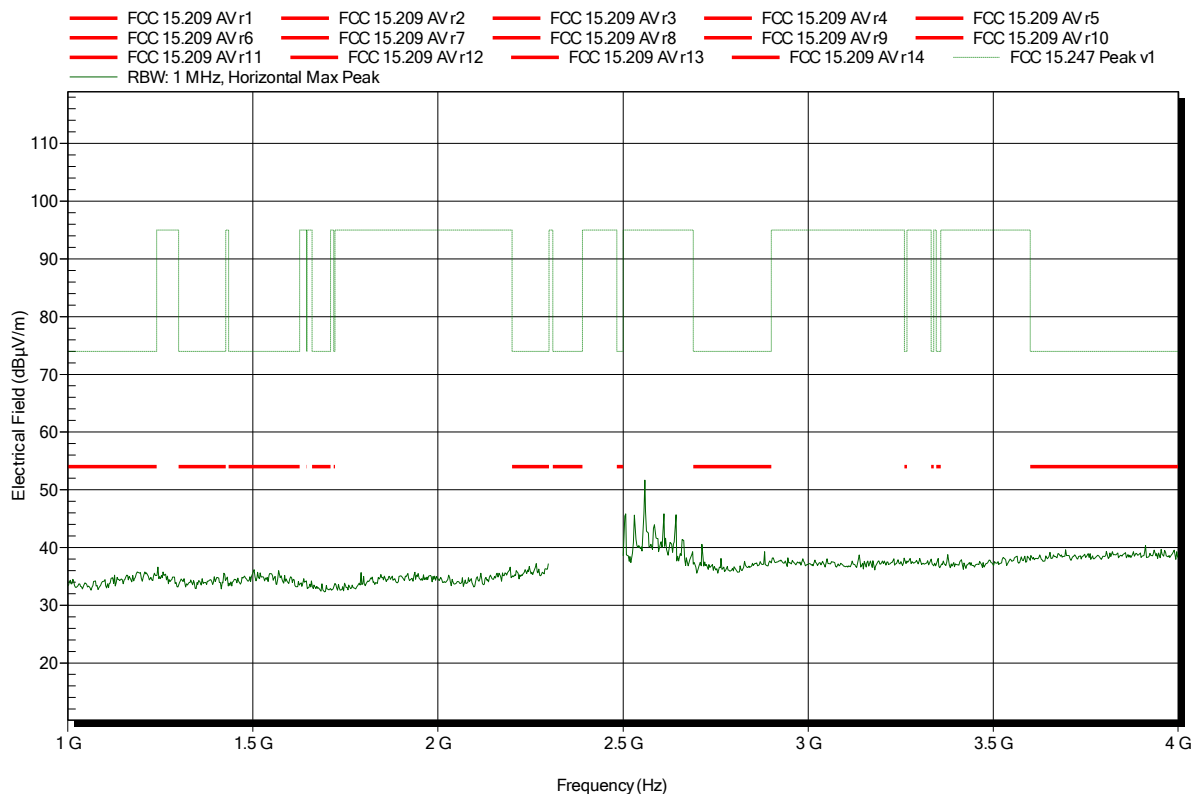


Spurious emissions according to FCC 15.247

Project number: GOM-1406-3920

Applicant: GN Netcom A/S
 EUT Name: Bluetooth headset
 Model: Jabra / OTE20
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Handrik
 Test Conditions: Tnom: 22°C, Vnom: 3.7V DC (battery)
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 3 m
 Mode: TX; Bluetooth LE; Ch.: 0
 Test Date: 2014-06-24
 Note:

Index 7

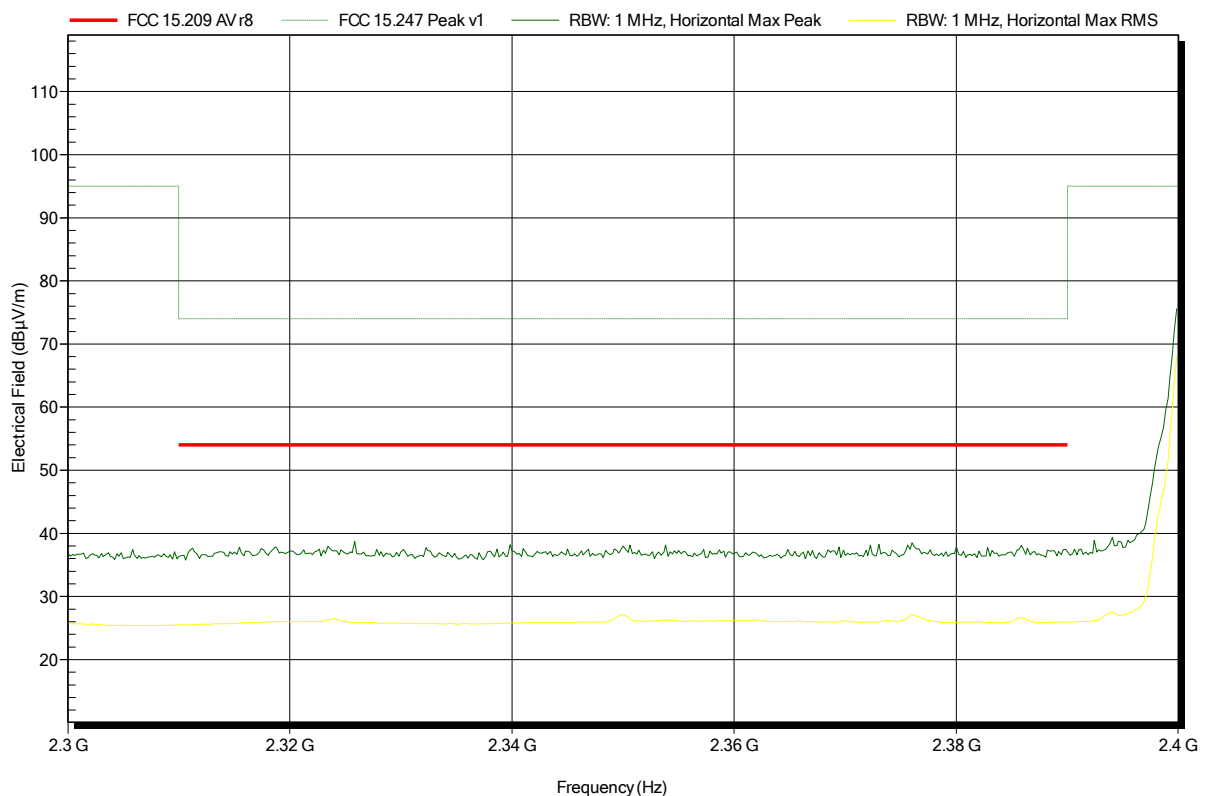


Spurious emissions according to FCC 15.247

Project number: GOM-1406-3920

Applicant:	GN Netcom A/S
EUT Name:	Bluetooth headset
Model:	Jabra / OTE20
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 22°C, Vnom: 3.7V DC (battery)
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	3 m
Mode:	TX; Bluetooth LE; Ch.: 0
Test Date:	2014-06-24
Note:	lower bandedge

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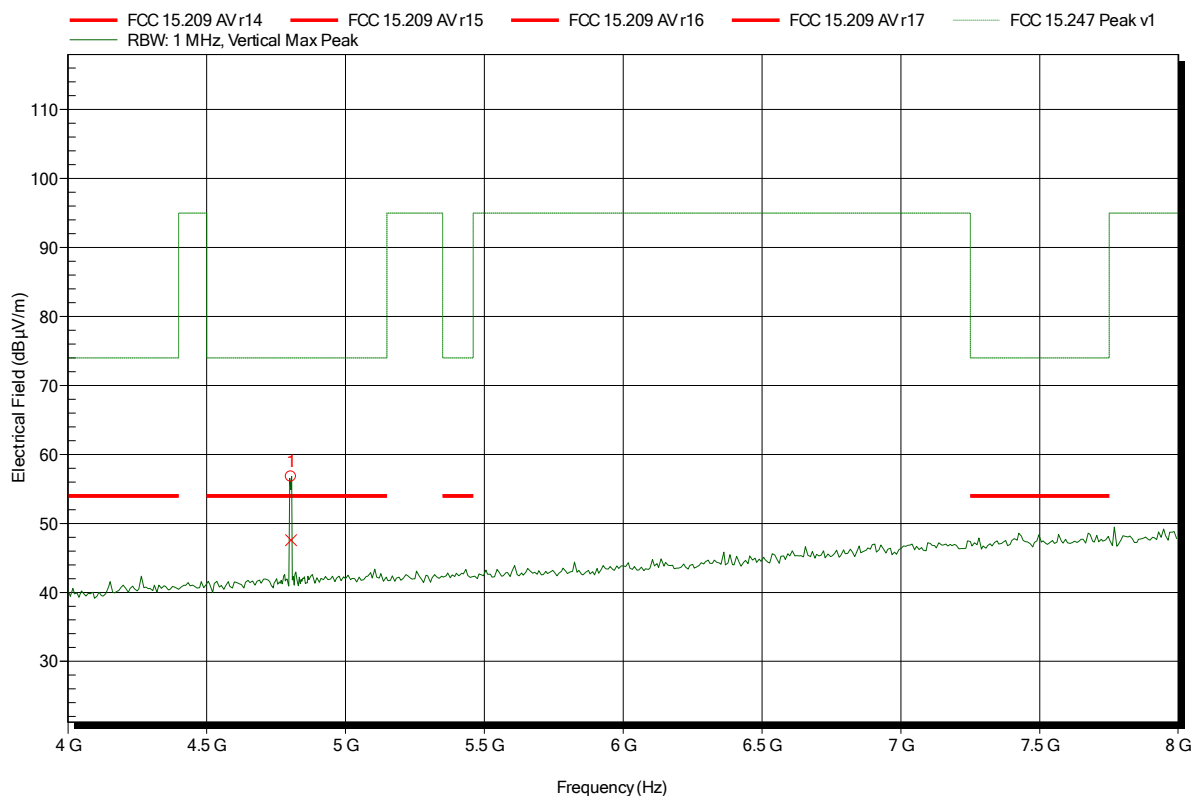


Spurious emissions according to FCC 15.247

Project number: G0M-1406-3920

Applicant: GN Netcom A/S
 EUT Name: Bluetooth headset
 Model: Jabra / OTE20
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Handrik
 Test Conditions: Tnom: 22°C, Vnom: 3.7V DC (battery)
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 3 m
 Mode: TX; Bluetooth LE; Ch.: 0
 Test Date: 2014-06-24
 Note:

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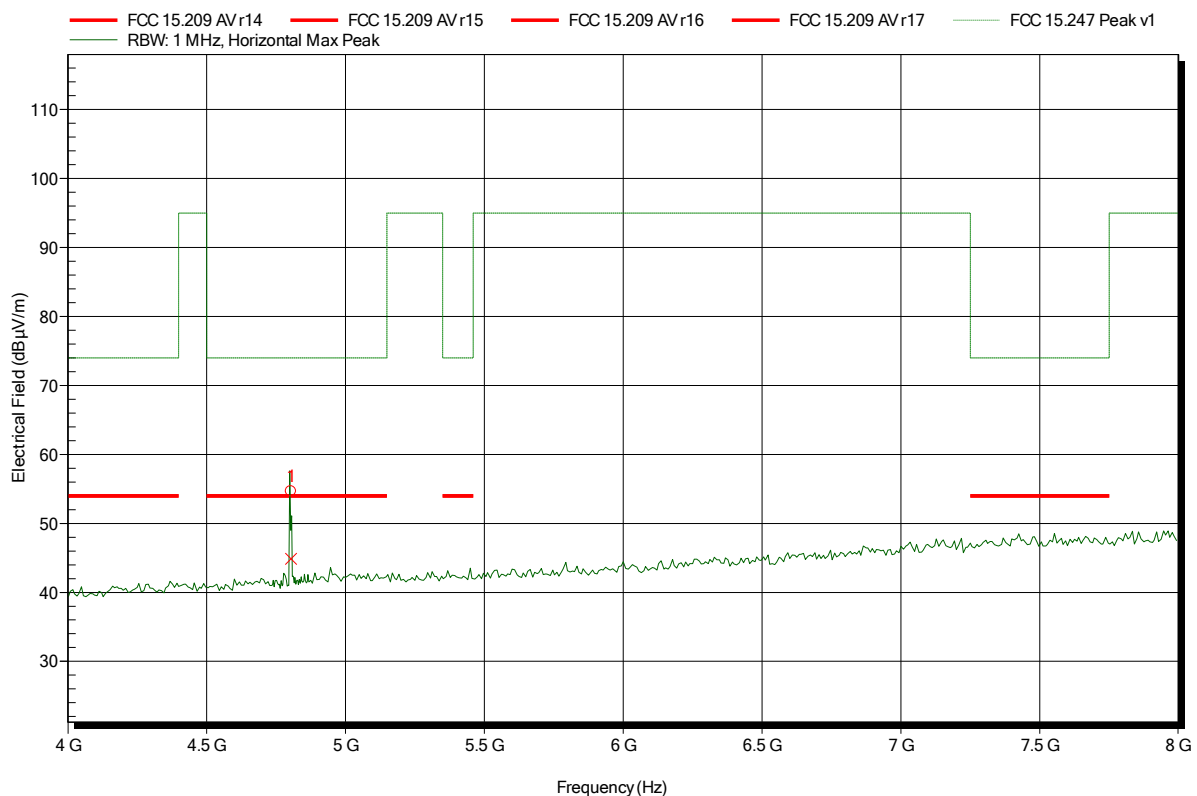
Frequency 4.805 GHz	Peak 56.76 dBµV/m	Peak Limit 74 dBµV/m	Peak Difference -17.24 dB	Peak Status Pass
Frequency 4.805 GHz	Average 47.54 dBµV/m	Average Limit 54 dBµV/m	Average Difference -6.46 dB	Average Status Pass

Spurious emissions according to FCC 15.247

Project number: GOM-1406-3920

Applicant: GN Netcom A/S
 EUT Name: Bluetooth headset
 Model: Jabra / OTE20
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Handrik
 Test Conditions: Tnom: 22°C, Vnom: 3.7V DC (battery)
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 3 m
 Mode: TX; Bluetooth LE; Ch.: 0
 Test Date: 2014-06-24
 Note:

Index 15



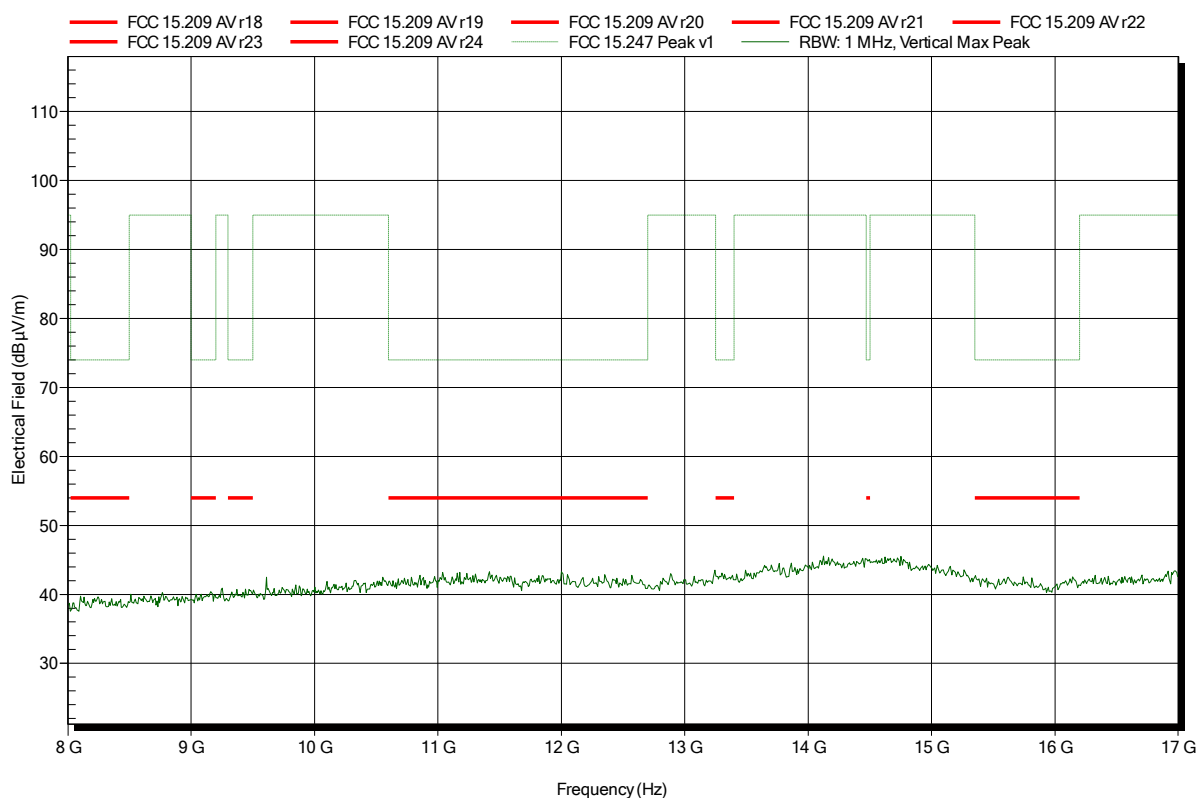
Frequency 4.805 GHz	Peak 54.62 dBµV/m	Peak Limit 74 dBµV/m	Peak Difference -19.38 dB	Peak Status Pass
Frequency 4.805 GHz	Average 44.87 dBµV/m	Average Limit 54 dBµV/m	Average Difference -9.13 dB	Average Status Pass

