

RADIO REPORT FCC 47 CFR Part 15C Digital transmission systems operating within the 902 – 928 MHz band	
Report Reference No	G0M-2002-8859-TFC247DT-V02
Testing Laboratory	Eurofins Product Service GmbH
Address	Storkower Str. 38c 15526 Reichenwalde Germany
Accreditation	    DAKKS - Registration number : D-PL-12092-01-03 (ISED) ISED Testing Laboratory site: 3470A-2 DAKKS - Registration number : D-PL-12092-01-04 (FCC) FCC Filed Test Laboratory, Reg.-No.: 96970
Applicant	Kamstrup A/S
Address	Industrivej 28 8660 Skanderborg DENMARK
Test Specification	47 CFR Part 15C
Non-Standard Test Method	None
Equipment under Test (EUT):	
Product Description	Ultrasonic water meter
Model(s)	KWM2220
Additional Model(s)	None
Brand Name(s)	Kamstrup
Hardware Version(s)	Unit: 6201-210-04, rev. 00; RF PCB BOM: 55501823, rev. C1; Flow PCB BOM: 55501813, rev. B3
Software Version(s)	RF: 50981336, rev. N1; Meter: 50981595, rev. 00
FCC-ID	OUY-KWMX220
IC	n/a
Test Result	PASSED

Possible test case verdicts:		
Required by standard but not tested	N/T	
Not required by standard	N/R	
Not applicable to EUT	N/A	
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	2020-05-28	
Report:		
Compiled by	Toralf Jahn	
Tested by (+ signature) (Responsible for Test)	Toralf Jahn	
Approved by (+ signature) (Head of Lab)	Christian Weber	
Date of Issue	2020-07-28	
Total number of pages	177	
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:		

ADDITIONAL VARIANTS

Additional Variants (not tested and not evaluated variants)		
Not-tested Variant	Description	
1	Product Type Description	Ultrasonic water meter
	Model name	KWM2220
	Brand name	Kamstrup
	Hardware Version	Unit: 6201-210-01, rev. 00 RF PCB BOM: 55501823, rev. C1 Flow PCB BOM: 55501813, rev. B3
	Software Version	RF: 50981336, rev. N1 Meter: 50981595, rev. 00
2	Product Type Description	Ultrasonic water meter
	Model name	KWM2220
	Brand name	Kamstrup
	Hardware Version	Unit: 6201-210-02, rev. 00 RF PCB BOM: 55501823, rev. C1 Flow PCB BOM: 55501813, rev. B3
	Software Version	RF: 50981336, rev. N1 Meter: 50981595, rev. 00
3	Product Type Description	Ultrasonic water meter
	Model name	KWM2220
	Brand name	Kamstrup
	Hardware Version	Unit: 6201-210-03, rev. 00 RF PCB BOM: 55501823, rev. C1 Flow PCB BOM: 55501813, rev. B3
	Software Version	RF: 50981336, rev. N1 Meter: 50981595, rev. 00
4	Product Type Description	Ultrasonic water meter
	Model name	KWM3220
	Brand name	Kamstrup
	Hardware Version	Unit: 6202-205-01, rev. 00 RF PCB BOM: 55501823, rev.C1 Flow PCB BOM: 55501523, rev B1
	Software Version	RF: 50981336, rev. N1 Meter: 50981595, rev. 00
5	Product Type Description	Ultrasonic water meter
	Model name	KWM3220
	Brand name	Kamstrup
	Hardware Version	Unit: 6202-103-02, rev. 00 RF PCB BOM: 55501823, rev.C1 Flow PCB BOM: 55501523, rev B1
	Software Version	RF: 50981336, rev. N1 Meter: 50981595, rev. 00
6	Product Type Description	Ultrasonic water meter
	Model name	KWM3220
	Brand name	Kamstrup
	Hardware Version	Unit: 6202-103-03, rev. 00 RF PCB BOM: 55501823, rev.C1 Flow PCB BOM: 55501523, rev B1
	Software Version	RF: 50981336, rev. N1 Meter: 50981595, rev. 00

Test Report No.: G0M-2002-8859-TFC247DT-V02

7	Product Type Description	Ultrasonic water meter
	Model name	KWM3220
	Brand name	Kamstrup
	Hardware Version	Unit: 6202-103-04, rev. 00 RF PCB BOM: 55501823, rev.C1 Flow PCB BOM: 55501523, rev B1
	Software Version	RF: 50981336, rev. N1 Meter: 50981595, rev. 00
8	Product Type Description	Ultrasonic water meter
	Model name	KWM3220
	Brand name	Kamstrup
	Hardware Version	Unit: 6202-103-06, rev. 00 RF PCB BOM: 55501823, rev.C1 Flow PCB BOM: 55501523, rev B1
	Software Version	RF: 50981336, rev. N1 Meter: 50981595, rev. 00
9	Product Type Description	Ultrasonic water meter
	Model name	KWM3220
	Brand name	Kamstrup
	Hardware Version	Unit: 6202-103-07, rev. 00 RF PCB BOM: 55501823, rev.C1 Flow PCB BOM: 55501523, rev B1
	Software Version	RF: 50981336, rev. N1 Meter: 50981595, rev. 00
10	Product Type Description	Ultrasonic water meter
	Model name	KWM3220
	Brand name	Kamstrup
	Hardware Version	Unit: 6202-103-05, rev. RF PCB BOM: 55501823, rev.C1 Flow PCB BOM: 55501523, rev B1
	Software Version	RF: 50981336, rev. N1 Meter: 50981595, rev. 00
11	Product Type Description	Ultrasonic water meter
	Model name	KWM3220
	Brand name	Kamstrup
	Hardware Version	Unit: 6202-103-08, rev. RF PCB BOM: 55501823, rev.C1 Flow PCB BOM: 55501523, rev B1
	Software Version	RF: 50981336, rev. N1 Meter: 50981595, rev. 00
12	Product Type Description	Ultrasonic water meter
	Model name	KWM3220
	Brand name	Kamstrup
	Hardware Version	Unit: 6201-204-01, rev. 00 RF PCB BOM: 55501823, rev.C1 Flow PCB BOM: 55501523, rev B1
	Software Version	RF: 50981336, rev. N1 Meter: 50981595, rev. 00
Comment: Those named additional variants above have not been tested. Those additional variants of the series have been declared by the manufacturer. The test report explicitly states that those variants were neither tested nor assessed nor evaluated.		

VERSION HISTORY

Version History			
Version	Issue Date	Remarks	Revised By
01	2020-06-30	Initial Release	
02	2020-07-28	Replaced document: G0M-2002-8859-TFC247DT-V01 Replaced by: G0M-2002-8859-TFC247DT-V02 Reason: Antenna 1 model changed	T.Jahn

ABBREVIATIONS AND ACRONYMS

Acronyms	
Acronym	Description
EUT	Equipment Under Test
FCC	Federal Communications Commission
ISED	Innovation, Science and Economic Development Canada
RBW	Resolution bandwidth
RMS	Root mean square
VBW	Video bandwidth
V _{NOM}	Nominal supply voltage

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1 Equipment (Test Item) Under Test

Description	Ultrasonic water meter	
Model	KWM2220	
Additional Model(s)	None	
Brand Name(s)	Kamstrup	
Serial Number(s)	KAM21142842/20 (conducted sample ID 29577) KAM21142842/20 (radiated sample ID 29575)	
Hardware Version(s)	Unit: 6201-210-04, rev. 00; RF PCB BOM: 55501823, rev. C1; Flow PCB BOM: 55501813, rev. B3	
Software Version(s)	RF: 50981336, rev. N1; Meter: 50981595, rev. 00	
PMN	n/a	
HVIN	n/a	
FVIN	n/a	
HMN	n/a	
FCC-ID	OUY-KWMX220	
IC	n/a	
Equipment type	End Product	
Radio type	Transceiver	
Assigned frequency bands	902.0 - 928.0 MHz	
Radio technology	Digital Modulation	
Modulation	2-FSK	
Number of antenna ports	1	
Antenna 1	Type	external, helix antenna
	Model	30261216 A1
	Manufacturer	Kamstrup A/S
	Gain	-1.7 dBi
Antenna 2	Type	external, wall antenna 2 meters cable length
	Model	6699490
	Manufacturer	Kamstrup A/S
	Gain	-1.6 dBi
Antenna 3	Type	external, pit antenna (small) 0.6 meters cable length
	Model	6697916
	Manufacturer	Kamstrup A/S
	Gain	1.2 dBi
Antenna 4	Type	external, pit antenna 2 meters cable length
	Model	6697902
	Manufacturer	Kamstrup A/S
	Gain	2.2 dBi
Supply Voltage	V _{NOM}	3.66 VDC (lithium battery)
Operating Temperature	T _{NOM}	25 °C
AC/DC-Adaptor	Model	none
	Vendor	none
	Input	none
	Output	none
Manufacturer	Kamstrup A/S Industrivej 28 8660 Skanderborg DENMARK	

1.1 Photos – Equipment External



1.2 Photos – Equipment Internal



1.3 Photos – Test Setup



1.4 Support Equipment

Product Type	Device	Manufacturer	Model	Comment
AE	Optical readout head	Kamstrup	14071	Programming interface
AE	Laboratory power supply	KORAD	KD6005P	The EUT battery does not last to perform the tests. Therefore an external power supply was necessary.
CBL	Auxillary cable			To connect EUT and power supply.
SFT	Device Control Tool	Kamstrup	ver. 0.05	Tool for controlling RF modules and meters
Description:				
AE	Auxiliary Equipment			
SIM	Simulator			
CBL	Connecting Cable			
SFT	Software			
Comment:				

1.5 Test mode duty cycle

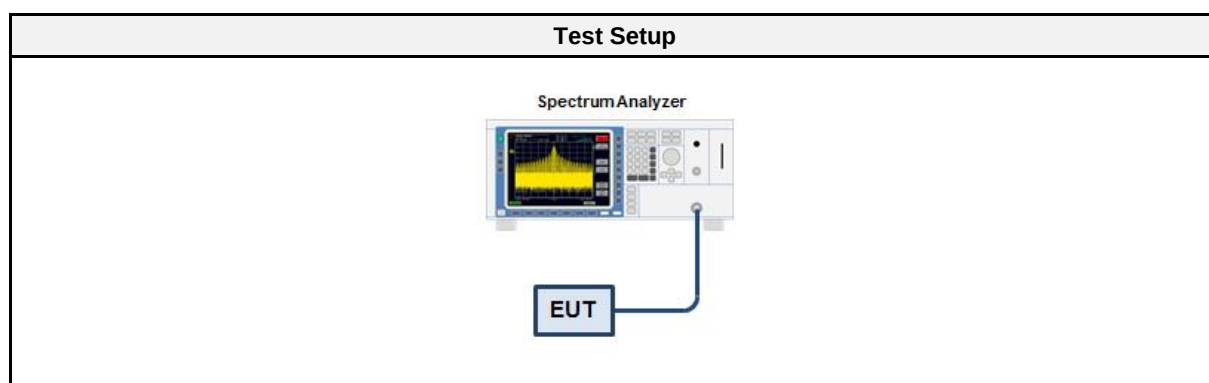
1.5.1 Information

Test Information	
Measurement Method	ANSI C63.10 11.6

1.5.2 Requirements

Requirements	
Duty cycle	Duty cycle correction
$\geq 98 \%$	No correction required
$< 98 \%$	Correction required ($10 \times \log_{10}(1/DC)$)

1.5.3 Setup



1.5.4 Equipment

Test Equipment					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum analyzer	R&S	FSU43	EF01631	2019-12	2020-12

1.5.5 Procedure

Test Procedure
1. EUT set to test mode 2. Span is set to zero span 3. Detector set to peak 4. Sweep time is set long enough to capture at least 5 bursts 5. Envelope peak value of emission spectrum is selected 6. The maximum burst duration T_{ON} is measured using two markers set to the start and the end of the longest burst 7. The minimum idle duration T_{OFF} is measured using two markers set to the start and the end of the shortest idle period 8. The duty cycle is calculated by $DC = T_{ON} / (T_{ON} + T_{OFF})$ 9. The duty cycle correction is calculated by $DC = 10 \times \log_{10}(T_{ON} / (T_{ON} + T_{OFF}))$

1.5.6 Results

Duty Cycle Results		
Mode	Duty Cycle	Correction Factor [dB]
Transmit	100%	0

1.6 Test Modes

Mode	Description
Transmit	Mode = Transmit Modulation = 2-FSK Duty cycle = 100 %
Comment:	

1.7 Test Frequencies

Designator	Mode	Channel	Frequency [MHz]
F1	Tx / Rx	1	912.5
F2	Tx / Rx	2	915.0
F3	Tx / Rx	3	918.5

1.8 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:

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

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:

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

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/m	= 47.5 dBμV/m	:	47.5 dBμV/m - 57.0 dBμV/m	= -9.5 dB

2 Result Summary

FCC 47 CFR Part 15C, ISED RSS-247				
Product Standard Reference	Requirement	Reference Method	Result	Remarks
ISED RSS-Gen, Issue 5 (section 6.6)	Occupied Bandwidth	ANSI C63.10-2013	N/R	Informational only
FCC § 15.247(a)(2) ISED RSS-247, Issue 2 (section 5.2)	6 dB Bandwidth	ANSI C63.10-2013	PASS	
FCC § 15.247(b)(1) ISED RSS-247, Issue 2 (section 5.4)	Maximum peak conducted power	ANSI C63.10-2013	PASS	
FCC § 15.247(e) ISED RSS-247, Issue 2 (section 5.2)	Power spectral density	ANSI C63.10-2013	PASS	
FCC § 15.207 ISED RSS-247, Issue 2 (section 3.1)	AC power line conducted emissions	ANSI C63.10-2013	N/R	No direct or indirect connection to AC mains
FCC § 15.247(d) ISED RSS-247, Issue 2 (section 5.5)	Band edge compliance	ANSI C63.10-2013	PASS	
FCC § 15.247(d) ISED RSS-247, Issue 2 (section 5.5)	Conducted spurious emissions	ANSI C63.10-2013	PASS	
FCC § 15.247(d) FCC § 15.209 ISED RSS-Gen, Issue 5 (section 6.13)	Transmitter radiated spurious emissions	ANSI C63.10-2013	PASS	
ISED RSS-247, Issue 2 (section 3.1)	Receiver radiated spurious emissions	ANSI C63.10-2013	N/T	
Comment:				

Possible Test Case Verdicts	
PASS	Test object does meet the requirements
FAIL	Test object does not meet the requirements
N/T	Required by standard but not tested
N/R	Not required by standard for the test object

3 Test Conditions and Results

3.1 Test Conditions and Results - Occupied bandwidth

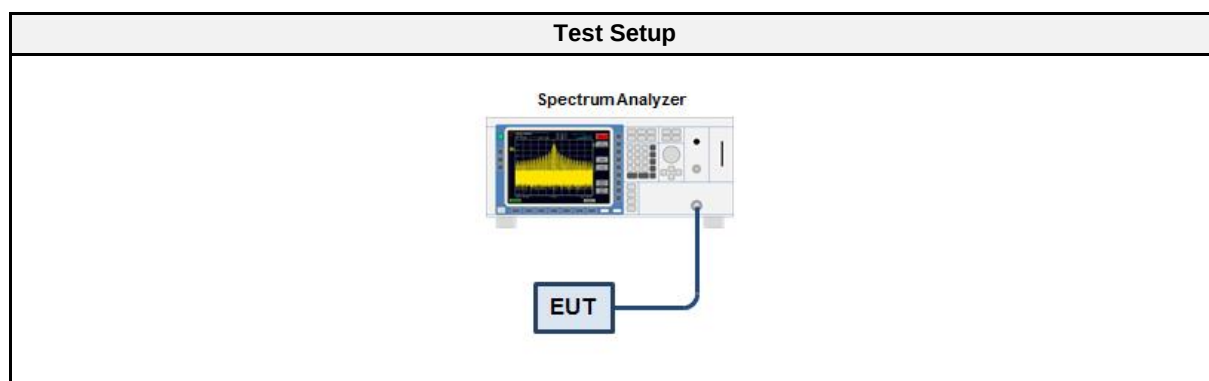
3.1.1 Information

Test Information	
Reference	ISED RSS-Gen, Issue 5 (section 6.6)
Measurement Method	ANSI C63.10 6.9.3
Operator	Toralf Jahn
Date	2020-06-03

3.1.2 Limits

Limits
None (Informational only)

3.1.3 Setup



3.1.4 Equipment

Test Equipment					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum analyzer	R&S	FSU43	EF01631	2019-12	2020-12

3.1.5 Procedure

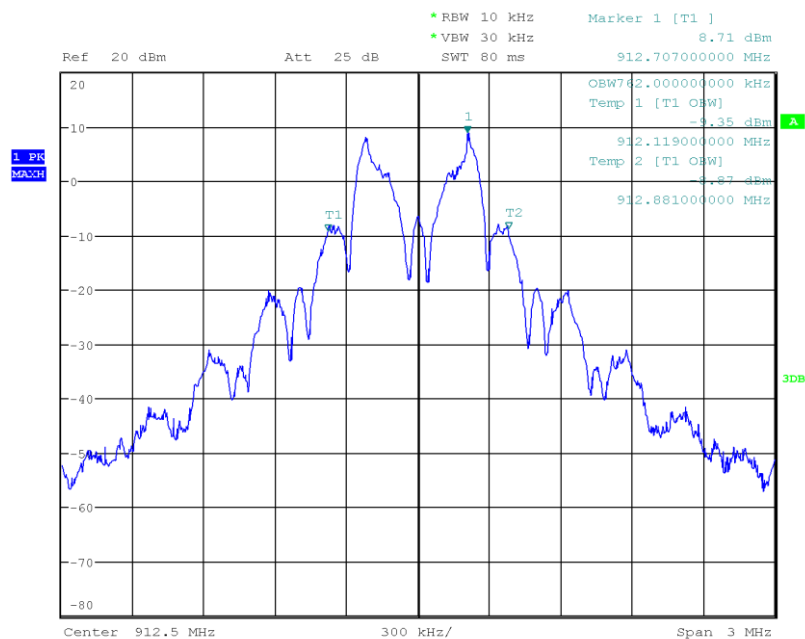
Test Procedure
1. EUT transmitter is activated in test mode under normal conditions 2. The spectrum analyzer is set to peak detection and maximum hold with a span twice the emission spectrum 3. The resolution bandwidth is set to the range of 1 % to 5 % of the occupied bandwidth 4. The occupied bandwidth is measured with the build-in analyzer function

3.1.6 Results

Test Results		
Mode	Frequency [MHz]	Bandwidth [MHz]
Transmit	912.5	0.762
Transmit	915.0	0.759
Transmit	918.5	0.759

Occupied Bandwidth

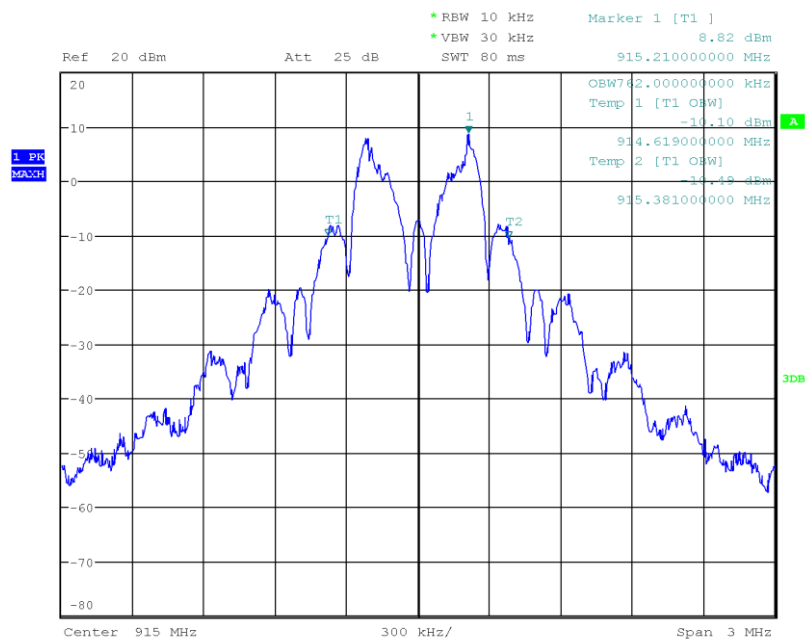
Project Number: G0M-2002-8859
 Applicant: Kamstrup A/S
 Model Description: Ultrasonic water meter
 Model: KWM2220
 Test Sample ID: 29577
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 6.9.3
 Operational Mode: 2-FSK, Channel: 912.5 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Toralf Jahn
 Test Site: Eurofins Product Service GmbH
 Test Date: 2020-06-03
 Occupied Bandwidth [MHz]: 0.762



Date: 3.JUN.2020 10:15:33

Occupied Bandwidth

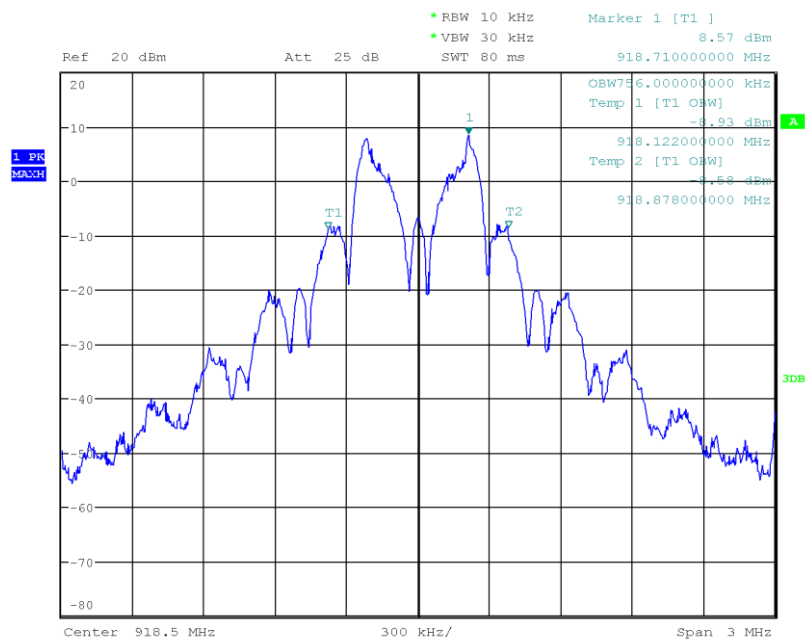
Project Number: G0M-2002-8859
 Applicant: Kamstrup A/S
 Model Description: Ultrasonic water meter
 Model: KWM2220
 Test Sample ID: 29577
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 6.9.3
 Operational Mode: 2-FSK, Channel: 915.0 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Toralf Jahn
 Test Site: Eurofins Product Service GmbH
 Test Date: 2020-06-03
 Occupied Bandwidth [MHz]: 0.759



Date: 3.JUN.2020 10:20:52

Occupied Bandwidth

Project Number: G0M-2002-8859
 Applicant: Kamstrup A/S
 Model Description: Ultrasonic water meter
 Model: KWM2220
 Test Sample ID: 29577
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 6.9.3
 Operational Mode: 2-FSK, Channel: 918.5 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Toralf Jahn
 Test Site: Eurofins Product Service GmbH
 Test Date: 2020-06-03
 Occupied Bandwidth [MHz]: 0.759



Date: 3.JUN.2020 10:24:59

3.2 Test Conditions and Results - 6 dB bandwidth

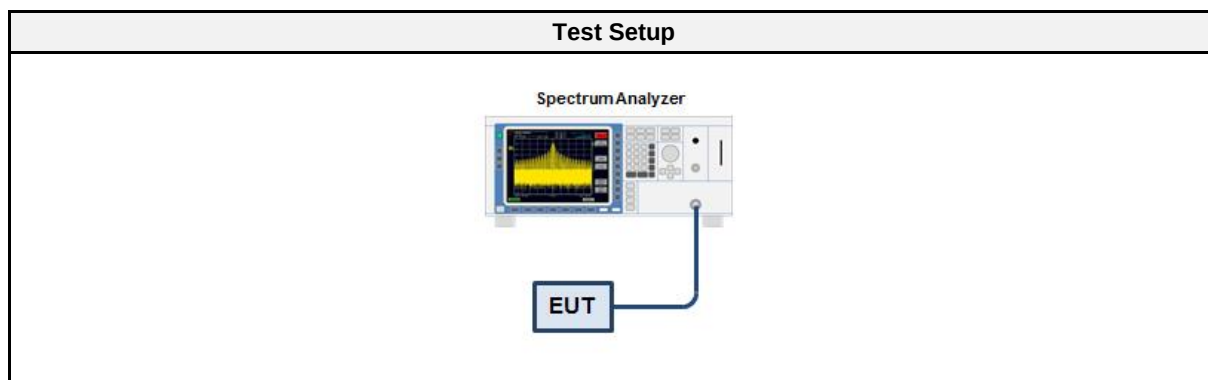
3.2.1 Information

Test Information	
Reference	FCC § 15.247(a)(2); ISED RSS-247, Issue 2 (section 5.2)
Measurement Method	ANSI C63.10 11.8
Operator	Toralf Jahn
Date	2020-06-03

3.2.2 Limits

Limits
≥ 500kHz

3.2.3 Setup



3.2.4 Equipment

Test Equipment					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum analyzer	R&S	FSU43	EF01631	2019-12	2020-12

3.2.5 Procedure

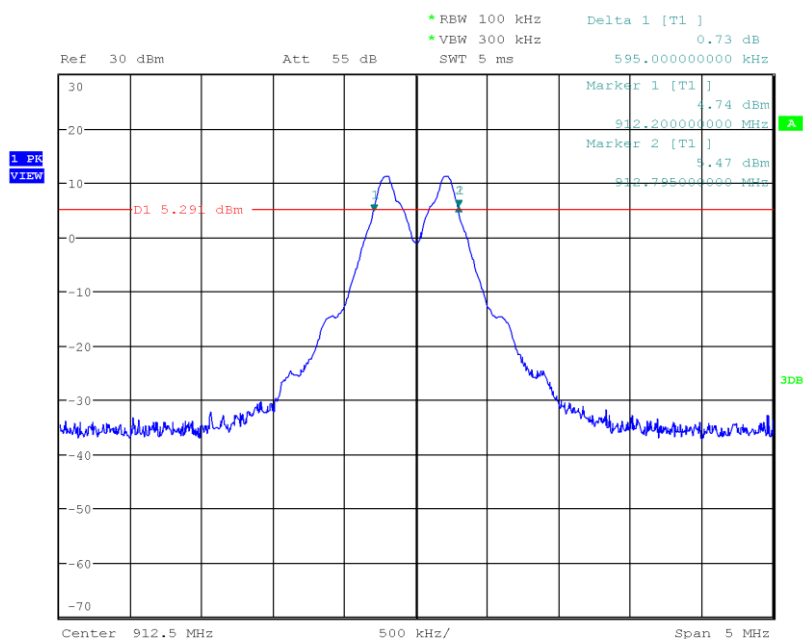
Test Procedure
1. EUT set to test mode 2. Span set to at least twice the emission spectrum 3. Detector set to peak and max hold and RBW is set to 100 kHz 4. Envelope peak value of emission spectrum is selected 5. Marker on envelope of spectrum is set to level of -6 dB to the left of the peak 6. Marker 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

3.2.6 Results

Test Results				
Mode	Frequency [MHz]	Bandwidth [kHz]	Limit [kHz]	Verdict
Transmit	912.5	595	500	PASS
Transmit	915.0	595	500	PASS
Transmit	918.5	595	500	PASS

DTS (6 dB) Bandwidth

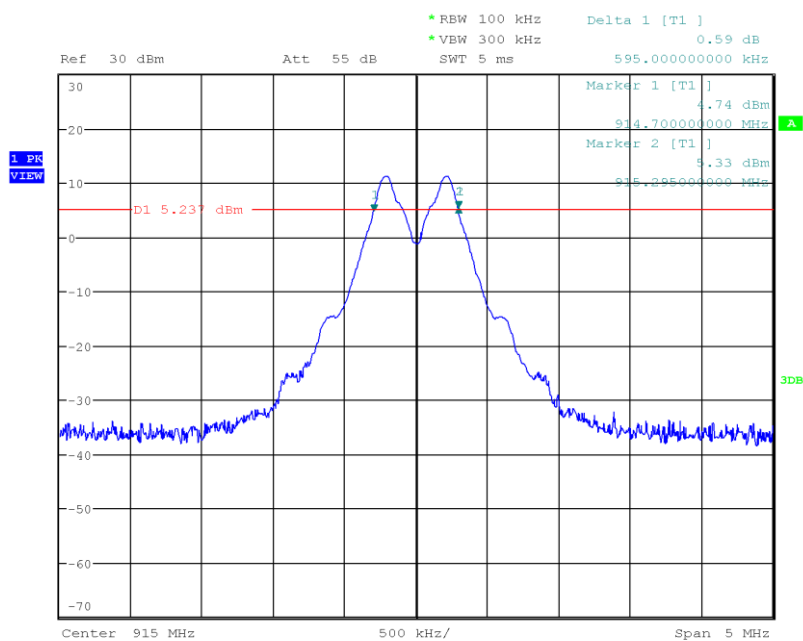
Project Number: G0M-2002-8859
 Applicant: Kamstrup A/S
 Model Description: Ultrasonic water meter
 Model: KWM2220
 Test Sample ID: 29577
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.8.1 Option 1
 Operational Mode: 2-FSK, Channel: 912.5 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Toralf Jahn
 Test Site: Eurofins Product Service GmbH
 Test Date: 2020-06-03
 Lower Frequency [MHz]: 912.200
 Upper Frequency [MHz]: 912.795
 6 dB Bandwidth [kHz]: 595



Date: 3.JUN.2020 10:18:37

DTS (6 dB) Bandwidth

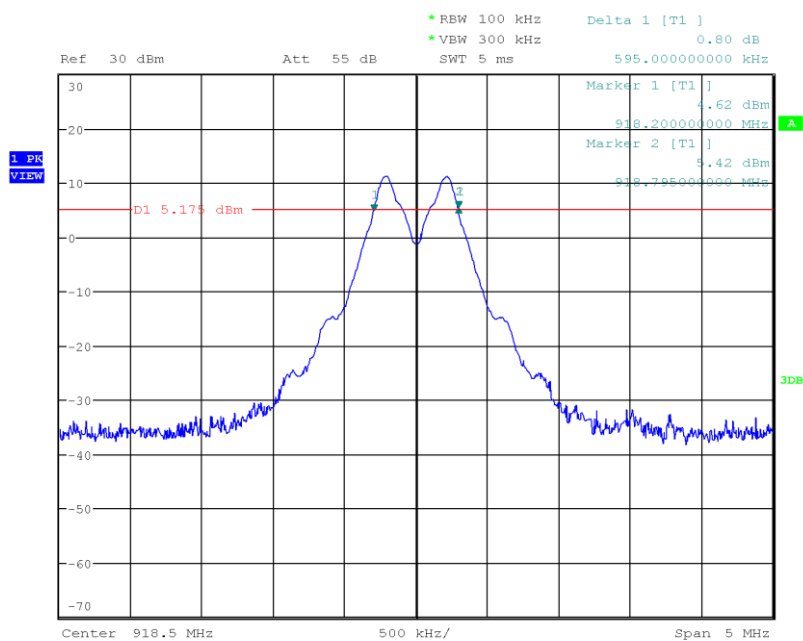
Project Number: G0M-2002-8859
 Applicant: Kamstrup A/S
 Model Description: Ultrasonic water meter
 Model: KWM2220
 Test Sample ID: 29577
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.8.1 Option 1
 Operational Mode: 2-FSK, Channel: 915.0 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Toralf Jahn
 Test Site: Eurofins Product Service GmbH
 Test Date: 2020-06-03
 Lower Frequency [MHz]: 914.700
 Upper Frequency [MHz]: 915.295
 6 dB Bandwidth [kHz]: 595



Date: 3.JUN.2020 10:21:21

DTS (6 dB) Bandwidth

Project Number: G0M-2002-8859
 Applicant: Kamstrup A/S
 Model Description: Ultrasonic water meter
 Model: KWM2220
 Test Sample ID: 29577
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.8.1 Option 1
 Operational Mode: 2-FSK, Channel: 918.5 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Toralf Jahn
 Test Site: Eurofins Product Service GmbH
 Test Date: 2020-06-03
 Lower Frequency [MHz]: 918.200
 Upper Frequency [MHz]: 918.795
 6 dB Bandwidth [kHz]: 595



Date: 3.JUN.2020 10:22:50

3.3 Test Conditions and Results - Maximum peak conducted output power

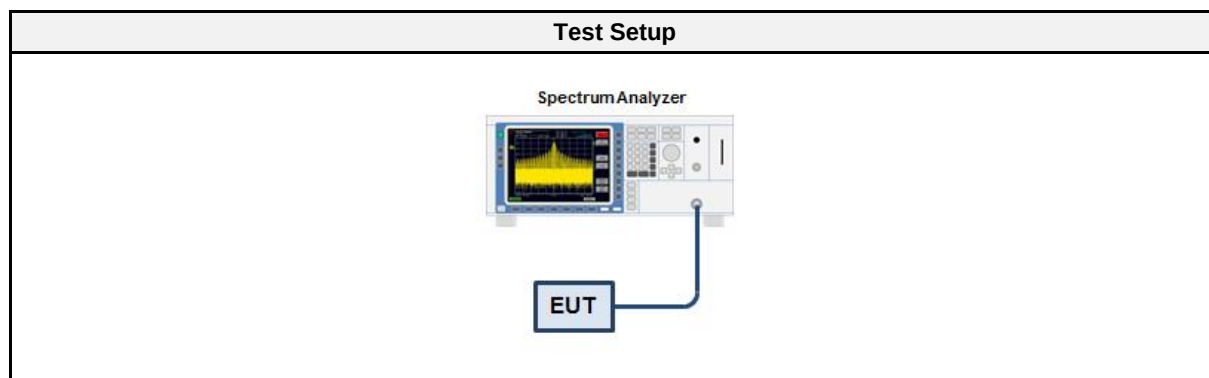
3.3.1 Information

Test Information	
Reference	FCC § 15.247(b)(1); ISED RSS-247, Issue 2 (section 5.4)
Measurement Method	ANSI C63.10 11.9.1
Operator	Toralf Jahn
Date	2020-06-03

3.3.2 Limits

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.

3.3.3 Setup



3.3.4 Equipment

Test Equipment					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum analyzer	R&S	FSU43	EF01631	2019-12	2020-12

3.3.5 Procedure

Test Procedure
1. EUT set to test mode (Communication tester is used if needed) 2. Analyzer resolution bandwidth is set $\geq$ DTS bandwidth 3. Detector set to peak and max hold 4. Sweep time is set to auto 5. After the trace has stabilized a marker is set to peak of envelope

3.3.6 Results

Test Results				
Channel [MHz]	Power [dBm]	Power [W]	Limit [W]	Verdict
912.5	13.104	0.0204	1.0	PASS
915.0	13.121	0.0205	1.0	PASS
918.5	13.105	0.0204	1.0	PASS

3.4 Test Conditions and Results - Power spectral density

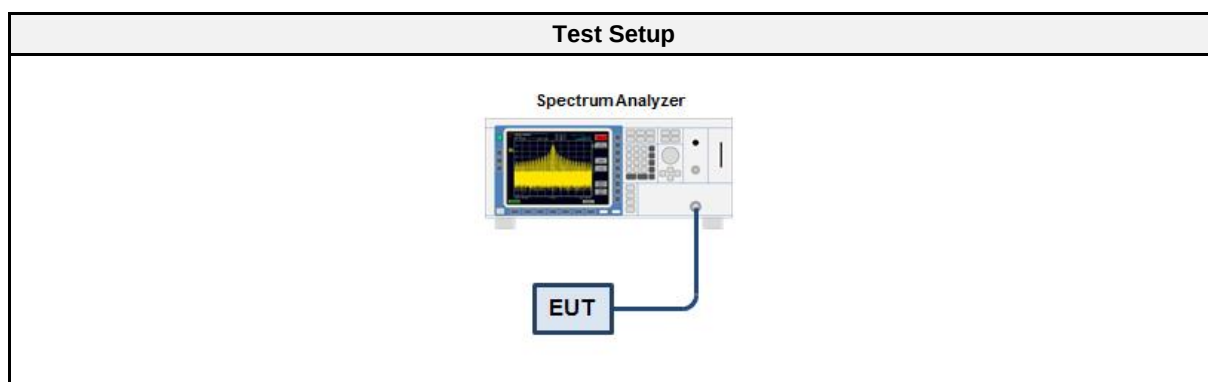
3.4.1 Information

Test Information	
Reference	FCC § 15.247(e); ISSED RSS-247, Issue 2 (section 5.2)
Measurement Method	ANSI C63.10 11.10.2, 14.3.2
Operator	Toralf Jahn
Date	2020-06-03

3.4.2 Limits

Limits
8 dBm / 3 kHz

3.4.3 Setup



3.4.4 Equipment

Test Equipment					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum analyzer	R&S	FSU43	EF01631	2019-12	2020-12

3.4.5 Procedure

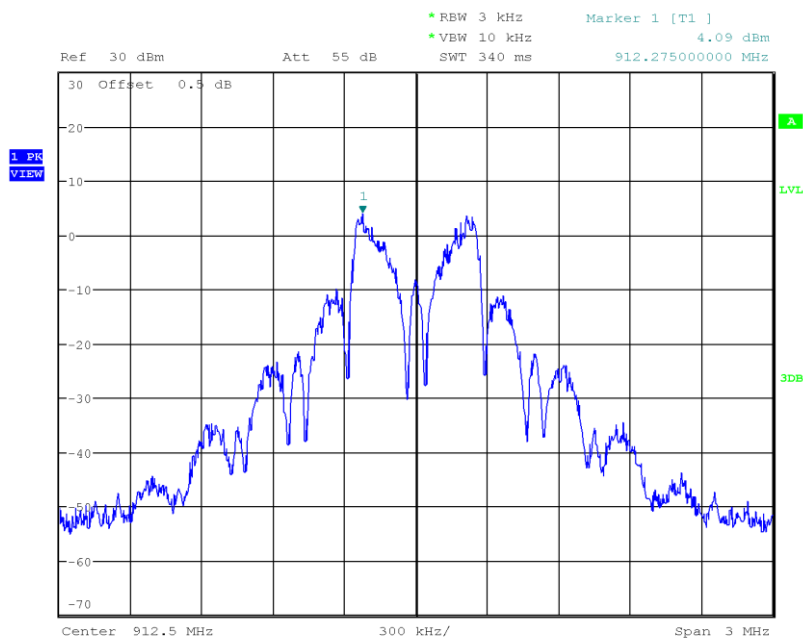
Test Procedure
1. EUT set to test mode 2. The analyzer is set to DTS channel center frequency with a span of 1.5 times the DTS bandwidth 3. The RBW is set to 100 kHz with VBW $\geq$ RBW and the detector is set to peak with max hold 4. After the trace has stabilized a marker is set to the envelope maximum 5. If the power spectral density is above the limit the RBW is reduced (not lower than 3 kHz) and the measurement is repeated 6. If the EUT has more than one transmit chain the procedure is repeated for each transmit chain

3.4.6 Results

Test Results			
Channel [MHz]	PSD [dBm/RBW]	Limit [dBm/3kHz]	Verdict
912.5	4.091	8.0	PASS
915.0	5.160	8.0	PASS
918.5	3.744	8.0	PASS
RBW = 3 kHz			

Peak Power Spectral Density

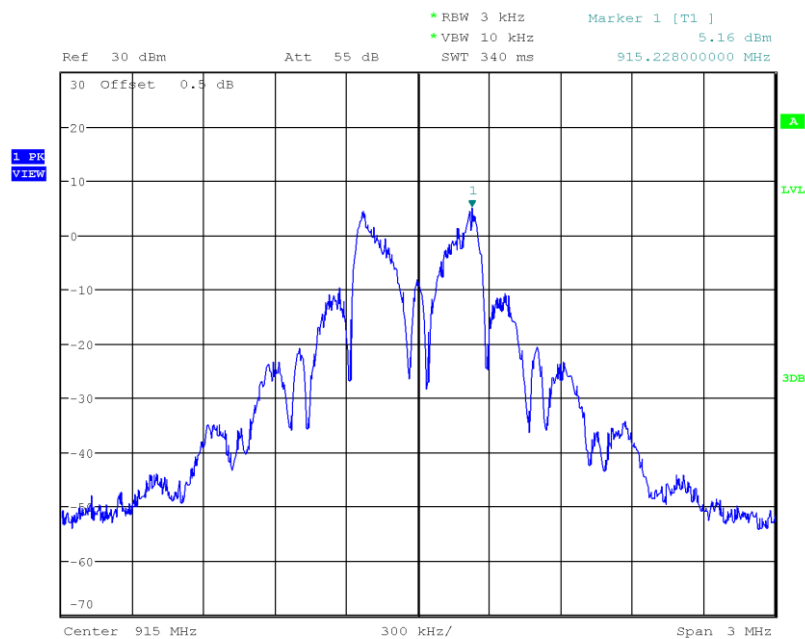
Project Number: G0M-2002-8859
 Applicant: Kamstrup A/S
 Model Description: Ultrasonic water meter
 Model: KWM2220
 Test Sample ID: 29577
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.10.2
 Operational Mode: 2-FSK, Channel: 912.5 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Toralf Jahn
 Test Site: Eurofins Product Service GmbH
 Test Date: 2020-06-03
 Peak Frequency [MHz]: 912.275
 Spectral Density [dBm/RBW]: 4.091
 Resolution Bandwidth [kHz]: 3 kHz