Spurious emissions according to FCC 15.247

Project number: GOM-1406-3920

Applicant: GN Netcom A/S
 EUT Name: Bluetooth headset
 Model: Jabra / OTE20
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Handrik
 Test Conditions: Tnom: 22°C, Vnom: 3.7V DC (battery)
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m converted to 3m
 Mode: TX; Bluetooth LE; Ch.: 0
 Test Date: 2014-06-24
 Note:

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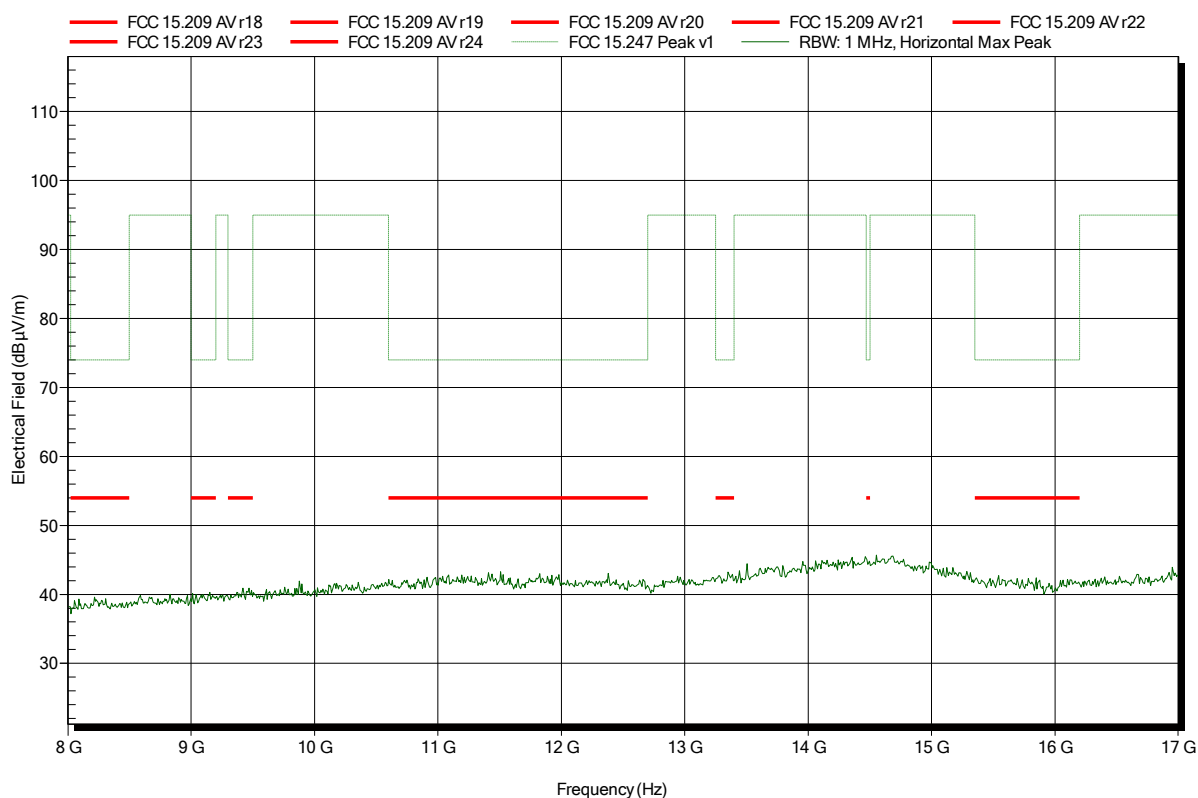


Spurious emissions according to FCC 15.247

Project number: GOM-1406-3920

Applicant: GN Netcom A/S
 EUT Name: Bluetooth headset
 Model: Jabra / OTE20
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Handrik
 Test Conditions: Tnom: 22°C, Vnom: 3.7V DC (battery)
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; Bluetooth LE; Ch.: 0
 Test Date: 2014-06-24
 Note:

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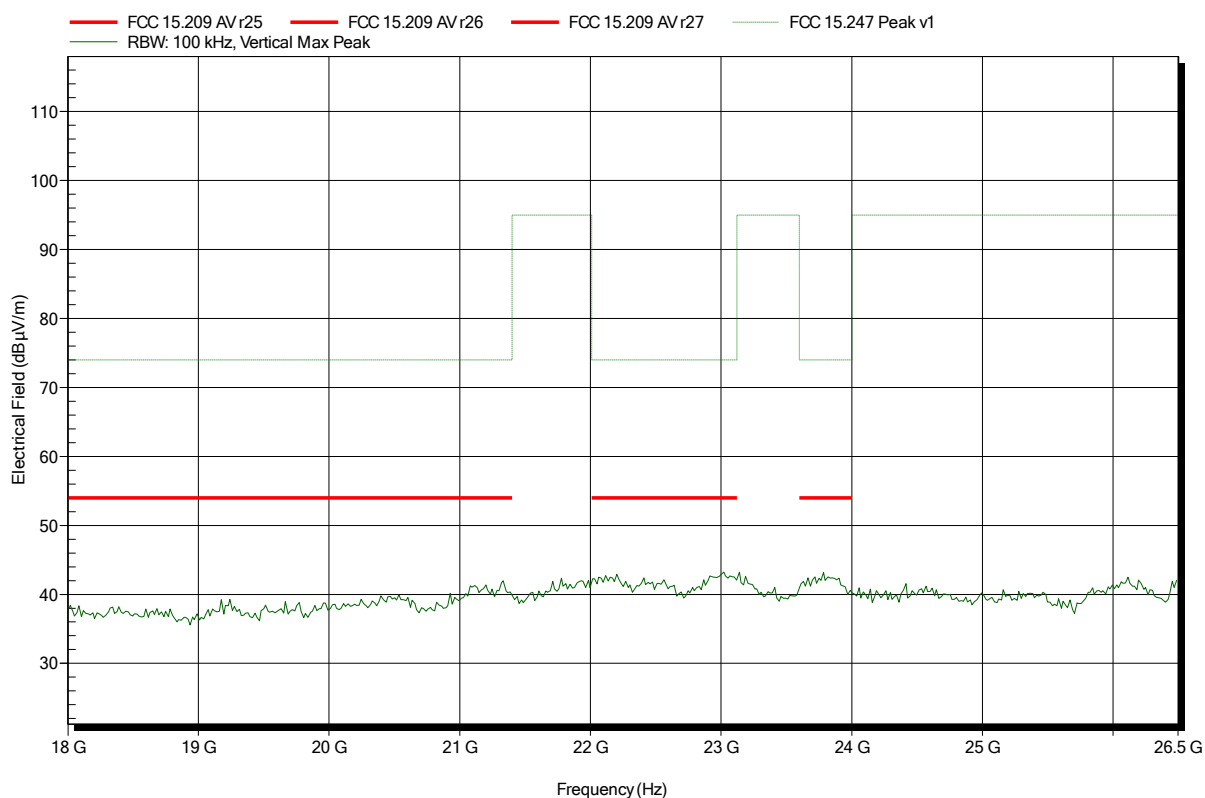


Spurious emissions according to FCC 15.247

Project number: GOM-1406-3920

Applicant: GN Netcom A/S
 EUT Name: Bluetooth headset
 Model: Jabra / OTE20
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Handrik
 Test Conditions: Tnom: 22°C, Vnom: 3.7V DC (battery)
 Antenna: Rohde & Schwarz HL 025, Vertical
 Measurement distance: 1 m
 Mode: TX; Bluetooth LE; Ch.: 0
 Test Date: 2014-06-24
 Note:

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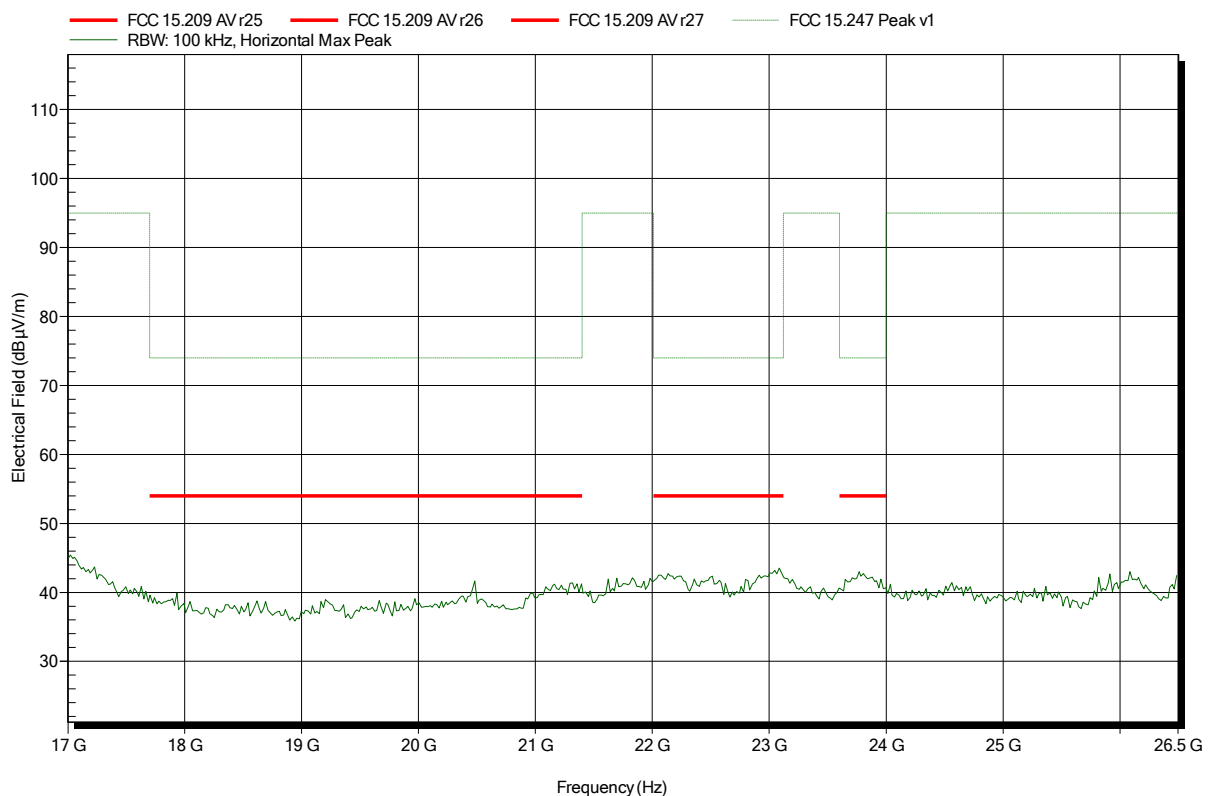


Spurious emissions according to FCC 15.247

Project number: GOM-1406-3920

Applicant:	GN Netcom A/S
EUT Name:	Bluetooth headset
Model:	Jabra / OTE20
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 22°C, Vnom: 3.7V DC (battery)
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	1 m
Mode:	TX; Bluetooth LE; Ch.: 0
Test Date:	2014-06-24
Note:	

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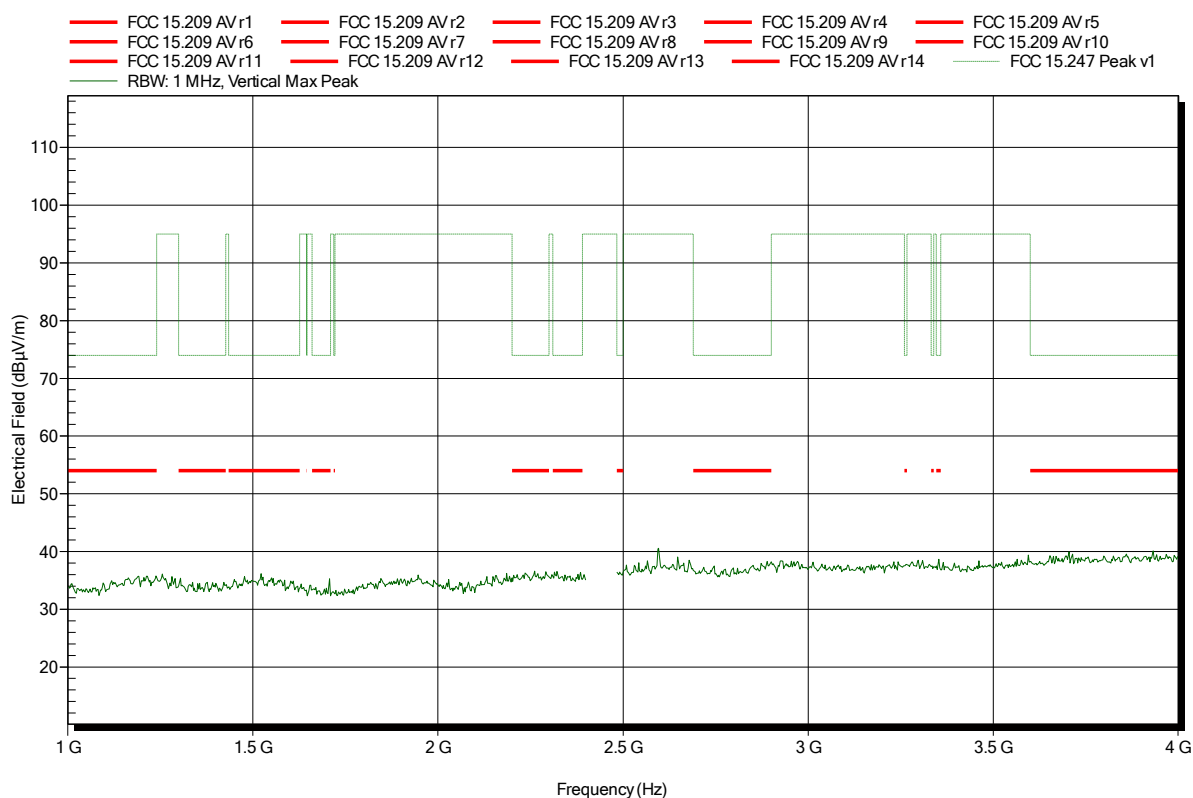


Spurious emissions according to FCC 15.247

Project number: GOM-1406-3920

Applicant: GN Netcom A/S
 EUT Name: Bluetooth headset
 Model: Jabra / OTE20
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Handrik
 Test Conditions: Tnom: 22°C, Vnom: 3.7V DC (battery)
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 3 m
 Mode: TX; Bluetooth LE; Ch.: 19
 Test Date: 2014-06-25
 Note:

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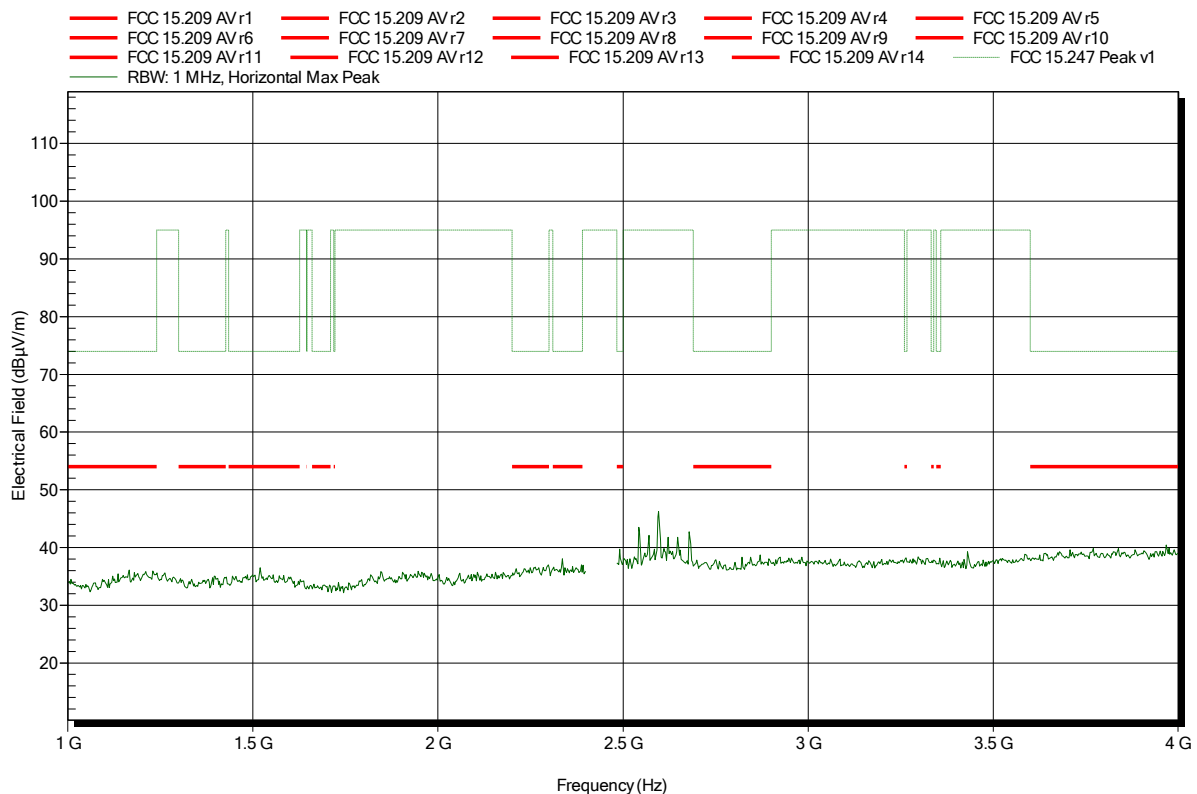


Spurious emissions according to FCC 15.247

Project number: GOM-1406-3920

Applicant: GN Netcom A/S
 EUT Name: Bluetooth headset
 Model: Jabra / OTE20
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Handrik
 Test Conditions: Tnom: 22°C, Vnom: 3.7V DC (battery)
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 3 m
 Mode: TX; Bluetooth LE; Ch.: 19
 Test Date: 2014-06-25
 Note:

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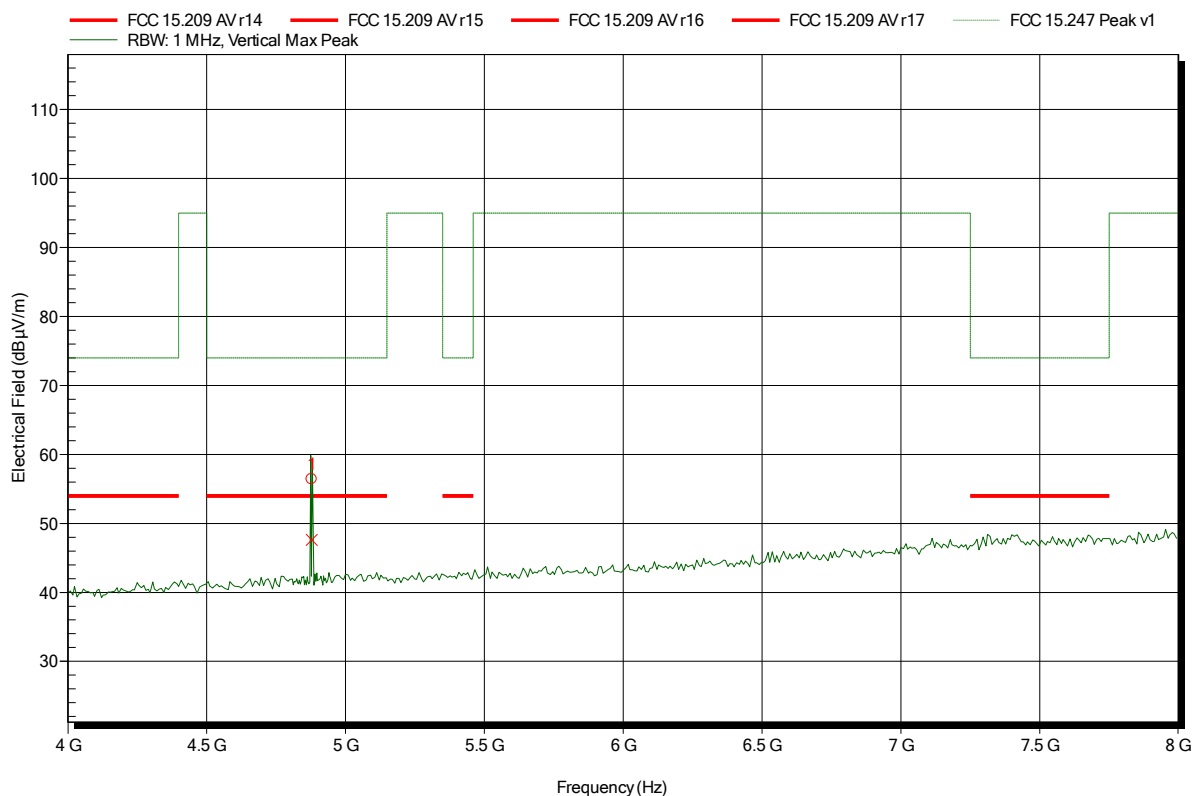


Spurious emissions according to FCC 15.247

Project number: G0M-1406-3920

Applicant: GN Netcom A/S
 EUT Name: Bluetooth headset
 Model: Jabra / OTE20
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Handrik
 Test Conditions: Tnom: 22°C, Vnom: 3.7V DC (battery)
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 3 m
 Mode: TX; Bluetooth LE; Ch.: 19
 Test Date: 2014-06-24
 Note:

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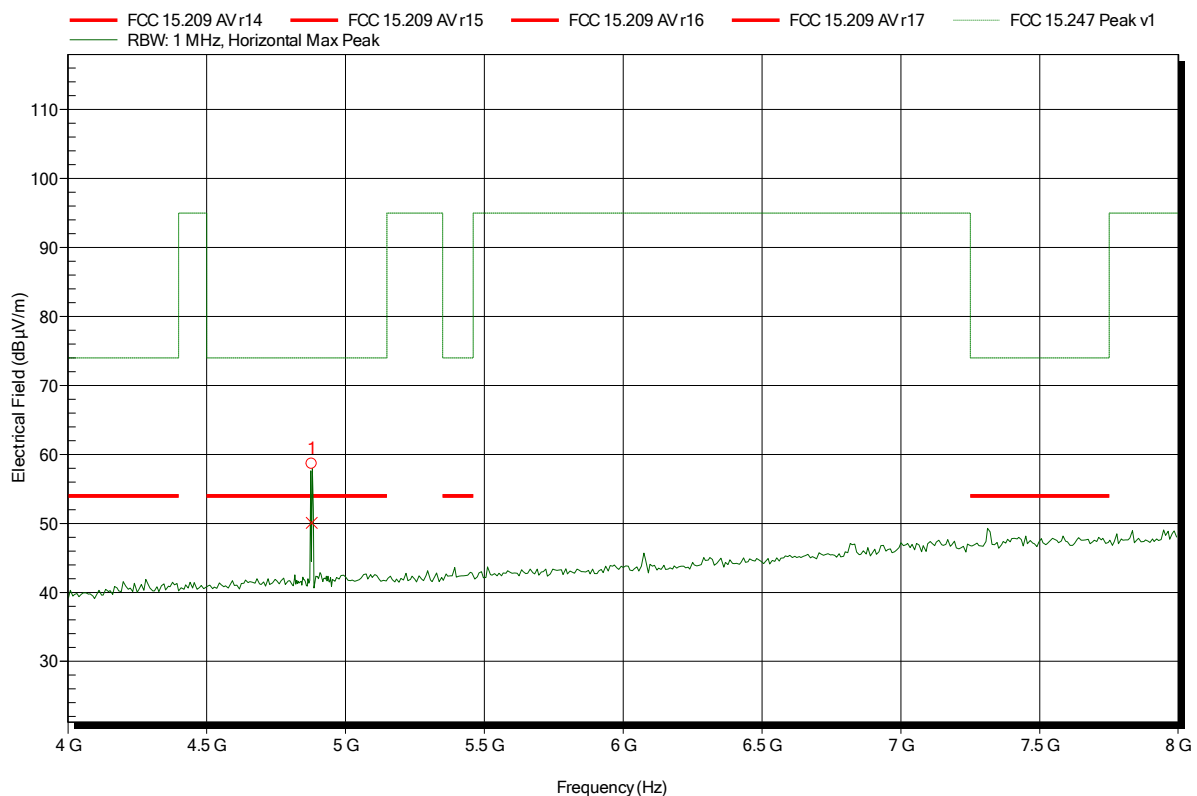
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
4.879 GHz	56.41 dBµV/m	74 dBµV/m	-17.59 dB	Pass
Frequency	Average	Average Limit	Average Difference	Average Status
4.879 GHz	47.6 dBµV/m	54 dBµV/m	-6.4 dB	Pass

Spurious emissions according to FCC 15.247

Project number: GOM-1406-3920

Applicant: GN Netcom A/S
 EUT Name: Bluetooth headset
 Model: Jabra / OTE20
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Handrik
 Test Conditions: Tnom: 22°C, Vnom: 3.7V DC (battery)
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 3 m
 Mode: TX; Bluetooth LE; Ch.: 19
 Test Date: 2014-06-24
 Note:

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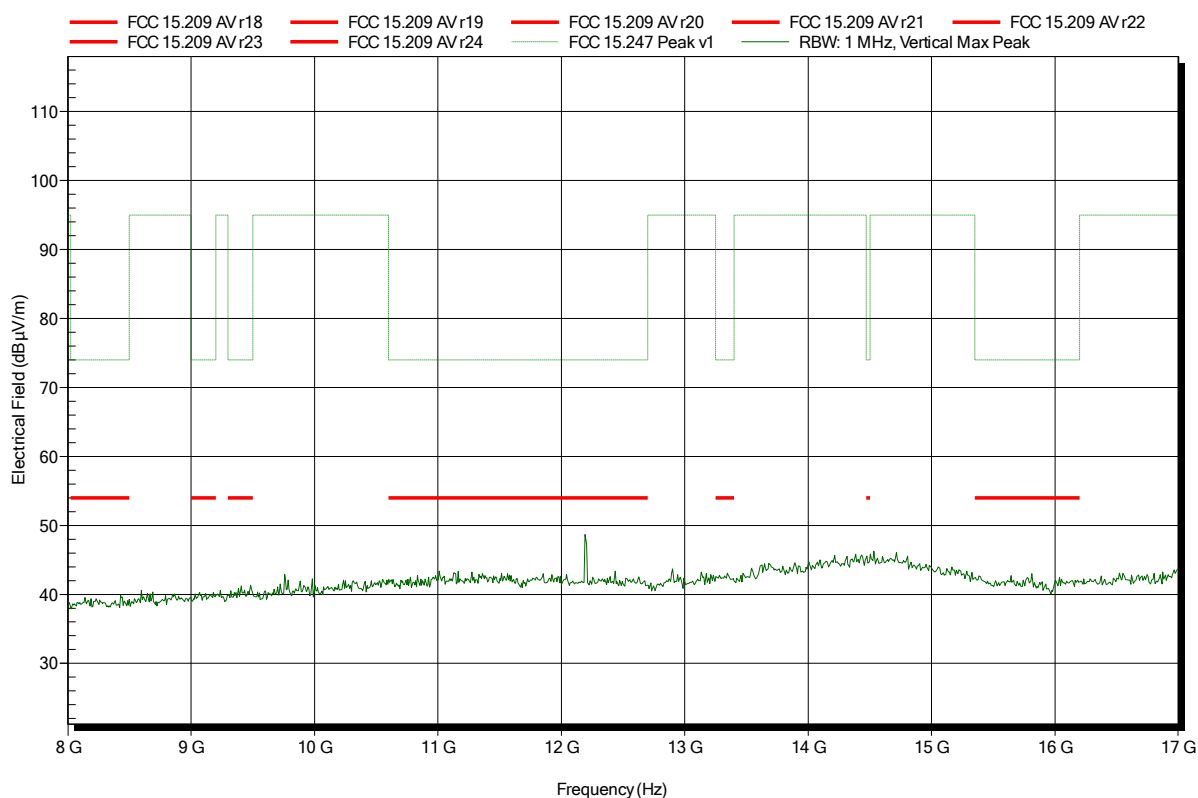
Frequency 4.879 GHz	Peak 58.65 dBµV/m	Peak Limit 74 dBµV/m	Peak Difference -15.35 dB	Peak Status Pass
Frequency 4.879 GHz	Average 50.09 dBµV/m	Average Limit 54 dBµV/m	Average Difference -3.91 dB	Average Status Pass

Spurious emissions according to FCC 15.247

Project number: GOM-1406-3920

Applicant: GN Netcom A/S
 EUT Name: Bluetooth headset
 Model: Jabra / OTE20
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Handrik
 Test Conditions: Tnom: 22°C, Vnom: 3.7V DC (battery)
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m converted to 3m
 Mode: TX; Bluetooth LE; Ch.: 19
 Test Date: 2014-06-24
 Note:

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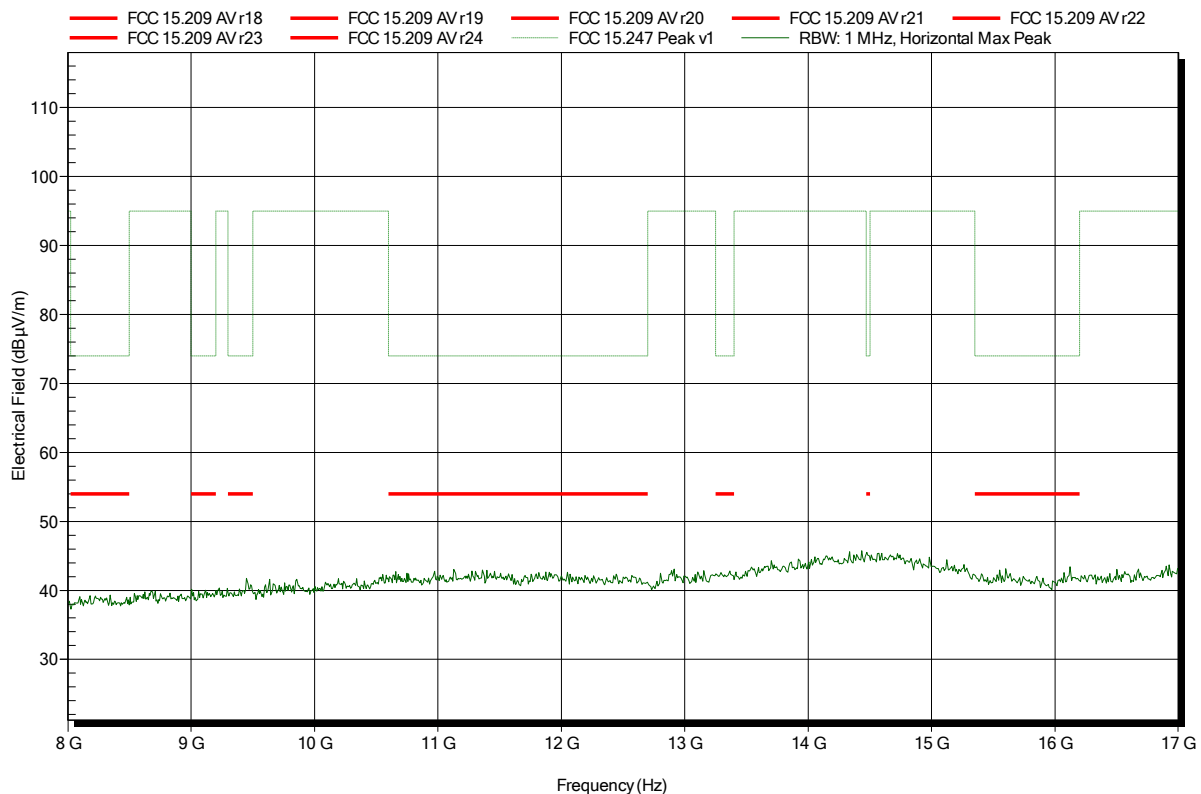


Spurious emissions according to FCC 15.247

Project number: G0M-1406-3920

Applicant: GN Netcom A/S
 EUT Name: Bluetooth headset
 Model: Jabra / OTE20
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Handrik
 Test Conditions: Tnom: 22°C, Vnom: 3.7V DC (battery)
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; Bluetooth LE; Ch.: 19
 Test Date: 2014-06-24
 Note:

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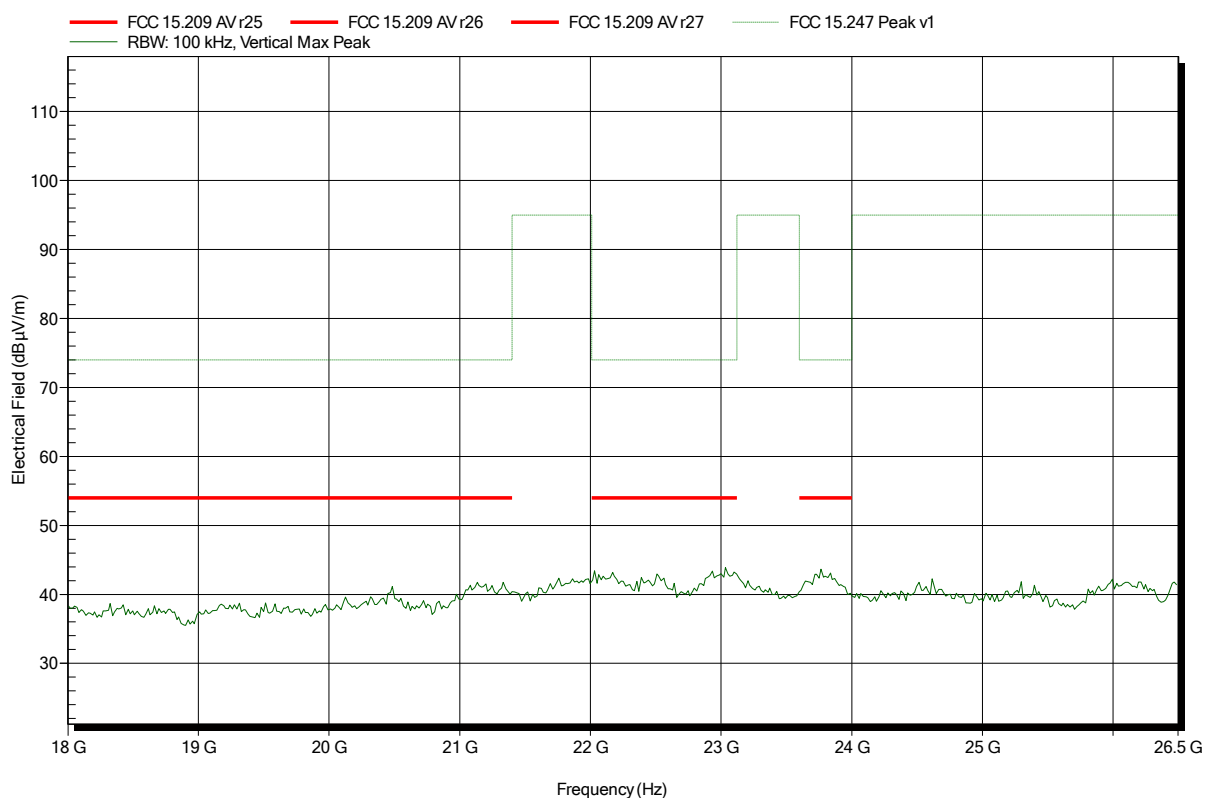


Spurious emissions according to FCC 15.247

Project number: GOM-1406-3920

Applicant: GN Netcom A/S
 EUT Name: Bluetooth headset
 Model: Jabra / OTE20
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Handrik
 Test Conditions: Tnom: 22°C, Vnom: 3.7V DC (battery)
 Antenna: Rohde & Schwarz HL 025, Vertical
 Measurement distance: 1 m
 Mode: TX; Bluetooth LE; Ch.: 19
 Test Date: 2014-06-24
 Note:

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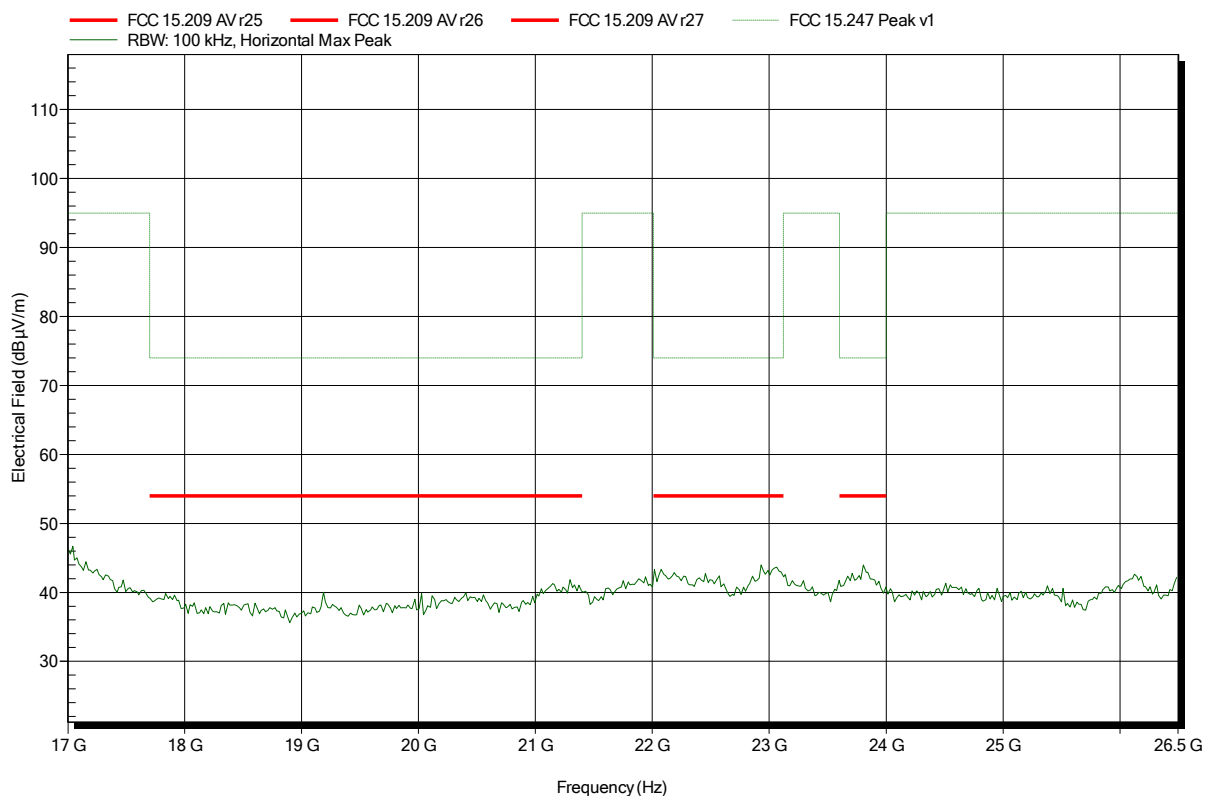


Spurious emissions according to FCC 15.247

Project number: GOM-1406-3920

Applicant:	GN Netcom A/S
EUT Name:	Bluetooth headset
Model:	Jabra / OTE20
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 22°C, Vnom: 3.7V DC (battery)
Antenna:	Rohde & Schwarz HL 025, Horizontal
Measurement distance:	1 m
Mode:	TX; Bluetooth LE; Ch.: 19
Test Date:	2014-06-24
Note:	

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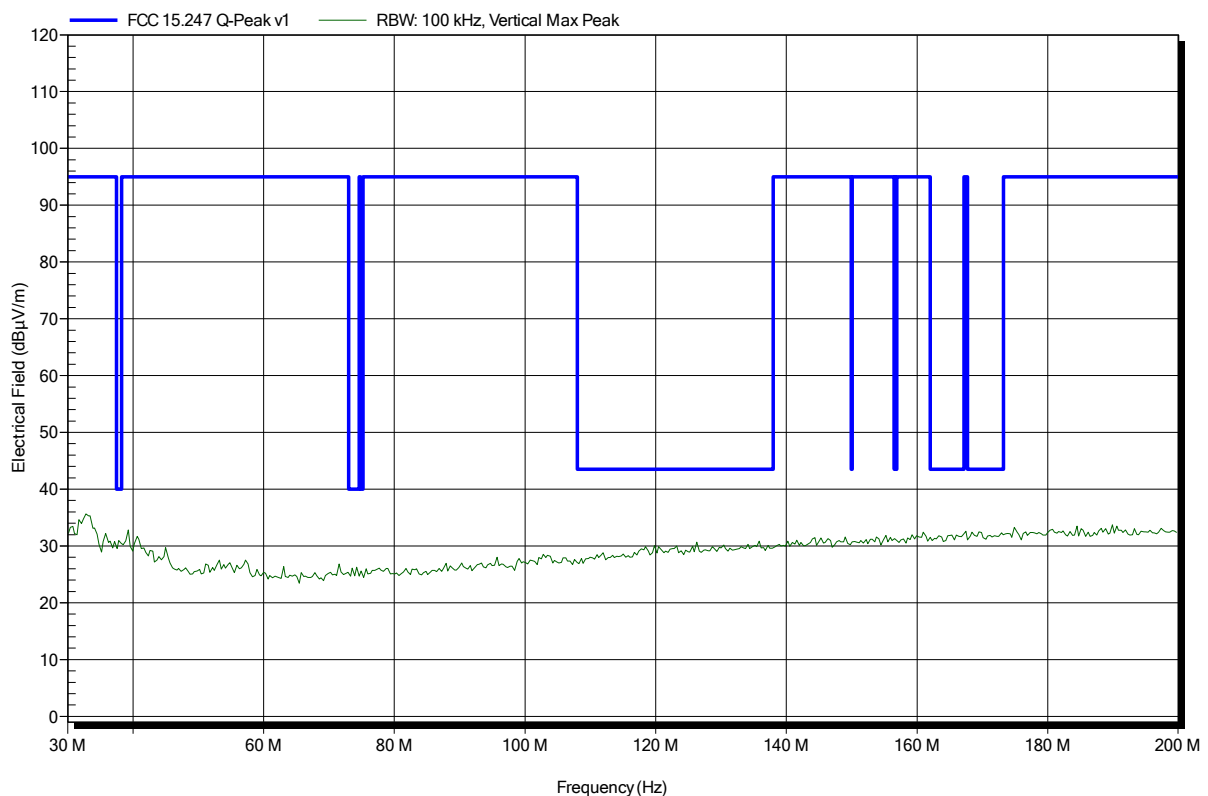


Spurious emissions according to FCC 15.247

Project number: G0M-1406-3920

Applicant:	GN Netcom A/S
EUT Name:	Bluetooth headset
Model:	Jabra / OTE20
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 22°C, Vnom: 3.7V DC (battery)
Antenna:	Rohde & Schwarz HK 116, Vertical
Measurement distance:	3 m
Mode:	TX; Bluetooth LE; Ch.: 39
Test Date:	2014-06-24
Note:	worst case

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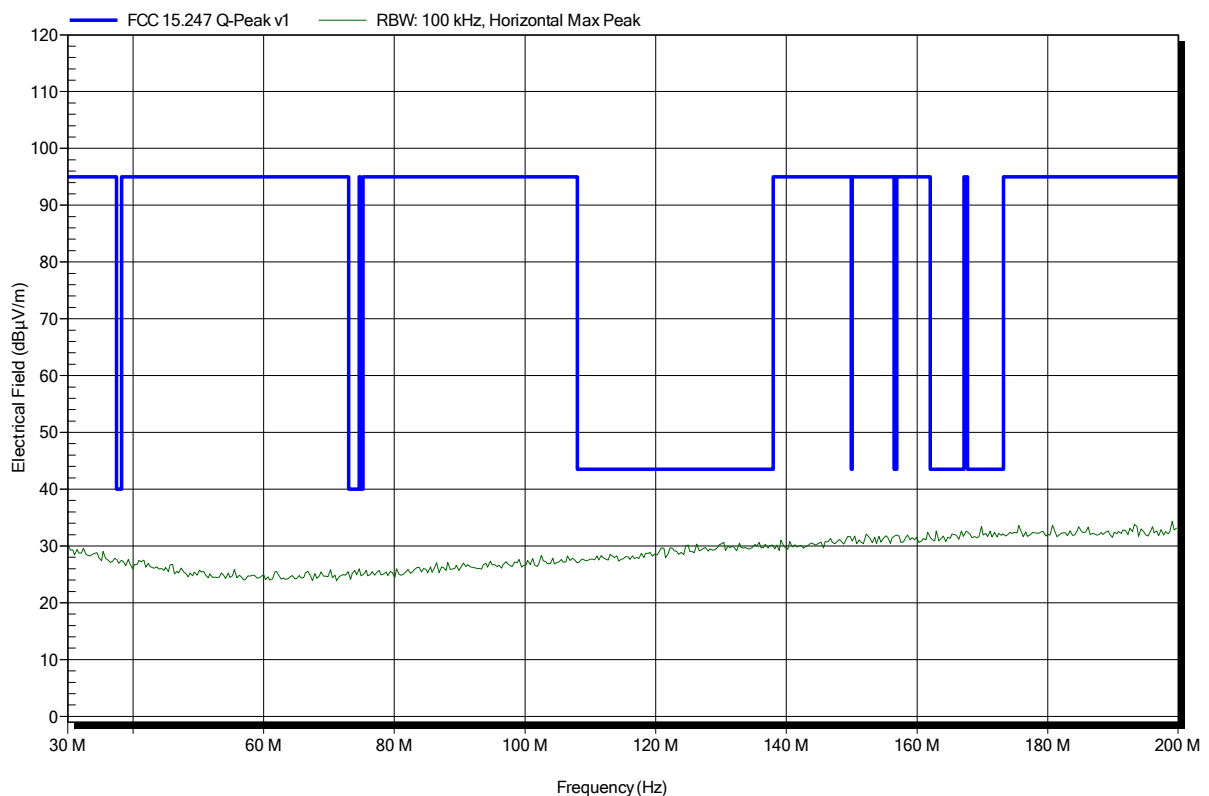


Spurious emissions according to FCC 15.247

Project number: G0M-1406-3920

Applicant:	GN Netcom A/S
EUT Name:	Bluetooth headset
Model:	Jabra / OTE20
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 22°C, Vnom: 3.7V DC (battery)
Antenna:	Rohde & Schwarz HK 116, Horizontal
Measurement distance:	3 m
Mode:	TX; Bluetooth LE; Ch.: 39
Test Date:	2014-06-24
Note:	worst case

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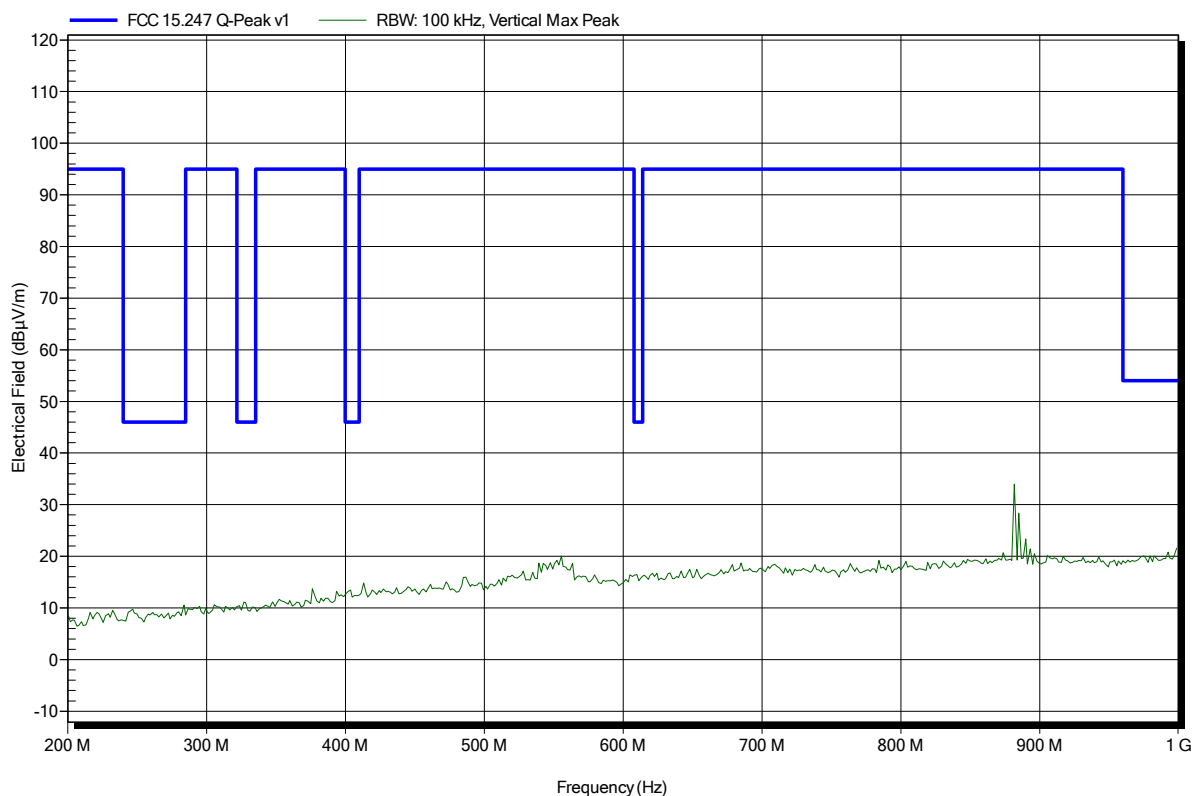


Spurious emissions according to FCC 15.247

Project number: G0M-1406-3920

Applicant:	GN Netcom A/S
EUT Name:	Bluetooth headset
Model:	Jabra / OTE20
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 22°C, Vnom: 3.7V DC (battery)
Antenna:	Rohde & Schwarz HL 223, Vertical
Measurement distance:	3 m
Mode:	TX; Bluetooth LE; Ch.: 39
Test Date:	2014-06-24
Note:	worst case