Date: 3.JUN.2020 10:34:58

Peak Power Spectral Density

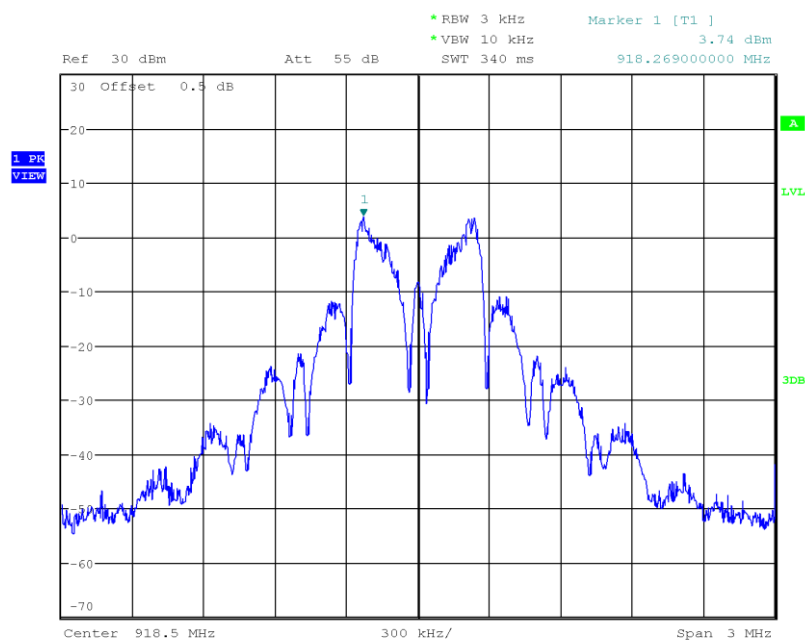
Project Number: G0M-2002-8859
 Applicant: Kamstrup A/S
 Model Description: Ultrasonic water meter
 Model: KWM2220
 Test Sample ID: 29577
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.10.2
 Operational Mode: 2-FSK, Channel: 915.0 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Toralf Jahn
 Test Site: Eurofins Product Service GmbH
 Test Date: 2020-06-03
 Peak Frequency [MHz]: 915.228
 Spectral Density [dBm/RBW]: 5.160
 Resolution Bandwidth [kHz]: 3 kHz



Date: 3.JUN.2020 10:45:32

Peak Power Spectral Density

Project Number: G0M-2002-8859
 Applicant: Kamstrup A/S
 Model Description: Ultrasonic water meter
 Model: KWM2220
 Test Sample ID: 29577
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.10.2
 Operational Mode: 2-FSK, Channel: 918.5 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Toralf Jahn
 Test Site: Eurofins Product Service GmbH
 Test Date: 2020-06-03
 Peak Frequency [MHz]: 918.269
 Spectral Density [dBm/RBW]: 3.744
 Resolution Bandwidth [kHz]: 3 kHz



Date: 3.JUN.2020 10:54:29

3.5 Test Conditions and Results - Band-edge compliance

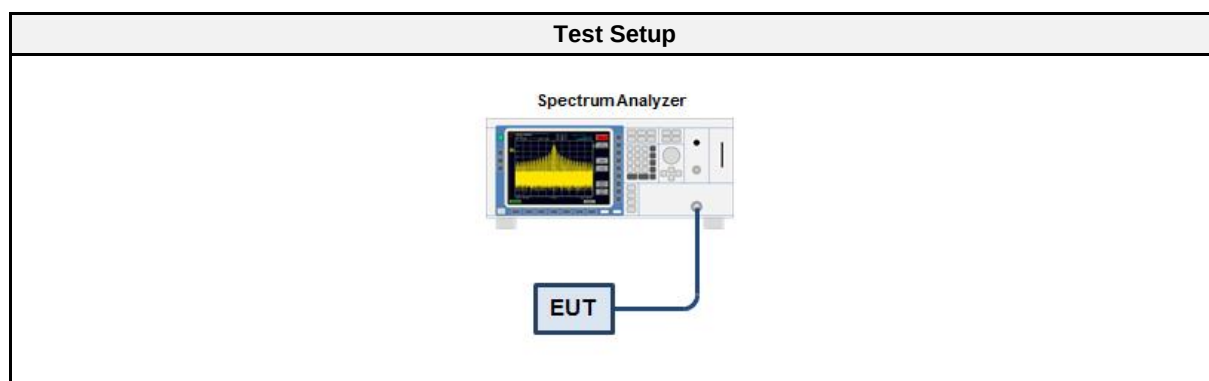
3.5.1 Information

Test Information	
Reference	FCC § 15.247(d); ISED RSS-247, Issue 2 (section 5.5)
Measurement Method	ANSI C63.10 11.13
Operator	Toralf Jahn
Date	2020-06-03

3.5.2 Limits

Limits	
Power Measurement	Out-of-band attenuation [dB]
Peak	20
RMS	30

3.5.3 Setup



3.5.4 Equipment

Test Equipment					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum analyzer	R&S	FSU43	EF01631	2019-12	2020-12

3.5.5 Procedure

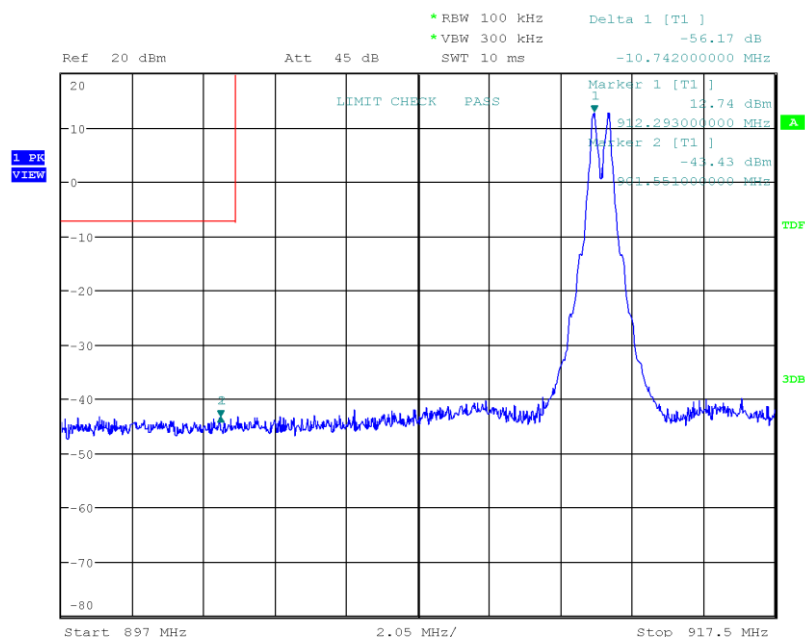
Test Procedure
1. EUT set to test mode (Communication tester is used if needed) 2. Span set around lower band edge and detector is set to peak and max hold 3. Resolution bandwidth is set to 100 kHz 4. Markers are set to peak emission levels within frequency band and outside frequency band 5. Band edge attenuation is determined from level difference

3.5.6 Results

Test Results				
Mode	Channel [MHz]	Out-of-band Attenuation [dB]	Limit [dB]	Verdict
Transmit	912.5	-56.17	-20	PASS
Transmit	918.5	-54.98	-20	PASS

Emissions in nonrestricted frequency bands at the Band-edge

Project Number: GOM-2002-8859
 Applicant: Kamstrup A/S
 Model Description: Ultrasonic water meter
 Model: KWM2220
 Test Sample ID: 29577
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 6.10
 Operational Mode: single frequency, Channel: 912.5 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Toralf Jahn
 Test Site: Eurofins Product Service GmbH
 Test Date: 2020-06-03
 Band-edge: Lower
 In-band Frequency [MHz]: 912.293
 Max. in-band Level [dBm/100 kHz]: 12.741
 Out-of-band Frequency [MHz]: 901.551
 Max. out-of-band Level [dBm/100 kHz]: -43.429
 Attenuation [dB]: -56.17



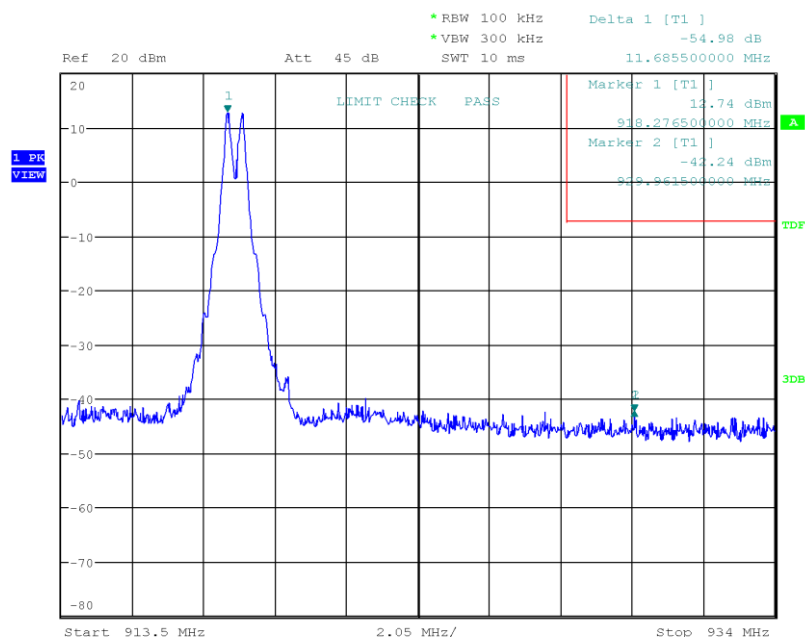
Date: 3.JUN.2020 10:38:09

Test Report No.: GOM-2002-8859-TFC247DT-V02

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

Emissions in nonrestricted frequency bands at the Band-edge

Project Number: GOM-2002-8859
 Applicant: Kamstrup A/S
 Model Description: Ultrasonic water meter
 Model: KWM2220
 Test Sample ID: 29577
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 6.10
 Operational Mode: single frequency, Channel: 918.5 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Toralf Jahn
 Test Site: Eurofins Product Service GmbH
 Test Date: 2020-06-03
 Band-edge: Upper
 In-band Frequency [MHz]: 918.277
 Max. in-band Level [dBm/100 kHz]: 12.742
 Out-of-band Frequency [MHz]: 929.962
 Max. out-of-band Level [dBm/100 kHz]: -42.238
 Attenuation [dB]: -54.98



Date: 3.JUN.2020 10:56:58

Test Report No.: GOM-2002-8859-TFC247DT-V02

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

3.6 Test Conditions and Results - Conducted spurious emissions

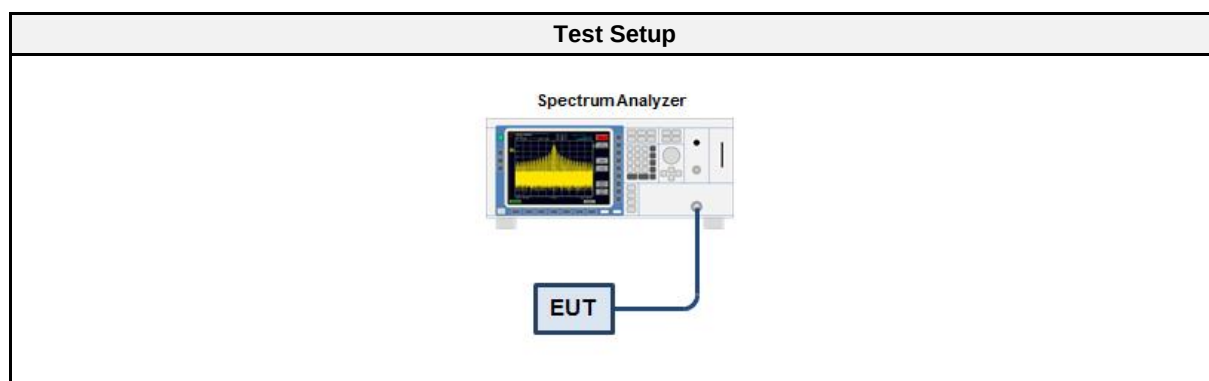
3.6.1 Information

Test Information	
Reference	FCC § 15.247(d); ISED RSS-247, Issue 2 (section 5.5)
Measurement Method	ANSI C63.10 11.11
Operator	Toralf Jahn
Date	2020-06-03

3.6.2 Limits

Limits	
Power Measurement	Out-of-band attenuation [dB]
Peak	20
RMS	30

3.6.3 Setup



3.6.4 Equipment

Test Equipment					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum analyzer	R&S	FSU43	EF01631	2019-12	2020-12

3.6.5 Procedure

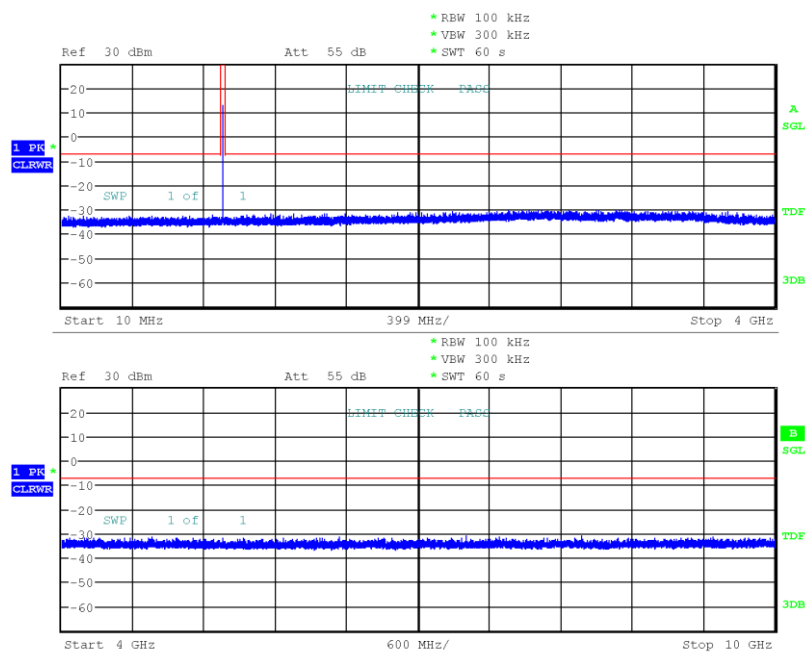
Test Procedure
1. EUT set to test mode (Communication tester is used if needed) 2. Span set around lower band edge and detector is set to peak and max hold 3. Resolution bandwidth is set to 100 kHz 4. Markers are set to peak emission levels within frequency band and outside frequency band 5. Band edge attenuation is determined from level difference

3.6.6 Results

Test Results		
Mode	Channel [MHz]	Verdict
Transmit	912.5	PASS
Transmit	915.0	PASS
Transmit	918.5	PASS

Conducted Spurious Emissions

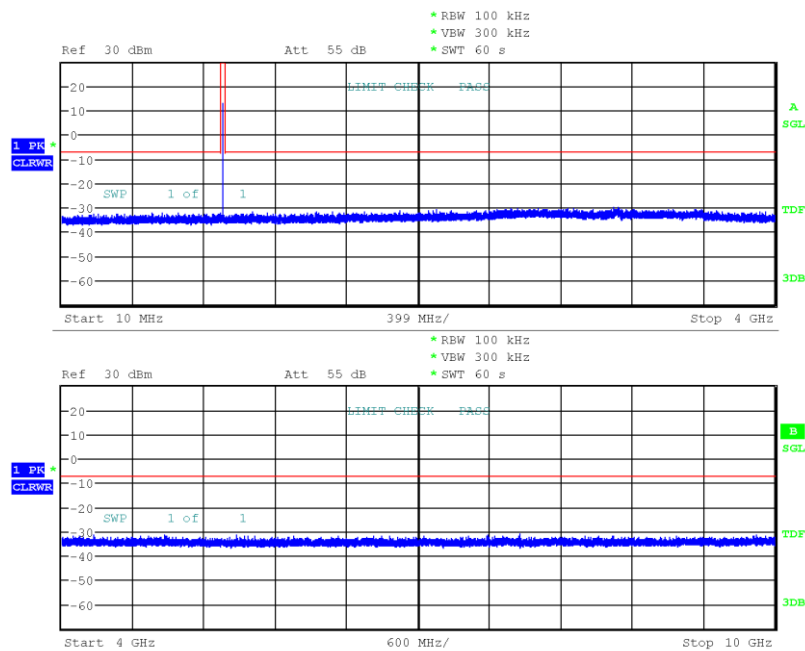
Project Number: G0M-2002-8859
 Applicant: Kamstrup A/S
 Model Description: Ultrasonic water meter
 Model: KWM2220
 Test Sample ID: 29577
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.11
 Operational Mode: 2-FSK, Channel: 912.5 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Toralf Jahn
 Test Site: Eurofins Product Service GmbH
 Test Date: 2020-06-03
 Max. in-band Frequency [MHz]: 912.3
 Max. in-band Level [dBm/100 kHz]: 12.8
 Out-of-band Limit [dBm/100 kHz]: -7.2



Date: 3.JUN.2020 10:42:19

Conducted Spurious Emissions

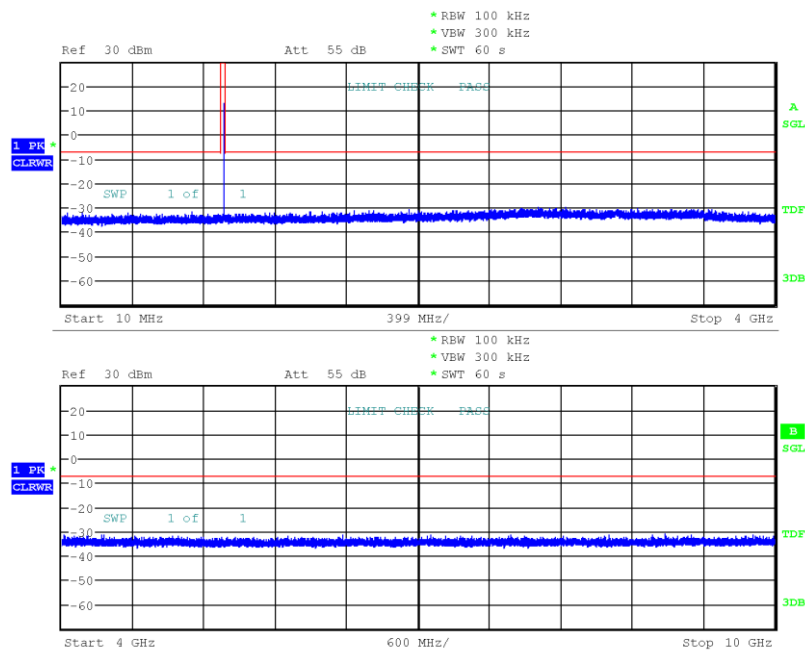
Project Number: G0M-2002-8859
 Applicant: Kamstrup A/S
 Model Description: Ultrasonic water meter
 Model: KWM2220
 Test Sample ID: 29577
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.11
 Operational Mode: 2-FSK, Channel: 915.0 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Toralf Jahn
 Test Site: Eurofins Product Service GmbH
 Test Date: 2020-06-03
 Max. in-band Frequency [MHz]: 914.8
 Max. in-band Level [dBm/100 kHz]: 12.8
 Out-of-band Limit [dBm/100 kHz]: -7.2



Date: 3.JUN.2020 10:49:09

Conducted Spurious Emissions

Project Number: G0M-2002-8859
 Applicant: Kamstrup A/S
 Model Description: Ultrasonic water meter
 Model: KWM2220
 Test Sample ID: 29577
 Reference Standards: FCC 15.247, RSS-247
 Reference Method: ANSI C63.10:2013, Section 11.11
 Operational Mode: 2-FSK, Channel: 918.5 MHz
 Operating Conditions: Tnom/Vnom
 Operator: Toralf Jahn
 Test Site: Eurofins Product Service GmbH
 Test Date: 2020-06-03
 Max. in-band Frequency [MHz]: 918.3
 Max. in-band Level [dBm/100 kHz]: 12.7
 Out-of-band Limit [dBm/100 kHz]: -7.3



Date: 3.JUN.2020 11:01:10

3.7 Test Conditions and Results - Transmitter radiated emissions

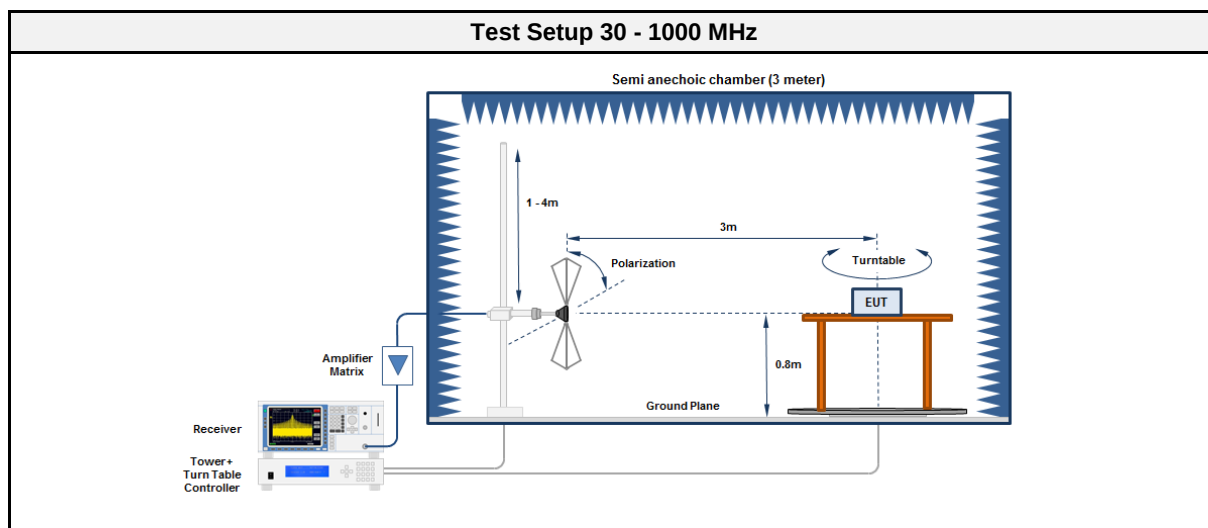
3.7.1 Information

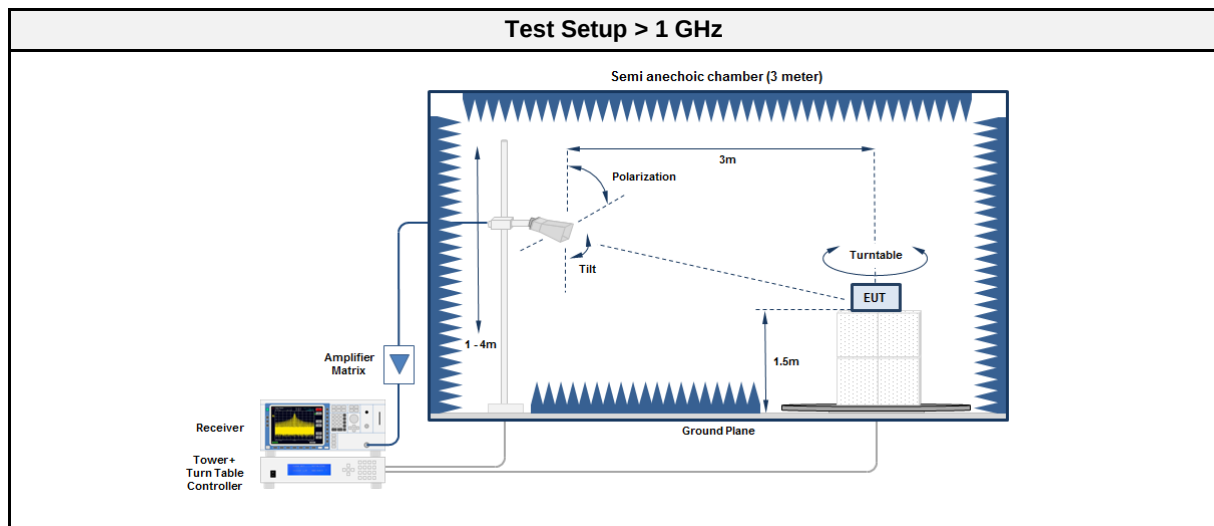
Test Information	
Reference	FCC § 15.247(d); FCC § 15.209; ISSED RSS-Gen, Issue 5 (section 6.13)
Measurement Method	ANSI C63.10 6.4, 6.5, 6.6, 11.12
Operator	Toralf Jahn
Date	2020-06-03

3.7.2 Limits

Limits			
Frequency [MHz]	Detector	Field strength [$\mu\text{V/m}$]	Measurement distance [m]
30 - 88	Quasi-Peak	100	3
88 - 216	Quasi-Peak	150	3
216 - 960	Quasi-Peak	200	3
960 - 1000	Quasi-Peak	500	3
>1000	Average	500	3

3.7.3 Setup





3.7.4 Equipment

Test Software			
Description	Manufacturer	Name	Version
EMC Software	DARE Instruments	RadiMation	2016.1.10

Test Equipment 30 - 1000 MHz					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Anechoic Chamber	Frankonia	AC1	EF00062	2018-07	2021-07
EMI Test Receiver	R&S	ESR7	EF00943	2019-10	2020-10
Antenna	R&S	HK 116	EF00030	2019-04	2022-04
Antenna	R&S	HL 223	EF00187	2019-05	2022-05

Test Equipment > 1 GHz					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Anechoic Chamber	Frankonia	AC1	EF00062	2018-07	2021-07
Spectrum analyzer	R&S	FSU26	EF01003	2019-07	2020-07
Antenna	Schwarzbeck	BBHA 9120D	EF00018	2019-10	2022-10

3.7.5 Procedure

Test Procedure 30 - 1000 MHz	
1.	EUT is placed on a non conducting support at the center of a turn table 0.8 m above the ground
2.	EUT set to test mode
3.	The receiver is set to peak detection with max hold
4.	The EUT is rotated through 360° and the height of the antenna is varied from 1 m to 4 m
5.	All significant emissions are measured again using the corresponding final detector

Test Procedure > 1 GHz	
1.	EUT is placed on a non conducting support at the center of a turn table 1.5 m above the ground
2.	EUT set to test mode
3.	The receiver is set to peak detection with max hold
4.	The EUT is rotated through 360° and the height of the antenna is varied from 1 m to 4 m
5.	All significant emissions are measured again using the corresponding final detector

3.7.6 Results

Test Report No.: G0M-2002-8859-TFC247DT-V02

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

Test Results helix antenna						
Channel [MHz]	Emission [MHz]	Level [dBμV/m]	Det.	Pol.	Limit [dBμV/m]	Margin [dB]
912.5	1024	38.32	pk	hor	74.00	-35.68
912.5	1048	44.80	pk	ver	74.00	-29.20
912.5	1827	33.54	pk	hor	74.00	-40.46
912.5	1827	38.81	pk	ver	74.00	-35.19
912.5	2413	30.05	pk	hor	74.00	-43.95
912.5	2740	35.00	pk	hor	74.00	-39.00
912.5	2740	36.25	pk	ver	74.00	-37.75
912.5	3649	34.81	pk	hor	74.00	-39.19
915.0	1000	38.00	pk	hor	74.00	-36.00
915.0	1034	45.90	pk	ver	74.00	-28.10
915.0	1827	35.06	pk	hor	74.00	-38.94
915.0	1832	40.86	pk	ver	74.00	-33.14
915.0	2745	34.37	pk	hor	74.00	-39.63
915.0	2745	36.33	pk	ver	74.00	-37.67
915.0	3659	34.56	pk	hor	74.00	-39.44
918.5	1024	38.51	pk	hor	74.00	-35.49
918.5	1034	45.30	pk	ver	74.00	-28.70
918.5	1837	34.42	pk	hor	74.00	-39.58
918.5	1837	39.83	pk	ver	74.00	-34.17
918.5	2755	33.89	pk	hor	74.00	-40.11
918.5	2755	35.35	pk	ver	74.00	-38.65
918.5	3673	34.61	pk	hor	74.00	-39.39

Test Results wall antenna						
Channel [MHz]	Emission [MHz]	Level [dBμV/m]	Det.	Pol.	Limit [dBμV/m]	Margin [dB]
912.5	257.6	35.00	qpk	hor	46.00	-11.01
912.5	407.6	33.20	qpk	ver	46.00	-12.83
915.0	257.78	35.20	qpk	hor	46.00	-10.78
915.0	407.36	33.00	qpk	ver	46.00	-13.04
918.5	258.14	35.50	qpk	hor	46.00	-10.52
918.5	407.66	33.20	qpk	ver	46.00	-12.85
912.5	1072	40.61	pk	hor	74.00	-33.39
912.5	1072	42.05	pk	ver	74.00	-31.95
912.5	1827	43.77	pk	hor	74.00	-30.23
912.5	1827	42.83	pk	ver	74.00	-31.17
912.5	2740	32.85	pk	hor	74.00	-41.15
912.5	2740	36.00	pk	ver	74.00	-38.00
915.0	1072	40.78	pk	hor	74.00	-33.22
915.0	1163	43.19	pk	ver	74.00	-30.81
915.0	1827	43.91	pk	hor	74.00	-30.09
915.0	1827	41.90	pk	ver	74.00	-32.10
915.0	2745	33.49	pk	hor	74.00	-40.51
915.0	2745	36.96	pk	ver	74.00	-37.04
918.5	1082	42.48	pk	hor	74.00	-31.52
918.5	1168	44.37	pk	ver	74.00	-29.63
918.5	1837	43.57	pk	hor	74.00	-30.43
918.5	1837	42.72	pk	ver	74.00	-31.28
918.5	2755	34.16	pk	hor	74.00	-39.84
918.5	2755	35.06	pk	ver	74.00	-38.94

Test Results pit antenna 6697916						
Channel [MHz]	Emission [MHz]	Level [dBμV/m]	Det.	Pol.	Limit [dBμV/m]	Margin [dB]
912.5	404.54	42.40	pk	hor	46.00	-03.55
912.5	404.54	36.70	qpk	hor	46.00	-09.28
915.0	406.52	42.50	pk	hor	46.00	-03.48
915.0	406.52	36.90	qpk	hor	46.00	-09.13
918.5	406.88	41.30	pk	hor	46.00	-04.69
918.5	406.88	37.00	qpk	hor	46.00	-09.04
912.5	1000	41.31	pk	hor	74.00	-32.69
912.5	1005	42.44	pk	ver	74.00	-31.56
912.5	1827	41.51	pk	hor	74.00	-32.49
912.5	1827	42.57	pk	ver	74.00	-31.43
912.5	2740	33.49	pk	hor	74.00	-40.51
912.5	2740	35.31	pk	ver	74.00	-38.69
915.0	1000	43.39	pk	ver	74.00	-30.61
915.0	1005	41.84	pk	hor	74.00	-32.16
915.0	1832	42.31	pk	hor	74.00	-31.69
915.0	1832	42.64	pk	ver	74.00	-31.36
915.0	2745	33.74	pk	hor	74.00	-40.26
915.0	2745	36.12	pk	ver	74.00	-37.88
915.0	5237	36.59	pk	hor	74.00	-37.41
918.5	1000	42.37	pk	ver	74.00	-31.63
918.5	1173	40.98	pk	hor	74.00	-33.02
918.5	1837	41.17	pk	hor	74.00	-32.83
918.5	1837	41.78	pk	ver	74.00	-32.22
918.5	2755	36.22	pk	ver	74.00	-37.78

Test Results pit antenna 6697902						
Channel [MHz]	Emission [MHz]	Level [dBμV/m]	Det.	Pol.	Limit [dBμV/m]	Margin [dB]
912.5	334.64	34.00	pk	hor	46.00	-11.95
912.5	608.96	37.60	pk	ver	46.00	-08.41
912.5	608.96	31.70	qpk	ver	46.00	-14.28
915.0	335.06	34.50	pk	hor	46.00	-11.55
915.0	609.08	37.70	pk	ver	46.00	-08.27
915.0	609.08	31.70	qpk	ver	46.00	-14.28
918.5	335.3	34.80	pk	hor	46.00	-11.19
918.5	608.6	38.50	pk	ver	46.00	-07.49
918.5	608.6	32.40	qpk	ver	46.00	-13.61
912.5	1087	40.45	pk	hor	74.00	-33.55
912.5	1087	42.76	pk	ver	74.00	-31.24
912.5	1827	43.58	pk	hor	74.00	-30.42
912.5	1827	42.81	pk	ver	74.00	-31.19
912.5	2740	35.52	pk	hor	74.00	-38.48
912.5	2740	35.20	pk	ver	74.00	-38.80
915.0	1139	41.22	pk	ver	74.00	-32.78
915.0	1173	39.73	pk	hor	74.00	-34.27
915.0	1827	42.17	pk	hor	74.00	-31.83
915.0	1832	43.60	pk	ver	74.00	-30.40
915.0	2745	35.33	pk	hor	74.00	-38.67
915.0	2745	35.18	pk	ver	74.00	-38.82
918.5	1058	40.25	pk	hor	74.00	-33.75
918.5	1139	42.00	pk	ver	74.00	-32.00
918.5	1837	41.88	pk	hor	74.00	-32.12
918.5	1837	43.98	pk	ver	74.00	-30.02
918.5	2755	34.97	pk	hor	74.00	-39.03
918.5	2755	35.96	pk	ver	74.00	-38.04

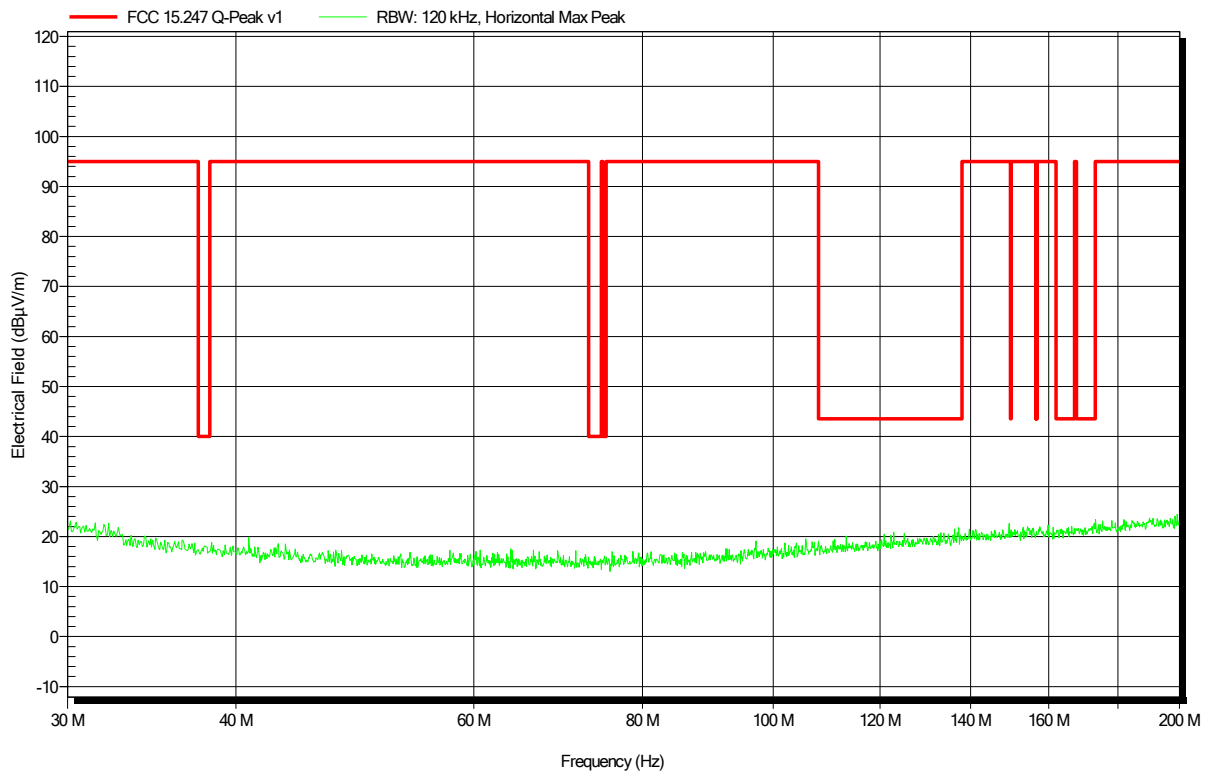
ANNEX A Transmitter spurious emissions

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Mr. Jahn
Measurement software: RadiMation, version 2016.1.10
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Rohde & Schwarz HK 116, Horizontal
Measurement distance: 3 m
Mode: TX; Helix Antenna, Channel Low
Test Date: 2020-06-05
Note:

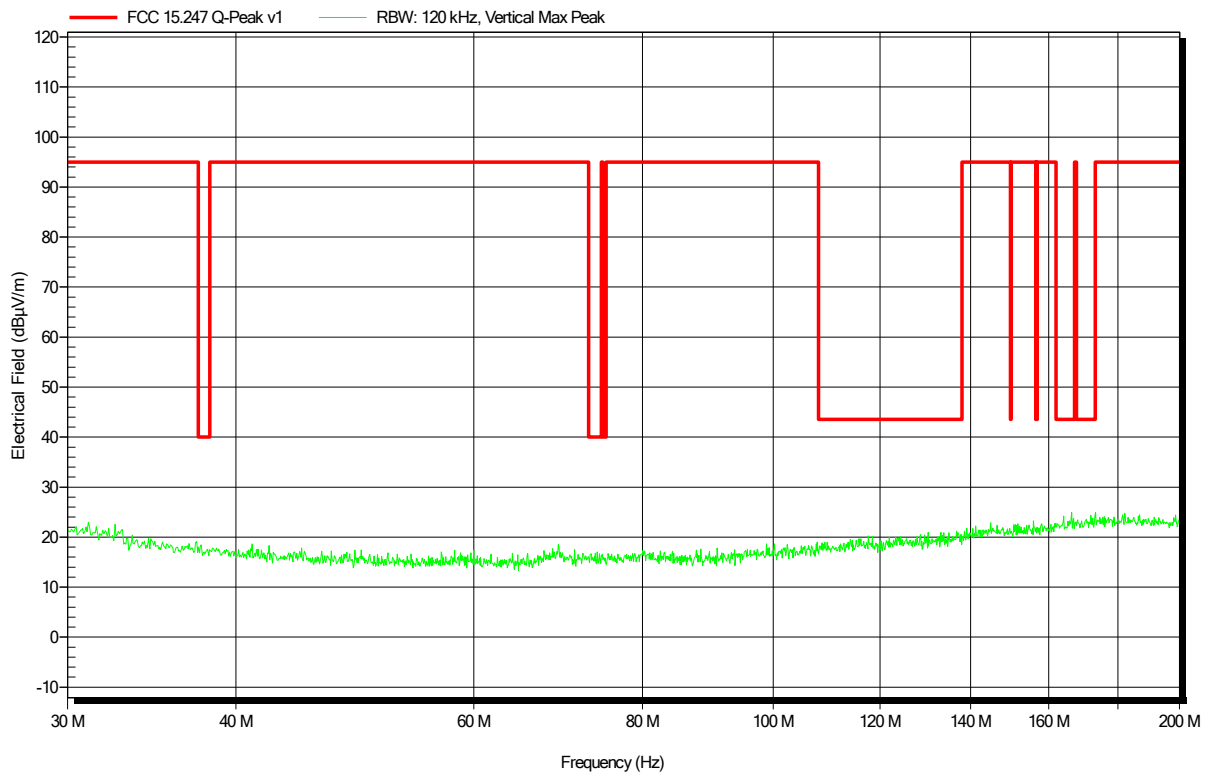
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Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859
 Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Jahn
 Measurement software: RadiMation, version 2016.1.10
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Rohde & Schwarz HK 116, Vertical
 Measurement distance: 3 m
 Mode: TX; Helix Antenna, Channel Low
 Test Date: 2020-06-05
 Note:

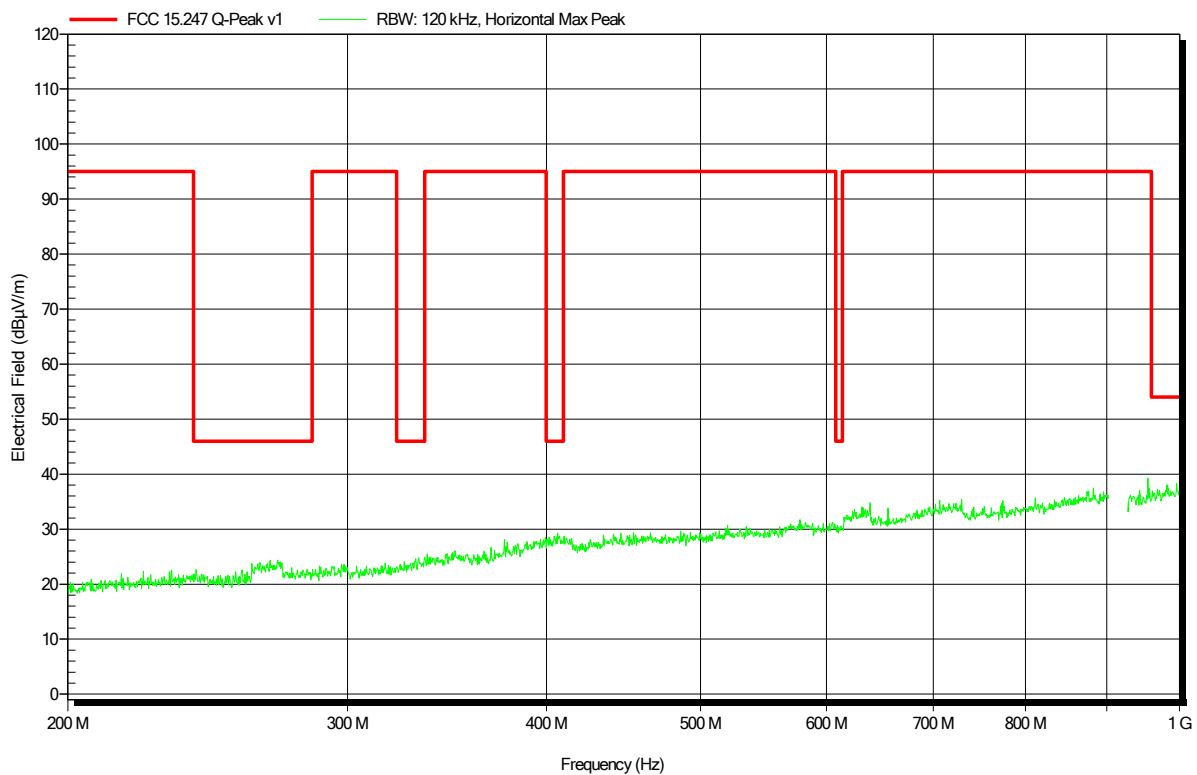
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Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859
 Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Jahn
 Measurement software: RadiMation, version 2016.1.10
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Rohde & Schwarz HL 223, Horizontal
 Measurement distance: 3 m
 Mode: TX; Helix Antenna, Channel Low
 Test Date: 2020-06-05
 Note:

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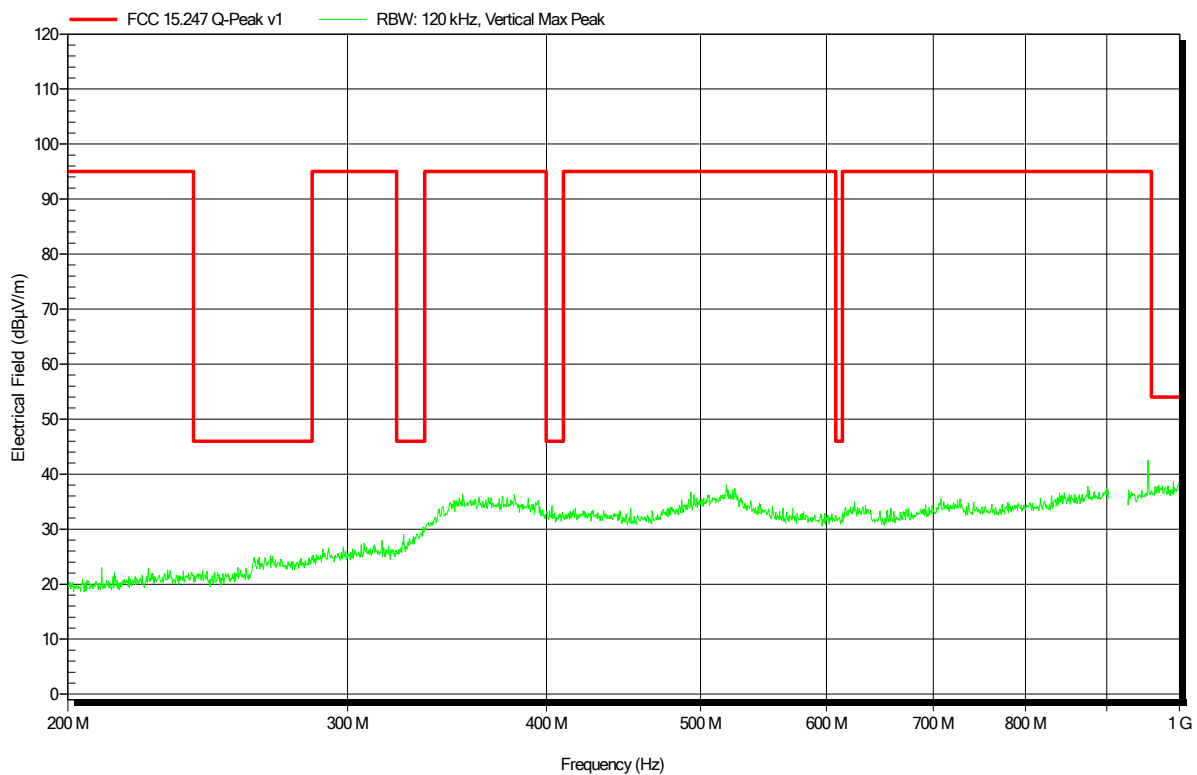


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Mr. Jahn
Measurement software: RadiMation, version 2016.1.10
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Rohde & Schwarz HL 223, Vertical
Measurement distance: 3 m
Mode: TX; Helix Antenna, Channel Low
Test Date: 2020-06-05
Note:

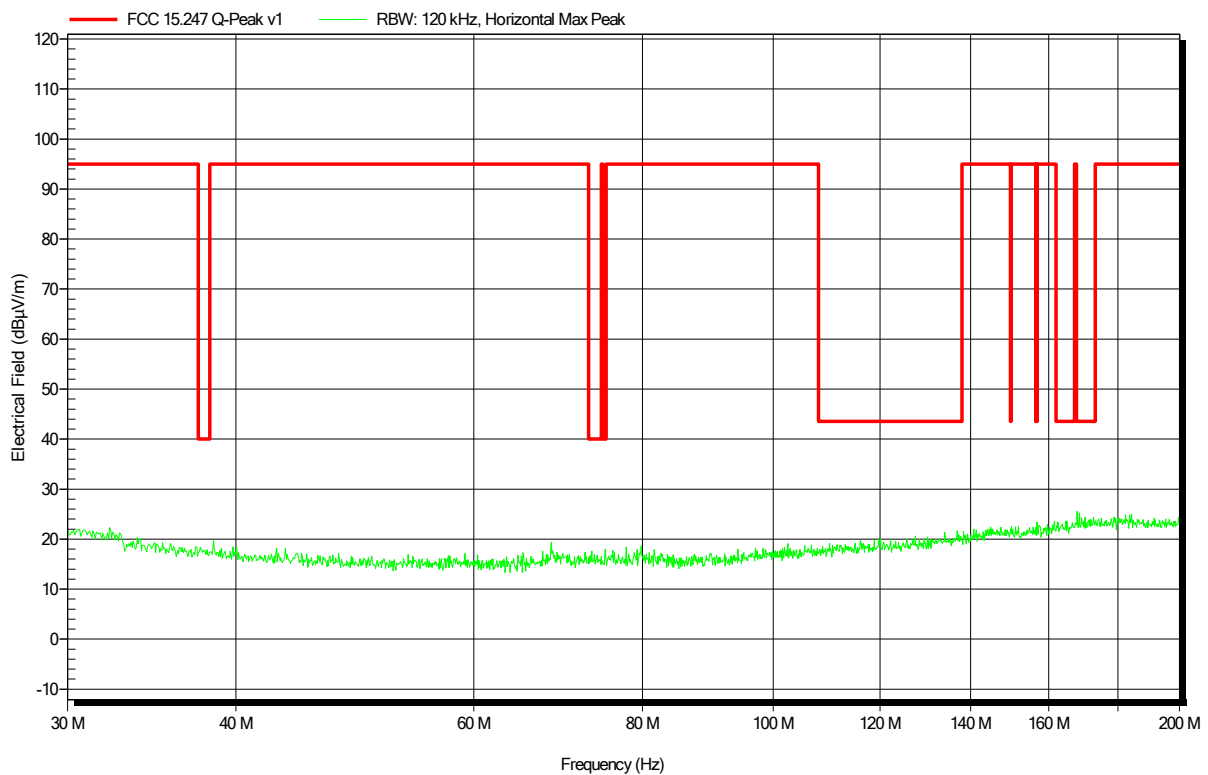
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Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859
 Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Jahn
 Measurement software: RadiMation, version 2016.1.10
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Rohde & Schwarz HK 116, Horizontal
 Measurement distance: 3 m
 Mode: TX; Helix Antenna, Channel Mid
 Test Date: 2020-06-05
 Note:

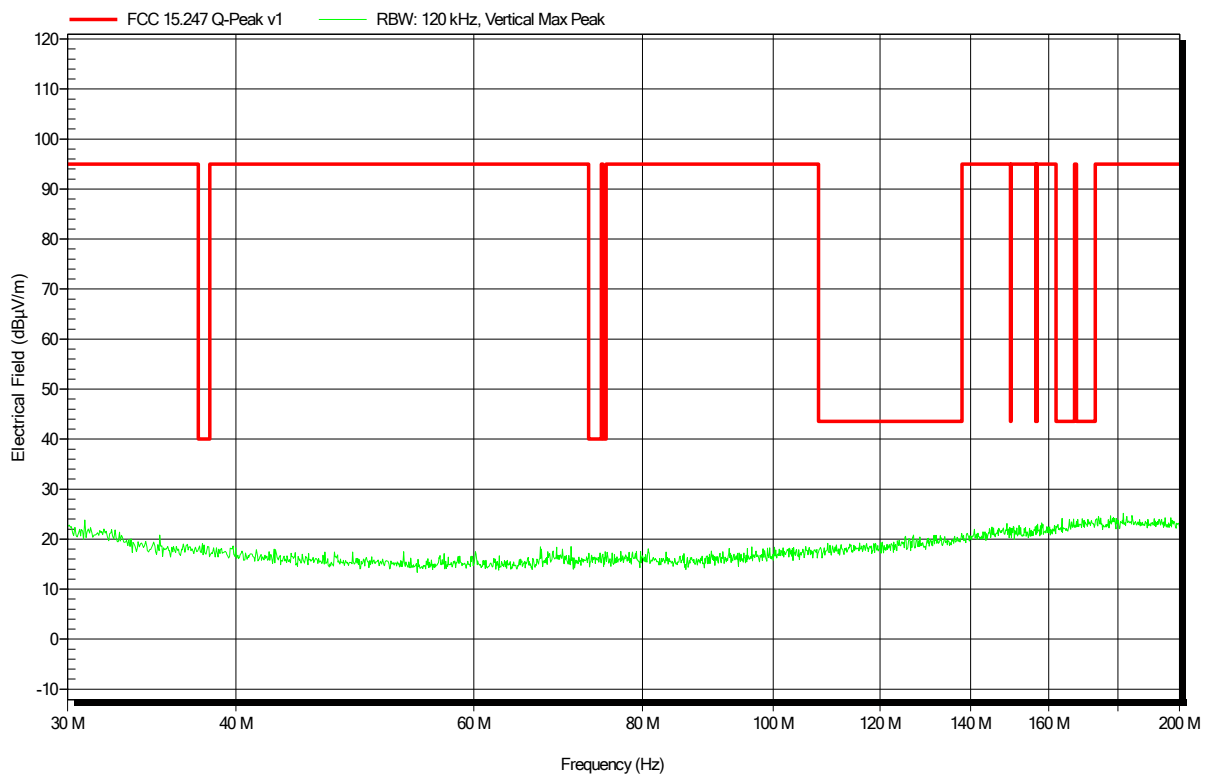
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Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859
 Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Jahn
 Measurement software: RadiMation, version 2016.1.10
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Rohde & Schwarz HK 116, Vertical
 Measurement distance: 3 m
 Mode: TX; Helix Antenna, Channel Mid
 Test Date: 2020-06-05
 Note:

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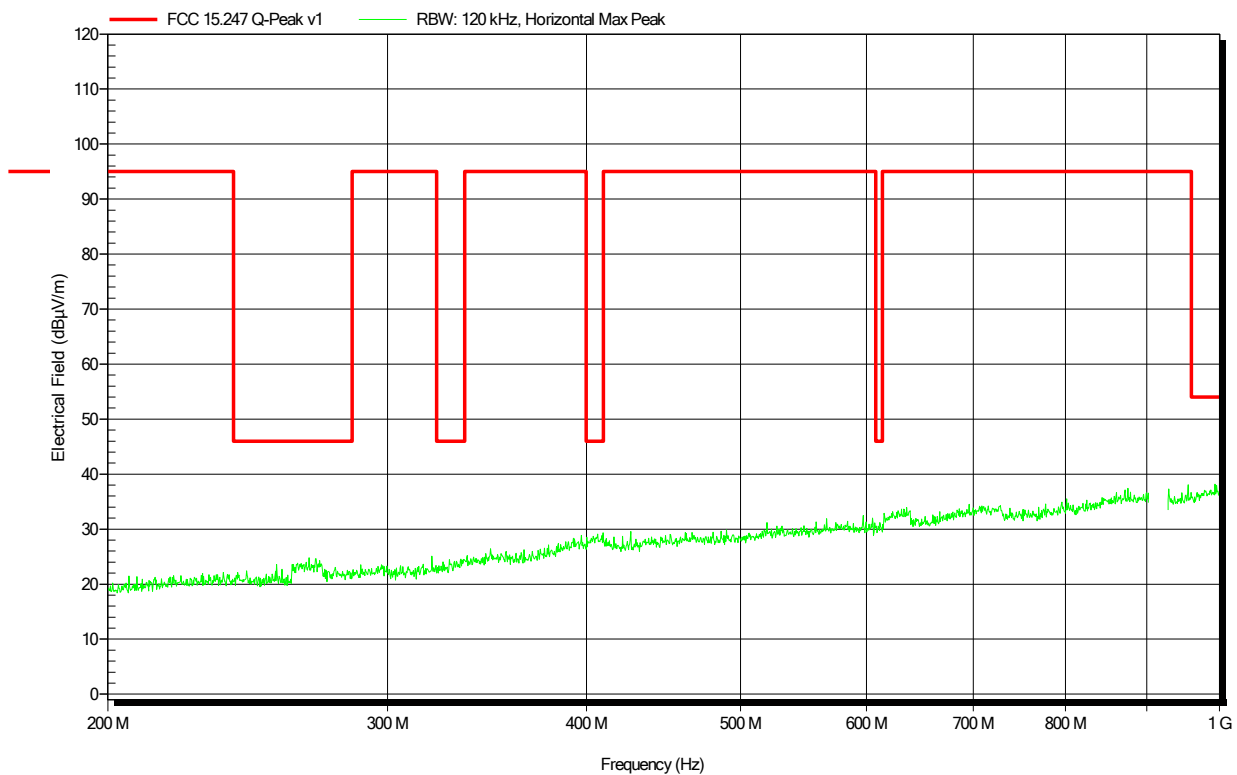


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Mr. Jahn
Measurement software: RadiMation, version 2016.1.10
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Rohde & Schwarz HL 223, Horizontal
Measurement distance: 3 m
Mode: TX; Helix Antenna, Channel Mid
Test Date: 2020-06-05
Note:

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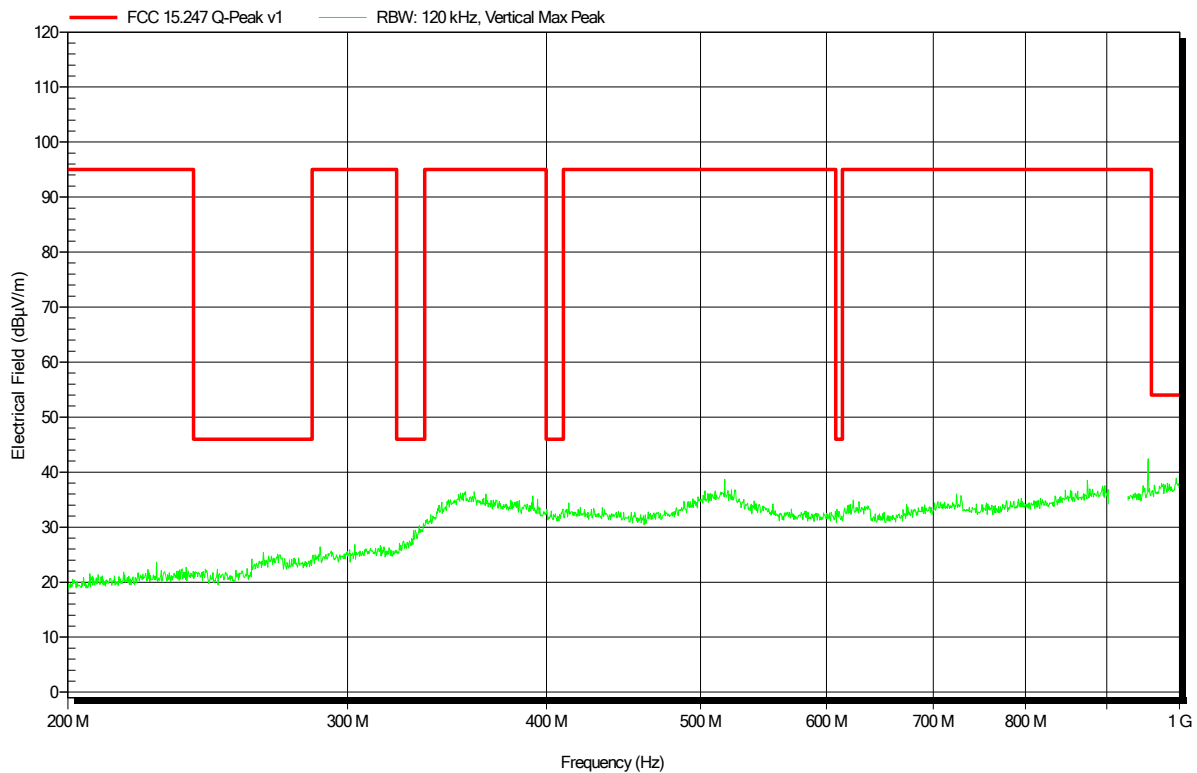


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Mr. Jahn
Measurement software: RadiMation, version 2016.1.10
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Rohde & Schwarz HL 223, Vertical
Measurement distance: 3 m
Mode: TX; Helix Antenna, Channel Mid
Test Date: 2020-06-05
Note:

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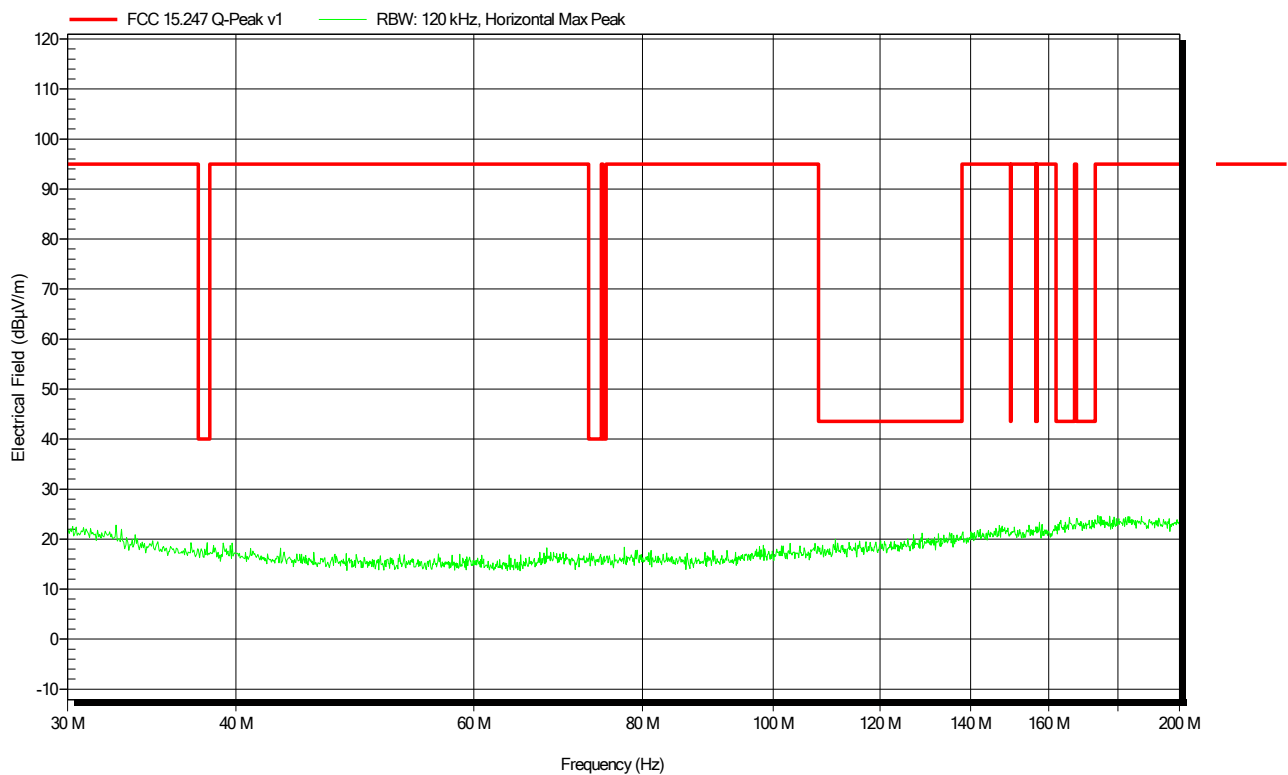


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Mr. Jahn
Measurement software: RadiMation, version 2016.1.10
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Rohde & Schwarz HK 116, Horizontal
Measurement distance: 3 m
Mode: TX; Helix Antenna, Channel High
Test Date: 2020-06-05
Note:

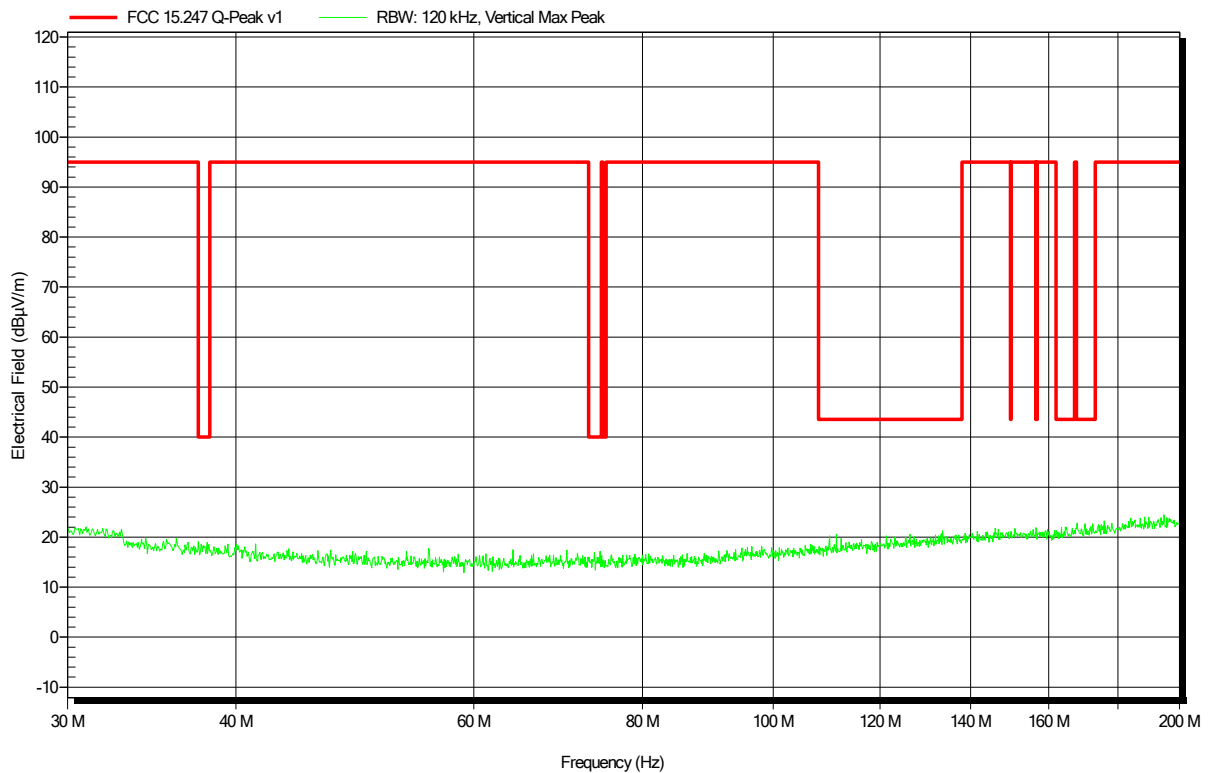
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Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859
 Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Jahn
 Measurement software: RadiMation, version 2016.1.10
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Rohde & Schwarz HK 116, Vertical
 Measurement distance: 3 m
 Mode: TX; Helix Antenna, Channel High
 Test Date: 2020-06-05
 Note:

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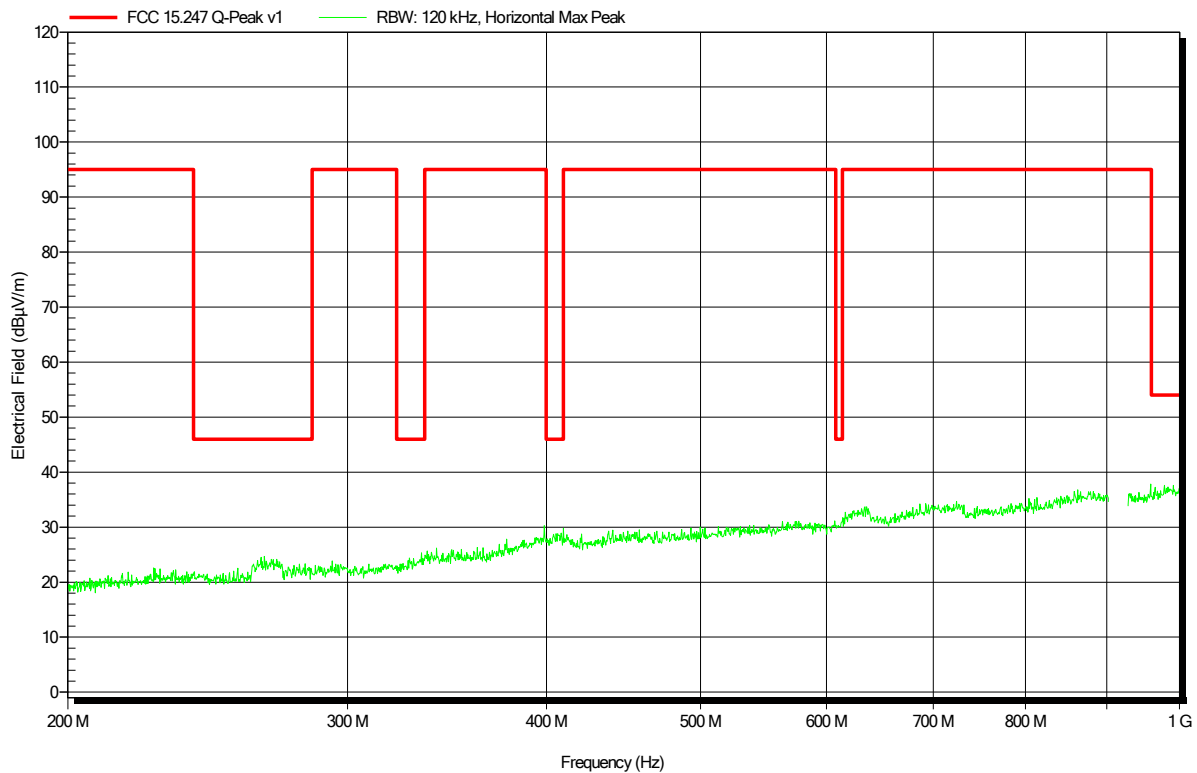


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Mr. Jahn
Measurement software: RadiMation, version 2016.1.10
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Rohde & Schwarz HL 223, Horizontal
Measurement distance: 3 m
Mode: TX; Helix Antenna, Channel High
Test Date: 2020-06-05
Note:

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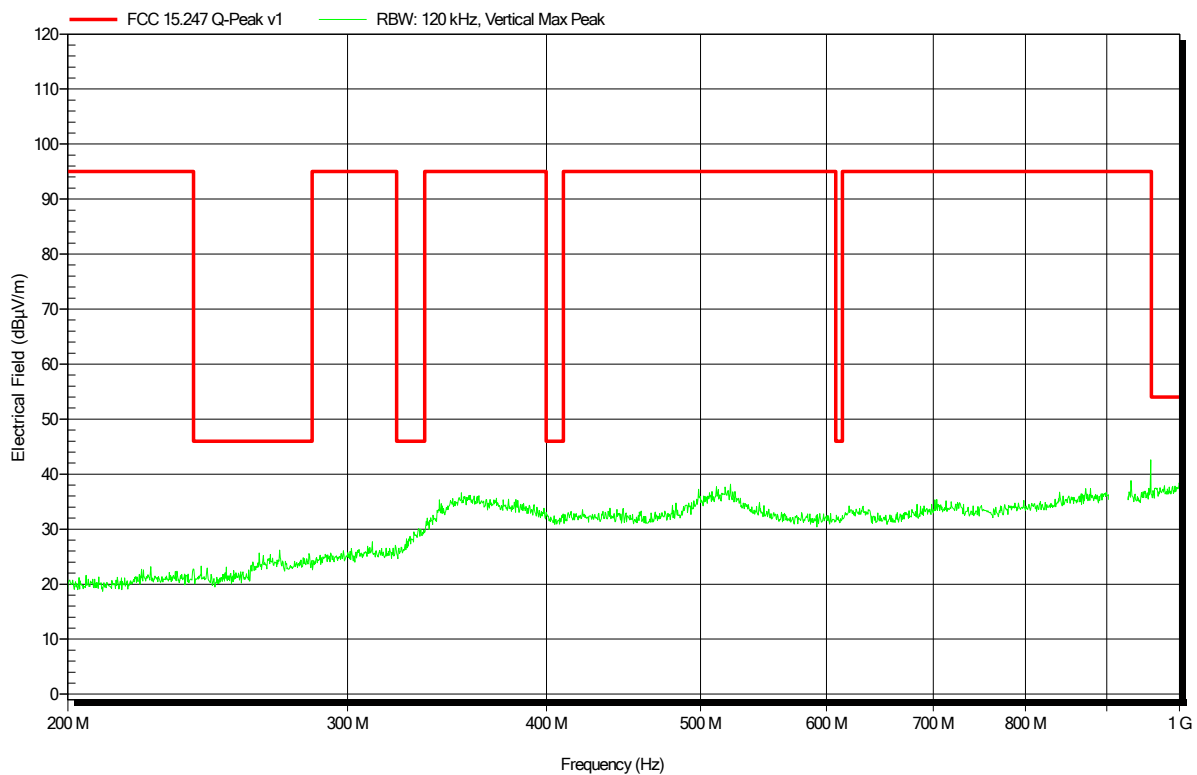


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Mr. Jahn
Measurement software: RadiMation, version 2016.1.10
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Rohde & Schwarz HL 223, Vertical
Measurement distance: 3 m
Mode: TX; Helix Antenna, Channel High
Test Date: 2020-06-05
Note:

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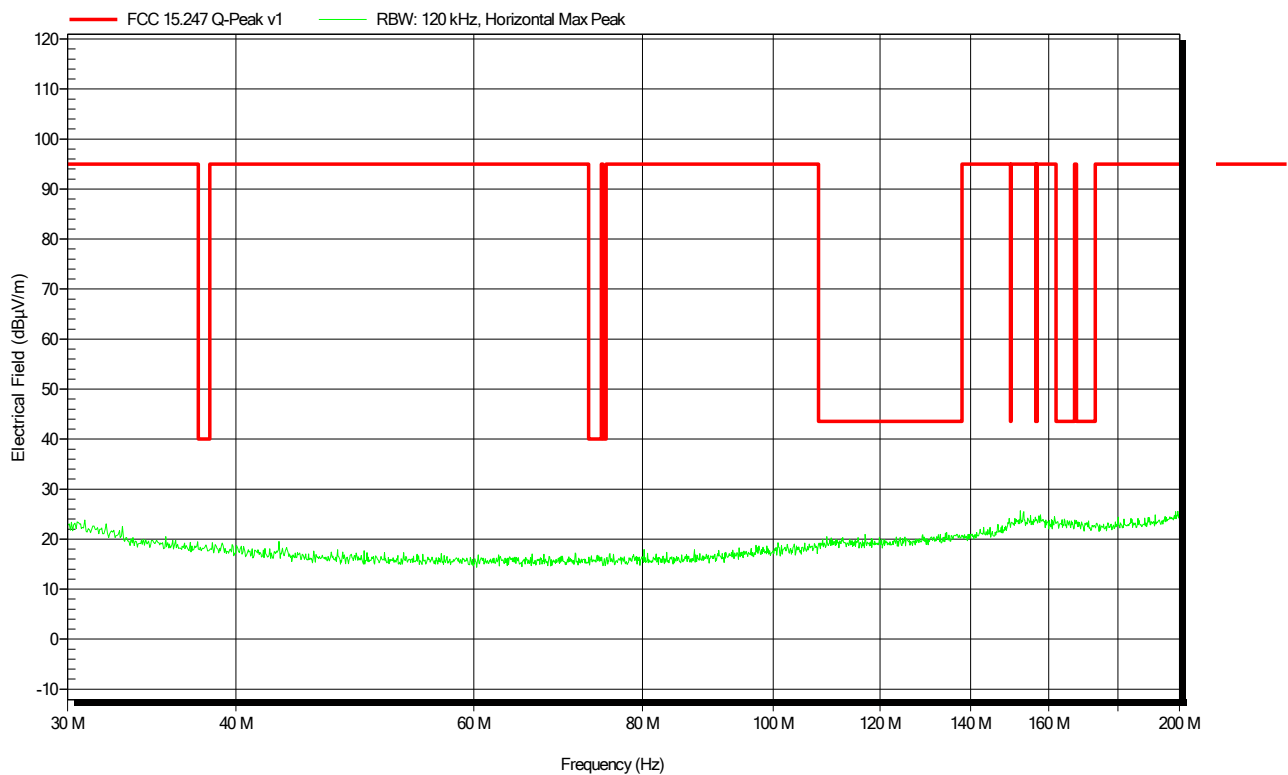


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Mr. Jahn
Measurement software: RadiMation, version 2016.1.10
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Rohde & Schwarz HK 116, Horizontal
Measurement distance: 3 m
Mode: TX; Wall Antenna, Channel Low
Test Date: 2020-06-05
Note:

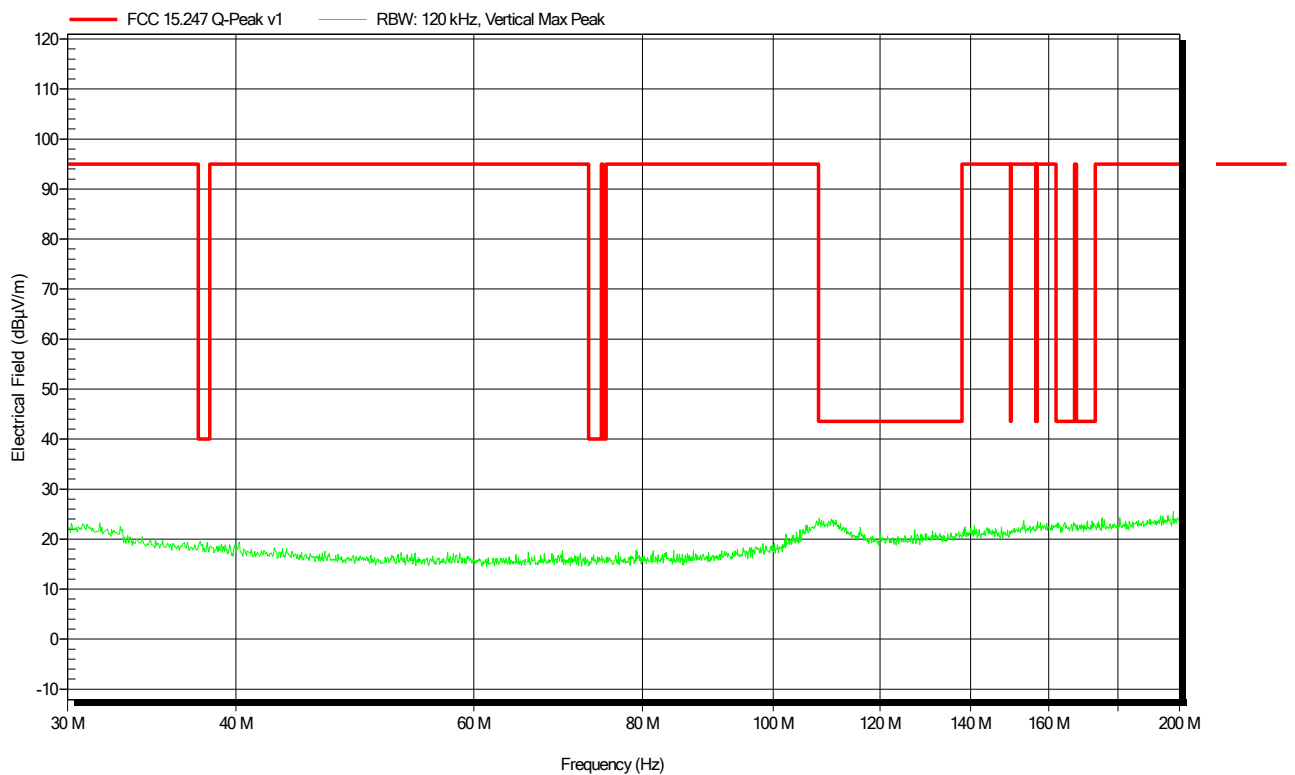
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Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859
 Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Jahn
 Measurement software: RadiMation, version 2016.1.10
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Rohde & Schwarz HK 116, Vertical
 Measurement distance: 3 m
 Mode: TX; Wall Antenna, Channel Low
 Test Date: 2020-06-05
 Note:

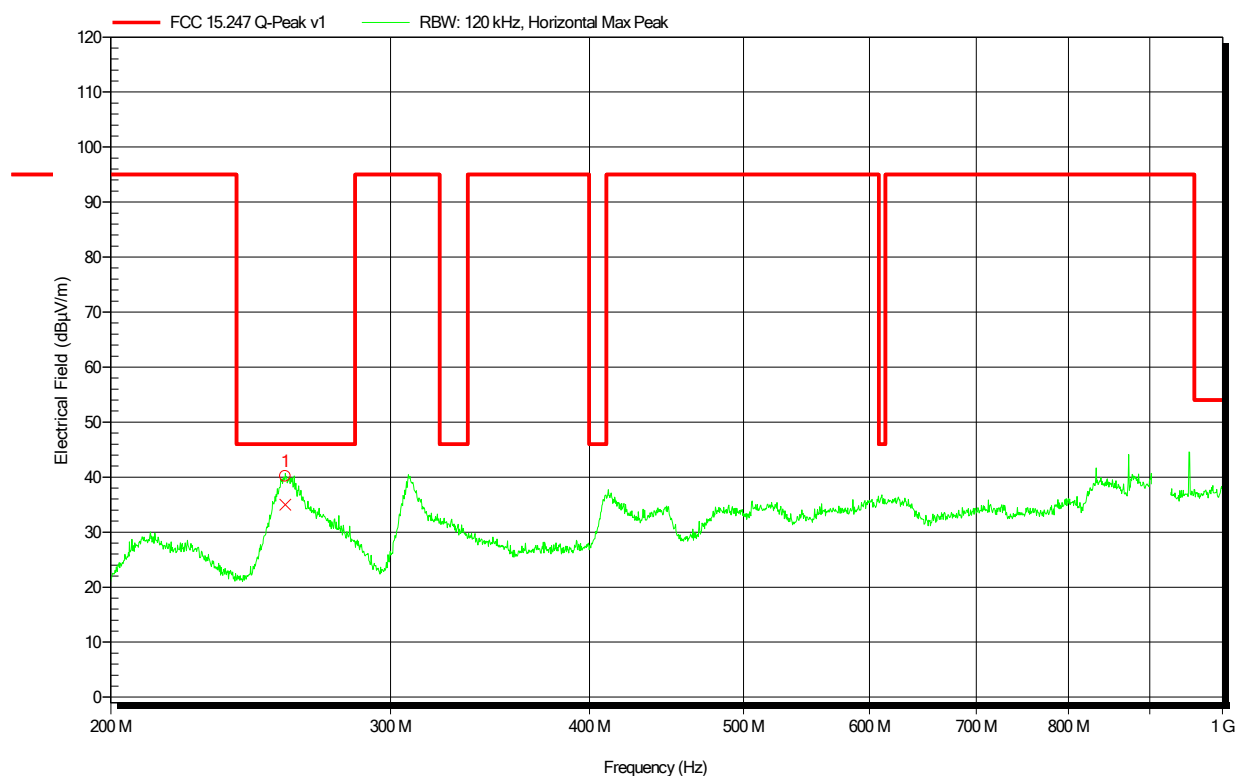
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Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859
 Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Jahn
 Measurement software: RadiMation, version 2016.1.10
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Rohde & Schwarz HL 223, Horizontal
 Measurement distance: 3 m
 Mode: TX; Wall Antenna, Channel Low
 Test Date: 2020-06-05
 Note:

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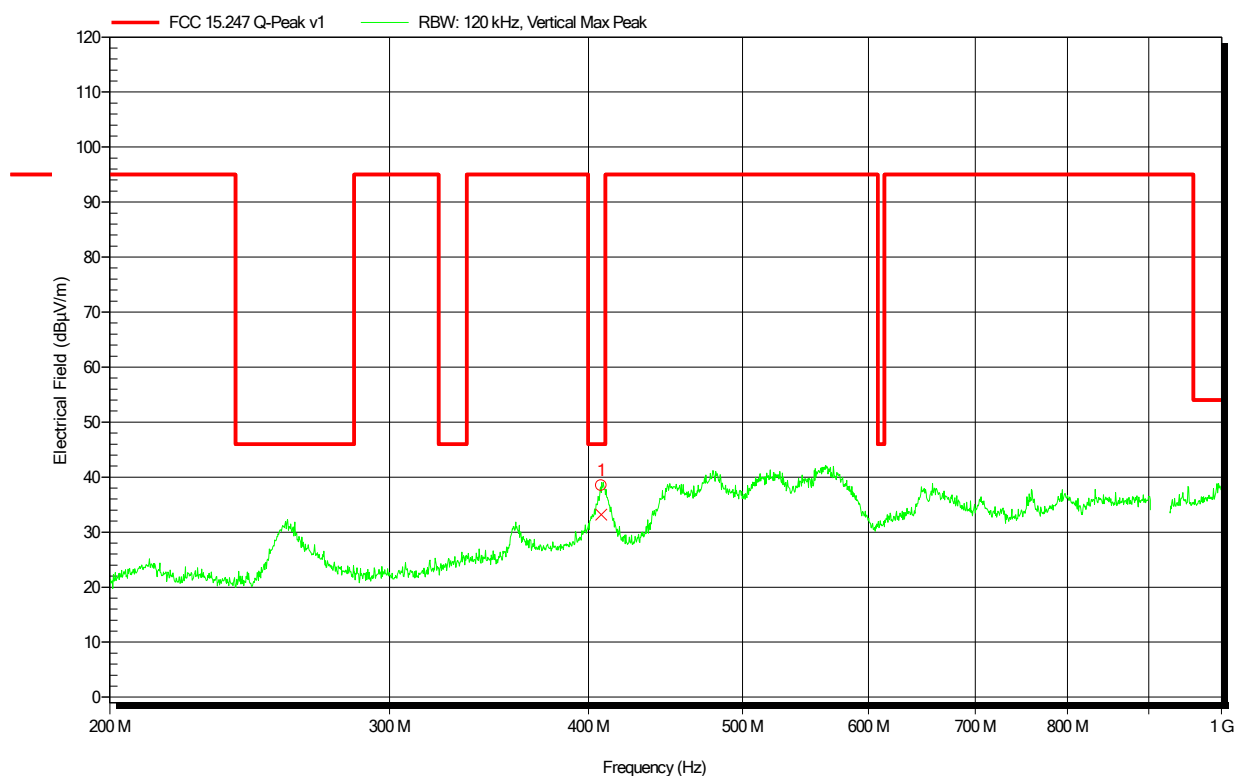


Frequency 257.6 MHz	Peak 40.1 dBμV/m	Peak Limit 46 dBμV/m	Peak Difference -5.85 dB	Status Pass
Frequency 257.6 MHz	Quasi-Peak 35 dBμV/m	Quasi-Peak Limit 46 dBμV/m	Quasi-Peak Difference -11.01 dB	Quasi-Peak Status Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859
 Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Jahn
 Measurement software: RadiMation, version 2016.1.10
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Rohde & Schwarz HL 223, Vertical
 Measurement distance: 3 m
 Mode: TX; Wall Antenna, Channel Low
 Test Date: 2020-06-05
 Note:

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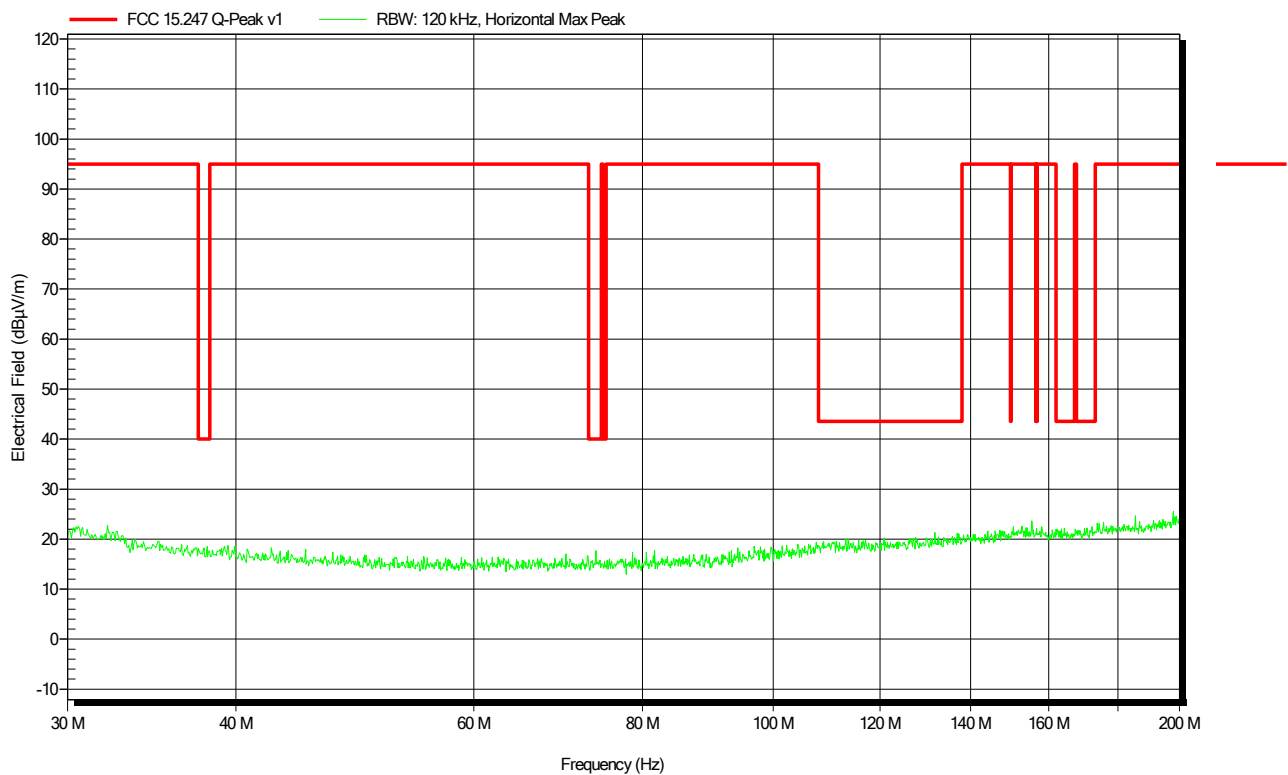


Frequency 407.6 MHz	Peak 38.4 dBμV/m	Peak Limit 46 dBμV/m	Peak Difference -7.56 dB	Status Pass
Frequency 407.6 MHz	Quasi-Peak 33.2 dBμV/m	Quasi-Peak Limit 46 dBμV/m	Quasi-Peak Difference -12.83 dB	Quasi-Peak Status Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859
 Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Jahn
 Measurement software: RadiMation, version 2016.1.10
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Rohde & Schwarz HK 116, Horizontal
 Measurement distance: 3 m
 Mode: TX; Wall Antenna, Channel Mid
 Test Date: 2020-06-05
 Note:

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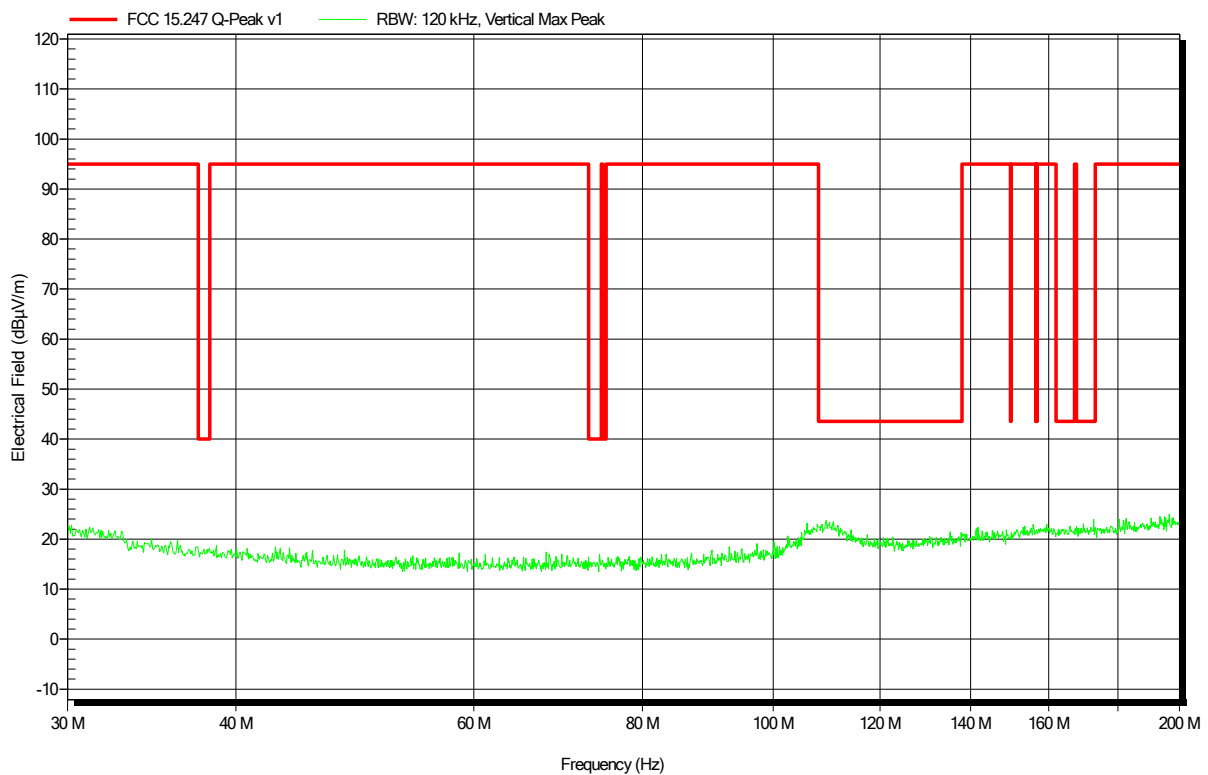


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Jahn
 Measurement software: RadiMation, version 2016.1.10
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Rohde & Schwarz HK 116, Vertical
 Measurement distance: 3 m
 Mode: TX; Wall Antenna, Channel Mid
 Test Date: 2020-06-05
 Note:

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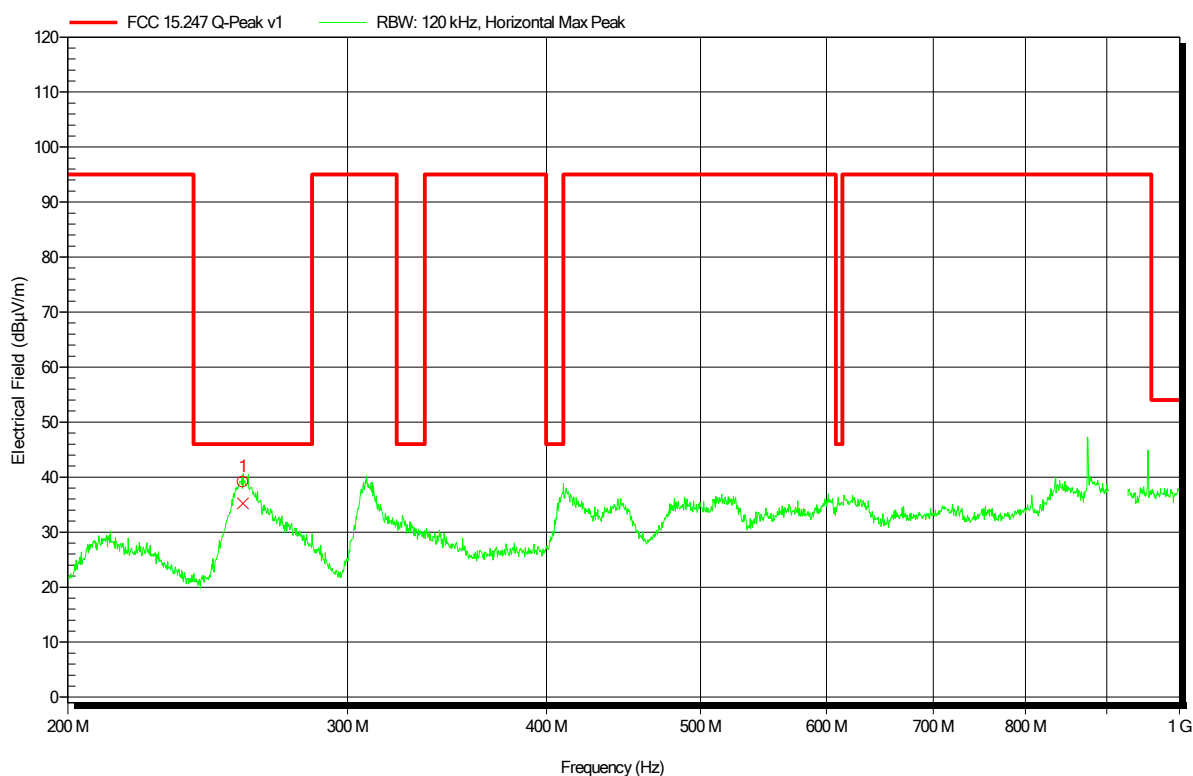


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Mr. Jahn
Measurement software: RadiMation, version 2016.1.10
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Rohde & Schwarz HL 223, Horizontal
Measurement distance: 3 m
Mode: TX; Wall Antenna, Channel Mid
Test Date: 2020-06-05
Note:

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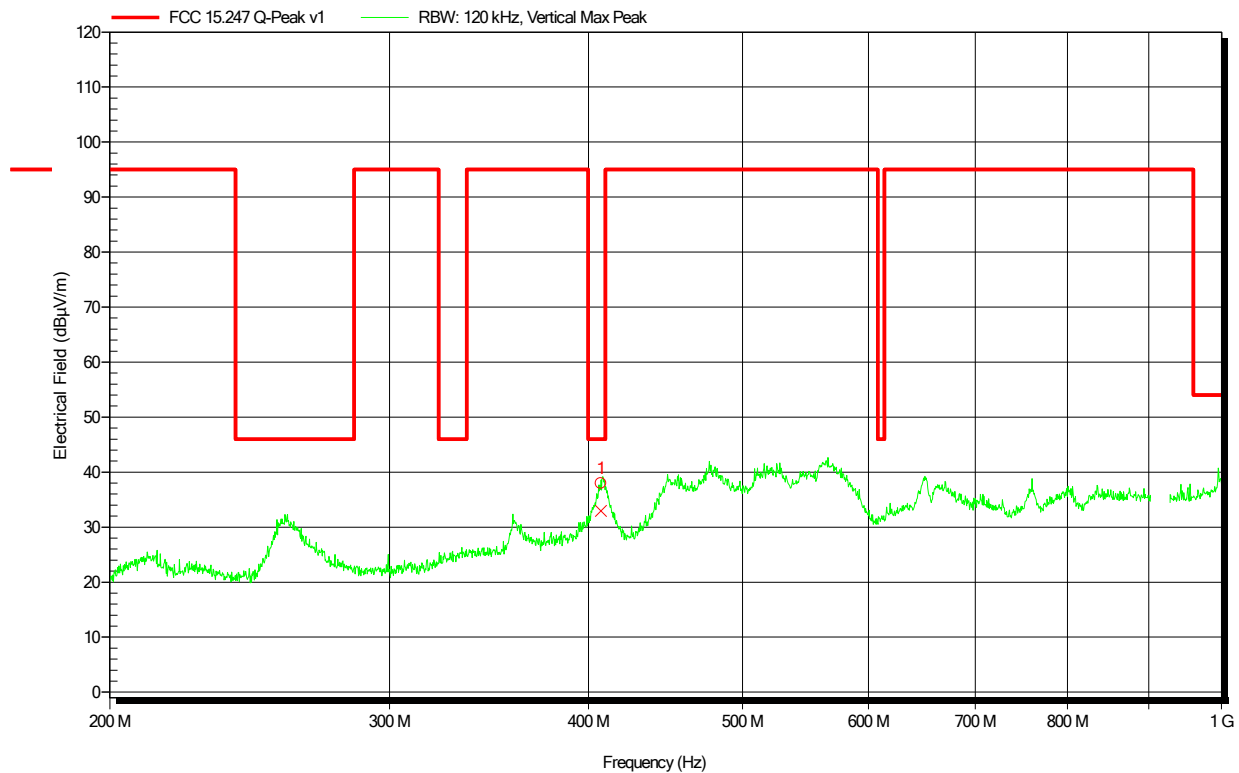
Frequency 257.78 MHz	Peak 39.1 dBµV/m	Peak Limit 46 dBµV/m	Peak Difference -6.86 dB	Status Pass
Frequency 257.78 MHz	Quasi-Peak 35.2 dBµV/m	Quasi-Peak Limit 46 dBµV/m	Quasi-Peak Difference -10.78 dB	Quasi-Peak Status Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Jahn
 Measurement software: RadiMation, version 2016.1.10
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Rohde & Schwarz HL 223, Vertical
 Measurement distance: 3 m
 Mode: TX; Wall Antenna, Channel Mid
 Test Date: 2020-06-05
 Note:

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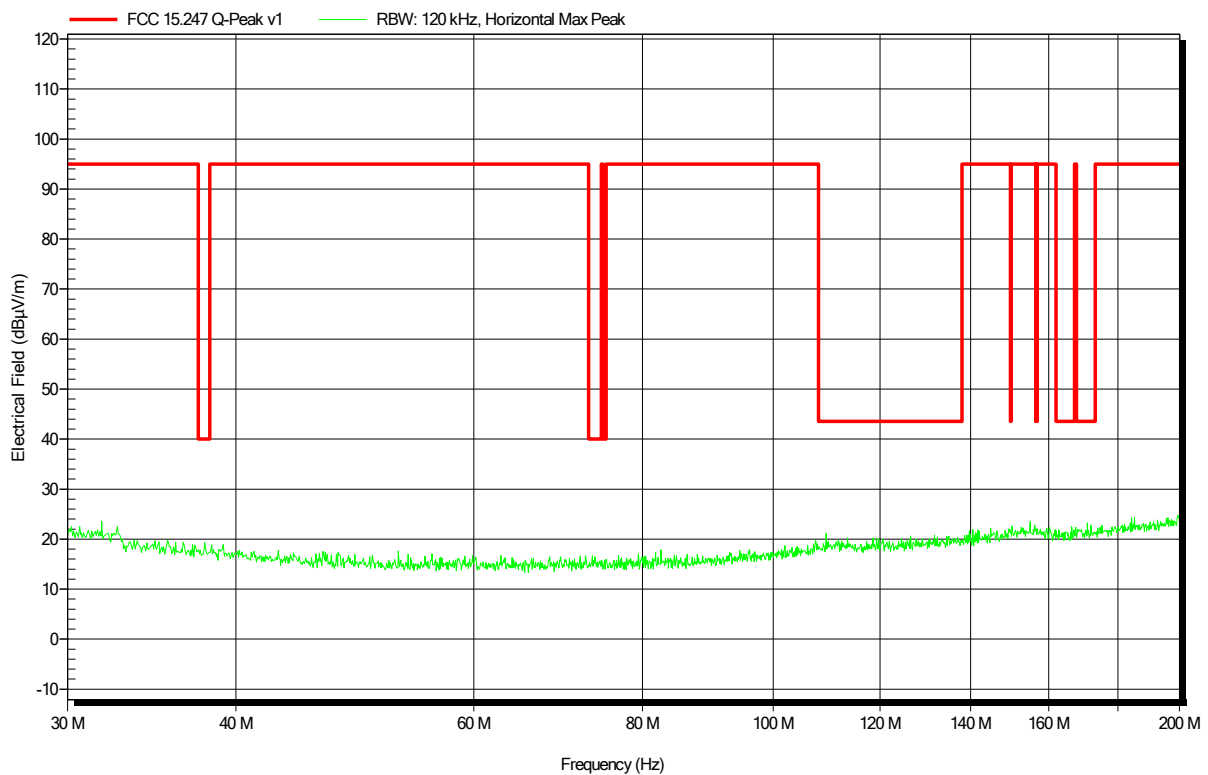
Frequency 407.36 MHz	Peak 38 dBµV/m	Peak Limit 46 dBµV/m	Peak Difference -8.04 dB	Status Pass
Frequency 407.36 MHz	Quasi-Peak 33 dBµV/m	Quasi-Peak Limit 46 dBµV/m	Quasi-Peak Difference -13.04 dB	Quasi-Peak Status Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Mr. Jahn
Measurement software: RadiMation, version 2016.1.10
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Rohde & Schwarz HK 116, Horizontal
Measurement distance: 3 m
Mode: TX; Wall Antenna, Channel High
Test Date: 2020-06-05
Note:

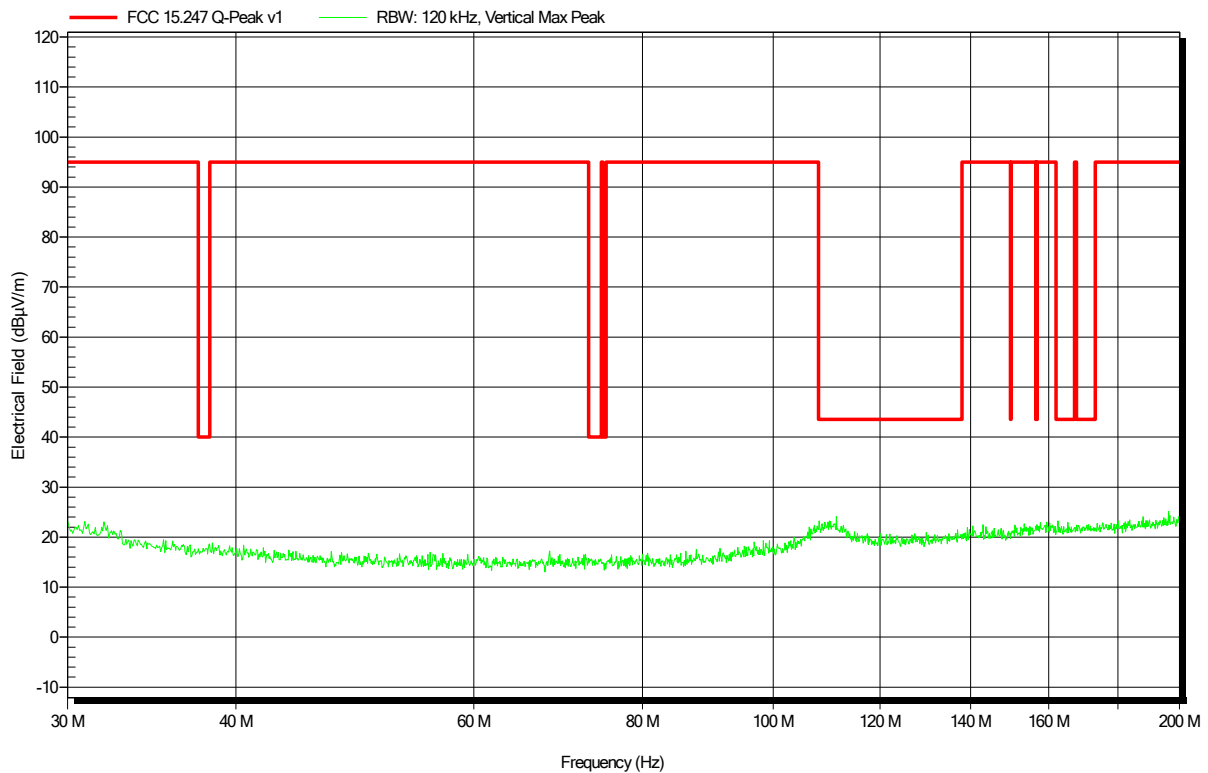
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Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859
 Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Jahn
 Measurement software: RadiMation, version 2016.1.10
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Rohde & Schwarz HK 116, Vertical
 Measurement distance: 3 m
 Mode: TX; Wall Antenna, Channel High
 Test Date: 2020-06-05
 Note:

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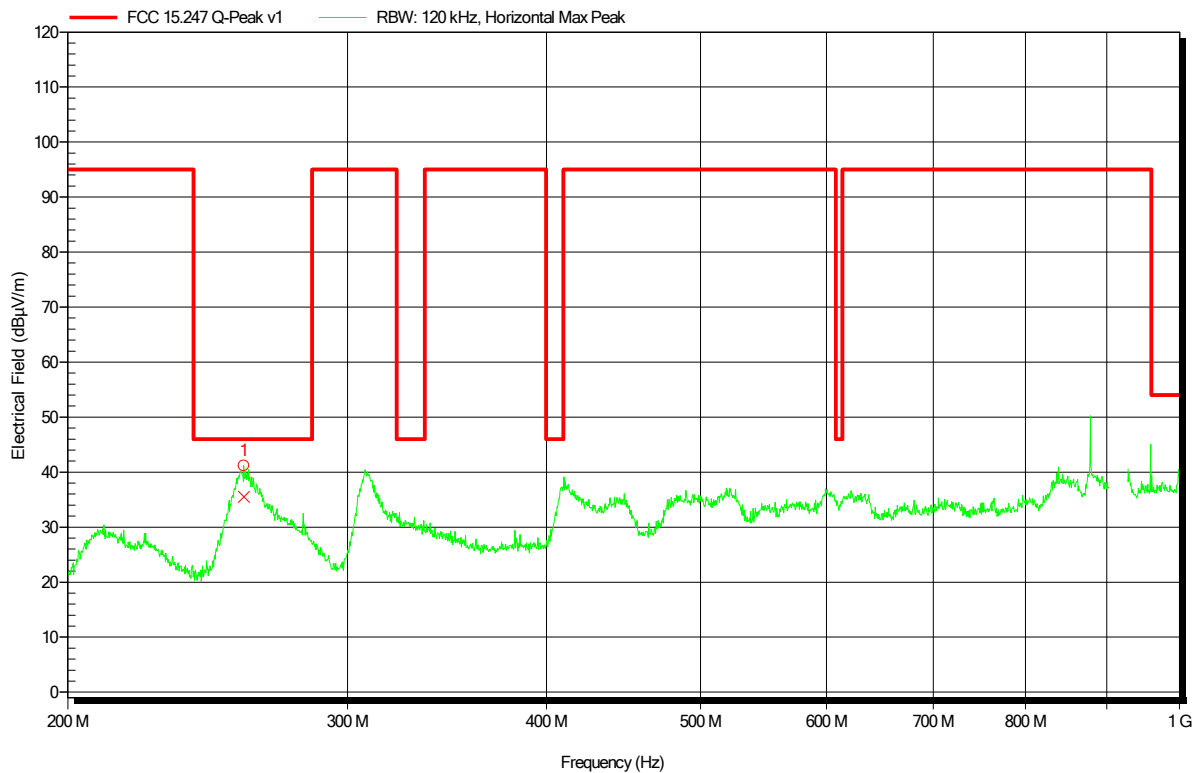


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Jahn
 Measurement software: RadiMation, version 2016.1.10
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Rohde & Schwarz HL 223, Horizontal
 Measurement distance: 3 m
 Mode: TX; Wall Antenna, Channel High
 Test Date: 2020-06-05
 Note:

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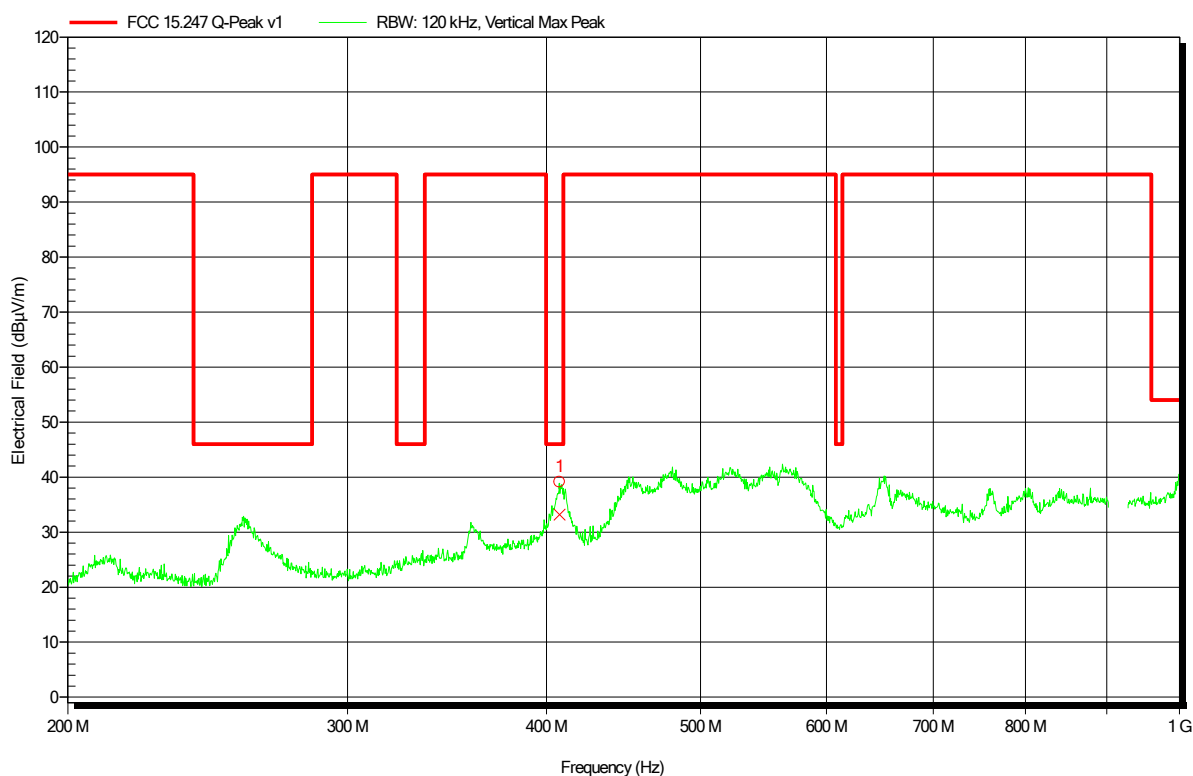
Frequency 258.14 MHz	Peak 41.1 dBμV/m	Peak Limit 46 dBμV/m	Peak Difference -4.86 dB	Status Pass
Frequency 258.14 MHz	Quasi-Peak 35.5 dBμV/m	Quasi-Peak Limit 46 dBμV/m	Quasi-Peak Difference -10.52 dB	Quasi-Peak Status Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Mr. Jahn
Measurement software: RadiMation, version 2016.1.10
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Rohde & Schwarz HL 223, Vertical
Measurement distance: 3 m
Mode: TX; Wall Antenna, Channel High
Test Date: 2020-06-05
Note:

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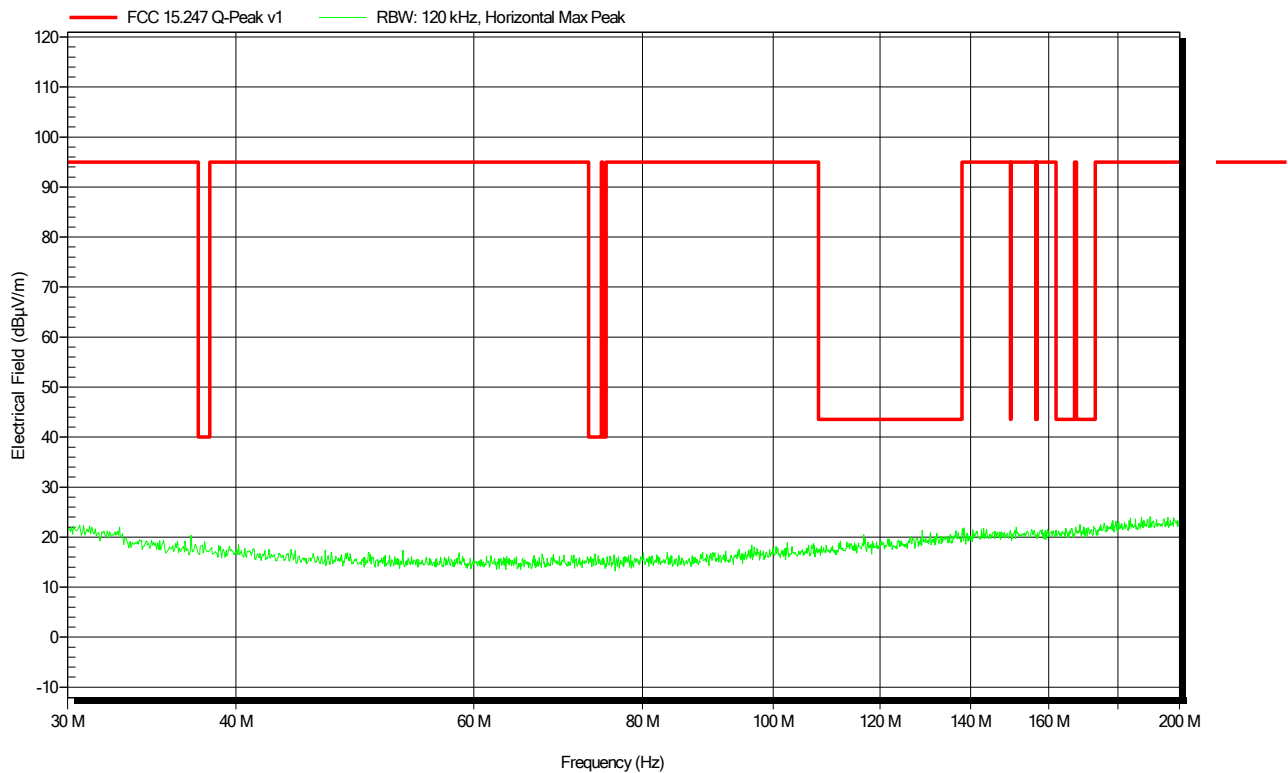
Frequency 407.66 MHz	Peak 39.1 dBµV/m	Peak Limit 46 dBµV/m	Peak Difference -6.88 dB	Status Pass
Frequency 407.66 MHz	Quasi-Peak 33.2 dBµV/m	Quasi-Peak Limit 46 dBµV/m	Quasi-Peak Difference -12.85 dB	Quasi-Peak Status Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Mr. Jahn
Measurement software: RadiMation, version 2016.1.10
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Rohde & Schwarz HK 116, Horizontal
Measurement distance: 3 m
Mode: TX; Pit Antenna 6697916 (Small), Channel Low
Test Date: 2020-06-05
Note:

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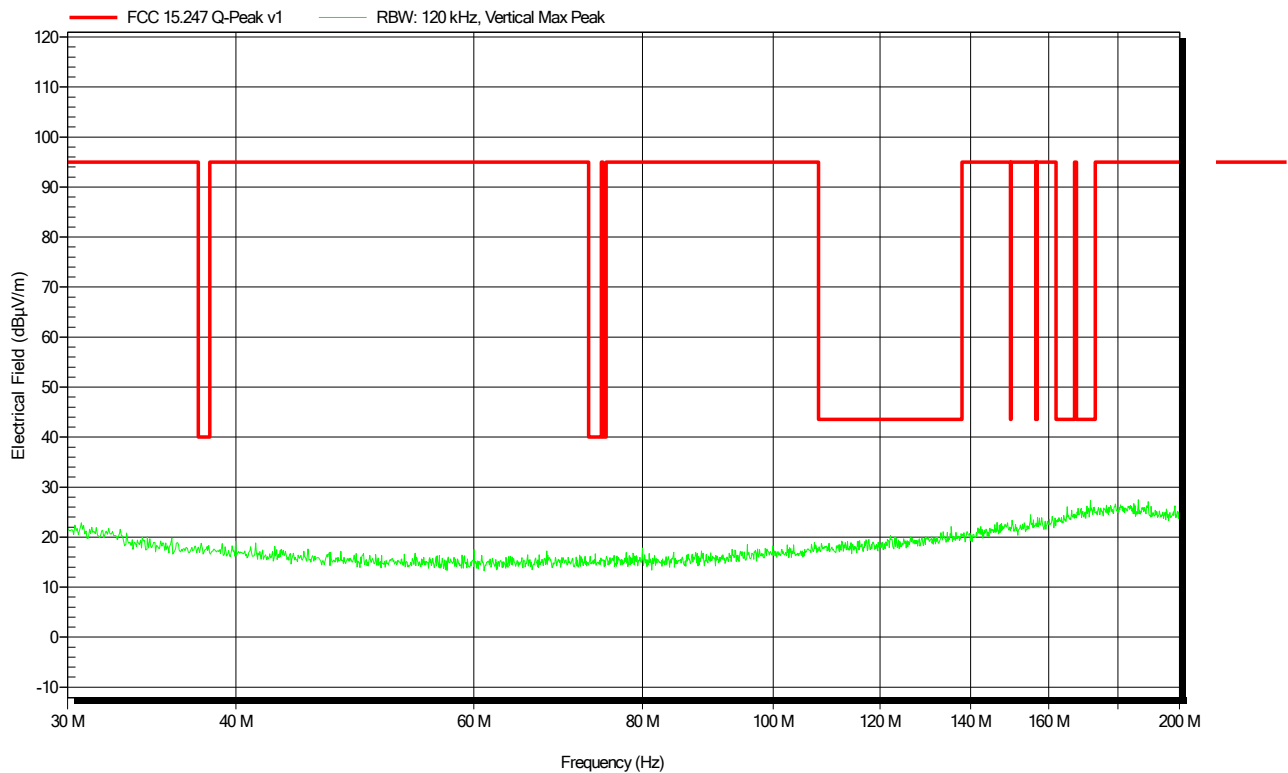


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Jahn
 Measurement software: RadiMation, version 2016.1.10
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Rohde & Schwarz HK 116, Vertical
 Measurement distance: 3 m
 Mode: TX; Pit Antenna 6697916 (Small), Channel Low
 Test Date: 2020-06-05
 Note:

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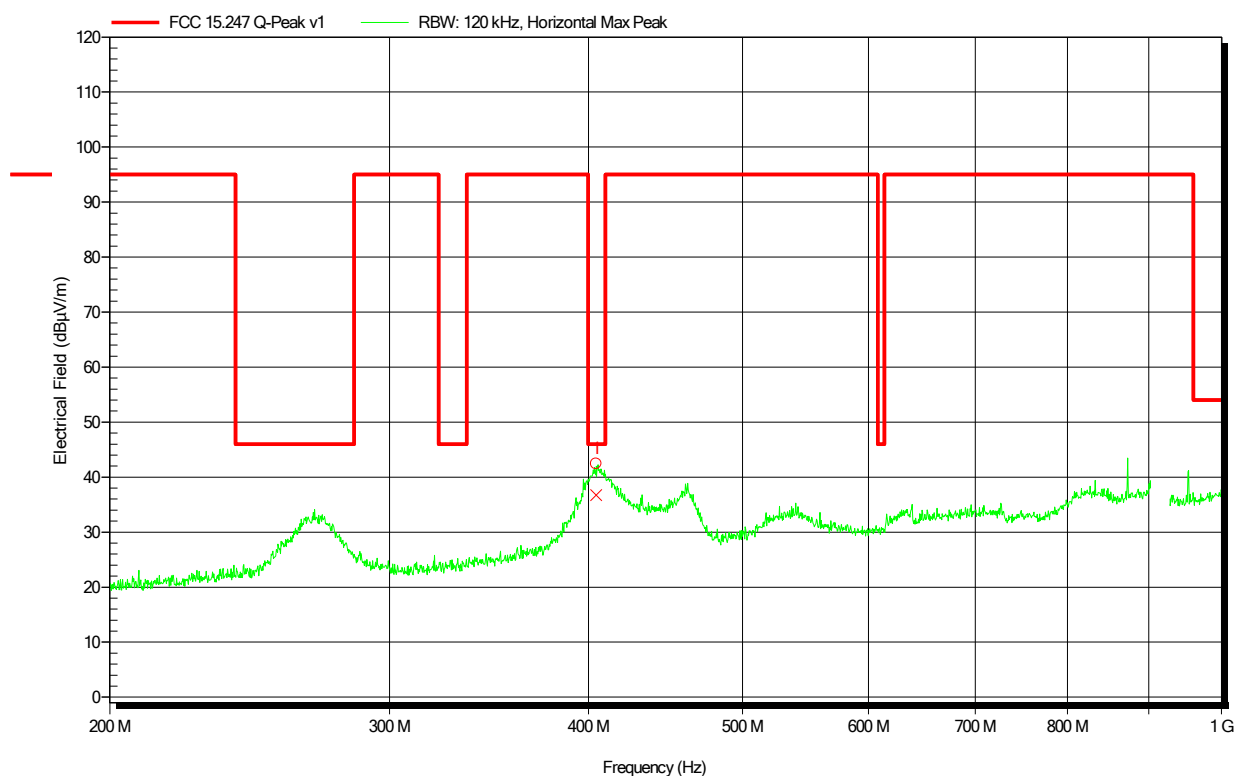