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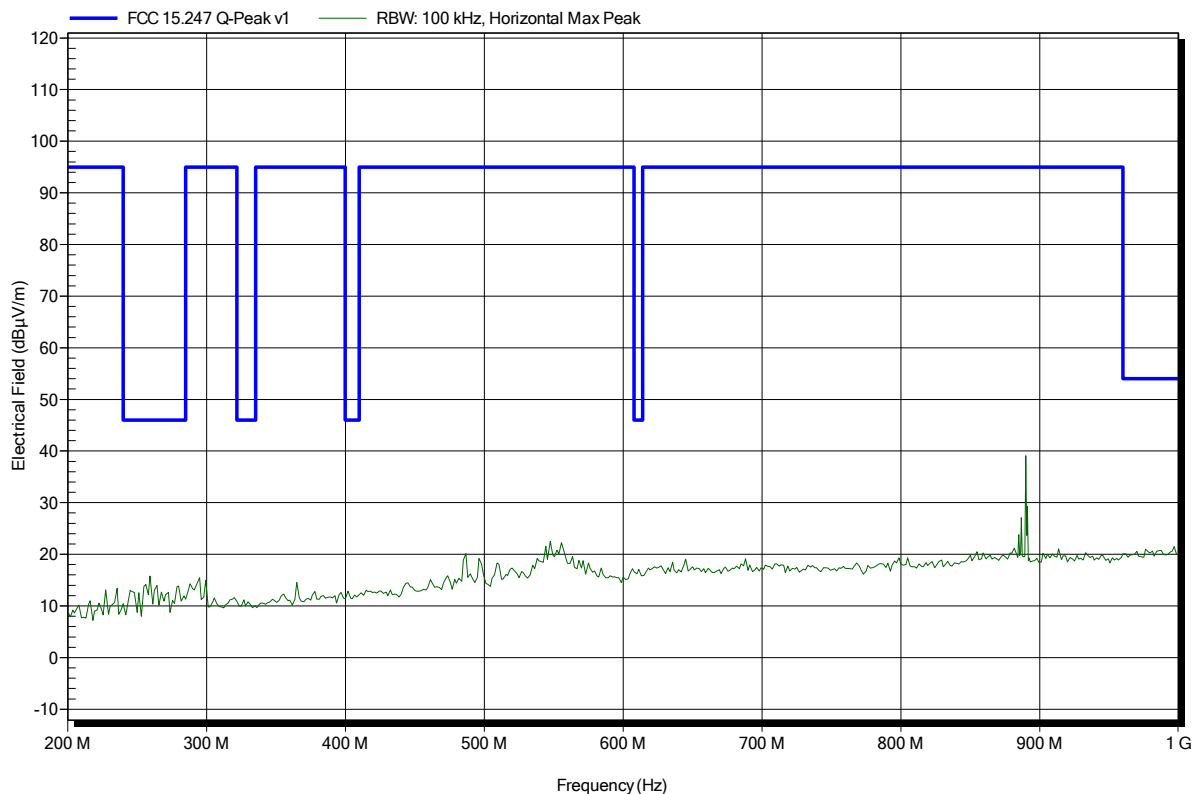


Spurious emissions according to FCC 15.247

Project number: G0M-1406-3920

Applicant:	GN Netcom A/S
EUT Name:	Bluetooth headset
Model:	Jabra / OTE20
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 22°C, Vnom: 3.7V DC (battery)
Antenna:	Rohde & Schwarz HL 223, Horizontal
Measurement distance:	3 m
Mode:	TX; Bluetooth LE; Ch.: 39
Test Date:	2014-06-24
Note:	worst case

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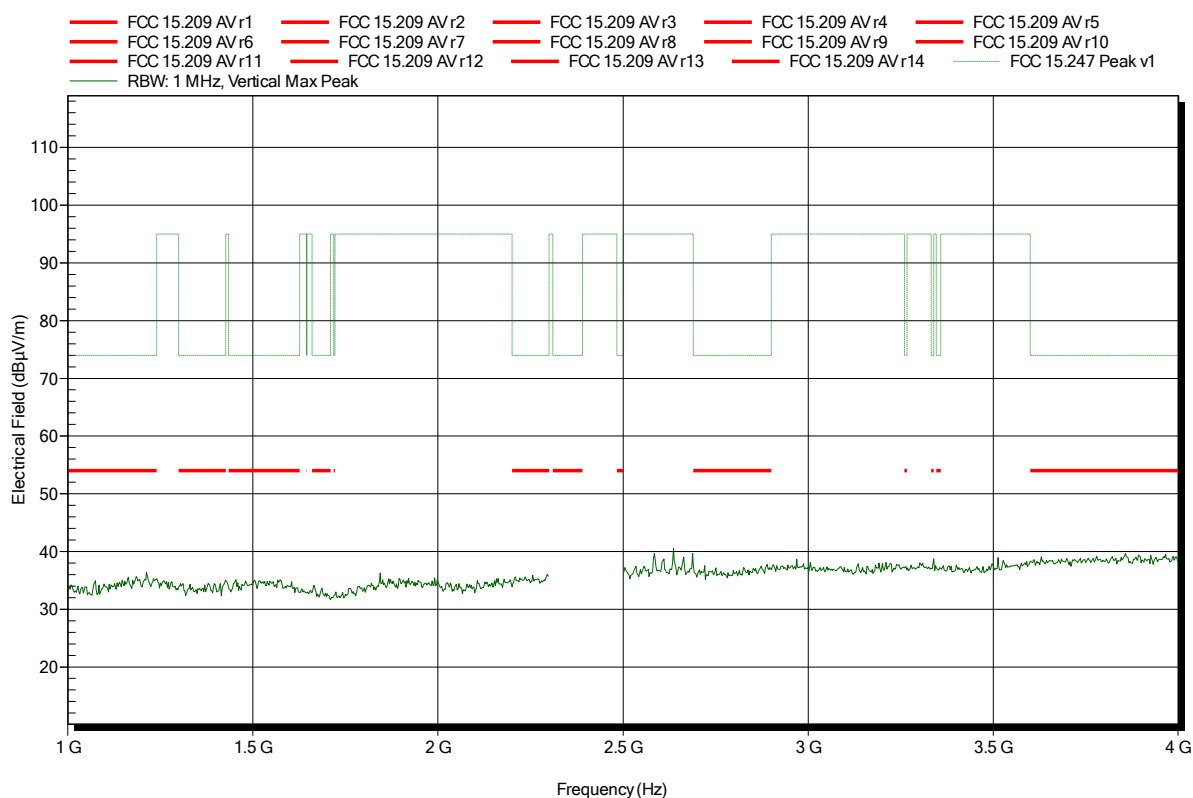


Spurious emissions according to FCC 15.247

Project number: GOM-1406-3920

Applicant: GN Netcom A/S
 EUT Name: Bluetooth headset
 Model: Jabra / OTE20
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Handrik
 Test Conditions: Tnom: 22°C, Vnom: 3.7V DC (battery)
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 3 m
 Mode: TX; Bluetooth LE; Ch.: 39
 Test Date: 2014-06-24
 Note:

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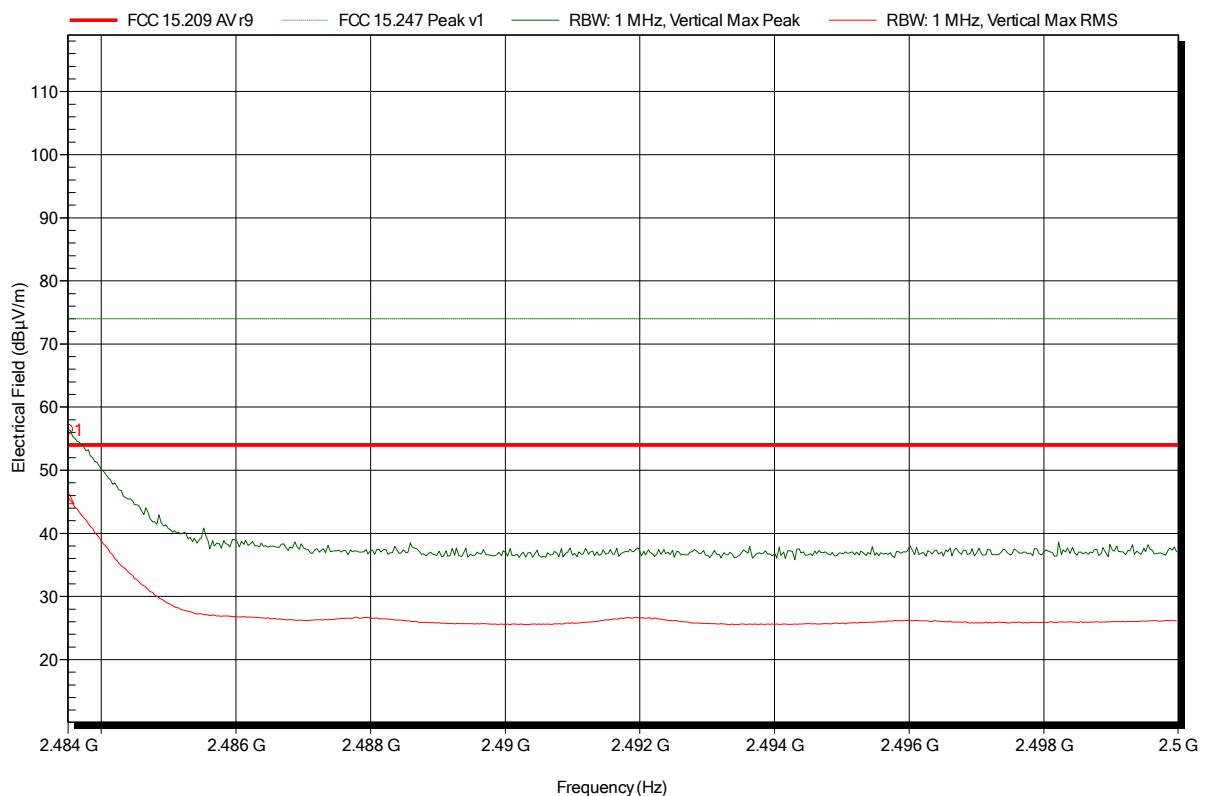


Spurious emissions according to FCC 15.247

Project number: GOM-1406-3920

Applicant: GN Netcom A/S
 EUT Name: Bluetooth headset
 Model: Jabra / OTE20
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Handrik
 Test Conditions: Tnom: 22°C, Vnom: 3.7V DC (battery)
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 3 m
 Mode: TX; Bluetooth LE; Ch.: 39
 Test Date: 2014-06-24
 Note: upper bandedge

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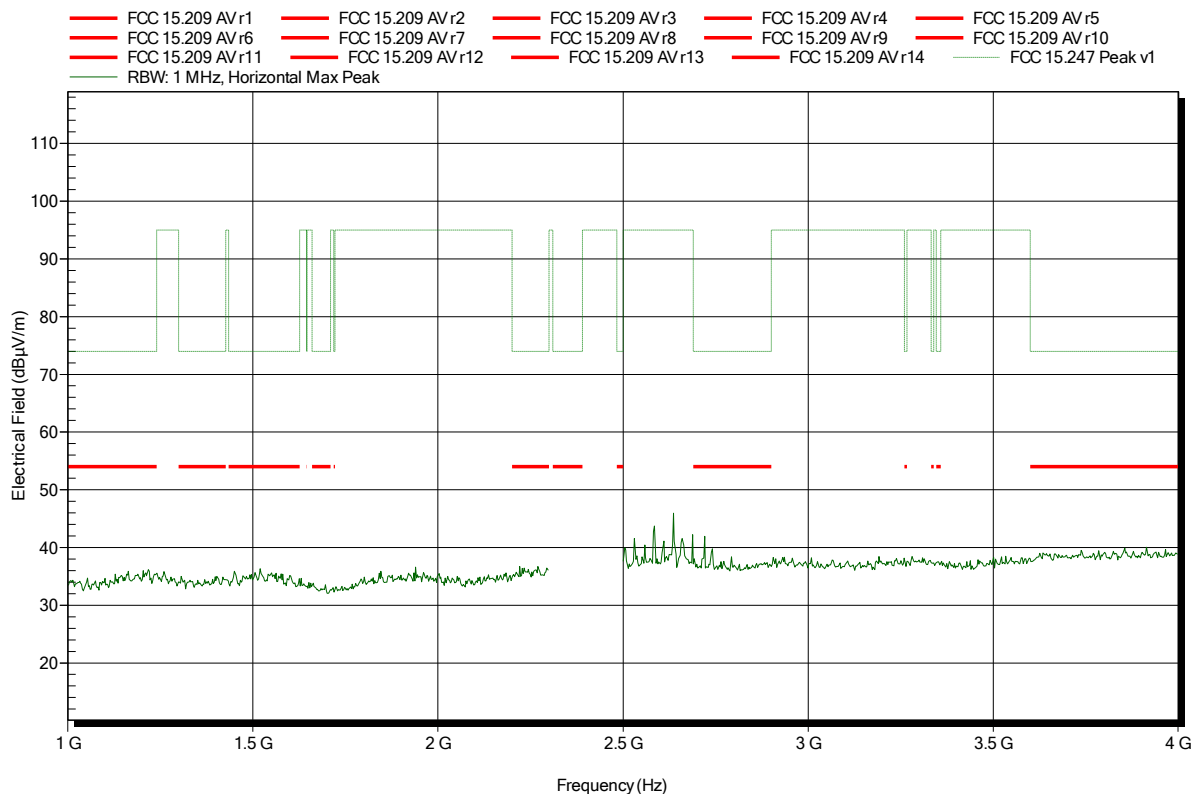
Frequency 2.4835 GHz	Peak 56.4 dBµV/m	Peak Limit 74 dBµV/m	Peak Difference -17.6 dB	Peak Status Pass
Frequency 2.4835 GHz	RMS 45.63 dBµV/m	RMS Limit 54 dBµV/m	RMS Difference -8.37 dB	RMS Status Pass

Spurious emissions according to FCC 15.247

Project number: G0M-1406-3920

Applicant: GN Netcom A/S
 EUT Name: Bluetooth headset
 Model: Jabra / OTE20
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Handrik
 Test Conditions: Tnom: 22°C, Vnom: 3.7V DC (battery)
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 3 m
 Mode: TX; Bluetooth LE; Ch.: 39
 Test Date: 2014-06-24
 Note:

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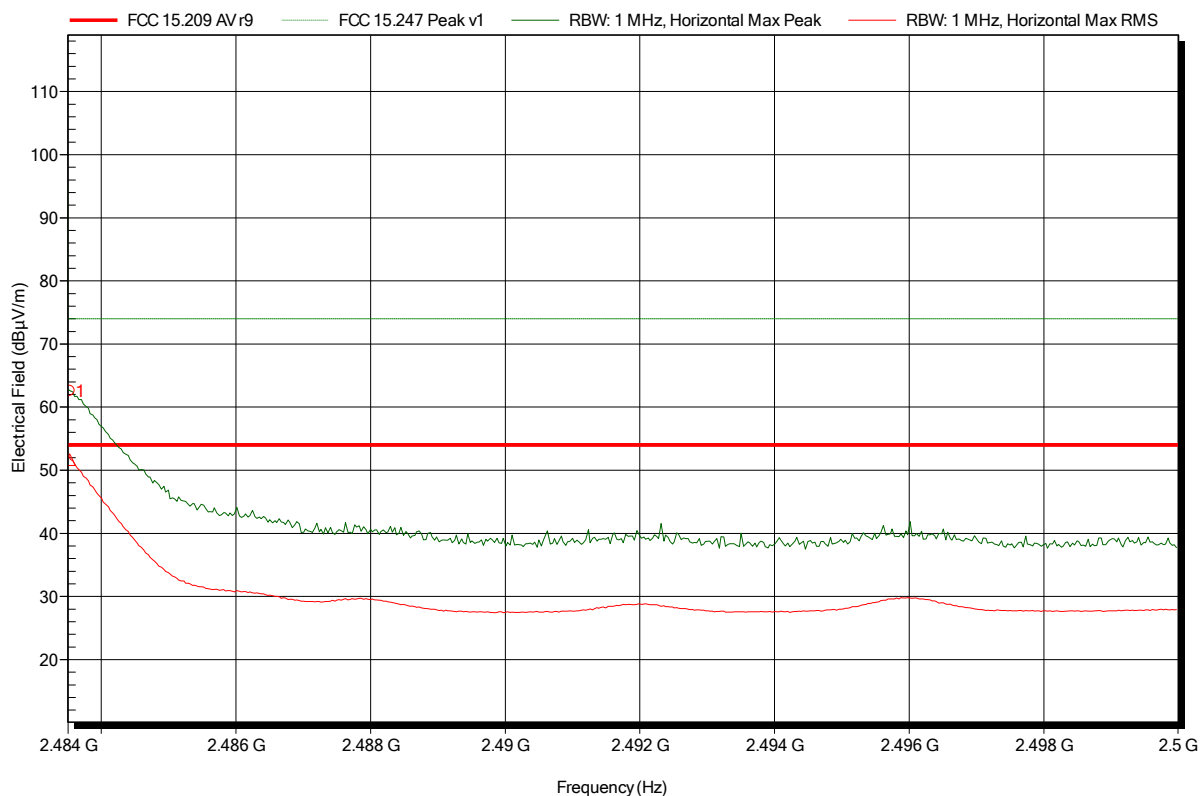


Spurious emissions according to FCC 15.247

Project number: GOM-1406-3920

Applicant: GN Netcom A/S
 EUT Name: Bluetooth headset
 Model: Jabra / OTE20
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Handrik
 Test Conditions: Tnom: 22°C, Vnom: 3.7V DC (battery)
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 3 m
 Mode: TX; Bluetooth LE; Ch.: 39
 Test Date: 2014-06-24
 Note: upper bandedge

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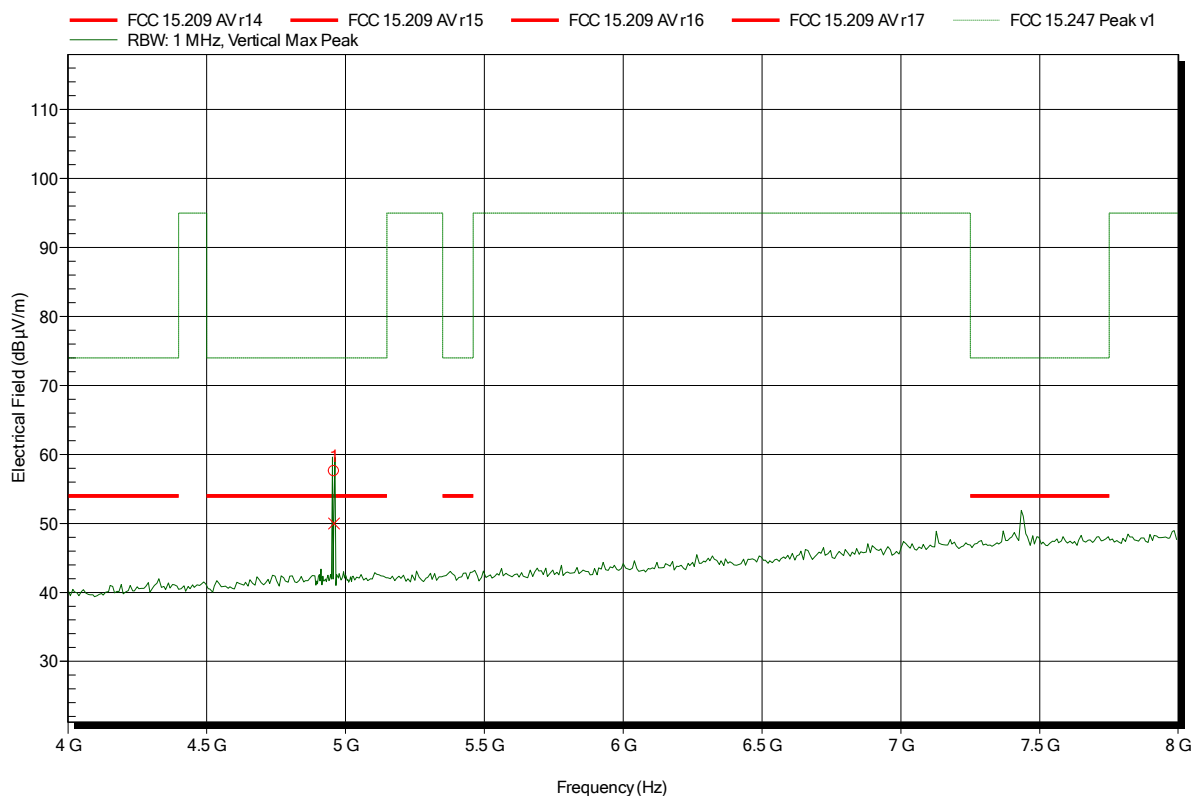
Frequency 2.4835 GHz	Peak 62.54 dBµV/m	Peak Limit 74 dBµV/m	Peak Difference -11.46 dB	Peak Status Pass
Frequency 2.4835 GHz	RMS 51.67 dBµV/m	RMS Limit 54 dBµV/m	RMS Difference -2.33 dB	RMS Status Pass

Spurious emissions according to FCC 15.247

Project number: GOM-1406-3920

Applicant: GN Netcom A/S
 EUT Name: Bluetooth headset
 Model: Jabra / OTE20
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Handrik
 Test Conditions: Tnom: 22°C, Vnom: 3.7V DC (battery)
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 3 m
 Mode: TX; Bluetooth LE; Ch.: 39
 Test Date: 2014-06-24
 Note:

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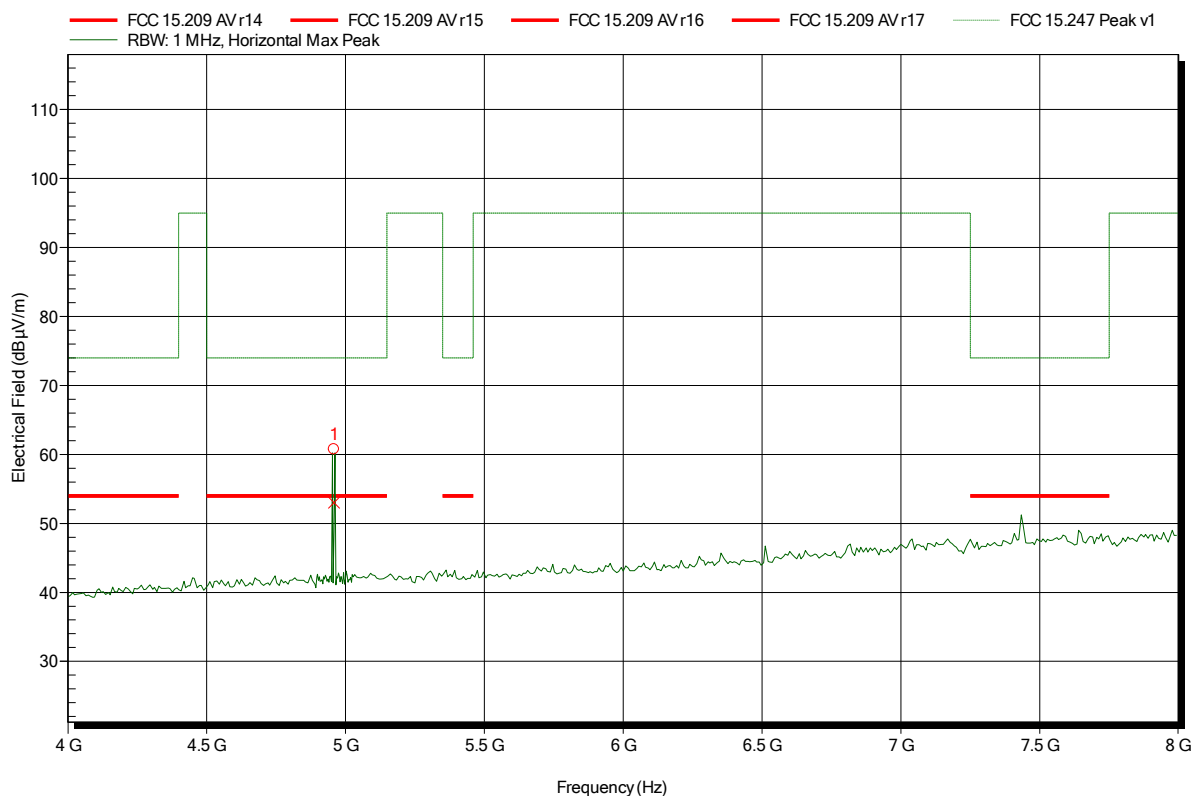
Frequency 4.96 GHz	Peak 57.55 dBµV/m	Peak Limit 74 dBµV/m	Peak Difference -16.45 dB	Peak Status Pass
Frequency 4.96 GHz	Average 49.98 dBµV/m	Average Limit 54 dBµV/m	Average Difference -4.02 dB	Average Status Pass

Spurious emissions according to FCC 15.247

Project number: G0M-1406-3920

Applicant: GN Netcom A/S
 EUT Name: Bluetooth headset
 Model: Jabra / OTE20
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Handrik
 Test Conditions: Tnom: 22°C, Vnom: 3.7V DC (battery)
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 3 m
 Mode: TX; Bluetooth LE; Ch.: 39
 Test Date: 2014-06-24
 Note:

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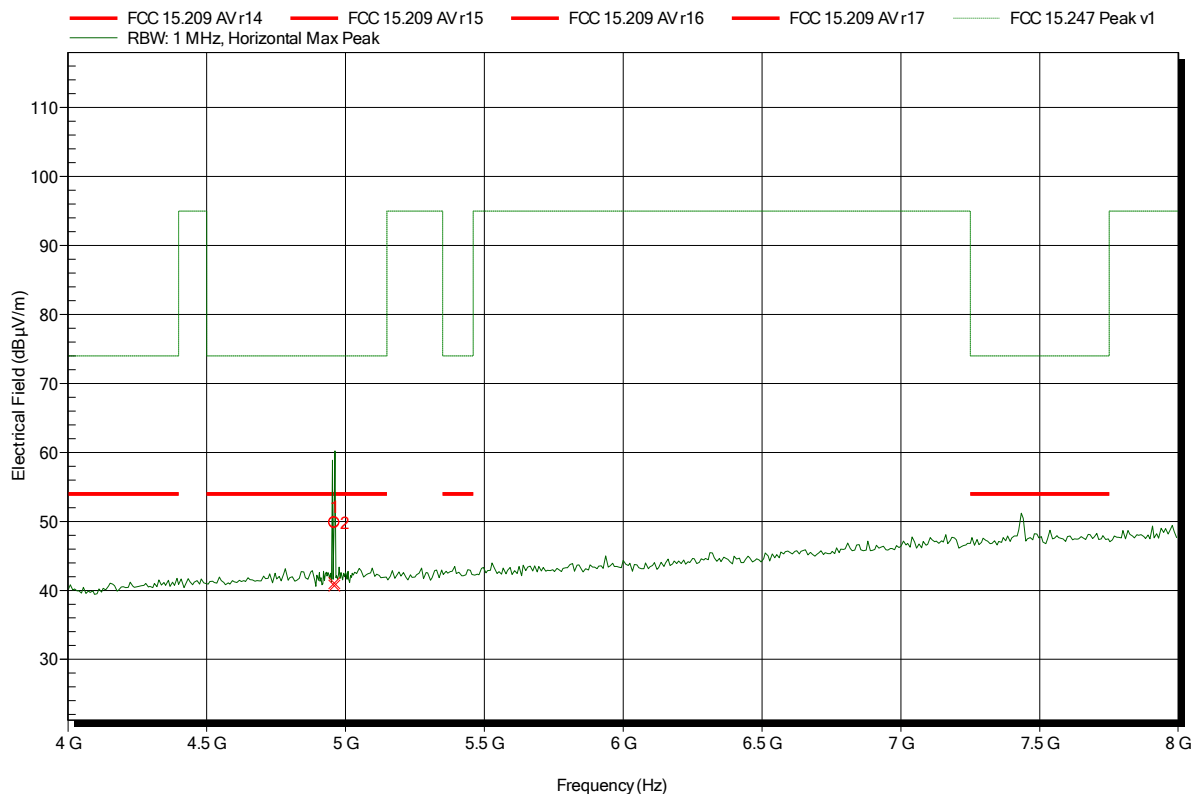
Frequency 4.959 GHz	Peak 60.74 dBµV/m	Peak Limit 74 dBµV/m	Peak Difference -13.26 dB	Peak Status Pass
Frequency 4.959 GHz	Average 53.01 dBµV/m	Average Limit 54 dBµV/m	Average Difference -0.99 dB	Average Status Pass

Spurious emissions according to FCC 15.247

Project number: G0M-1406-3920

Applicant: GN Netcom A/S
 EUT Name: Bluetooth headset
 Model: Jabra / OTE20
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Handrik
 Test Conditions: Tnom: 22°C, Vnom: 3.7V DC (battery)
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 3 m
 Mode: TX; Bluetooth LE; Ch.: 39
 Test Date: 2014-06-24
 Note:

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Frequency	Peak	Peak Limit	Peak Difference	Peak Status
4.96 GHz	49.88 dBµV/m	74 dBµV/m	-24.12 dB	Pass
4.96 GHz	49.74 dBµV/m	74 dBµV/m	-24.26 dB	Pass

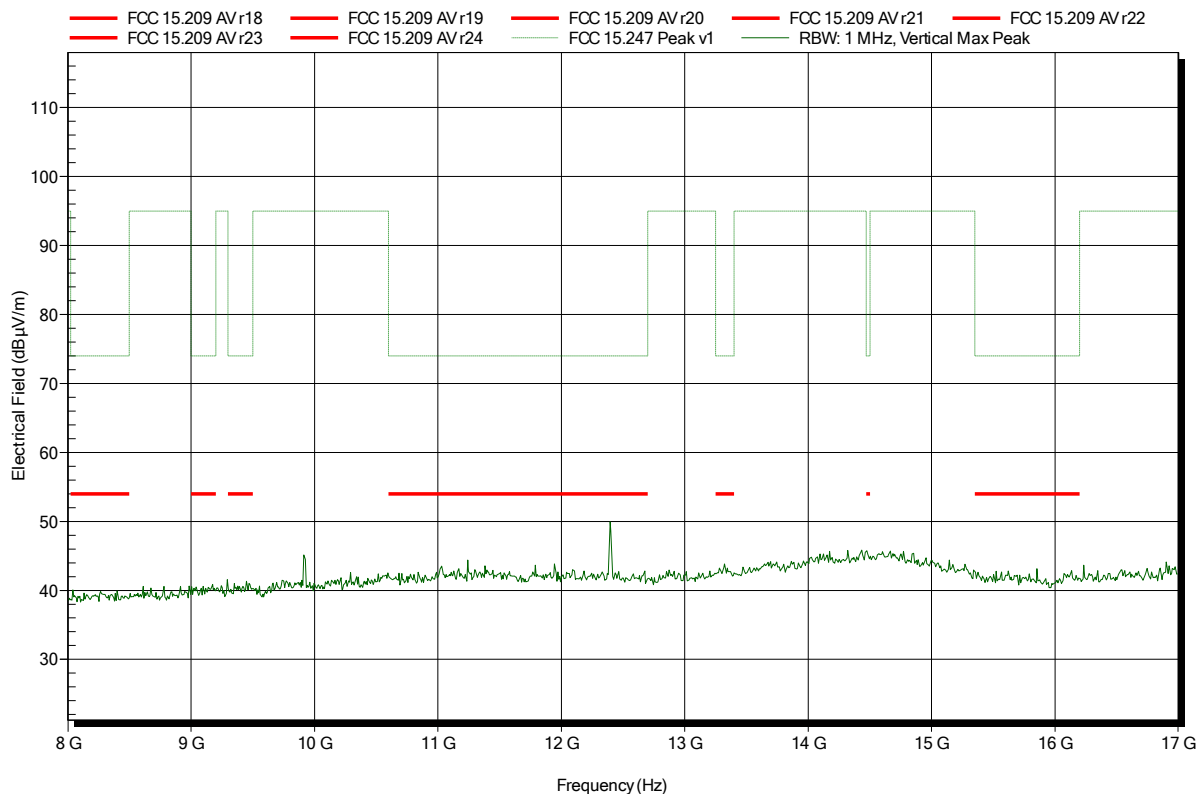
Frequency	Average	Average Limit	Average Difference	Average Status
4.96 GHz	41.03 dBµV/m	54 dBµV/m	-12.97 dB	Pass
4.96 GHz	40.69 dBµV/m	54 dBµV/m	-13.31 dB	Pass

Spurious emissions according to FCC 15.247

Project number: GOM-1406-3920

Applicant: GN Netcom A/S
 EUT Name: Bluetooth headset
 Model: Jabra / OTE20
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Handrik
 Test Conditions: Tnom: 22°C, Vnom: 3.7V DC (battery)
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m converted to 3m
 Mode: TX; Bluetooth LE; Ch.: 39
 Test Date: 2014-06-24
 Note:

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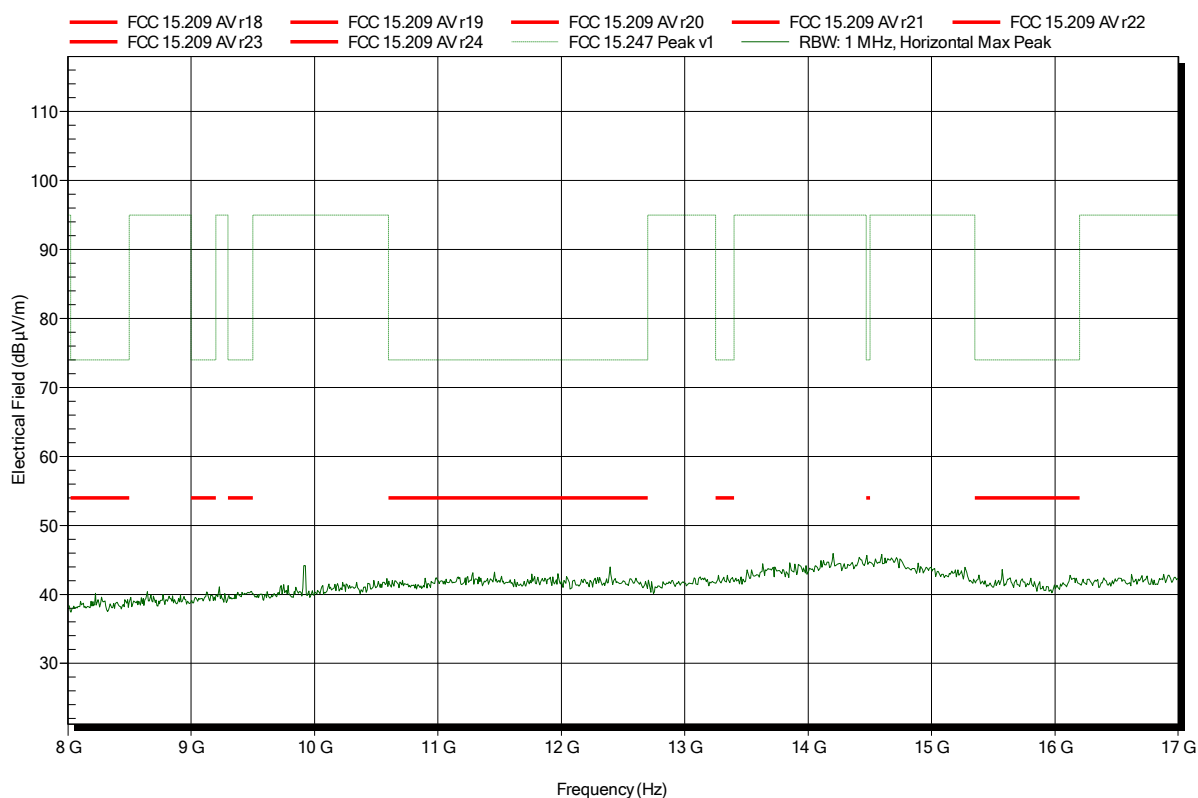


Spurious emissions according to FCC 15.247

Project number: GOM-1406-3920

Applicant: GN Netcom A/S
 EUT Name: Bluetooth headset
 Model: Jabra / OTE20
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Handrik
 Test Conditions: Tnom: 22°C, Vnom: 3.7V DC (battery)
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; Bluetooth LE; Ch.: 39
 Test Date: 2014-06-24
 Note:

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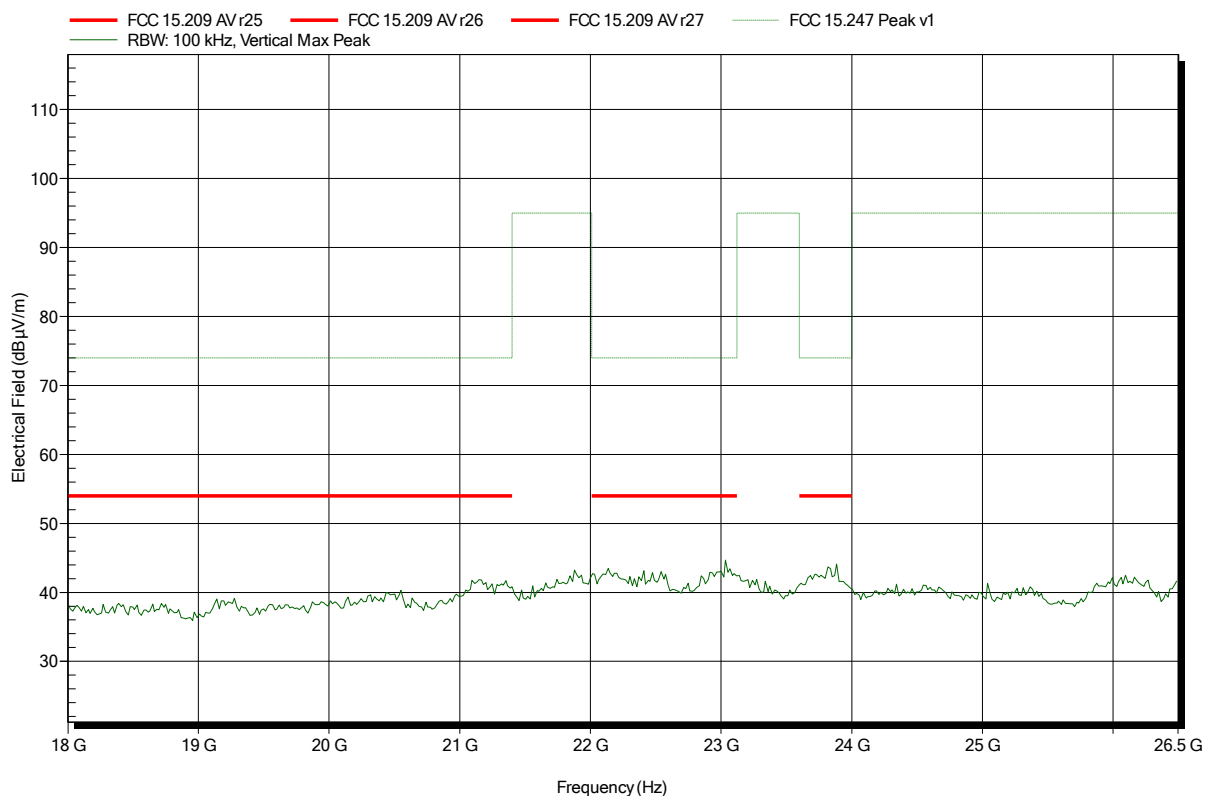


Spurious emissions according to FCC 15.247

Project number: GOM-1406-3920

Applicant: GN Netcom A/S
 EUT Name: Bluetooth headset
 Model: Jabra / OTE20
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Handrik
 Test Conditions: Tnom: 22°C, Vnom: 3.7V DC (battery)
 Antenna: Rohde & Schwarz HL 025, Vertical
 Measurement distance: 1 m
 Mode: TX; Bluetooth LE; Ch.: 39
 Test Date: 2014-06-24
 Note:

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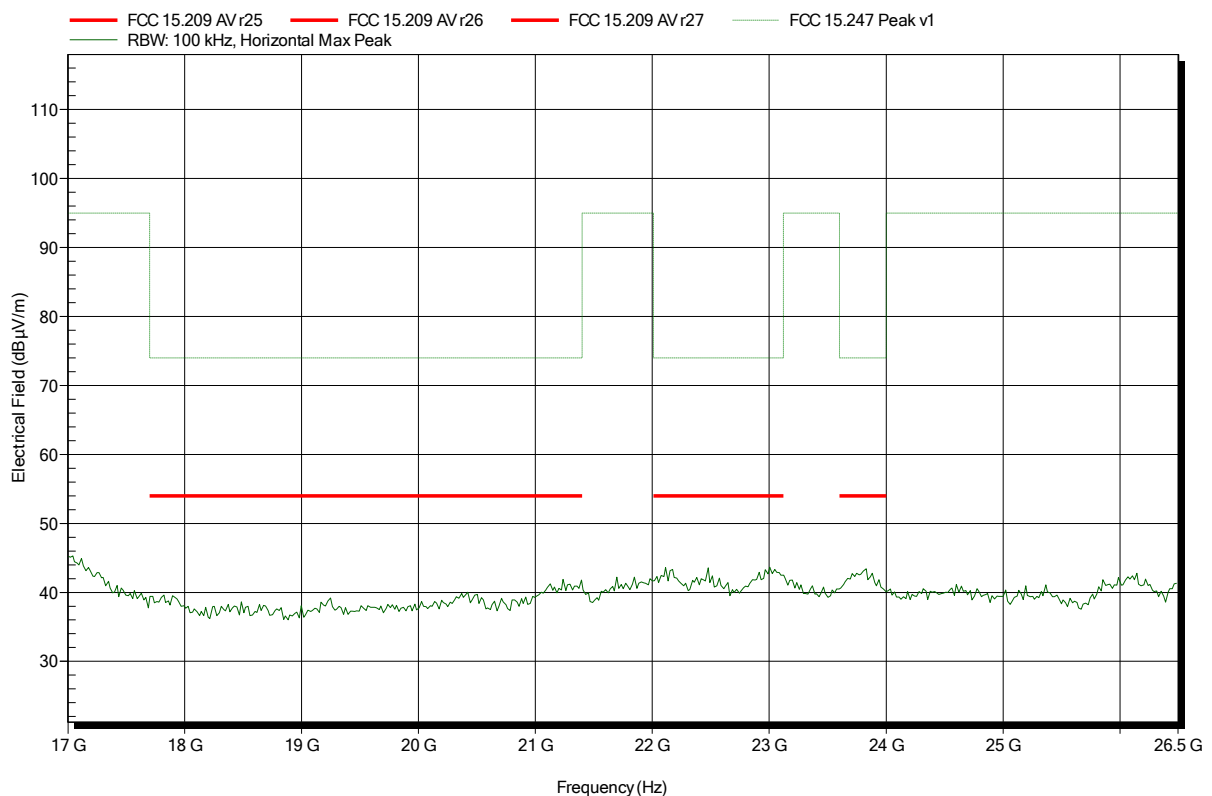


Spurious emissions according to FCC 15.247

Project number: GOM-1406-3920

Applicant: GN Netcom A/S
 EUT Name: Bluetooth headset
 Model: Jabra / OTE20
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Handrik
 Test Conditions: Tnom: 22°C, Vnom: 3.7V DC (battery)
 Antenna: Rohde & Schwarz HL 025, Horizontal
 Measurement distance: 1 m
 Mode: TX; Bluetooth LE; Ch.: 39
 Test Date: 2014-06-24
 Note:

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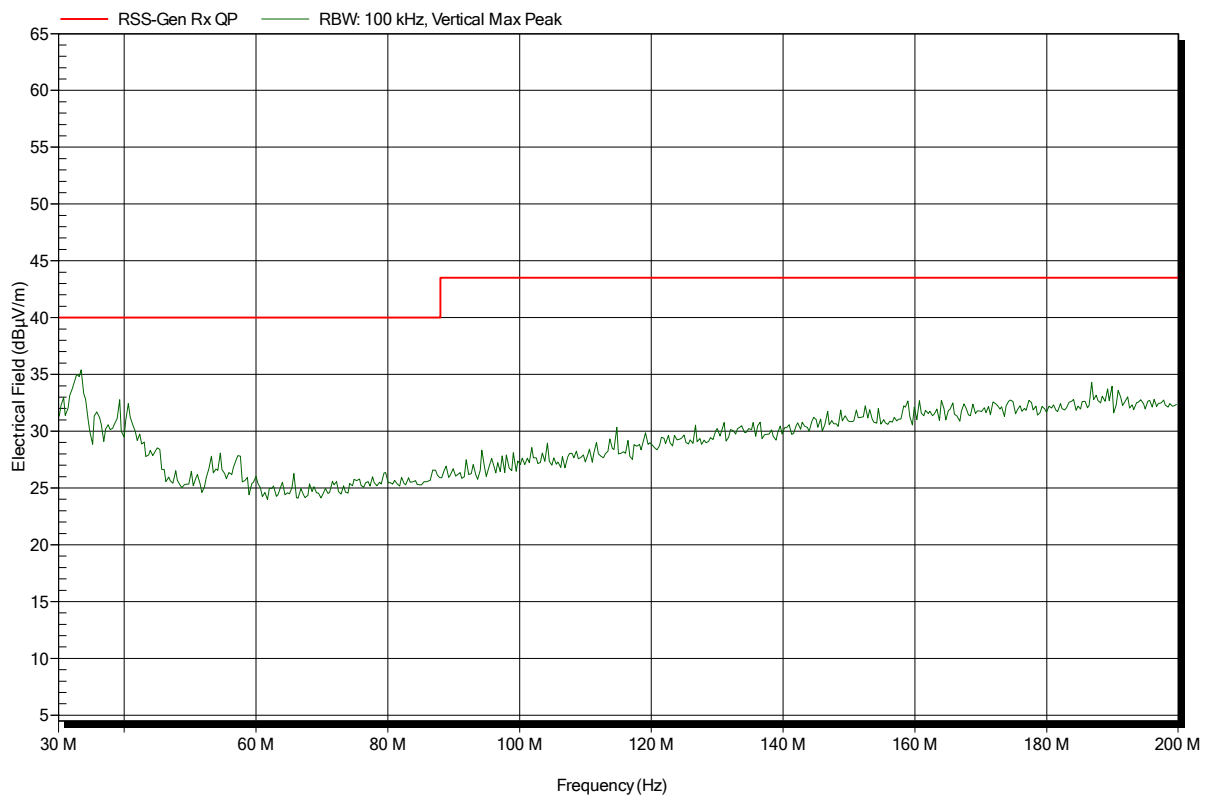
ANNEX B Receiver radiated spurious emissions

Spurious emissions according to RSS-GEN

Project number: G0M-1406-3920

Applicant:	GN Netcom A/S
EUT Name:	Bluetooth headset
Model:	Jabra / OTE20
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 22°C, Vnom: 3.7V DC (battery)
Antenna:	Rohde & Schwarz HK 116, Vertical
Measurement distance:	3 m
Mode:	RX; Bluetooth LE; CH.: 19
Test Date:	2014-06-24
Note:	

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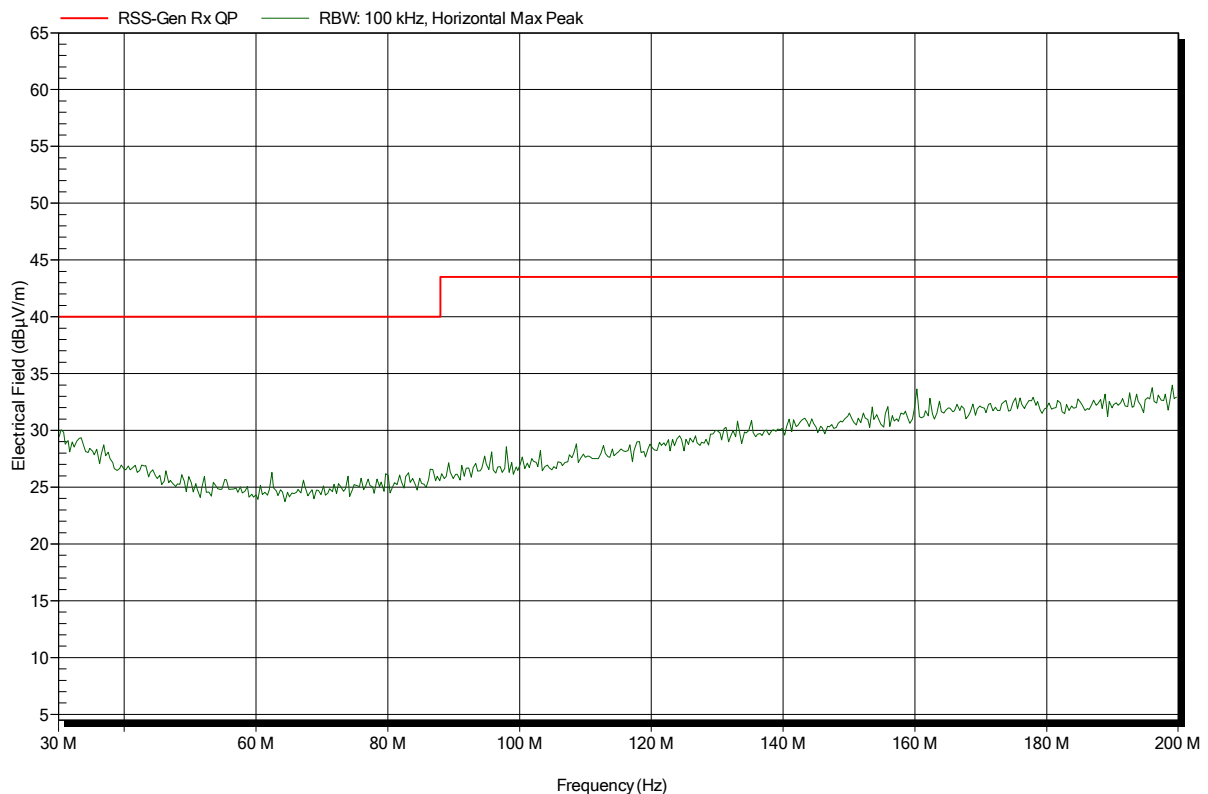


Spurious emissions according to RSS-GEN

Project number: G0M-1406-3920

Applicant:	GN Netcom A/S
EUT Name:	Bluetooth headset
Model:	Jabra / OTE20
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 22°C, Vnom: 3.7V DC (battery)
Antenna:	Rohde & Schwarz HK 116, Horizontal
Measurement distance:	3 m
Mode:	RX; Bluetooth LE; CH.: 19
Test Date:	2014-06-24
Note:	

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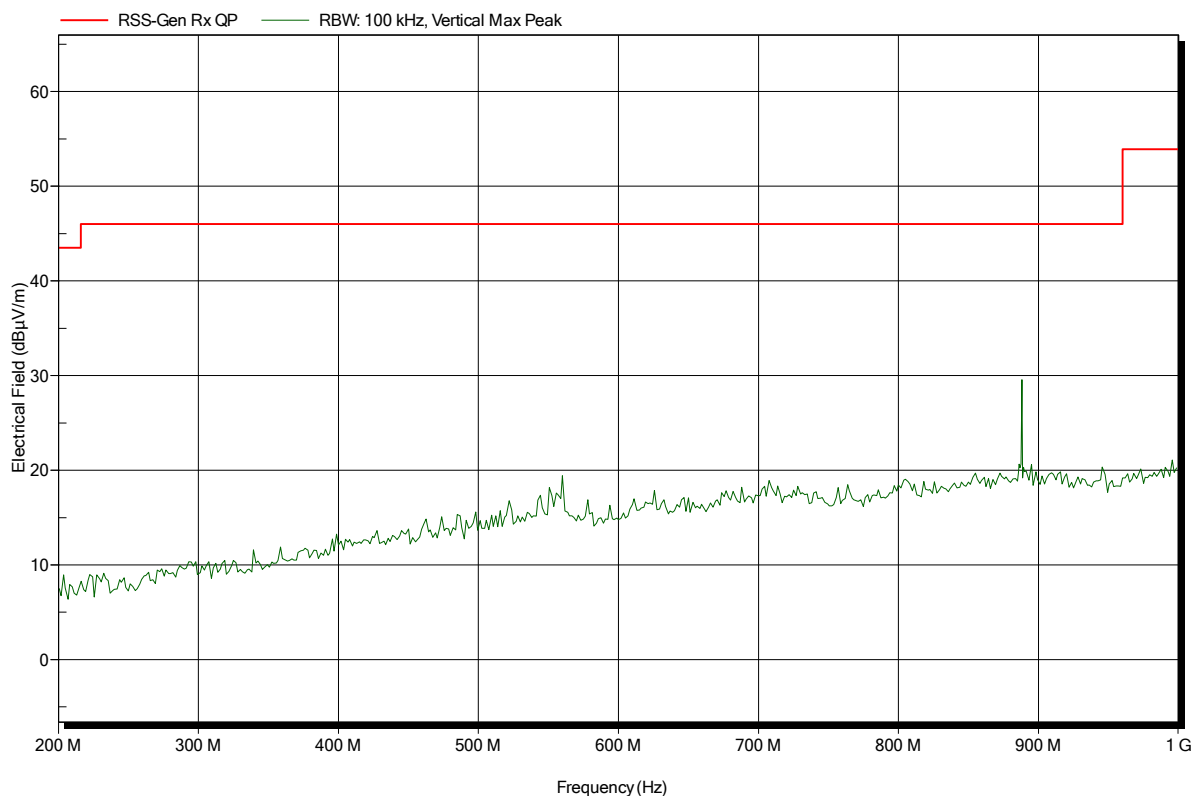


Spurious emissions according to RSS-GEN

Project number: G0M-1406-3920

Applicant:	GN Netcom A/S
EUT Name:	Bluetooth headset
Model:	Jabra / OTE20
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 22°C, Vnom: 3.7V DC (battery)
Antenna:	Rohde & Schwarz HL 223, Vertical
Measurement distance:	3 m
Mode:	RX; Bluetooth LE; CH.: 19
Test Date:	2014-06-24
Note:	

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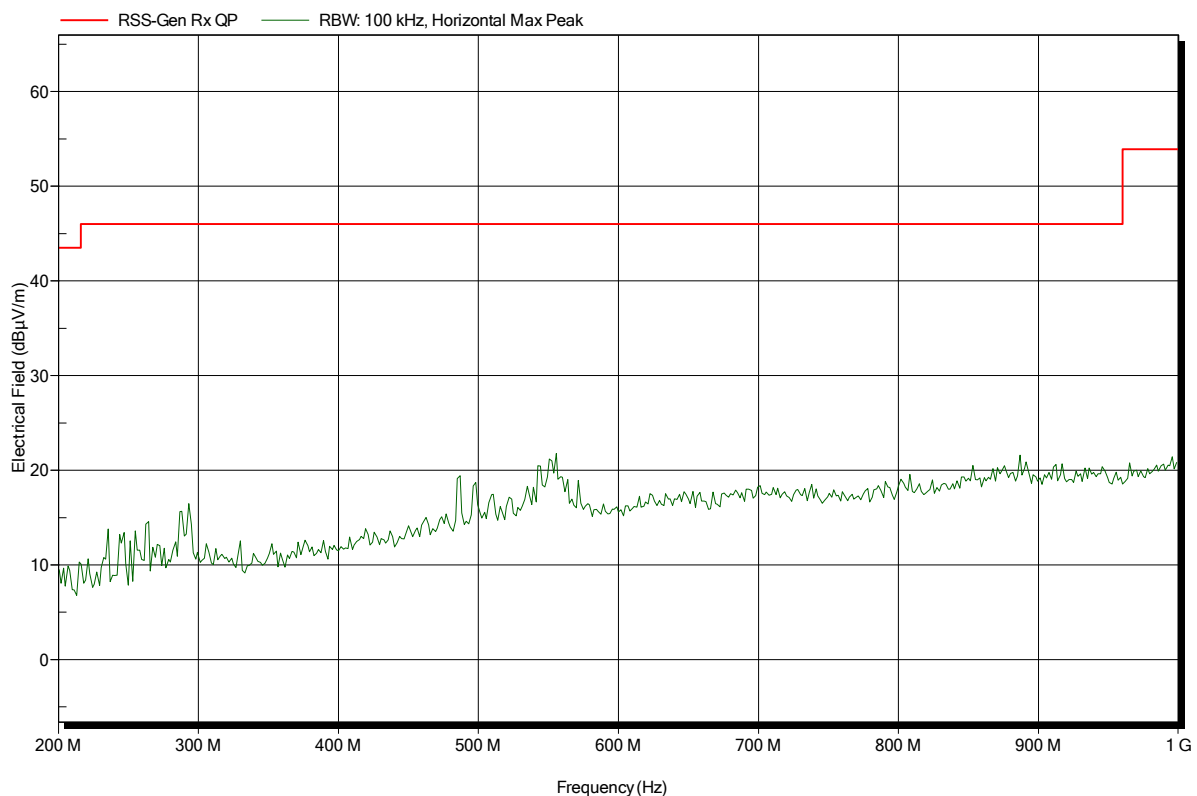


Spurious emissions according to RSS-GEN

Project number: G0M-1406-3920

Applicant:	GN Netcom A/S
EUT Name:	Bluetooth headset
Model:	Jabra / OTE20
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 22°C, Vnom: 3.7V DC (battery)
Antenna:	Rohde & Schwarz HL 223, Horizontal
Measurement distance:	3 m
Mode:	RX; Bluetooth LE; CH.: 19
Test Date:	2014-06-24
Note:	

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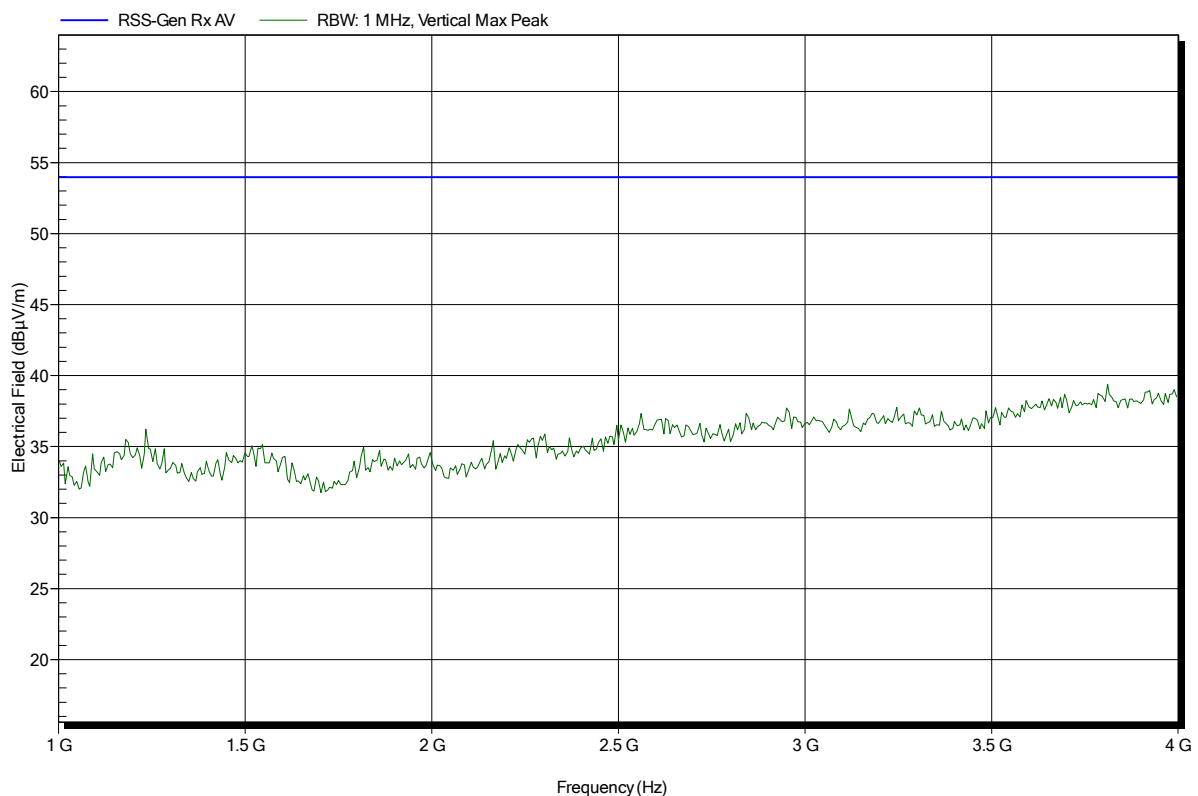


Spurious emissions according to RSS-GEN

Project number: G0M-1406-3920

Applicant:	GN Netcom A/S
EUT Name:	Bluetooth headset
Model:	Jabra / OTE20
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 22°C, Vnom: 3.7V DC (battery)
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	3 m
Mode:	RX; Bluetooth LE; CH.: 19
Test Date:	2014-06-24
Note:	

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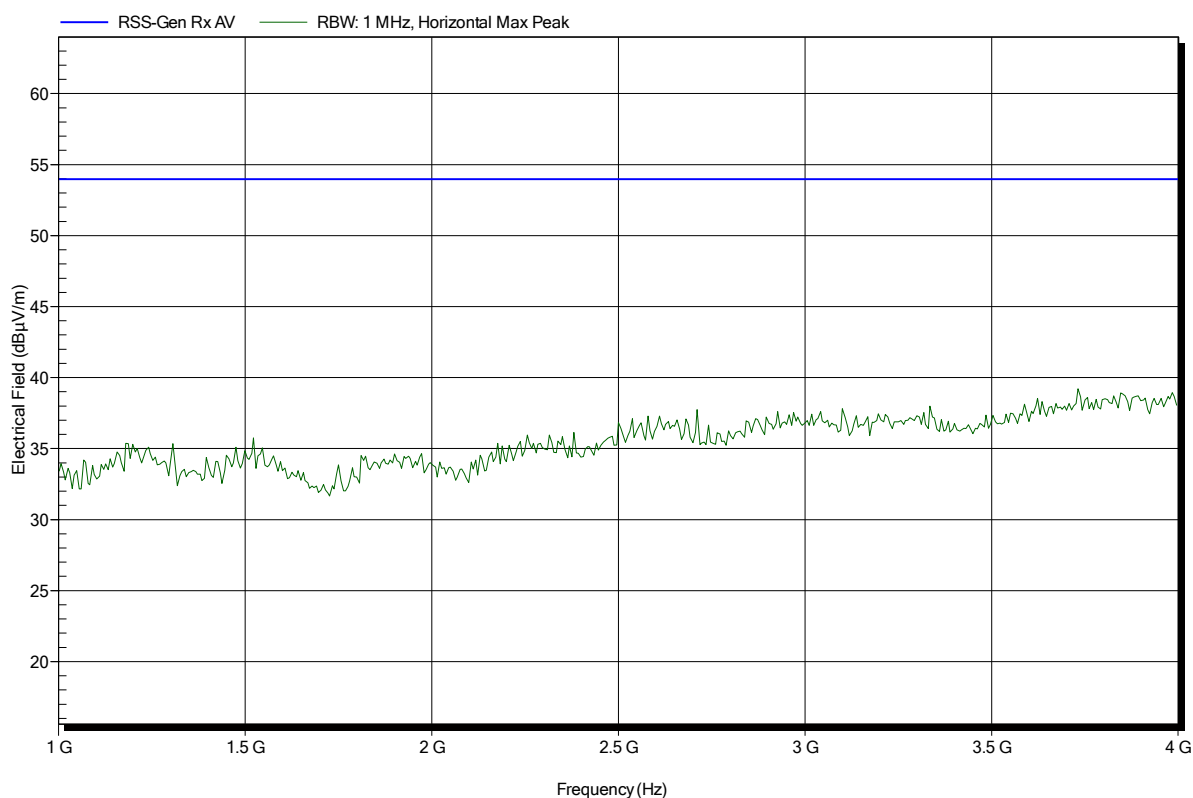


Spurious emissions according to RSS-GEN

Project number: GOM-1406-3920

Applicant:	GN Netcom A/S
EUT Name:	Bluetooth headset
Model:	Jabra / OTE20
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 22°C, Vnom: 3.7V DC (battery)
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	3 m
Mode:	RX; Bluetooth LE; CH.: 19
Test Date:	2014-06-24
Note:	

Index 6

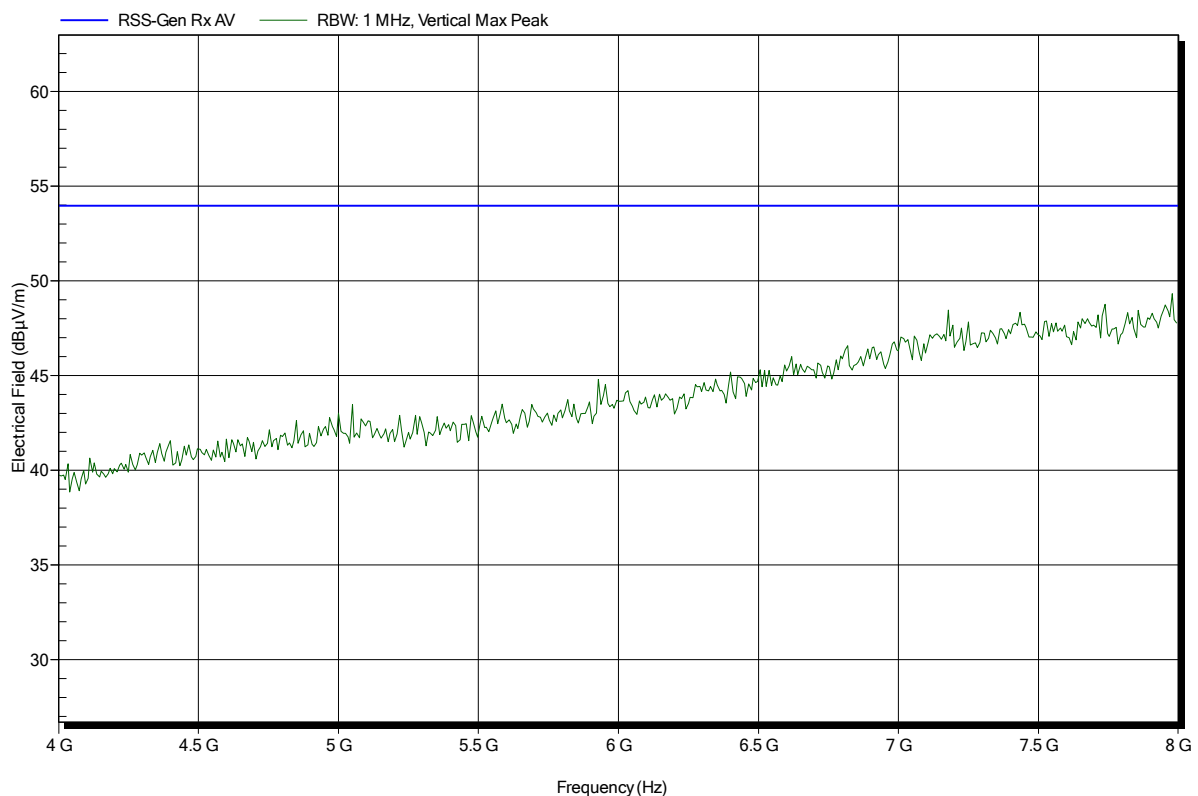


Spurious emissions according to RSS-GEN

Project number: GOM-1406-3920

Applicant:	GN Netcom A/S
EUT Name:	Bluetooth headset
Model:	Jabra / OTE20
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 22°C, Vnom: 3.7V DC (battery)
Antenna:	Schwarzbeck BBHA 9120D, Vertical
Measurement distance:	3 m
Mode:	RX; Bluetooth LE; CH.: 19
Test Date:	2014-06-24
Note:	

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Spurious emissions according to RSS-GEN

Project number: GOM-1406-3920

Applicant:	GN Netcom A/S
EUT Name:	Bluetooth headset
Model:	Jabra / OTE20
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Handrik
Test Conditions:	Tnom: 22°C, Vnom: 3.7V DC (battery)
Antenna:	Schwarzbeck BBHA 9120D, Horizontal
Measurement distance:	3 m
Mode:	RX; Bluetooth LE; CH.: 19
Test Date:	2014-06-24
Note:	

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