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Jahn
 Measurement software: RadiMation, version 2016.1.10
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Rohde & Schwarz HL 223, Horizontal
 Measurement distance: 3 m
 Mode: TX; Pit Antenna 6697916 (Small), Channel Low
 Test Date: 2020-06-05
 Note:

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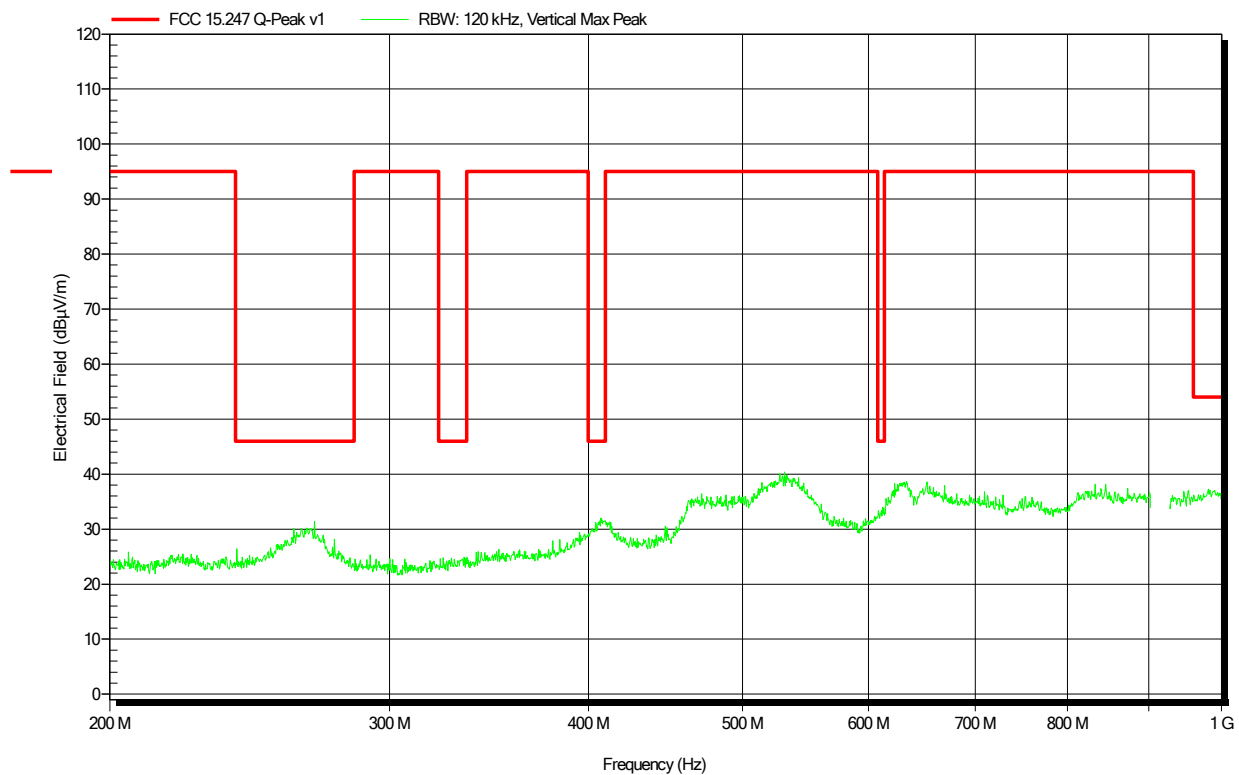
Frequency 404.54 MHz	Peak 42.4 dBμV/m	Peak Limit 46 dBμV/m	Peak Difference -3.55 dB	Status Pass
Frequency 404.54 MHz	Quasi-Peak 36.7 dBμV/m	Quasi-Peak Limit 46 dBμV/m	Quasi-Peak Difference -9.28 dB	Quasi-Peak Status Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Mr. Jahn
Measurement software: RadiMation, version 2016.1.10
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Rohde & Schwarz HL 223, Vertical
Measurement distance: 3 m
Mode: TX; Pit Antenna 6697916 (Small), Channel Low
Test Date: 2020-06-05
Note:

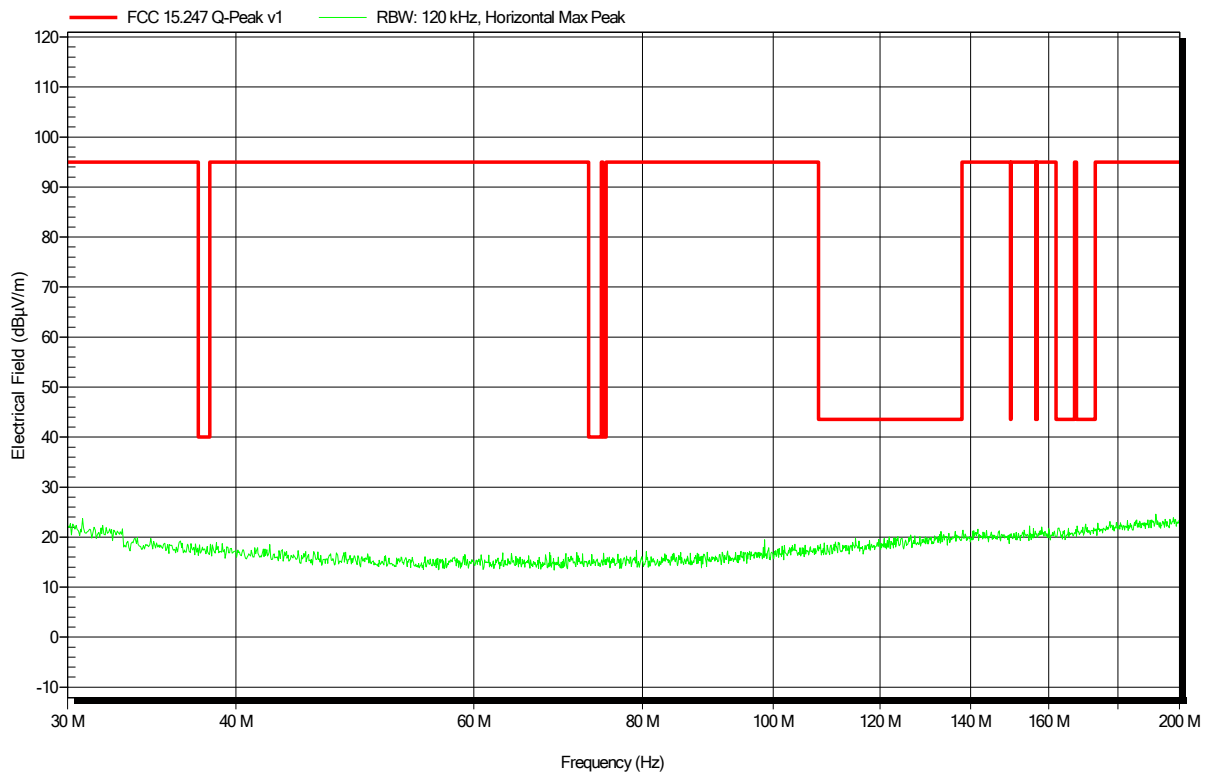
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Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859
 Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Jahn
 Measurement software: RadiMation, version 2016.1.10
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Rohde & Schwarz HK 116, Horizontal
 Measurement distance: 3 m
 Mode: TX; Pit Antenna 6697916 (Small), Channel Mid
 Test Date: 2020-06-05
 Note:

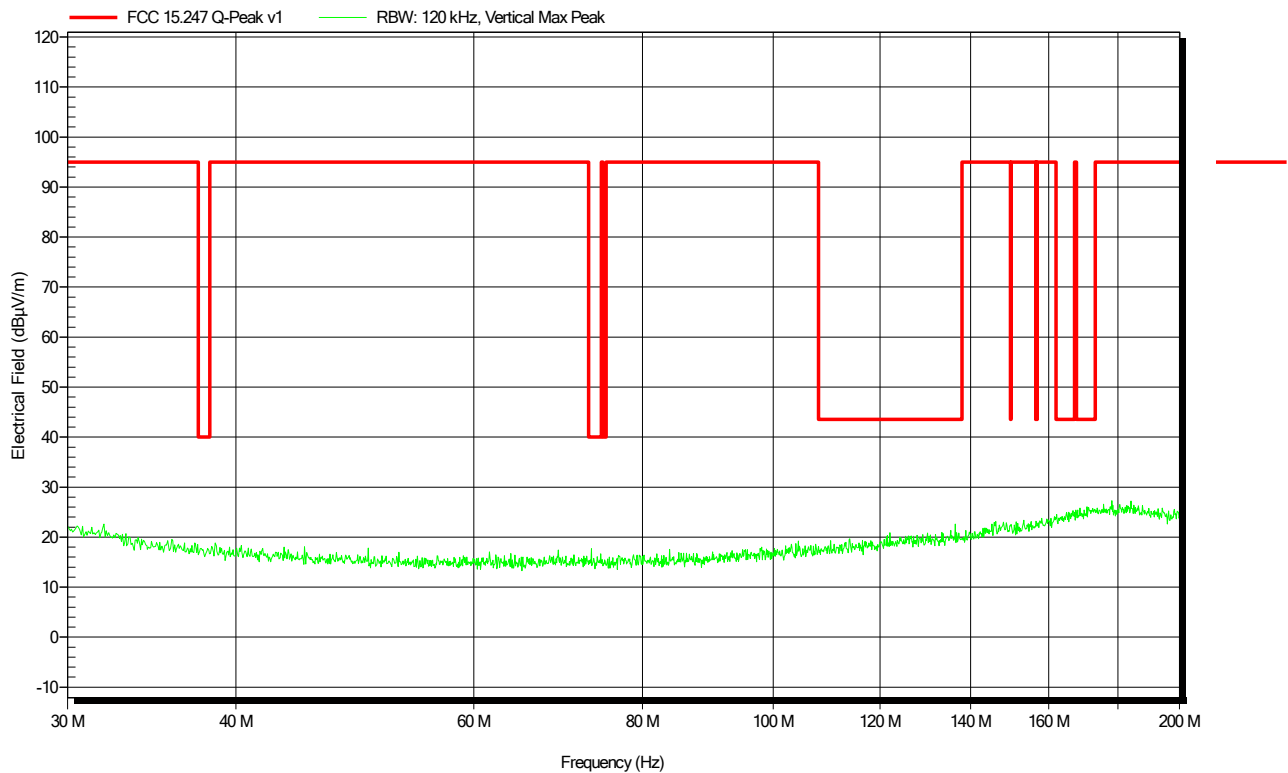
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Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859
 Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Jahn
 Measurement software: RadiMation, version 2016.1.10
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Rohde & Schwarz HK 116, Vertical
 Measurement distance: 3 m
 Mode: TX; Pit Antenna 6697916 (Small), Channel Mid
 Test Date: 2020-06-05
 Note:

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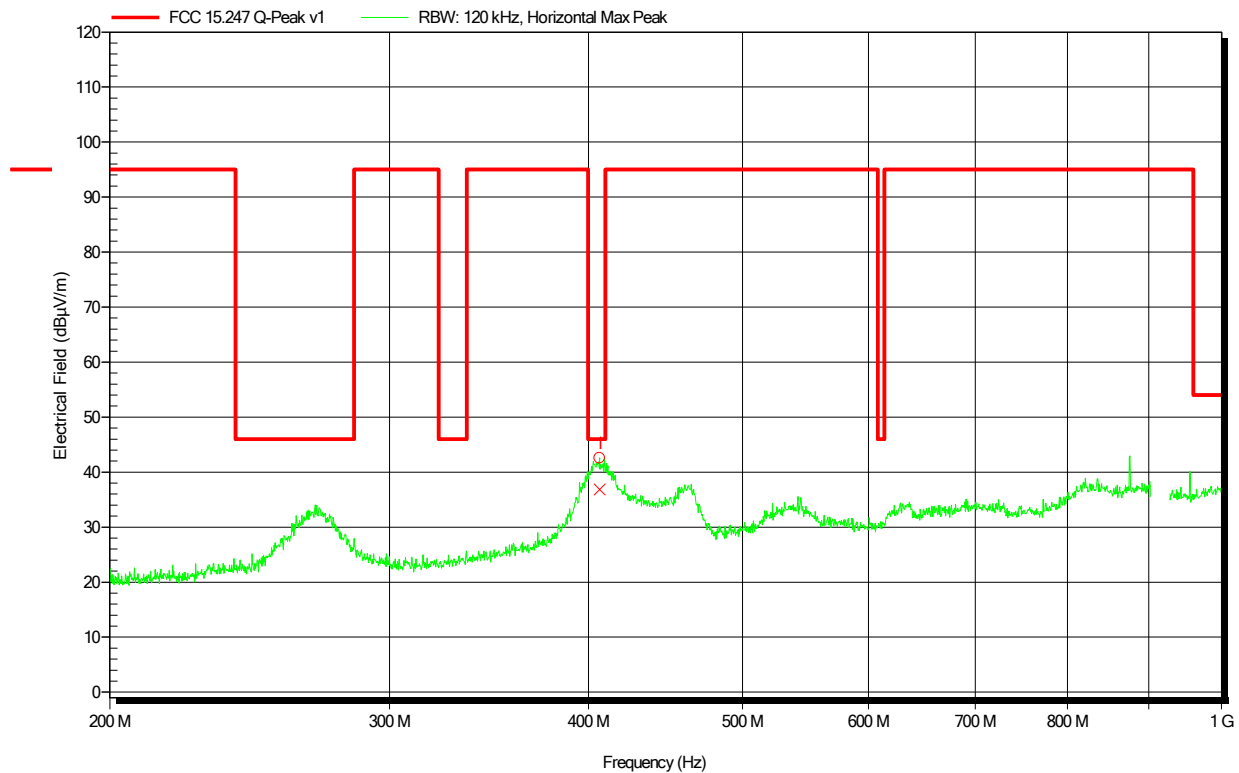


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Jahn
 Measurement software: RadiMation, version 2016.1.10
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Rohde & Schwarz HL 223, Horizontal
 Measurement distance: 3 m
 Mode: TX; Pit Antenna 6697916 (Small), Channel Mid
 Test Date: 2020-06-05
 Note:

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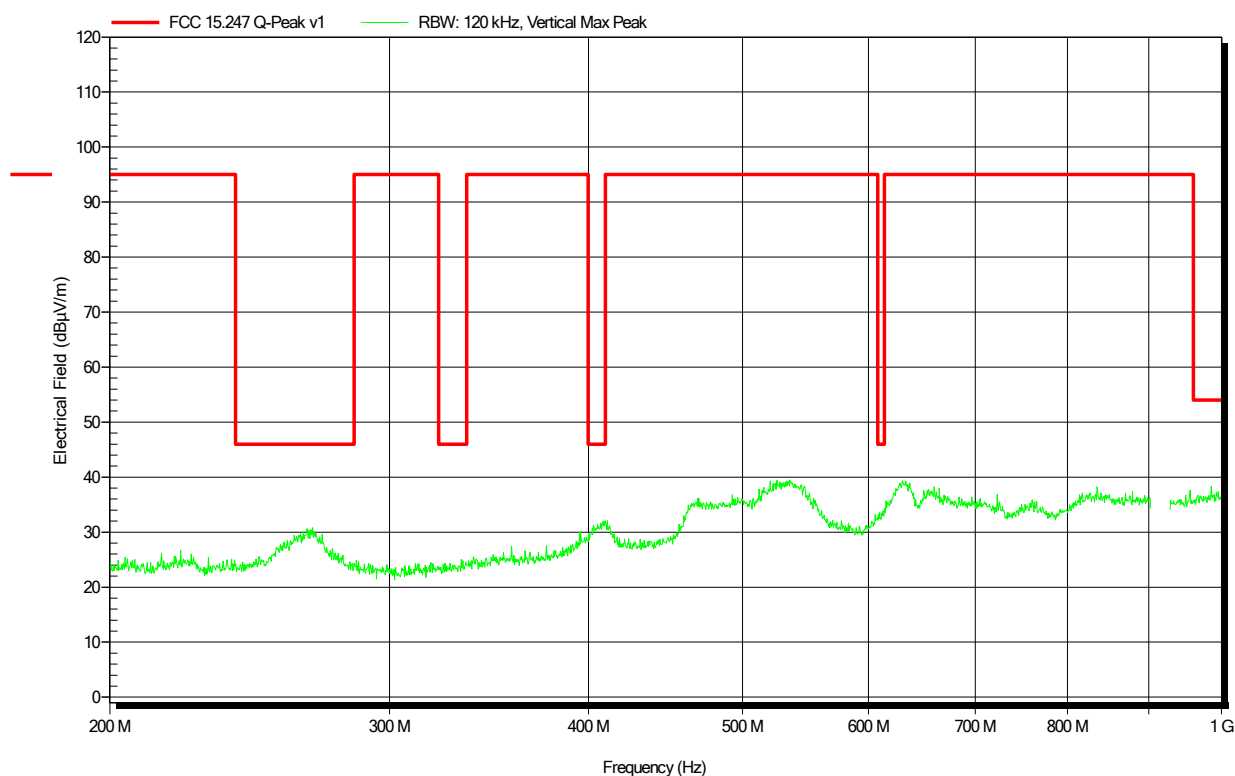
Frequency 406.52 MHz	Peak 42.5 dBμV/m	Peak Limit 46 dBμV/m	Peak Difference -3.48 dB	Status Pass
Frequency 406.52 MHz	Quasi-Peak 36.9 dBμV/m	Quasi-Peak Limit 46 dBμV/m	Quasi-Peak Difference -9.13 dB	Quasi-Peak Status Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Mr. Jahn
Measurement software: RadiMation, version 2016.1.10
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Rohde & Schwarz HL 223, Vertical
Measurement distance: 3 m
Mode: TX; Pit Antenna 6697916 (Small), Channel Mid
Test Date: 2020-06-05
Note:

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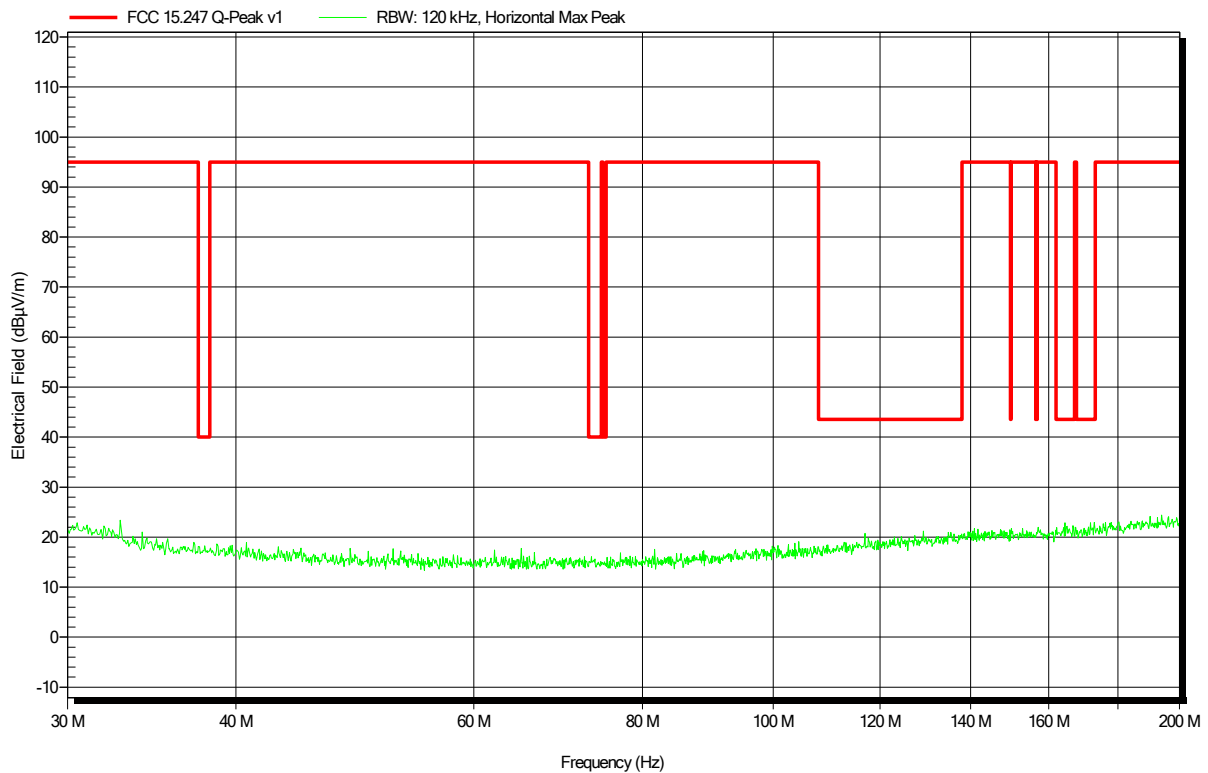


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Mr. Jahn
Measurement software: RadiMation, version 2016.1.10
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Rohde & Schwarz HK 116, Horizontal
Measurement distance: 3 m
Mode: TX; Pit Antenna 6697916 (Small), Channel High
Test Date: 2020-06-05
Note:

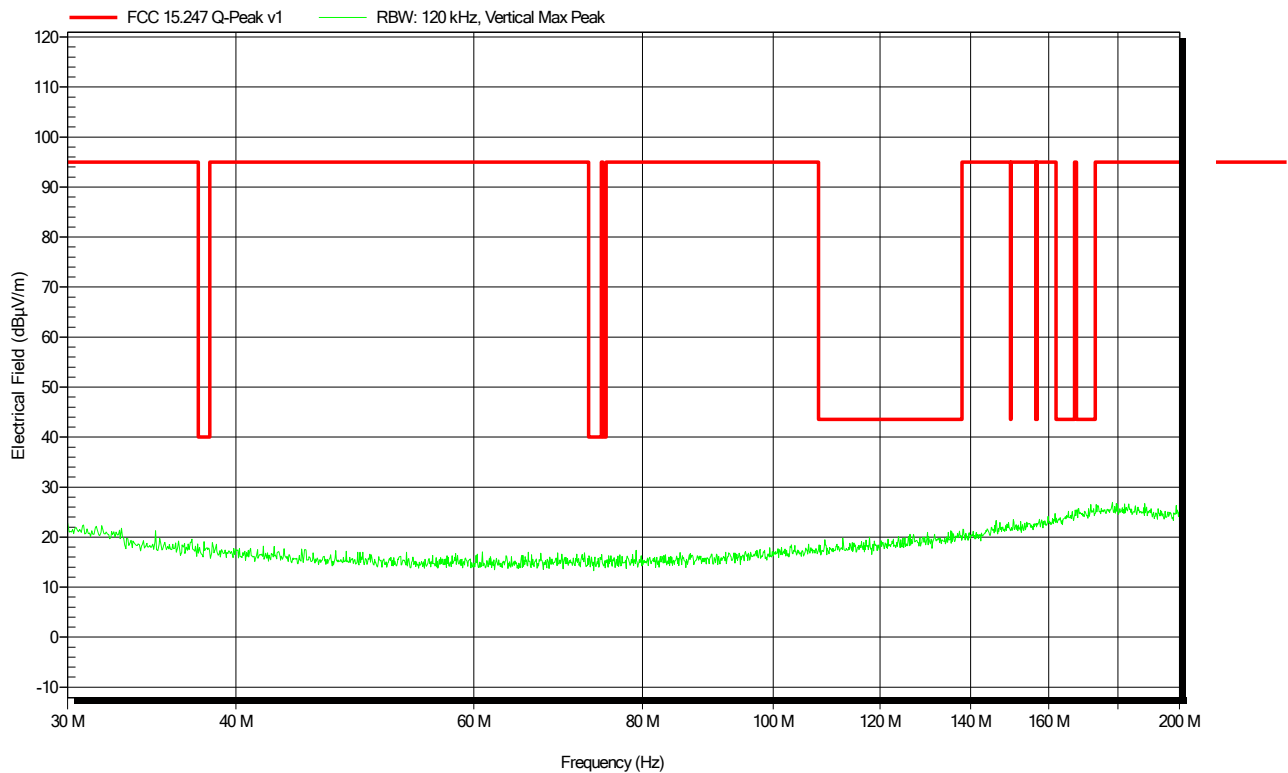
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Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859
 Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Jahn
 Measurement software: RadiMation, version 2016.1.10
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Rohde & Schwarz HK 116, Vertical
 Measurement distance: 3 m
 Mode: TX; Pit Antenna 6697916 (Small), Channel High
 Test Date: 2020-06-05
 Note:

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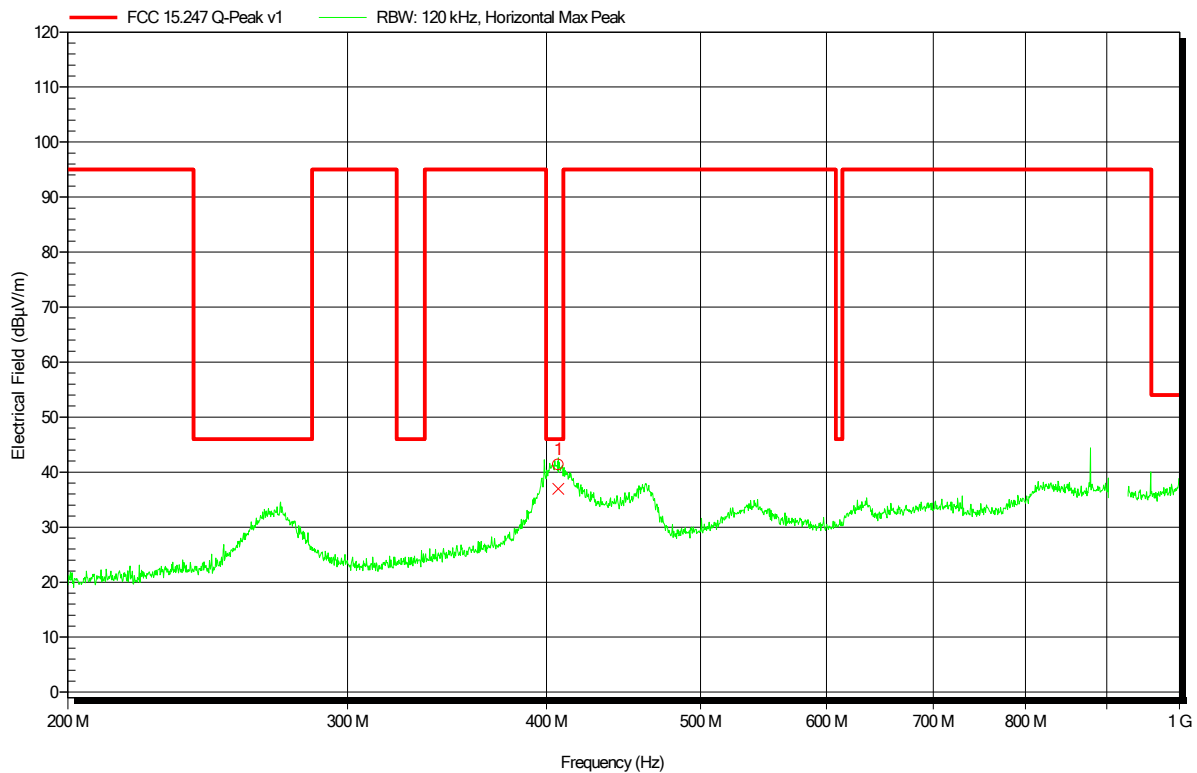


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Jahn
 Measurement software: RadiMation, version 2016.1.10
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Rohde & Schwarz HL 223, Horizontal
 Measurement distance: 3 m
 Mode: TX; Pit Antenna 6697916 (Small), Channel High
 Test Date: 2020-06-05
 Note:

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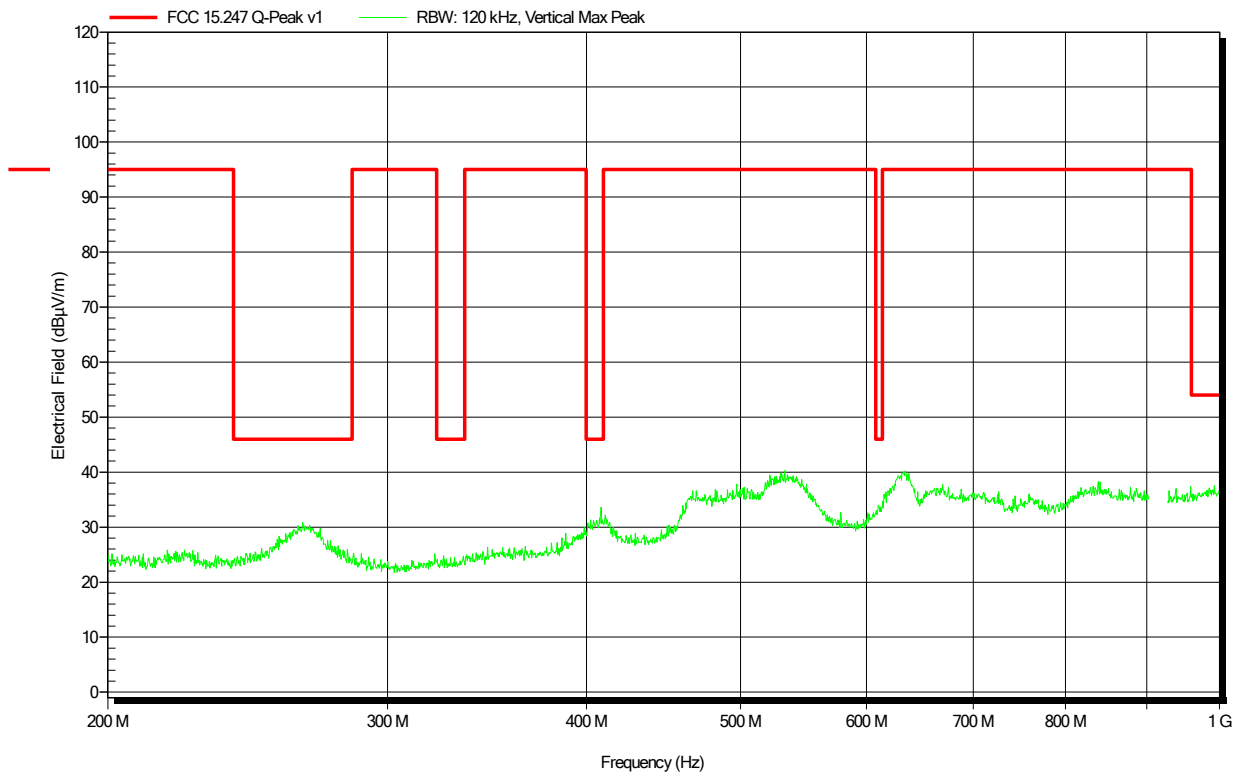
Frequency 406.88 MHz	Peak 41.3 dBμV/m	Peak Limit 46 dBμV/m	Peak Difference -4.69 dB	Status Pass
Frequency 406.88 MHz	Quasi-Peak 37 dBμV/m	Quasi-Peak Limit 46 dBμV/m	Quasi-Peak Difference -9.04 dB	Quasi-Peak Status Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Mr. Jahn
Measurement software: RadiMation, version 2016.1.10
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Rohde & Schwarz HL 223, Vertical
Measurement distance: 3 m
Mode: TX; Pit Antenna 6697916 (Small), Channel Low
Test Date: 2020-06-05
Note:

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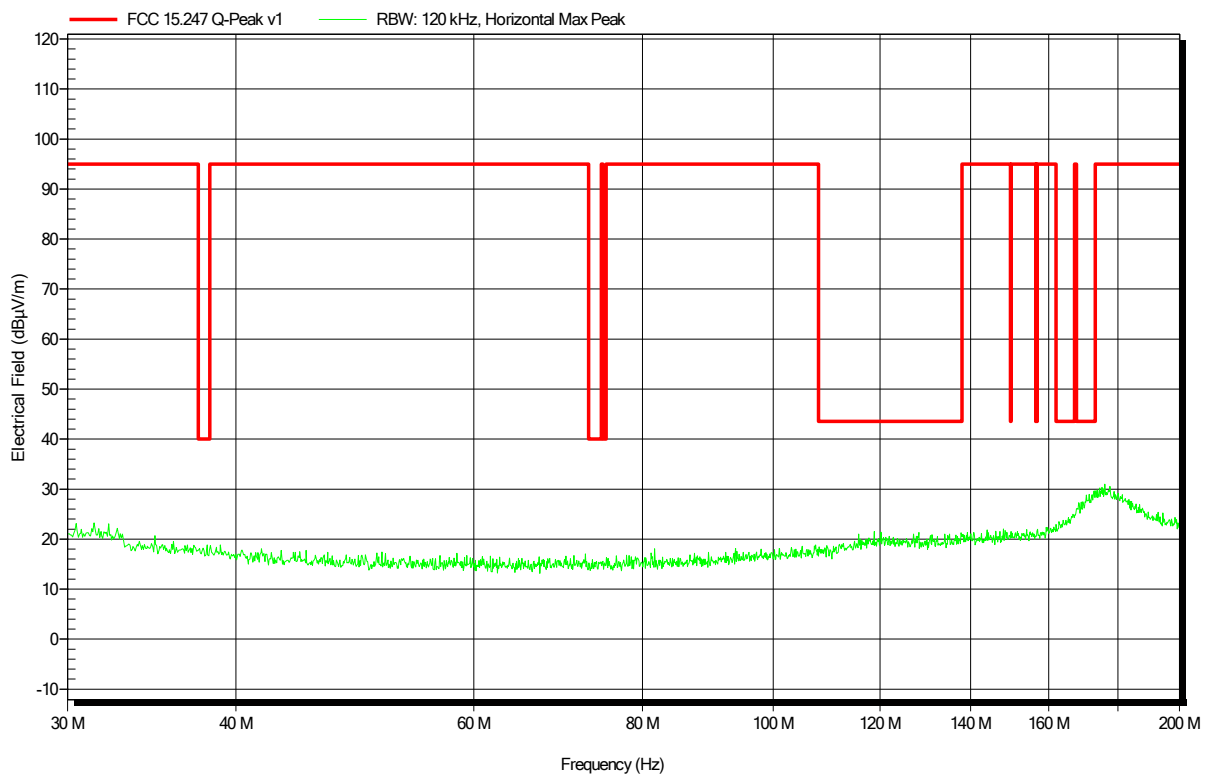


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Mr. Jahn
Measurement software: RadiMation, version 2016.1.10
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Rohde & Schwarz HK 116, Horizontal
Measurement distance: 3 m
Mode: TX; Pit Antenna 6697902, Channel Low
Test Date: 2020-06-05
Note:

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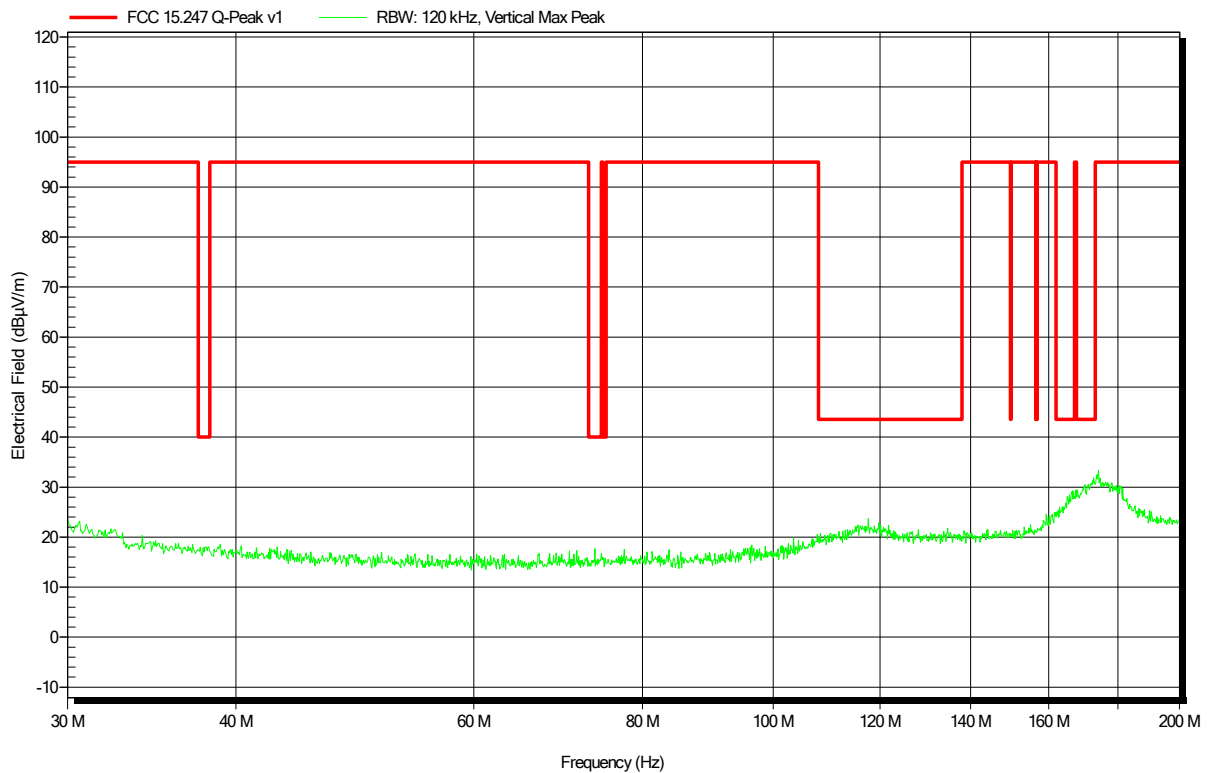


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Mr. Jahn
Measurement software: RadiMation, version 2016.1.10
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Rohde & Schwarz HK 116, Vertical
Measurement distance: 3 m
Mode: TX; Pit Antenna 6697902, Channel Low
Test Date: 2020-06-05
Note:

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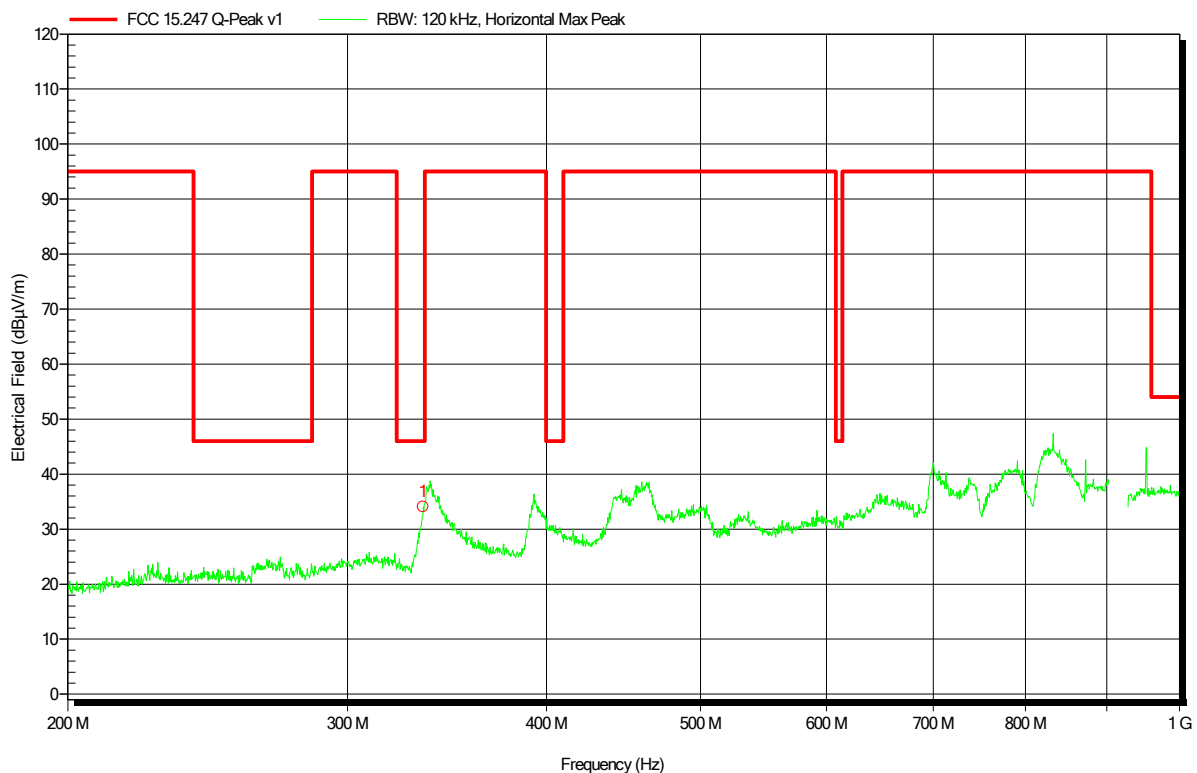


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Mr. Jahn
Measurement software: RadiMation, version 2016.1.10
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Rohde & Schwarz HL 223, Horizontal
Measurement distance: 3 m
Mode: TX; Pit Antenna 6697902, Channel Low
Test Date: 2020-06-05
Note:

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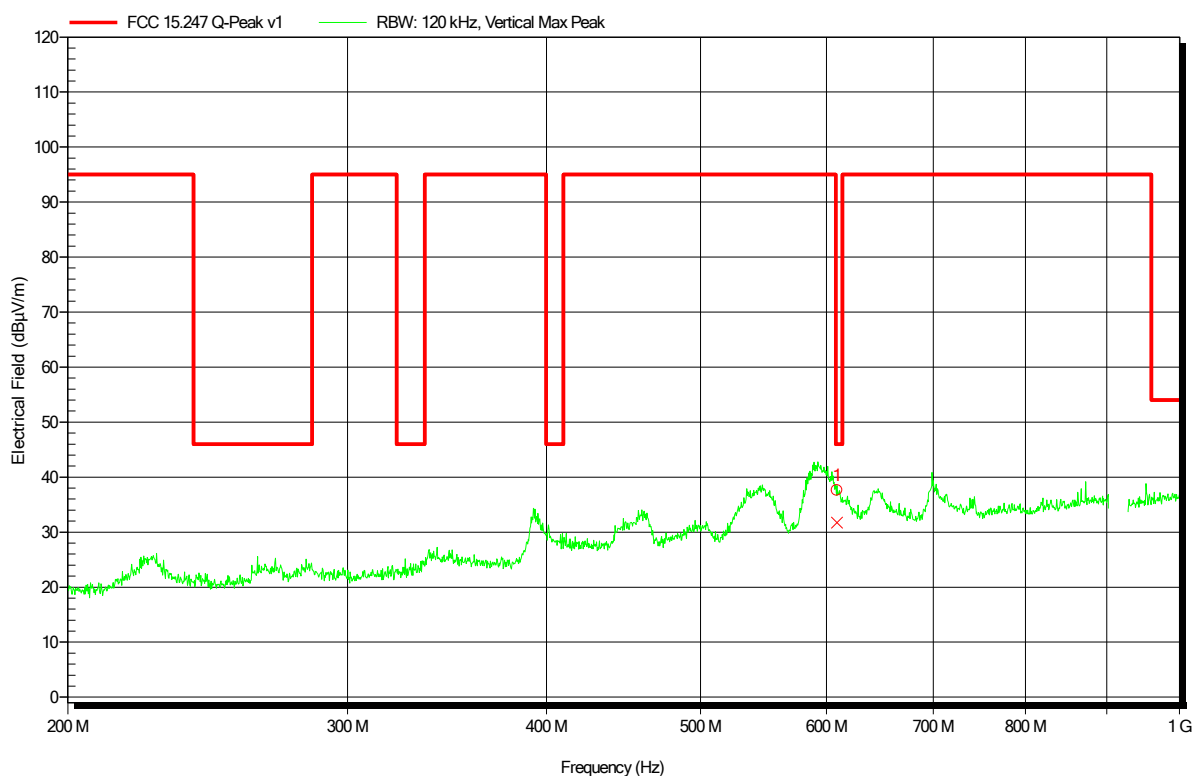


Frequency	Peak	Peak Limit	Peak Difference	Status
334.64 MHz	34 dBμV/m	46 dBμV/m	-11.95 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859
 Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Jahn
 Measurement software: RadiMation, version 2016.1.10
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Rohde & Schwarz HL 223, Vertical
 Measurement distance: 3 m
 Mode: TX; Pit Antenna 6697902, Channel Low
 Test Date: 2020-06-05
 Note:

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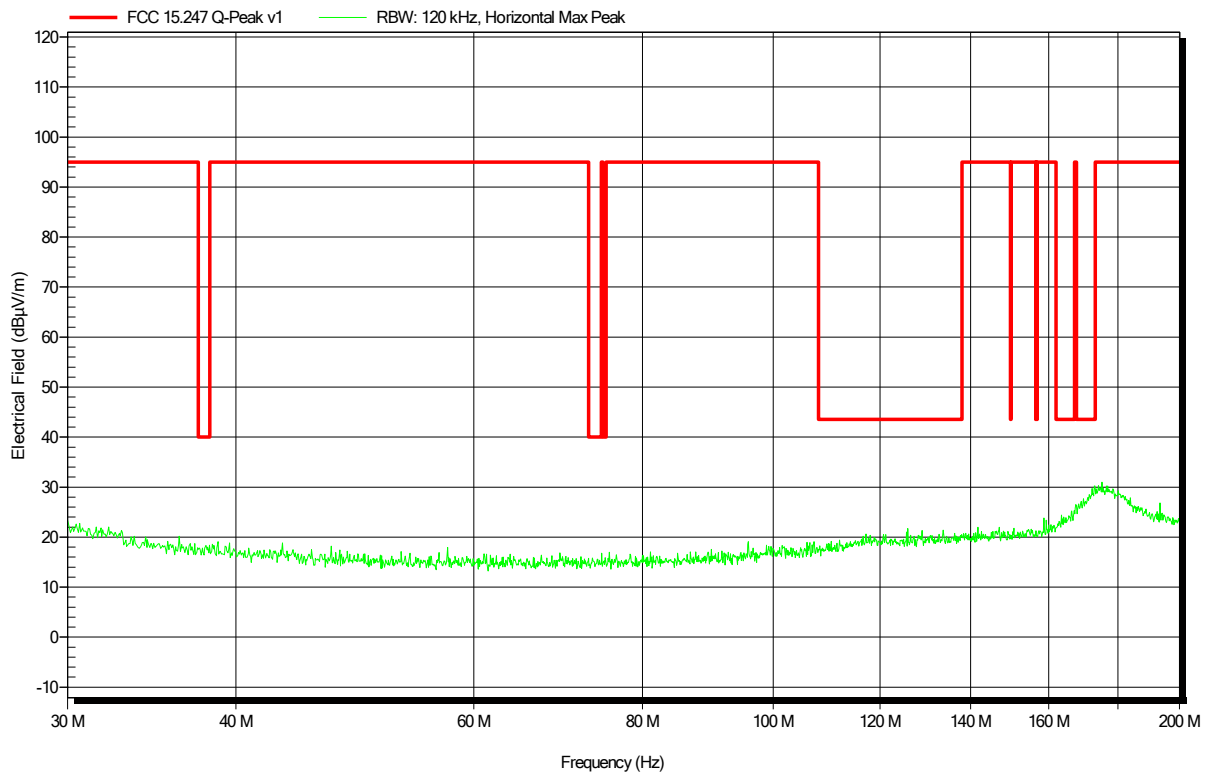
Frequency 608.96 MHz	Peak 37.6 dBµV/m	Peak Limit 46 dBµV/m	Peak Difference -8.41 dB	Status Pass
Frequency 608.96 MHz	Quasi-Peak 31.7 dBµV/m	Quasi-Peak Limit 46 dBµV/m	Quasi-Peak Difference -14.28 dB	Quasi-Peak Status Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Mr. Jahn
Measurement software: RadiMation, version 2016.1.10
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Rohde & Schwarz HK 116, Horizontal
Measurement distance: 3 m
Mode: TX; Pit Antenna 6697902, Channel Mid
Test Date: 2020-06-05
Note:

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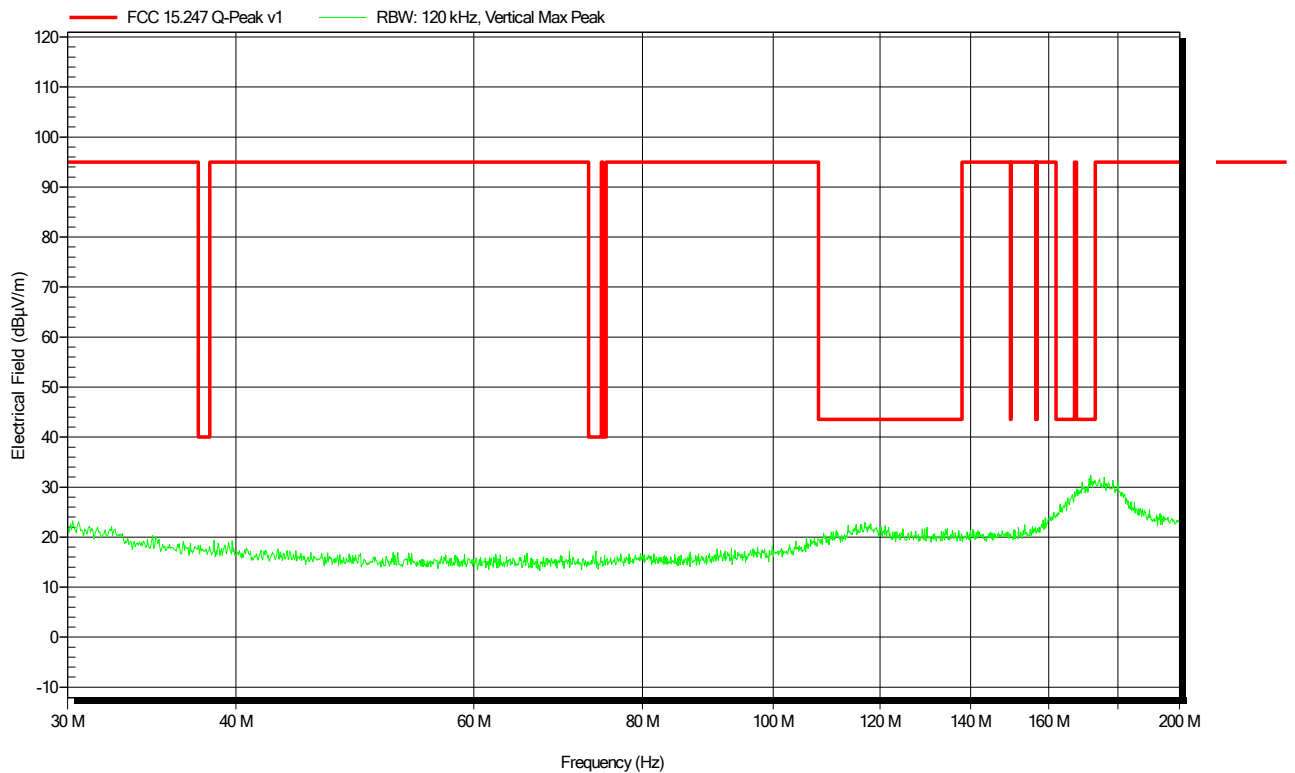


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Mr. Jahn
Measurement software: RadiMation, version 2016.1.10
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Rohde & Schwarz HK 116, Vertical
Measurement distance: 3 m
Mode: TX; Pit Antenna 6697902, Channel Mid
Test Date: 2020-06-05
Note:

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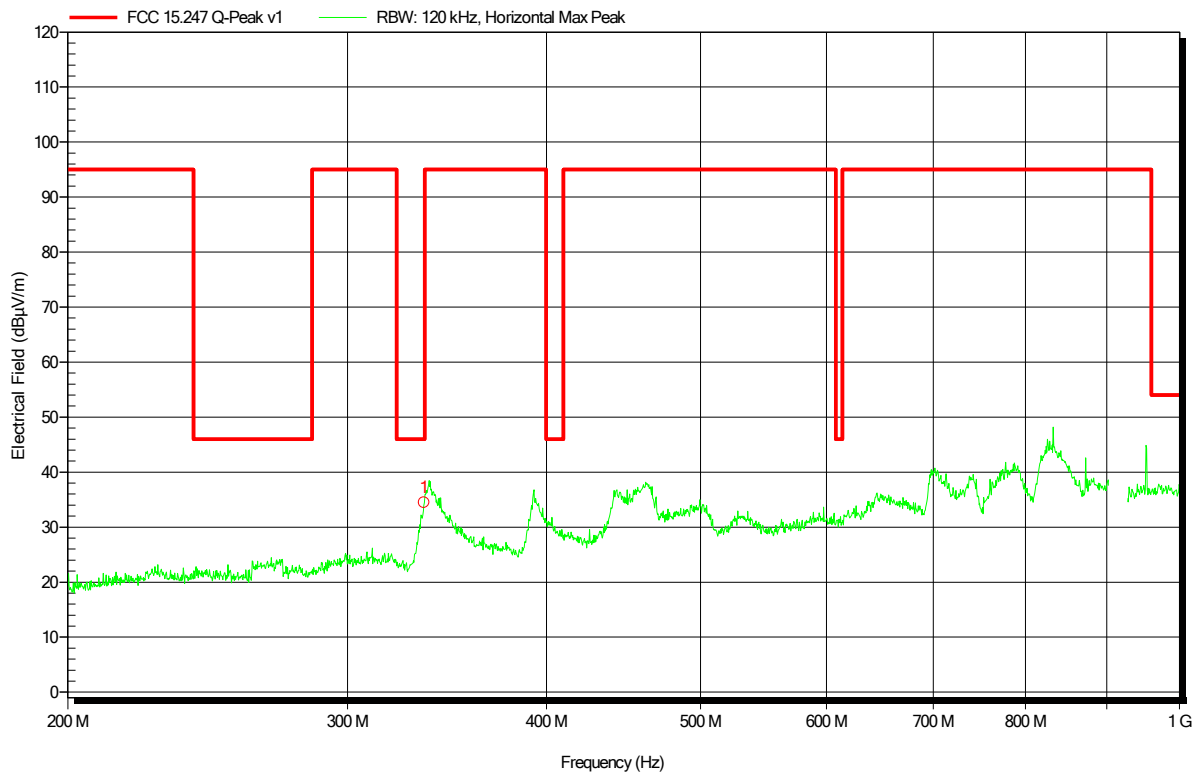


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Mr. Jahn
Measurement software: RadiMation, version 2016.1.10
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Rohde & Schwarz HL 223, Horizontal
Measurement distance: 3 m
Mode: TX; Pit Antenna 6697902, Channel Mid
Test Date: 2020-06-05
Note:

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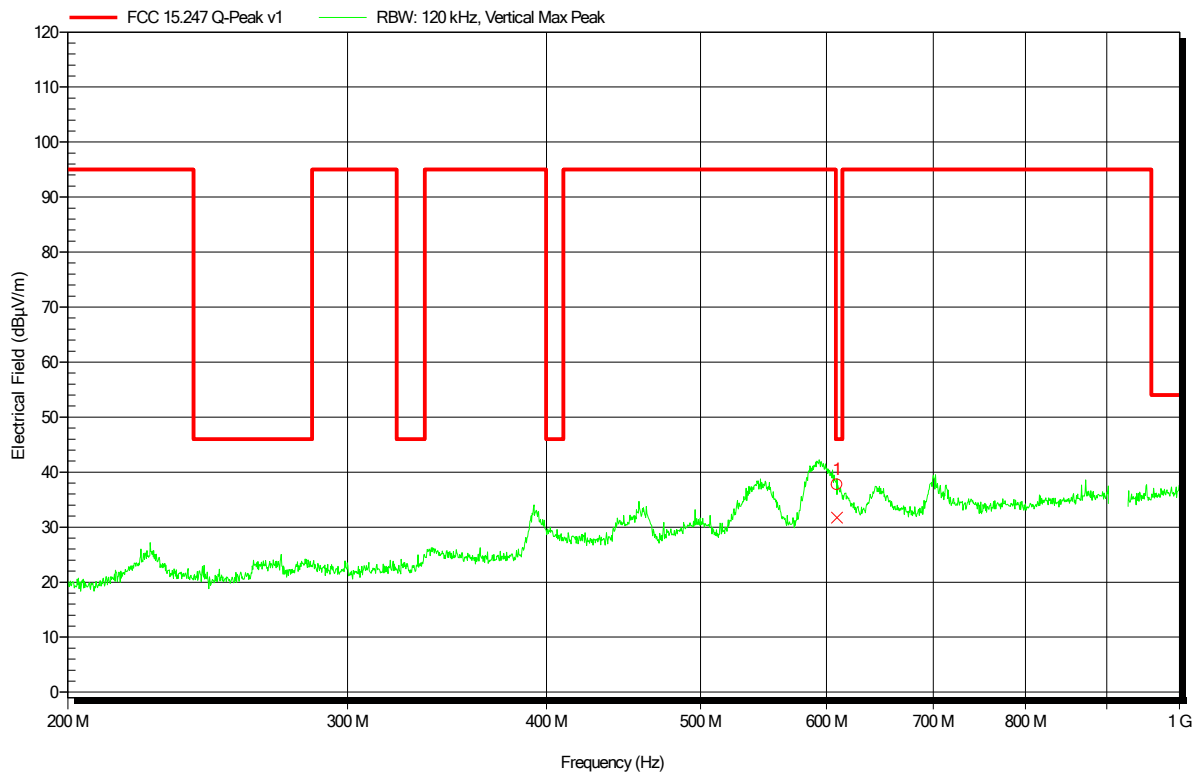
Frequency	Peak	Peak Limit	Peak Difference	Status
335.06 MHz	34.5 dBµV/m	46 dBµV/m	-11.55 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Jahn
 Measurement software: RadiMation, version 2016.1.10
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Rohde & Schwarz HL 223, Vertical
 Measurement distance: 3 m
 Mode: TX; Pit Antenna 6697902, Channel Mid
 Test Date: 2020-06-05
 Note:

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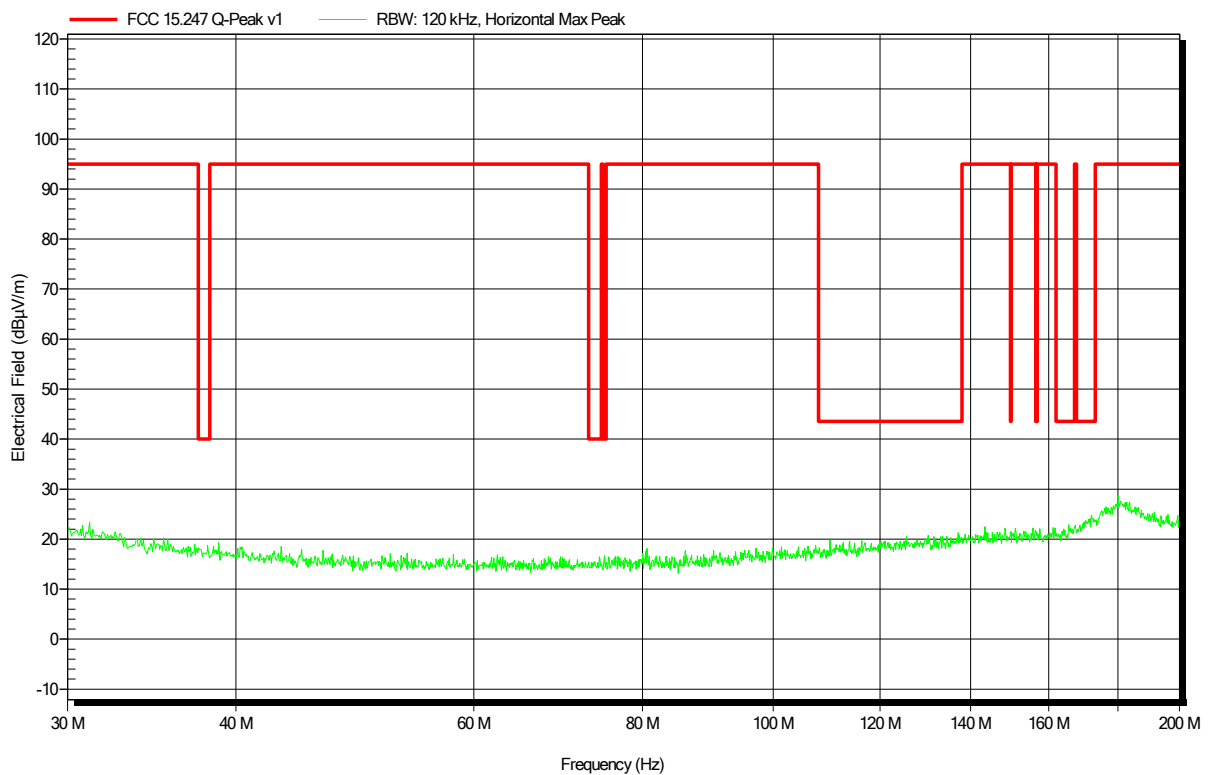
Frequency 609.08 MHz	Peak 37.7 dBμV/m	Peak Limit 46 dBμV/m	Peak Difference -8.27 dB	Status Pass
Frequency 609.08 MHz	Quasi-Peak 31.7 dBμV/m	Quasi-Peak Limit 46 dBμV/m	Quasi-Peak Difference -14.28 dB	Quasi-Peak Status Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Mr. Jahn
Measurement software: RadiMation, version 2016.1.10
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Rohde & Schwarz HK 116, Horizontal
Measurement distance: 3 m
Mode: TX; Pit Antenna 6697902, Channel High
Test Date: 2020-06-05
Note:

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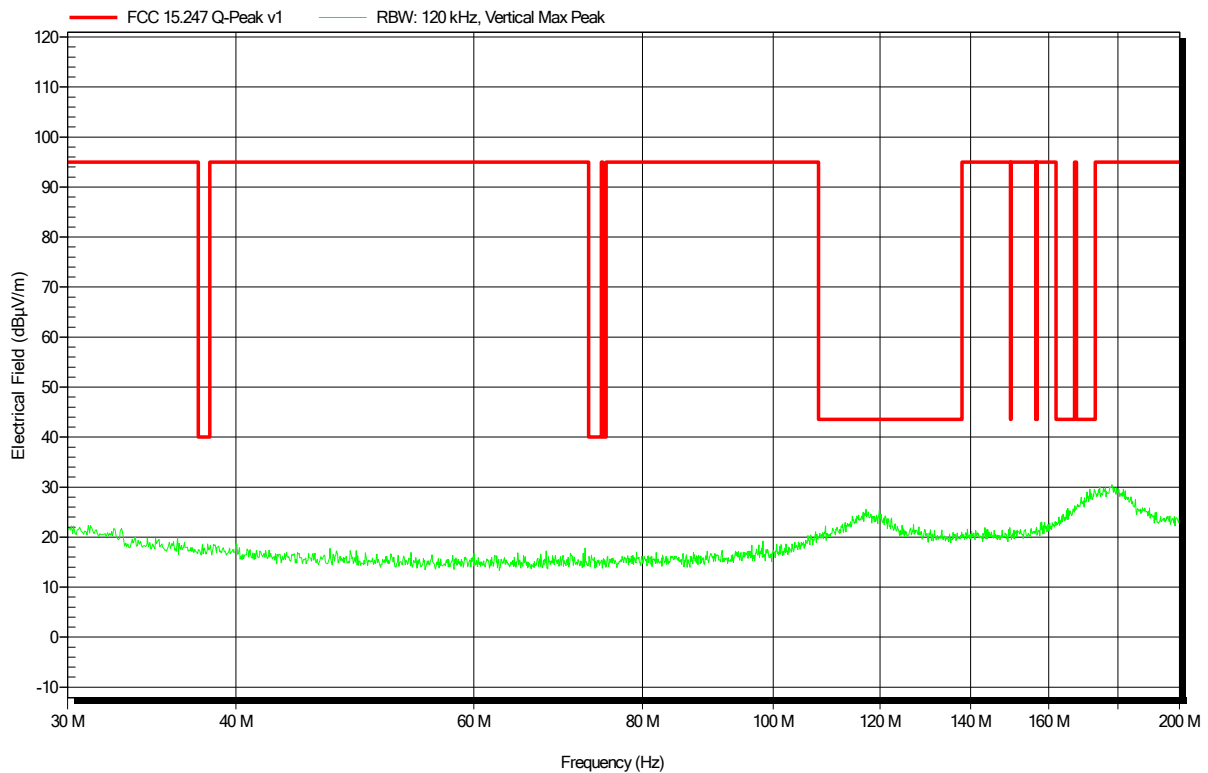


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Mr. Jahn
Measurement software: RadiMation, version 2016.1.10
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Rohde & Schwarz HK 116, Vertical
Measurement distance: 3 m
Mode: TX; Pit Antenna 6697902, Channel High
Test Date: 2020-06-05
Note:

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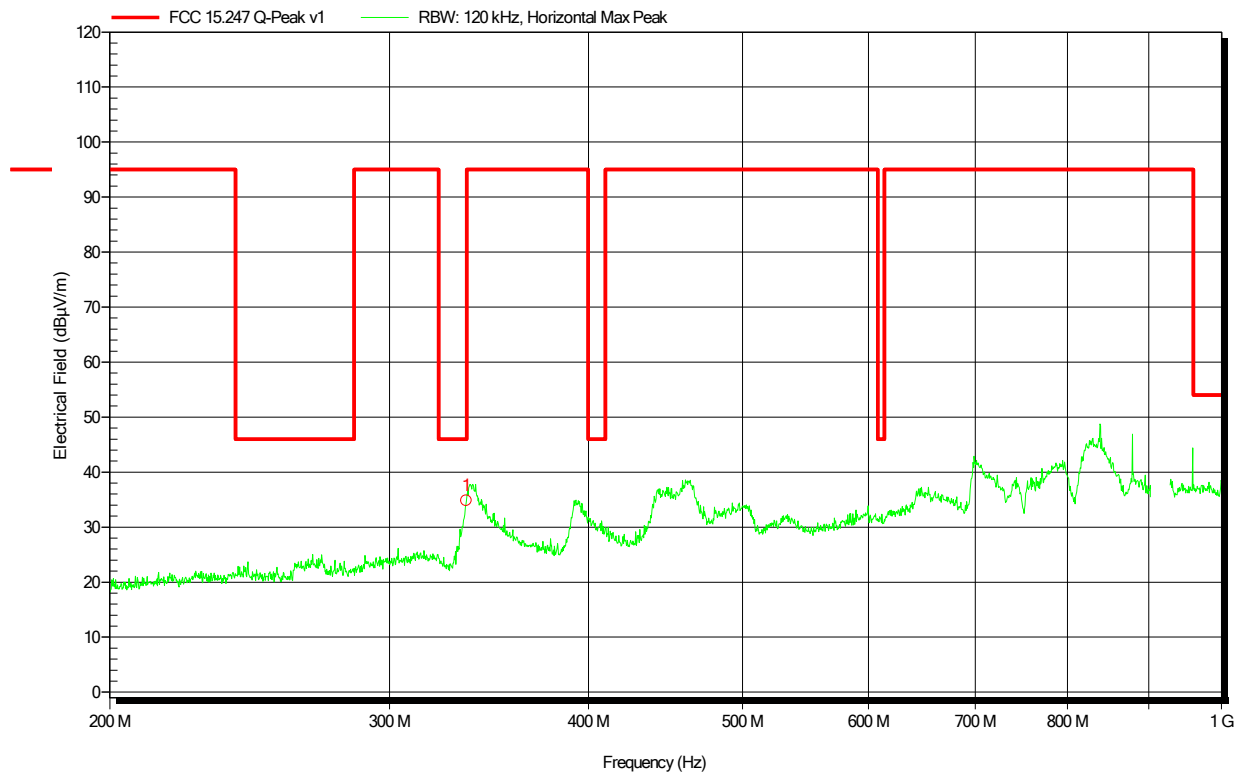


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Mr. Jahn
Measurement software: RadiMation, version 2016.1.10
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Rohde & Schwarz HL 223, Horizontal
Measurement distance: 3 m
Mode: TX; Pit Antenna 6697902, Channel High
Test Date: 2020-06-05
Note:

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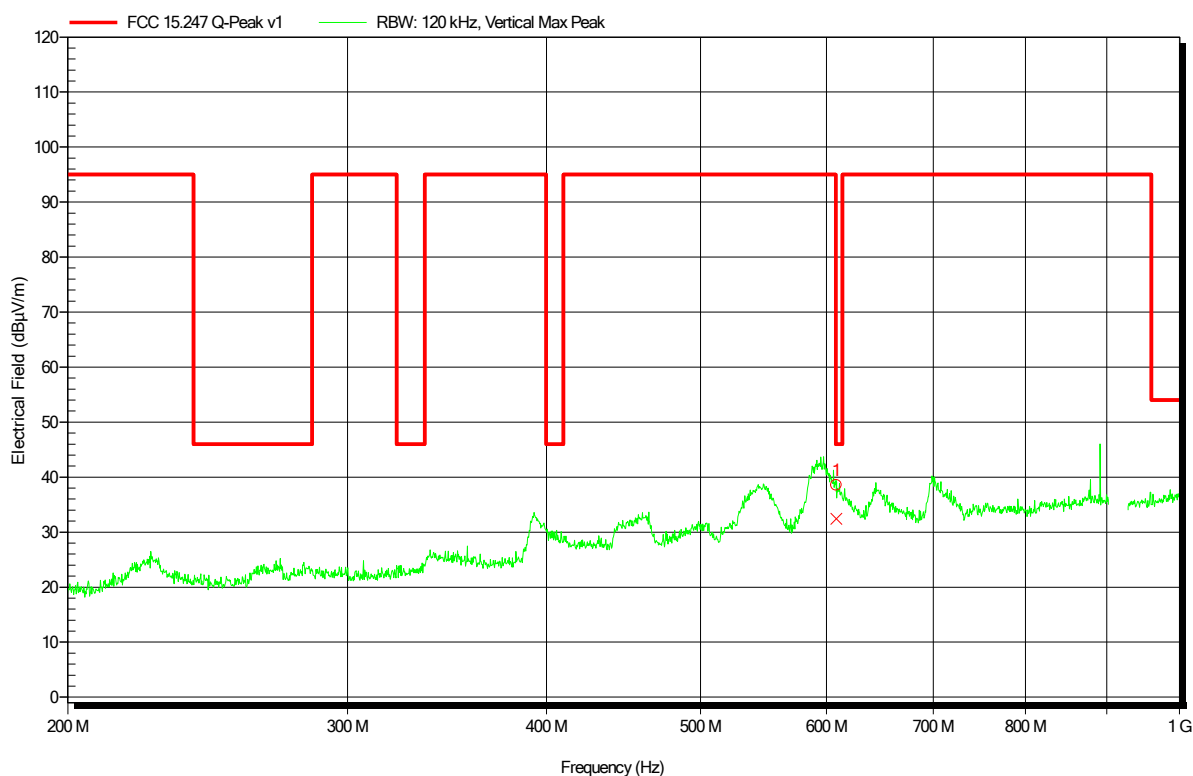
Frequency	Peak	Peak Limit	Peak Difference	Status
335.3 MHz	34.8 dBμV/m	46 dBμV/m	-11.19 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Jahn
 Measurement software: RadiMation, version 2016.1.10
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Rohde & Schwarz HL 223, Vertical
 Measurement distance: 3 m
 Mode: TX; Pit Antenna 6697902, Channel High
 Test Date: 2020-06-05
 Note:

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Frequency 608.6 MHz	Peak 38.5 dBµV/m	Peak Limit 46 dBµV/m	Peak Difference -7.49 dB	Status Pass
Frequency 608.6 MHz	Quasi-Peak 32.4 dBµV/m	Quasi-Peak Limit 46 dBµV/m	Quasi-Peak Difference -13.61 dB	Quasi-Peak Status Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S

EUT Name: Ultrasonic water meter

Model: KWM2220

Test Site: Eurofins Product Service GmbH

Operator: Toralf Jahn

Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC

Antenna: Schwarzbeck BBHA 9120D, Horizontal

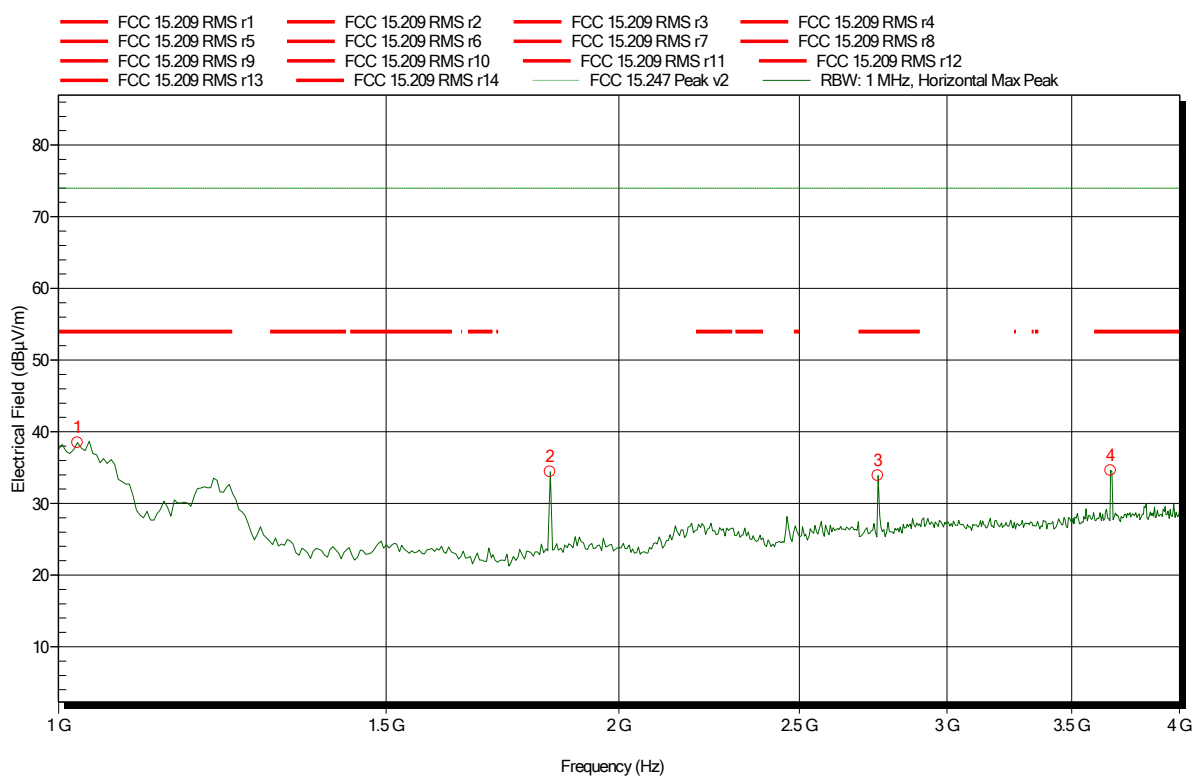
Measurement distance: 1 m converted to 3m

Mode: TX; Helix Antenna, Channel High

Test Date: 2020-06-03

Note:

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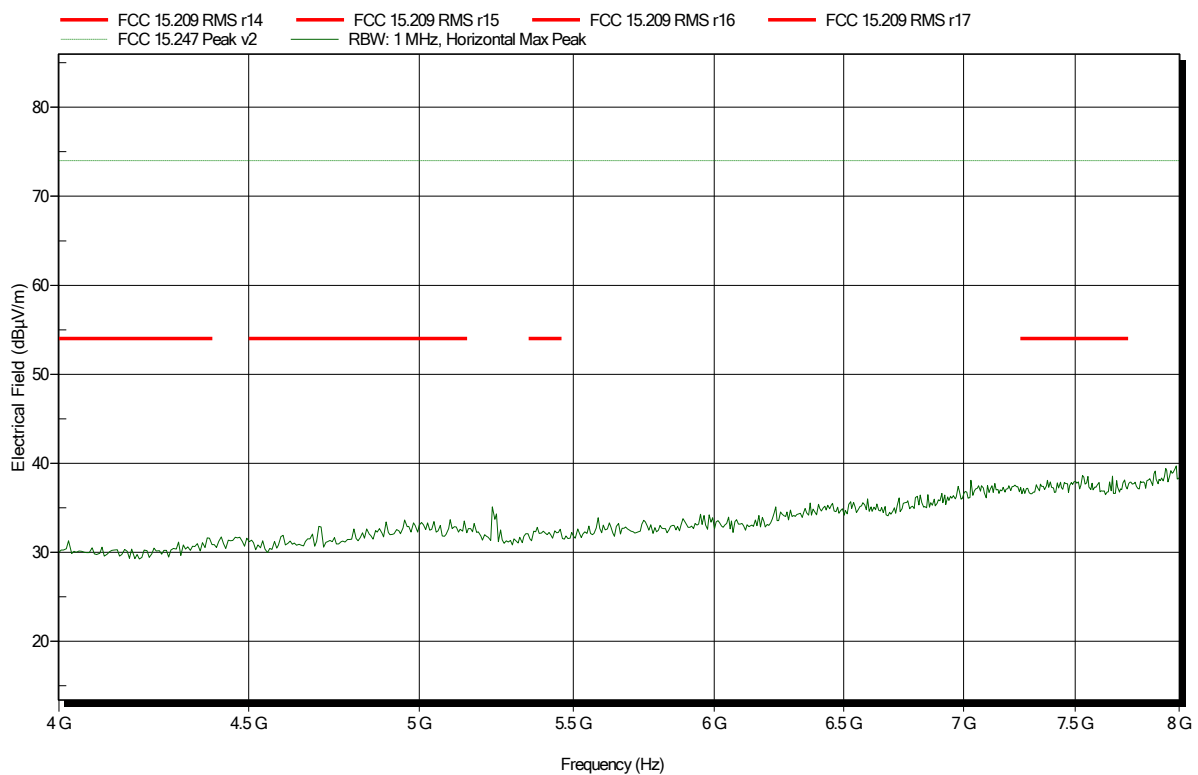
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.024 GHz	38.51 dBμV/m	74 dBμV/m	-35.49 dB	Pass
1.837 GHz	34.42 dBμV/m	74 dBμV/m	-39.58 dB	Pass
2.755 GHz	33.89 dBμV/m	74 dBμV/m	-40.11 dB	Pass
3.673 GHz	34.61 dBμV/m	74 dBμV/m	-39.39 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; Helix Antenna, Channel High
 Test Date: 2020-06-03
 Note:

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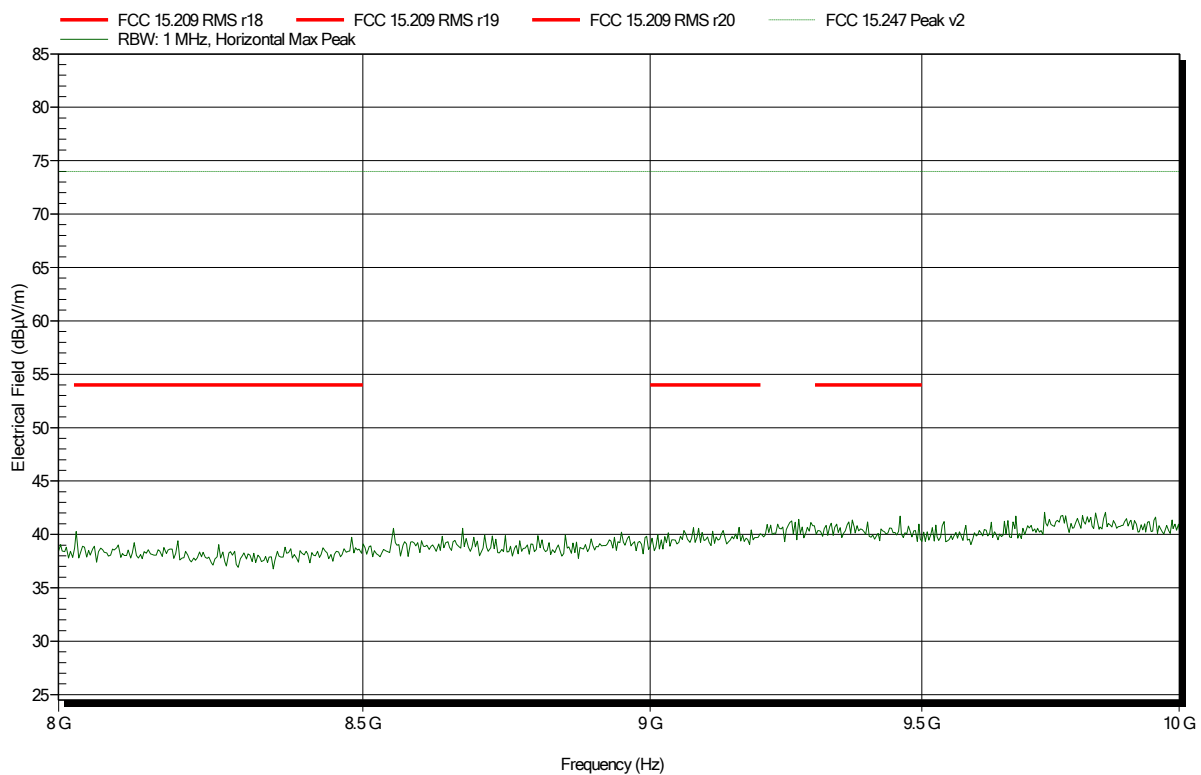


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Toralf Jahn
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Schwarzbeck BBHA 9120D, Horizontal
Measurement distance: 1 m converted to 3m
Mode: TX; Helix Antenna, Channel High
Test Date: 2020-06-03
Note:

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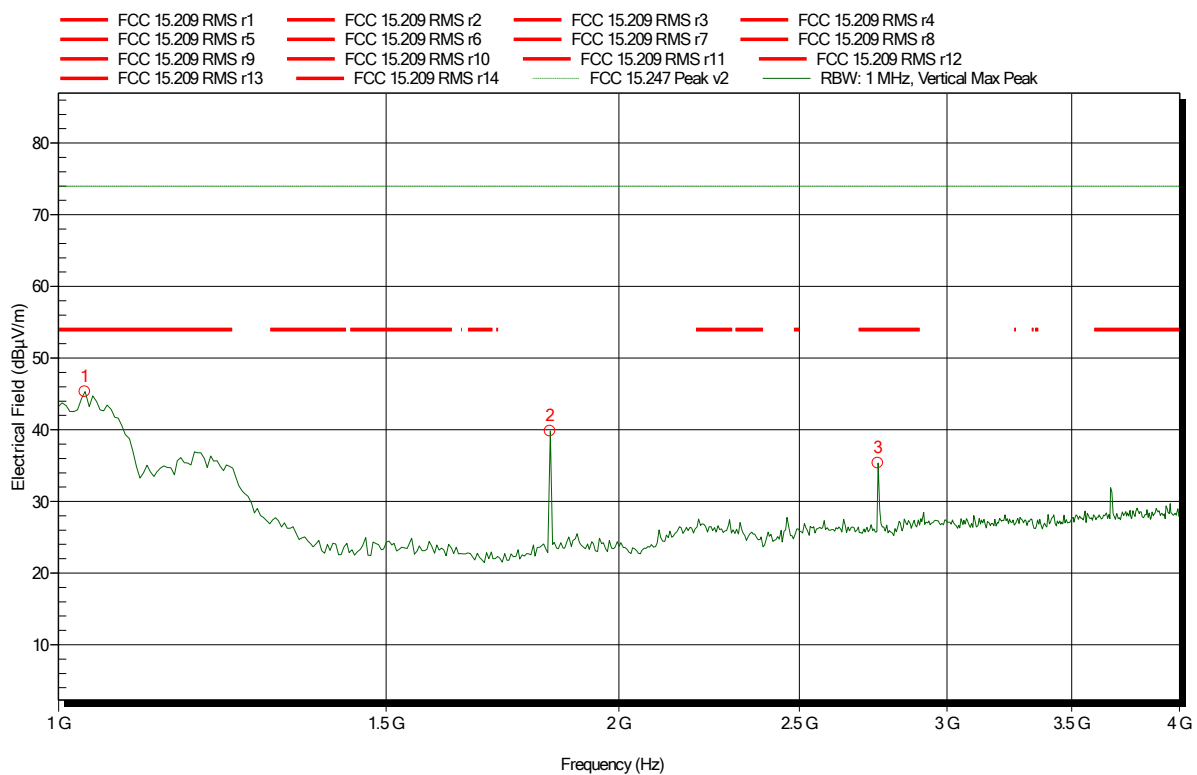


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m converted to 3m
 Mode: TX; Helix Antenna, Channel High
 Test Date: 2020-06-03
 Note:

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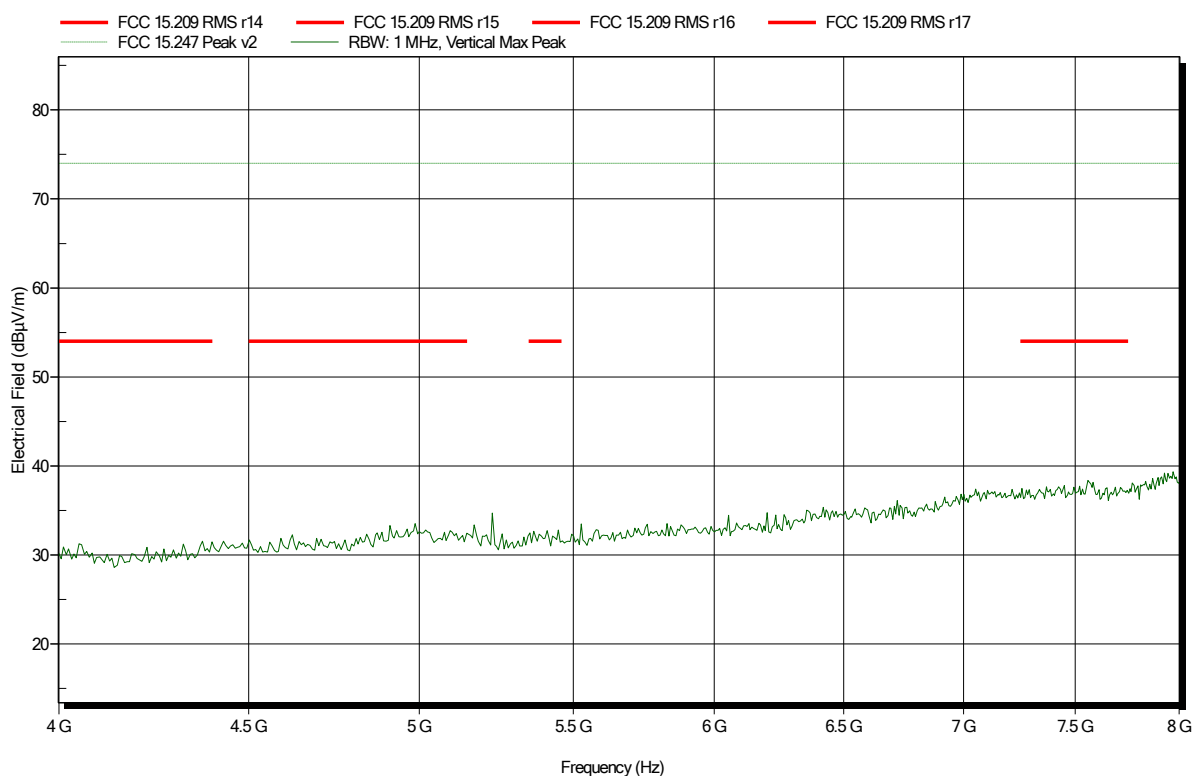
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.034 GHz	45.3 dBμV/m	74 dBμV/m	-28.7 dB	Pass
1.837 GHz	39.83 dBμV/m	74 dBμV/m	-34.17 dB	Pass
2.755 GHz	35.35 dBμV/m	74 dBμV/m	-38.65 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Toralf Jahn
Measurement software: RadiMation, version 2016.1.10
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Schwarzbeck BBHA 9120D, Vertical
Measurement distance: 1 m, converted to 3 m
Mode: TX; Helix Antenna, Channel High
Test Date: 2020-06-03
Note:

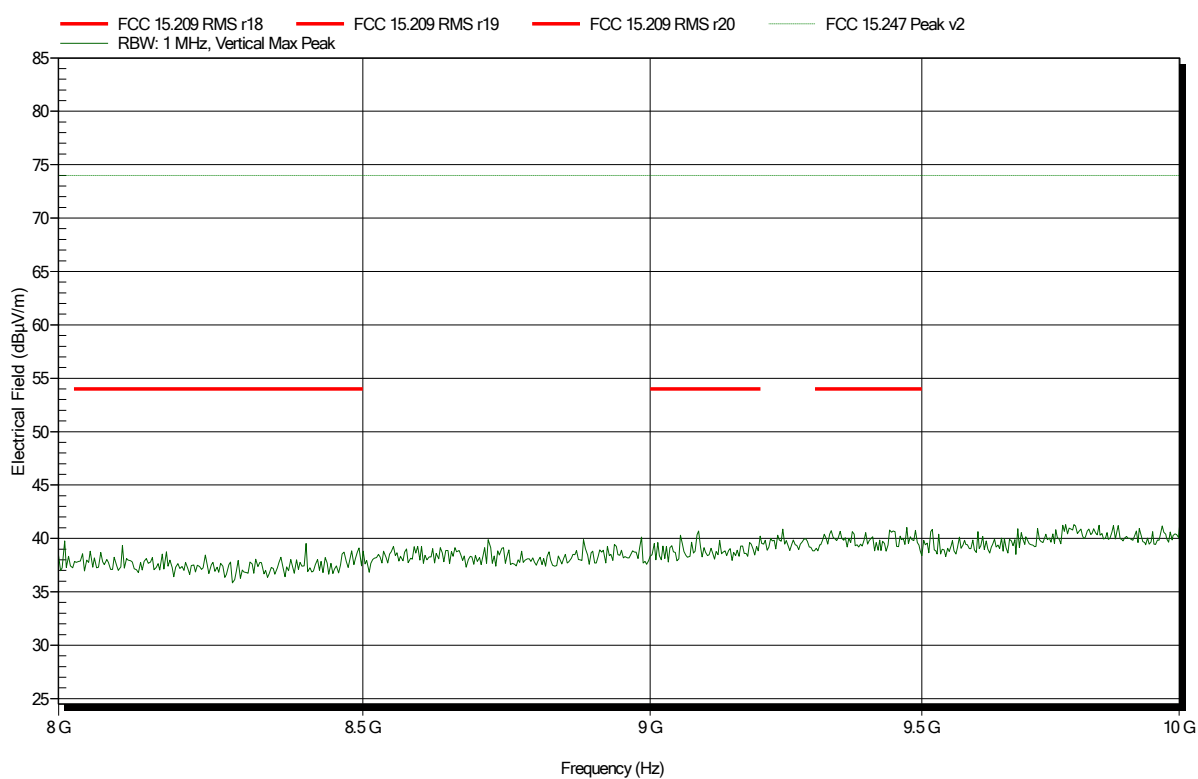
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Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859
 Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m converted to 3m
 Mode: TX; Helix Antenna, Channel High
 Test Date: 2020-06-03
 Note:

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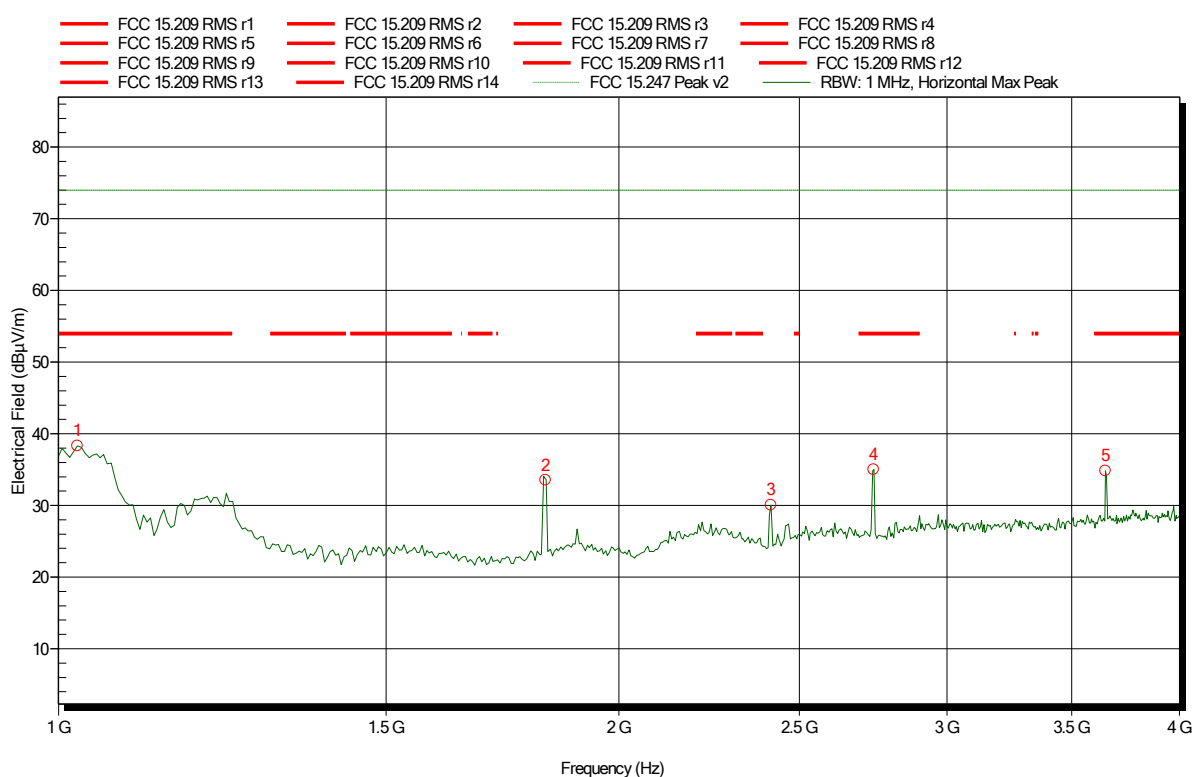


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Toralf Jahn
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Schwarzbeck BBHA 9120D, Horizontal
Measurement distance: 1 m converted to 3m
Mode: TX; Helix Antenna, Channel Low
Test Date: 2020-06-02
Note:

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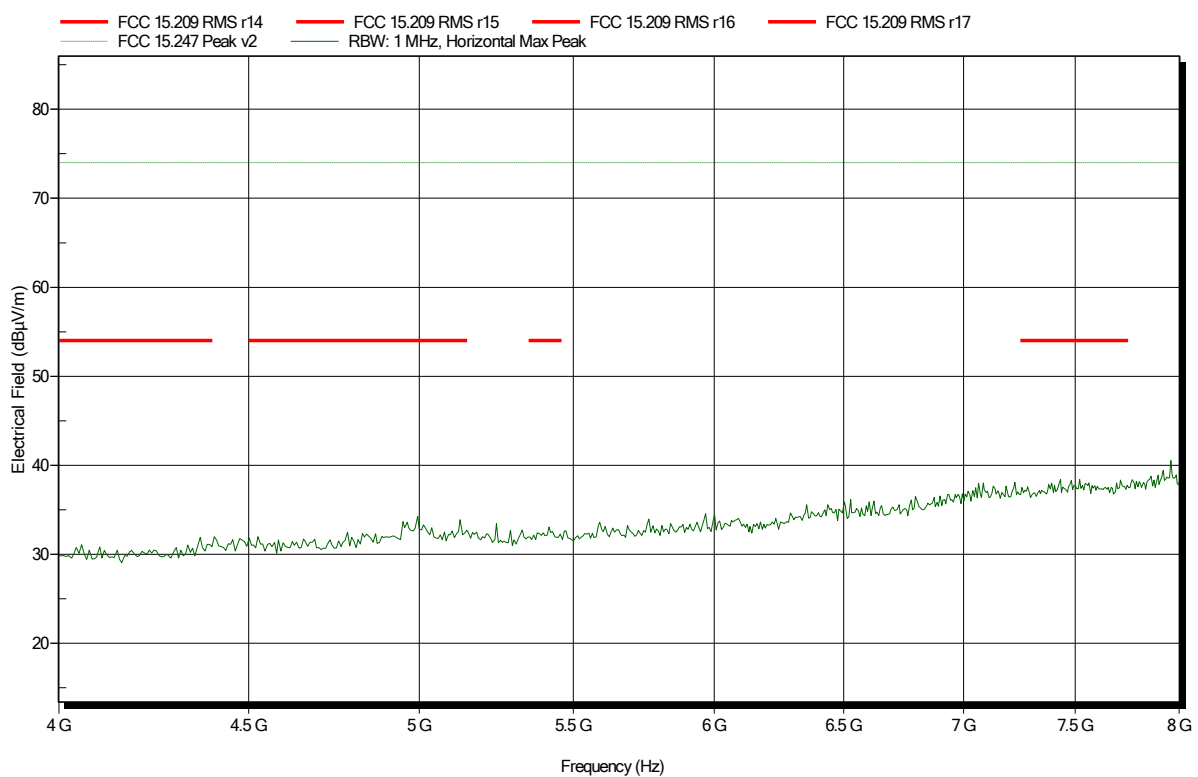
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.024 GHz	38.32 dBμV/m	74 dBμV/m	-35.68 dB	Pass
1.827 GHz	33.54 dBμV/m	74 dBμV/m	-40.46 dB	Pass
2.413 GHz	30.05 dBμV/m	74 dBμV/m	-43.95 dB	Pass
2.74 GHz	35 dBμV/m	74 dBμV/m	-39 dB	Pass
3.649 GHz	34.81 dBμV/m	74 dBμV/m	-39.19 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; Helix Antenna, Channel Low
 Test Date: 2020-06-02
 Note:

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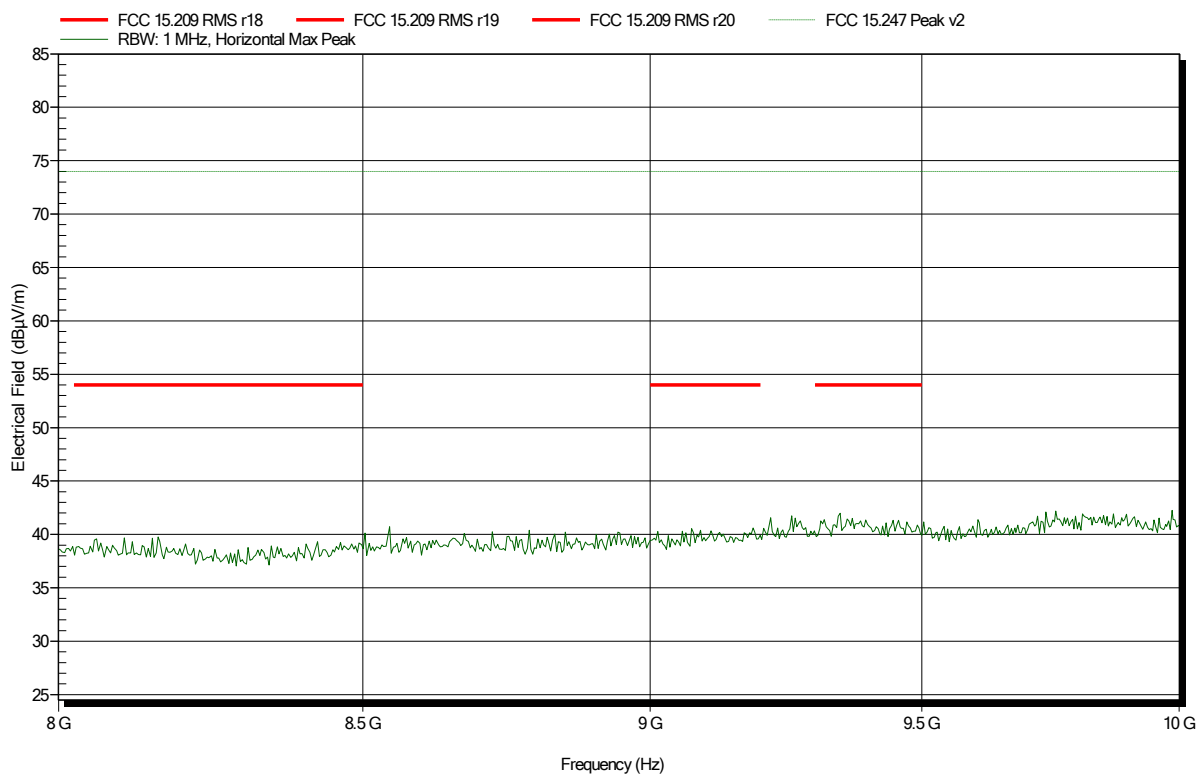


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; Helix Antenna, Channel Low
 Test Date: 2020-06-02
 Note:

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Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S

EUT Name: Ultrasonic water meter

Model: KWM2220

Test Site: Eurofins Product Service GmbH

Operator: Toralf Jahn

Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC

Antenna: Schwarzbeck BBHA 9120D, Vertical

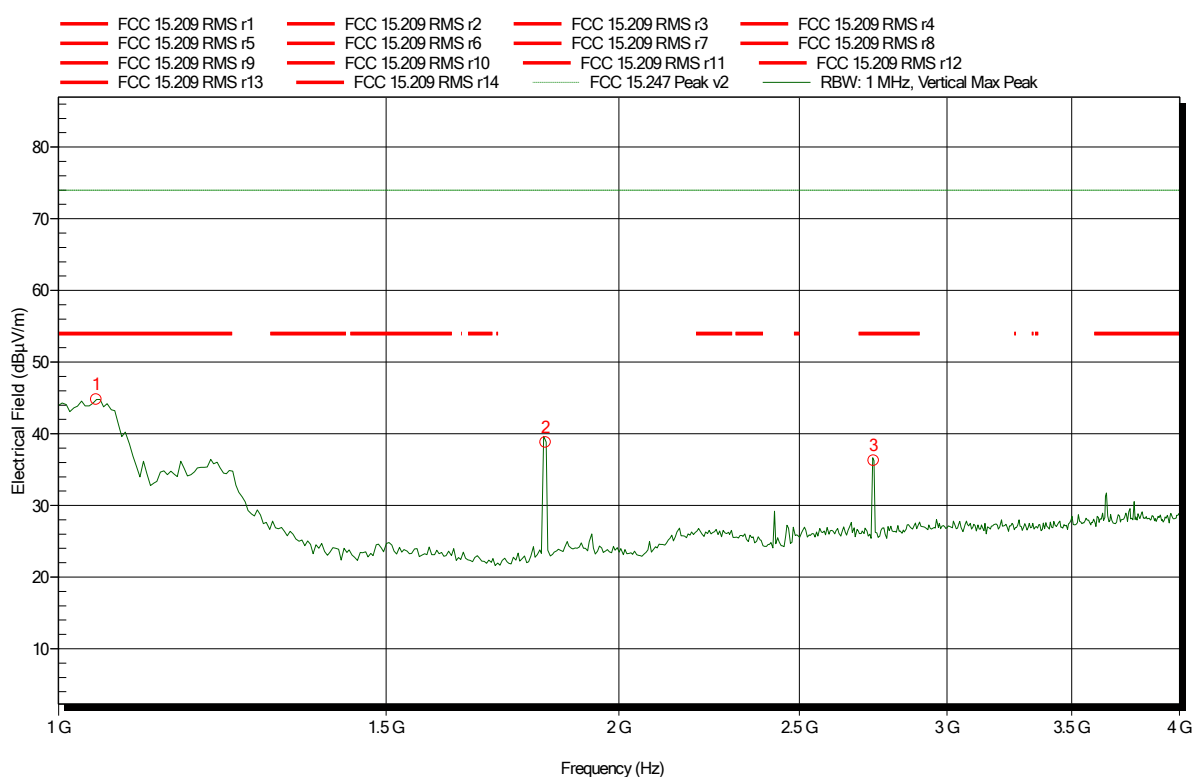
Measurement distance: 1 m converted to 3m

Mode: TX; Helix Antenna, Channel Low

Test Date: 2020-06-02

Note:

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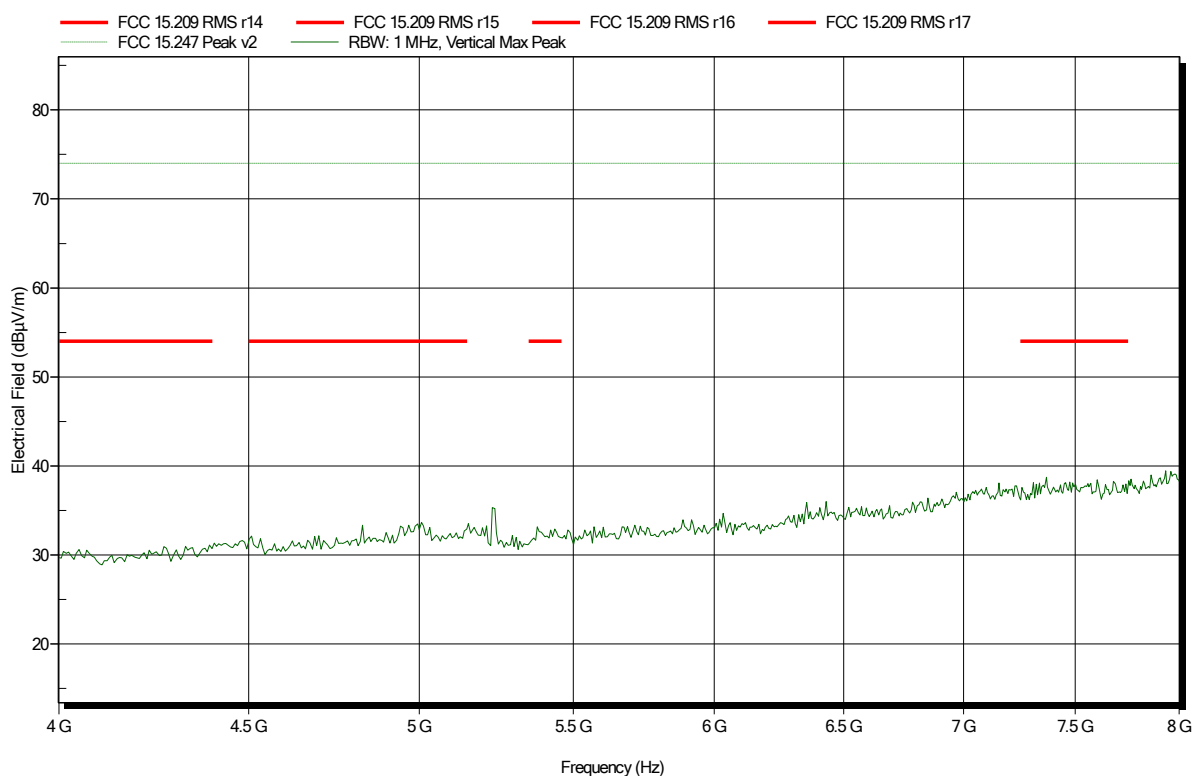


Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.048 GHz	44.8 dBμV/m	74 dBμV/m	-29.2 dB	Pass
1.827 GHz	38.81 dBμV/m	74 dBμV/m	-35.19 dB	Pass
2.74 GHz	36.25 dBμV/m	74 dBμV/m	-37.75 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859
 Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Measurement software: RadiMation, version 2016.1.10
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m, converted to 3 m
 Mode: TX; Helix Antenna, Channel Low
 Test Date: 2020-06-02
 Note:

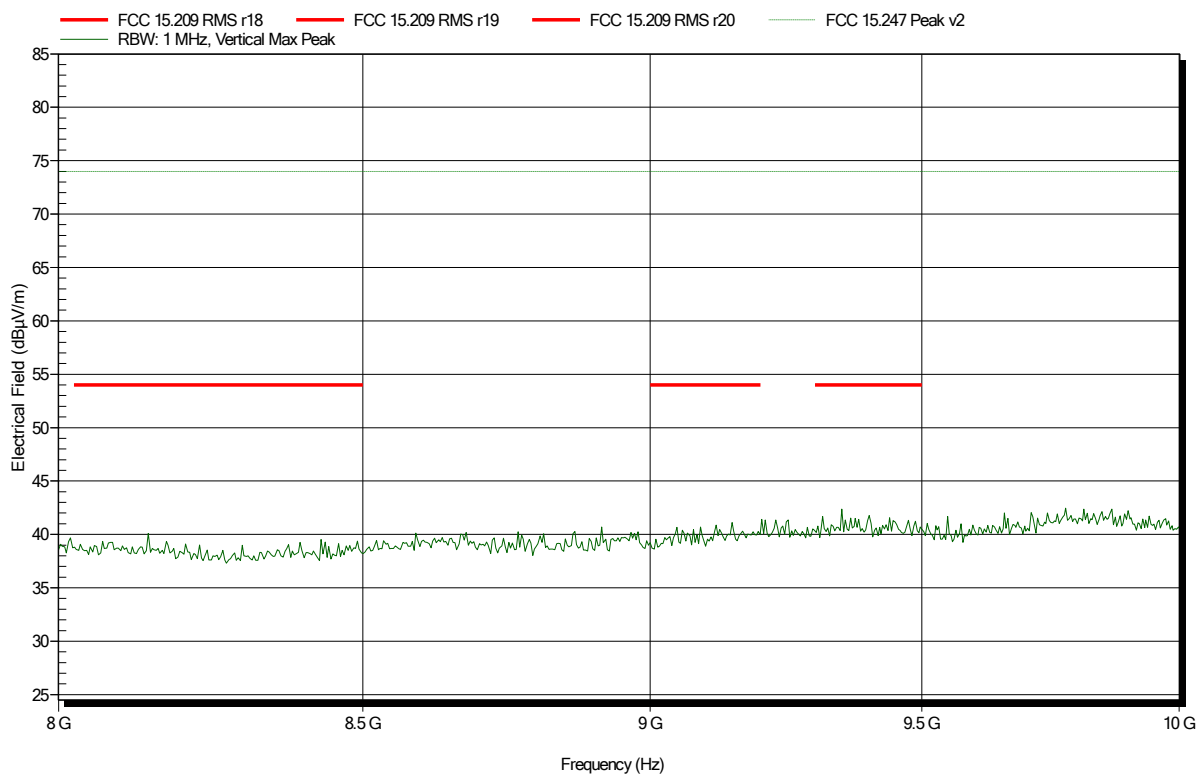
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Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859
 Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m converted to 3m
 Mode: TX; Helix Antenna, Channel Low
 Test Date: 2020-06-02
 Note:

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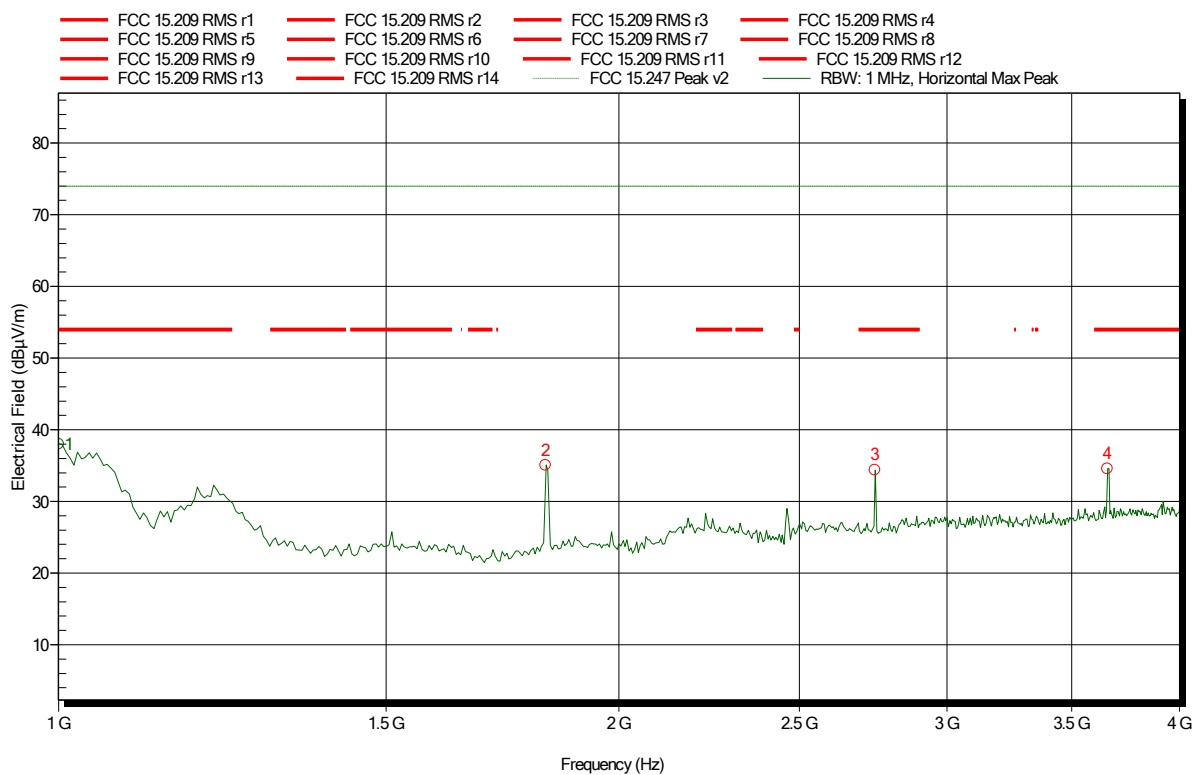


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; Helix Antenna, Channel Mid
 Test Date: 2020-06-03
 Note:

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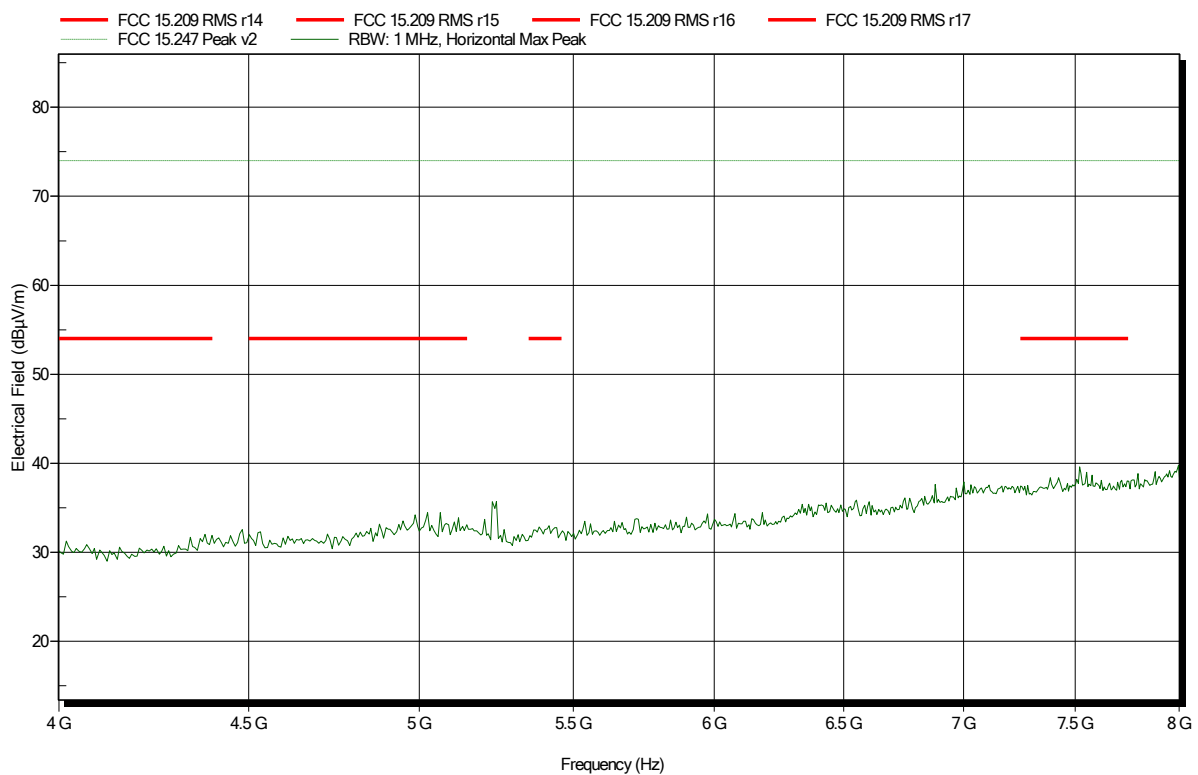
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1 GHz	38 dBμV/m	74 dBμV/m	-36 dB	Pass
1.827 GHz	35.06 dBμV/m	74 dBμV/m	-38.94 dB	Pass
2.745 GHz	34.37 dBμV/m	74 dBμV/m	-39.63 dB	Pass
3.659 GHz	34.56 dBμV/m	74 dBμV/m	-39.44 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Toralf Jahn
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Schwarzbeck BBHA 9120D, Horizontal
Measurement distance: 1 m converted to 3m
Mode: TX; Helix Antenna, Channel Mid
Test Date: 2020-06-03
Note:

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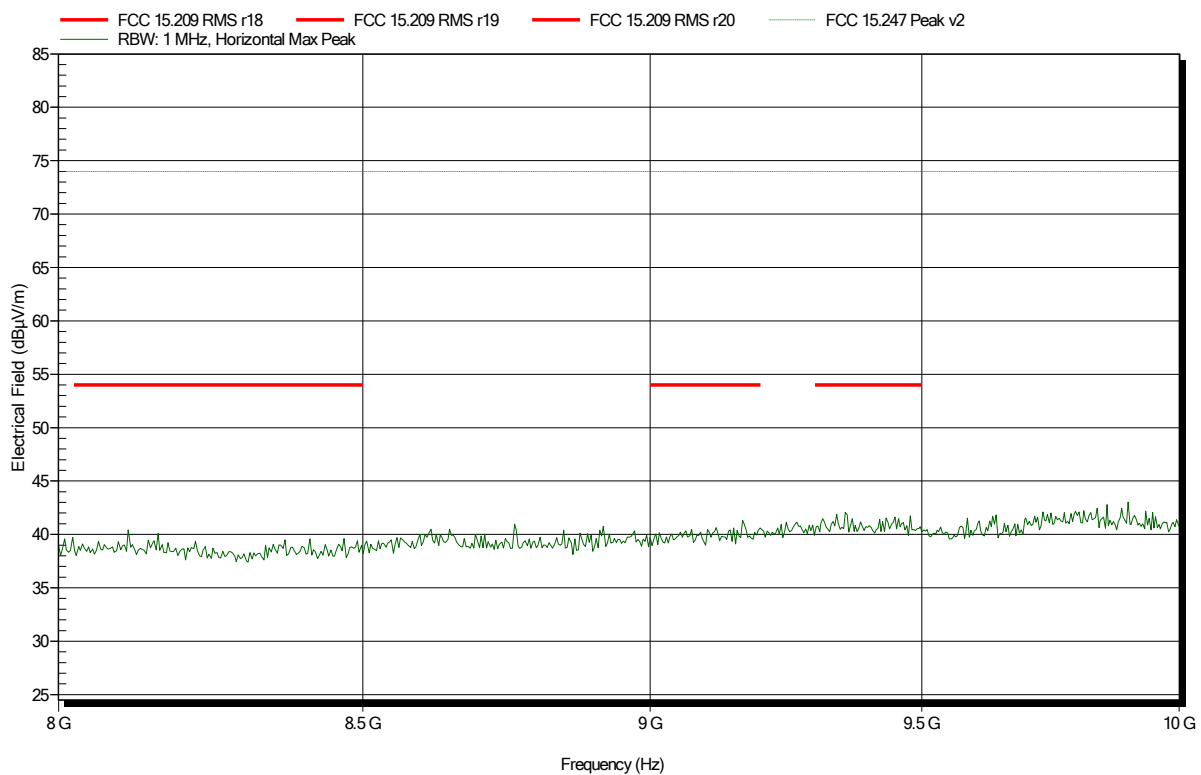


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Toralf Jahn
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Schwarzbeck BBHA 9120D, Horizontal
Measurement distance: 1 m converted to 3m
Mode: TX; Helix Antenna, Channel Mid
Test Date: 2020-06-03
Note:

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Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S

EUT Name: Ultrasonic water meter

Model: KWM2220

Test Site: Eurofins Product Service GmbH

Operator: Toralf Jahn

Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC

Antenna: Schwarzbeck BBHA 9120D, Vertical

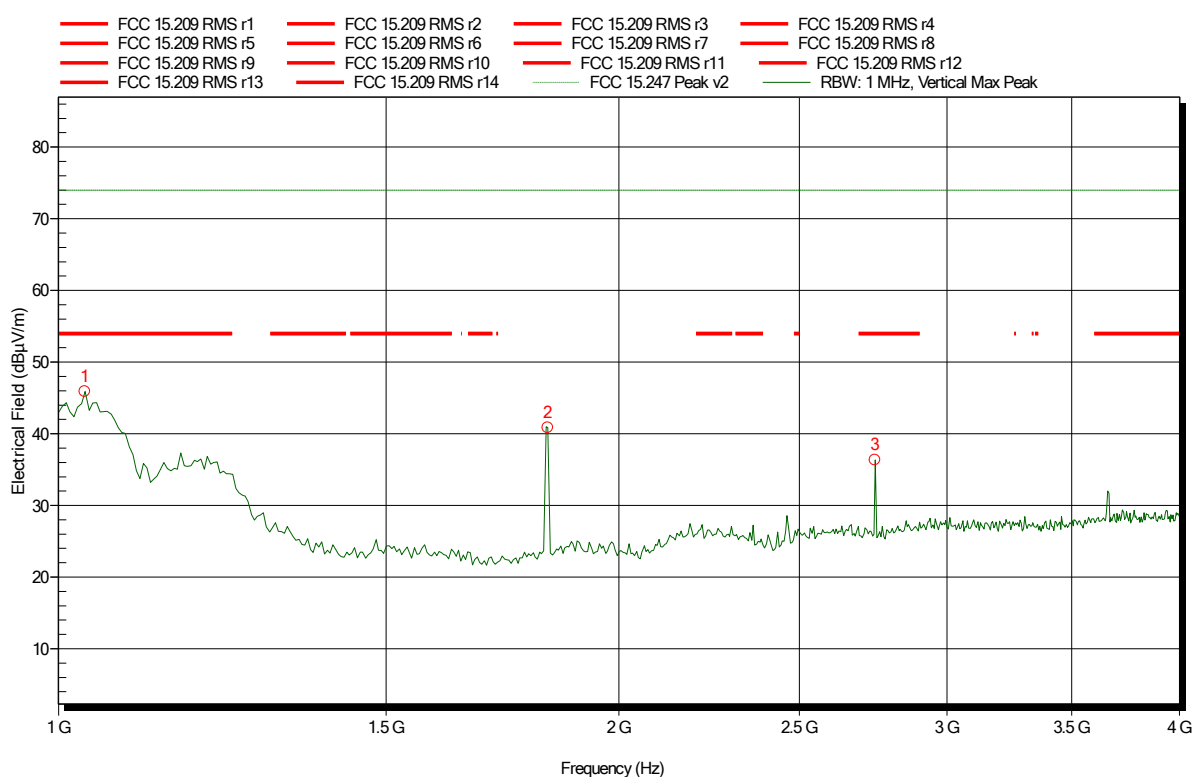
Measurement distance: 1 m converted to 3m

Mode: TX; Helix Antenna, Channel Mid

Test Date: 2020-06-03

Note:

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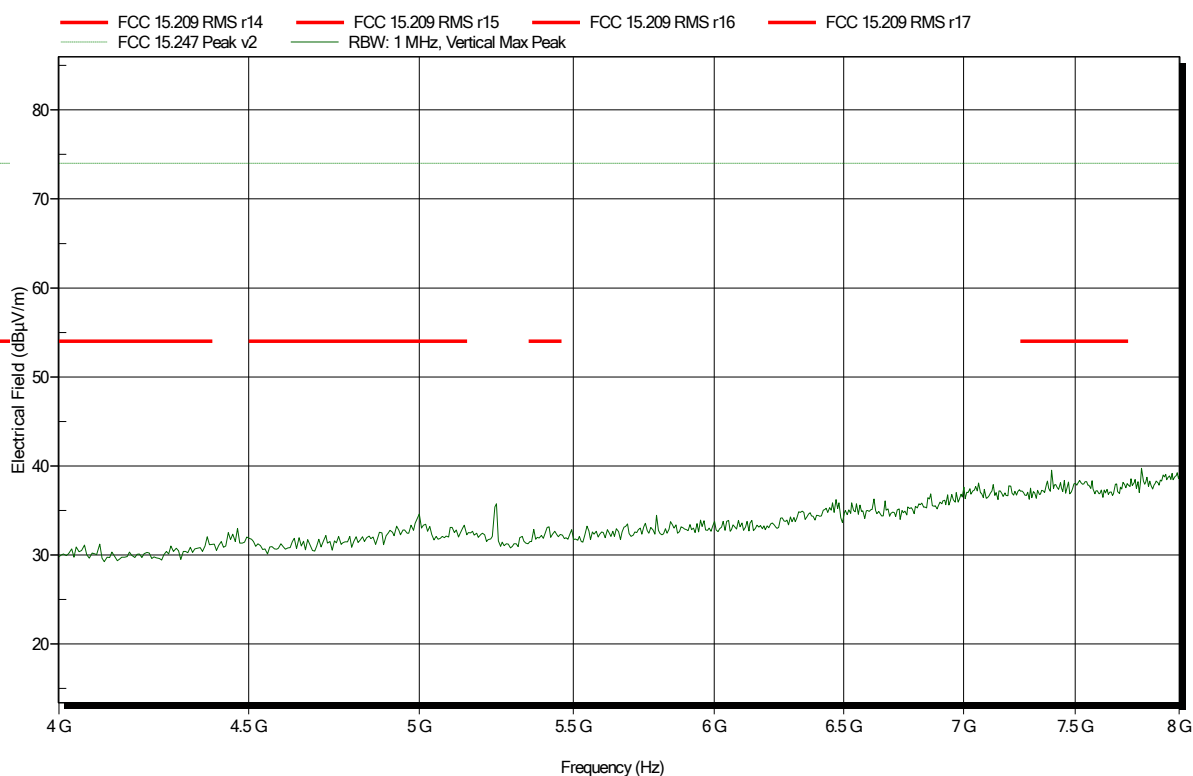
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.034 GHz	45.9 dBμV/m	74 dBμV/m	-28.1 dB	Pass
1.832 GHz	40.86 dBμV/m	74 dBμV/m	-33.14 dB	Pass
2.745 GHz	36.33 dBμV/m	74 dBμV/m	-37.67 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Measurement software: RadiMation, version 2016.1.10
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m, converted to 3 m
 Mode: TX; Helix Antenna, Channel Mid
 Test Date: 2020-06-03
 Note:

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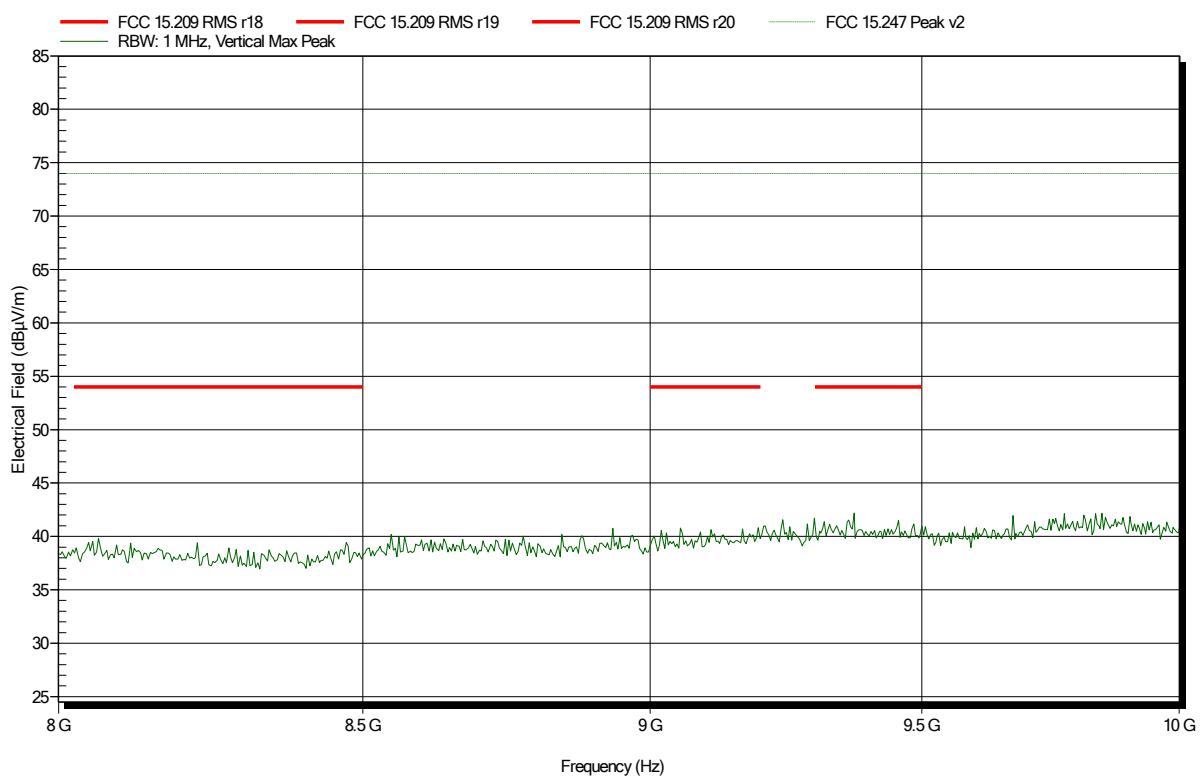


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m converted to 3m
 Mode: TX; Helix Antenna, Channel Mid
 Test Date: 2020-06-03
 Note:

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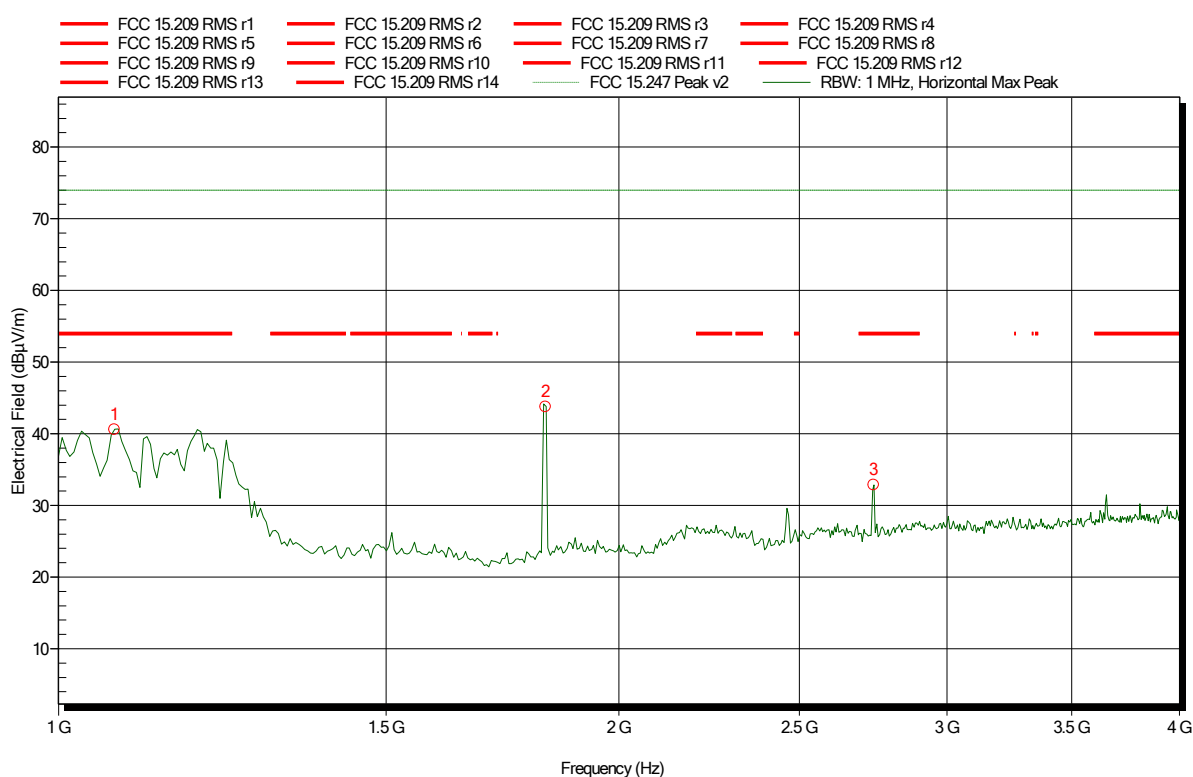


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; Wall Antenna, Channel Low
 Test Date: 2020-06-04
 Note:

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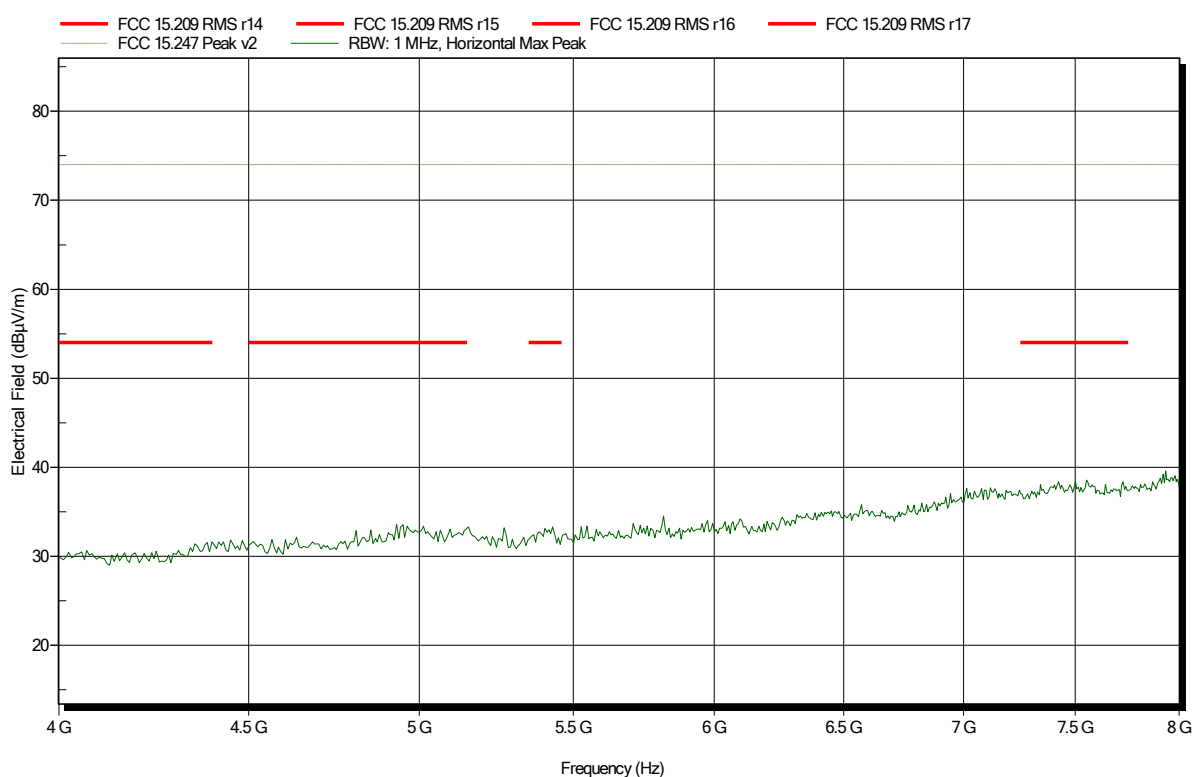
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.072 GHz	40.61 dBμV/m	74 dBμV/m	-33.39 dB	Pass
1.827 GHz	43.77 dBμV/m	74 dBμV/m	-30.23 dB	Pass
2.74 GHz	32.85 dBμV/m	74 dBμV/m	-41.15 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; Wall Antenna, Channel Low
 Test Date: 2020-06-04
 Note:

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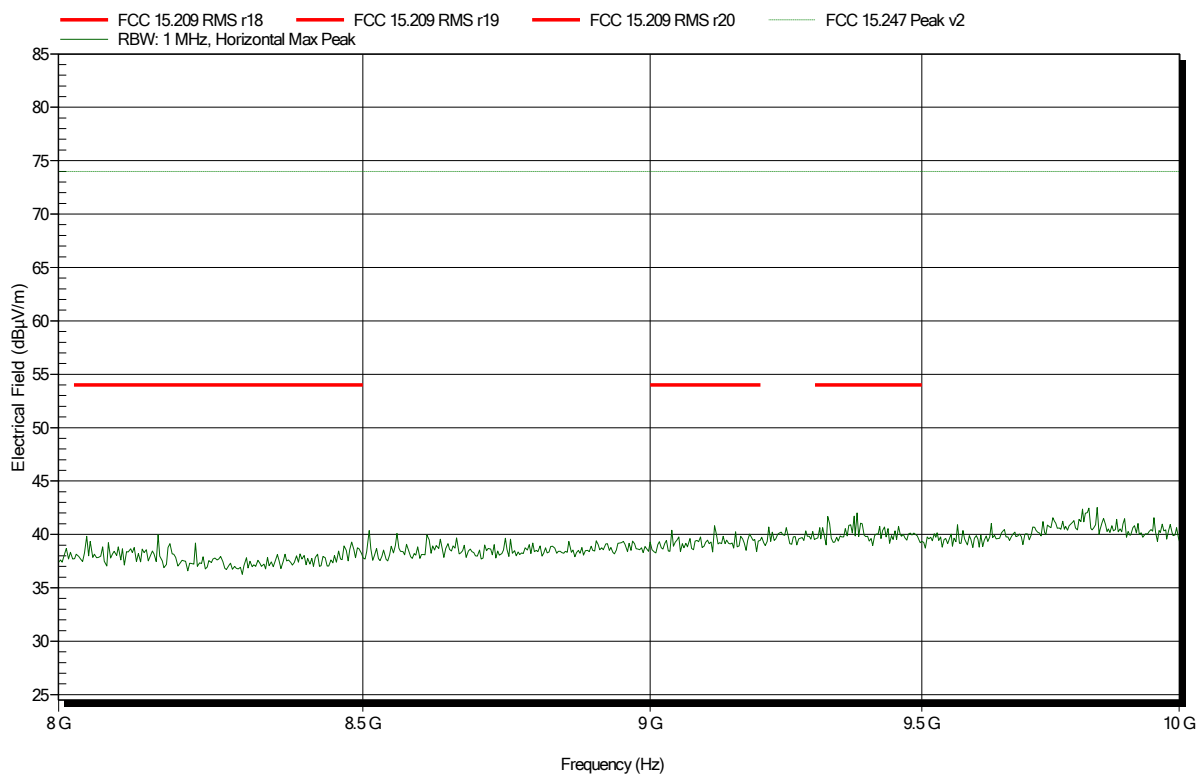


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Toralf Jahn
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Schwarzbeck BBHA 9120D, Horizontal
Measurement distance: 1 m converted to 3m
Mode: TX; Wall Antenna, Channel Low
Test Date: 2020-06-04
Note:

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Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S

EUT Name: Ultrasonic water meter

Model: KWM2220

Test Site: Eurofins Product Service GmbH

Operator: Toralf Jahn

Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC

Antenna: Schwarzbeck BBHA 9120D, Vertical

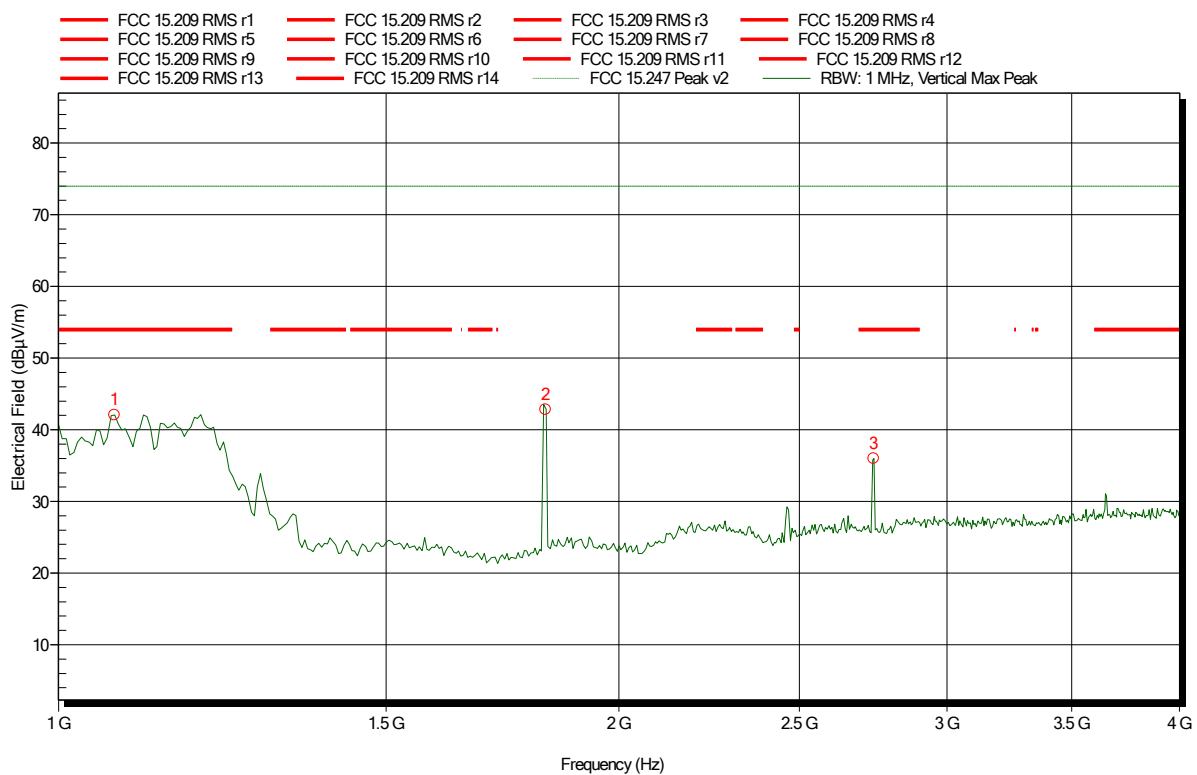
Measurement distance: 1 m converted to 3m

Mode: TX; Wall Antenna, Channel Low

Test Date: 2020-06-04

Note:

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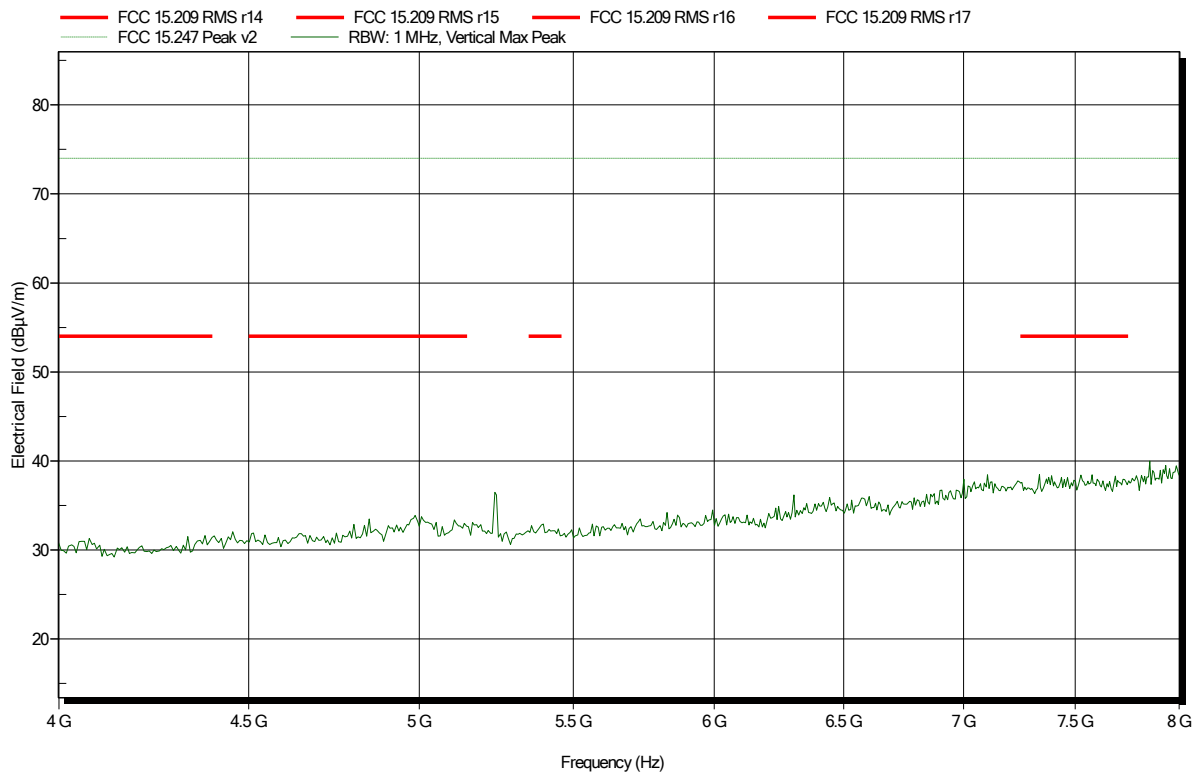
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.072 GHz	42.05 dBμV/m	74 dBμV/m	-31.95 dB	Pass
1.827 GHz	42.83 dBμV/m	74 dBμV/m	-31.17 dB	Pass
2.74 GHz	36 dBμV/m	74 dBμV/m	-38 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Measurement software: RadiMation, version 2016.1.10
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m, converted to 3 m
 Mode: TX; Wall Antenna, Channel Low
 Test Date: 2020-06-04
 Note:

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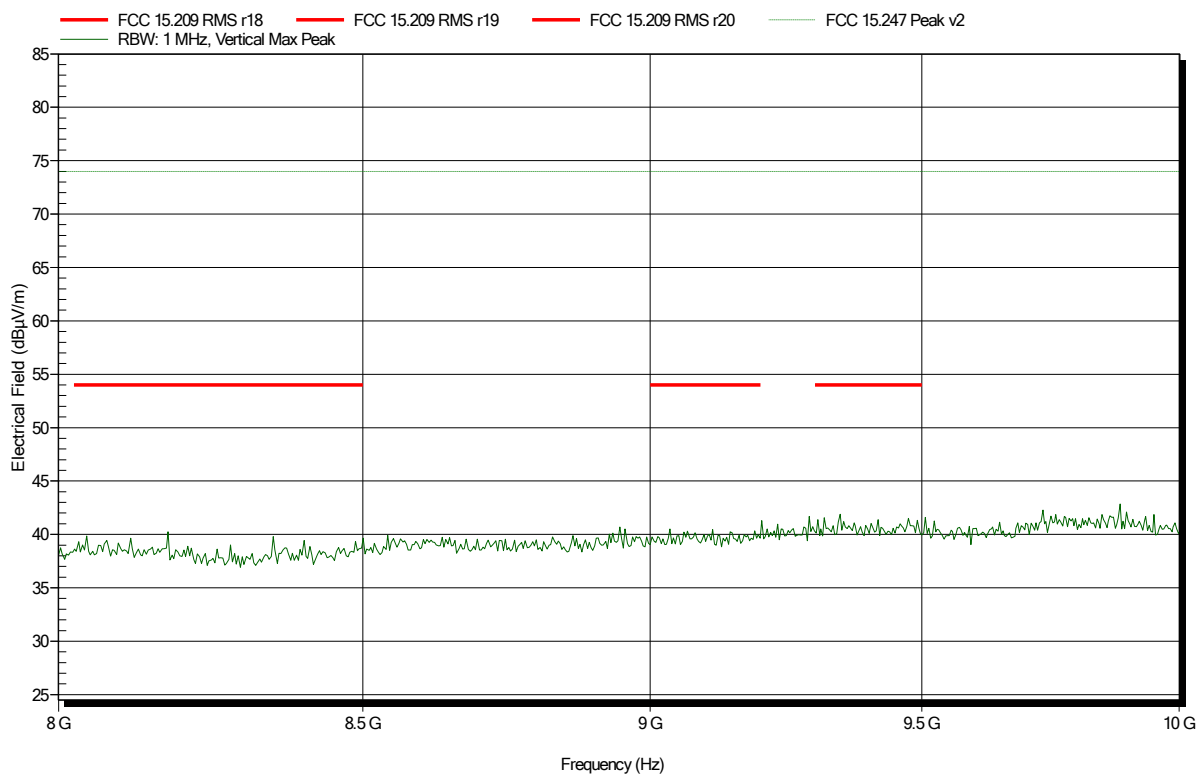


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m converted to 3m
 Mode: TX; Wall Antenna, Channel Low
 Test Date: 2020-06-04
 Note:

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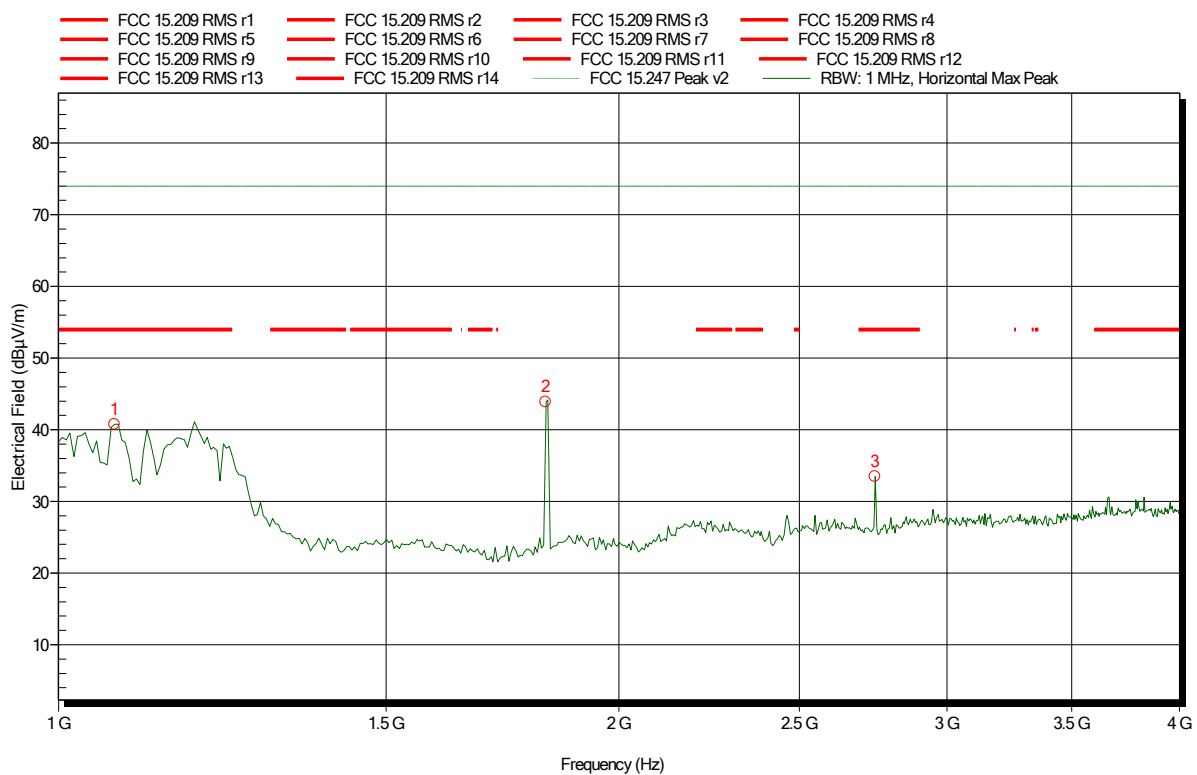


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Toralf Jahn
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Schwarzbeck BBHA 9120D, Horizontal
Measurement distance: 1 m converted to 3m
Mode: TX; Wall Antenna, Channel Mid
Test Date: 2020-06-05
Note:

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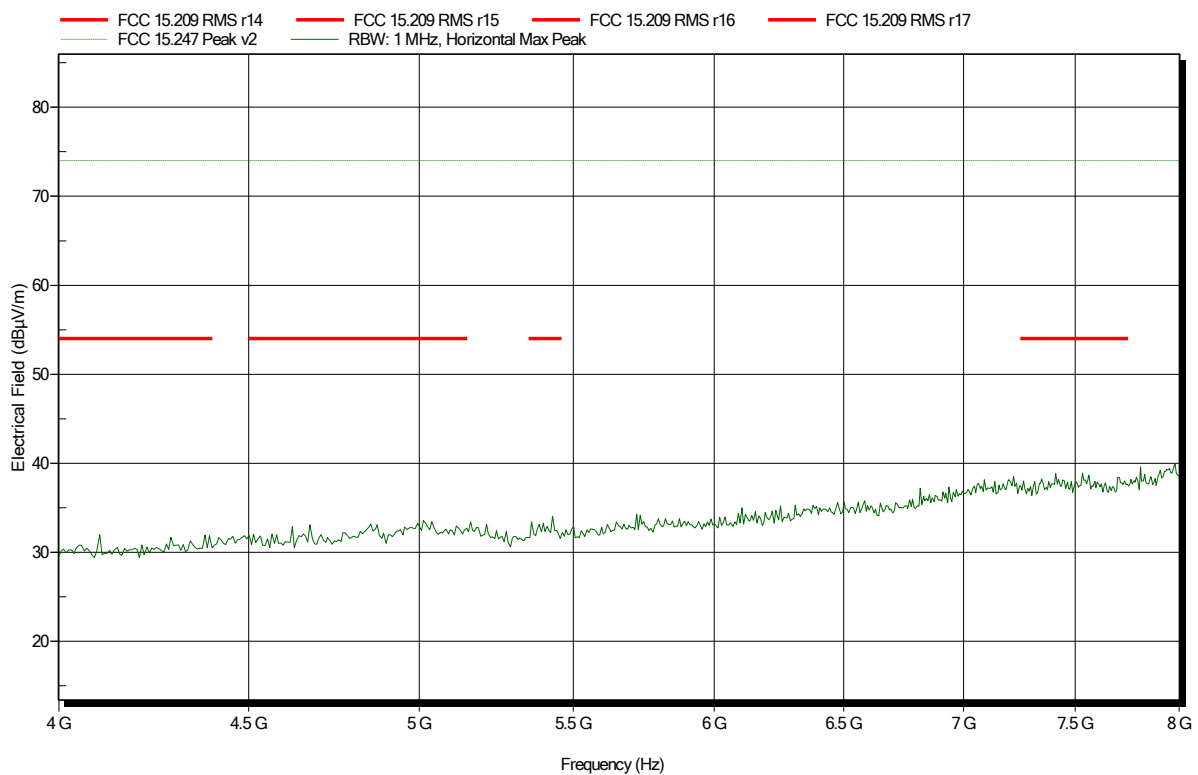
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.072 GHz	40.78 dBμV/m	74 dBμV/m	-33.22 dB	Pass
1.827 GHz	43.91 dBμV/m	74 dBμV/m	-30.09 dB	Pass
2.745 GHz	33.49 dBμV/m	74 dBμV/m	-40.51 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; Wall Antenna, Channel Mid
 Test Date: 2020-06-05
 Note:

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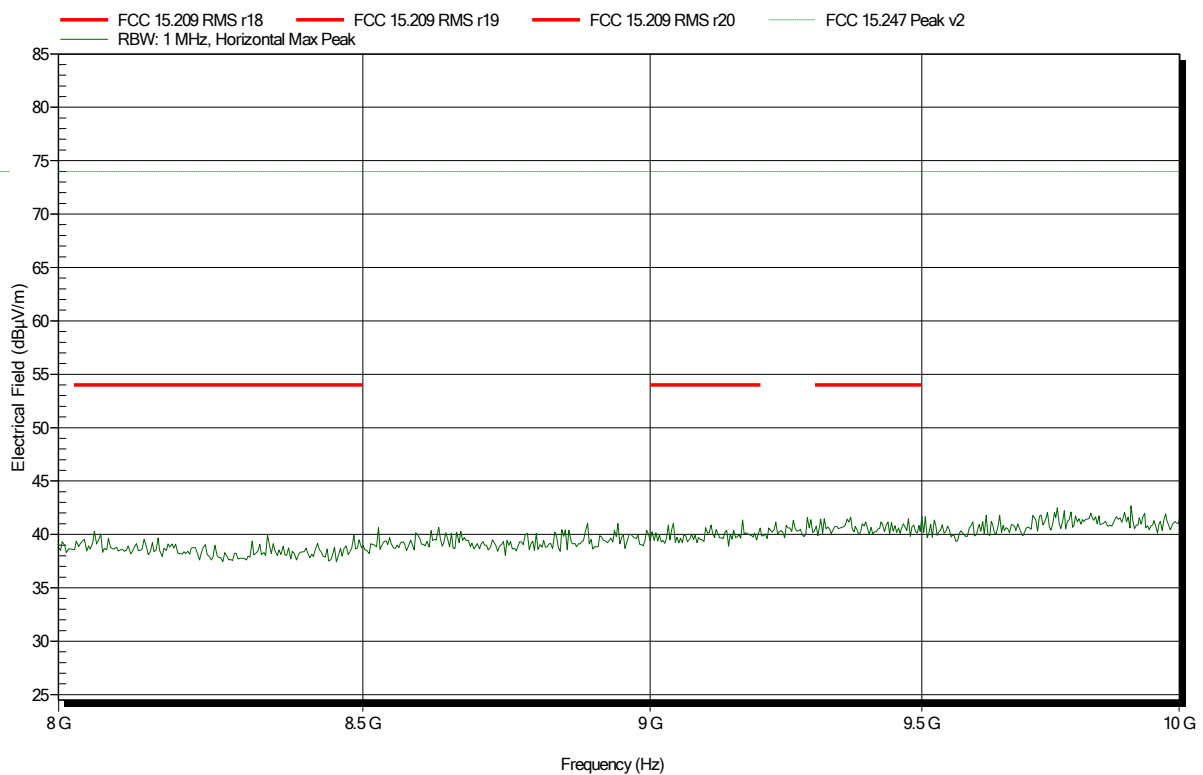


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; Wall Antenna, Channel Mid
 Test Date: 2020-06-05
 Note:

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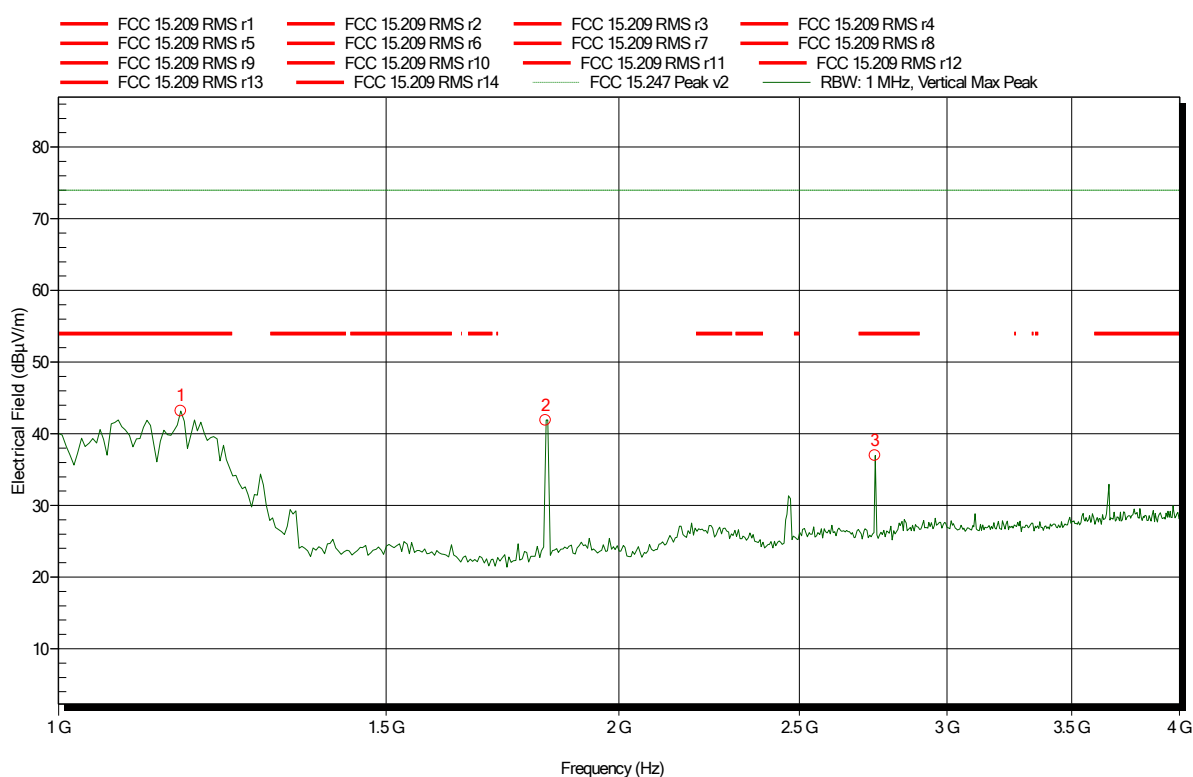


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m converted to 3m
 Mode: TX; Wall Antenna, Channel Mid
 Test Date: 2020-06-05
 Note:

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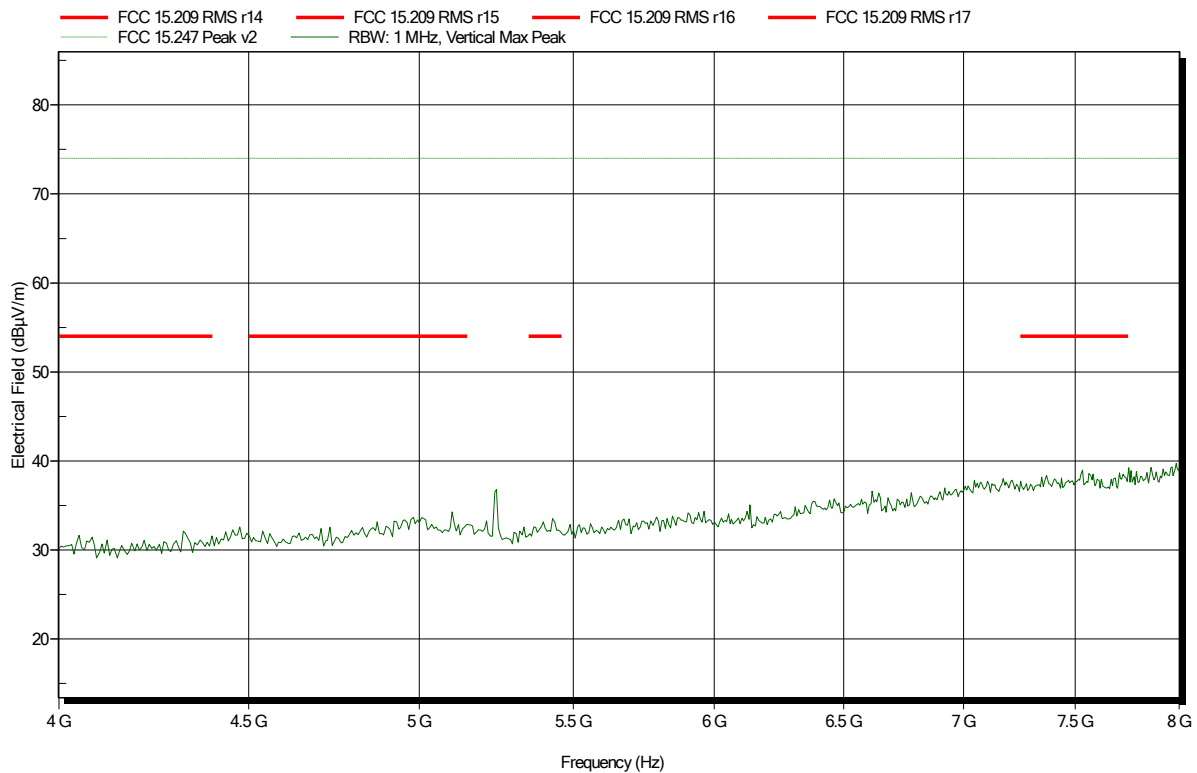
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.163 GHz	43.19 dBμV/m	74 dBμV/m	-30.81 dB	Pass
1.827 GHz	41.9 dBμV/m	74 dBμV/m	-32.1 dB	Pass
2.745 GHz	36.96 dBμV/m	74 dBμV/m	-37.04 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Measurement software: RadiMation, version 2016.1.10
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m, converted to 3 m
 Mode: TX; Wall Antenna, Channel Mid
 Test Date: 2020-06-05
 Note:

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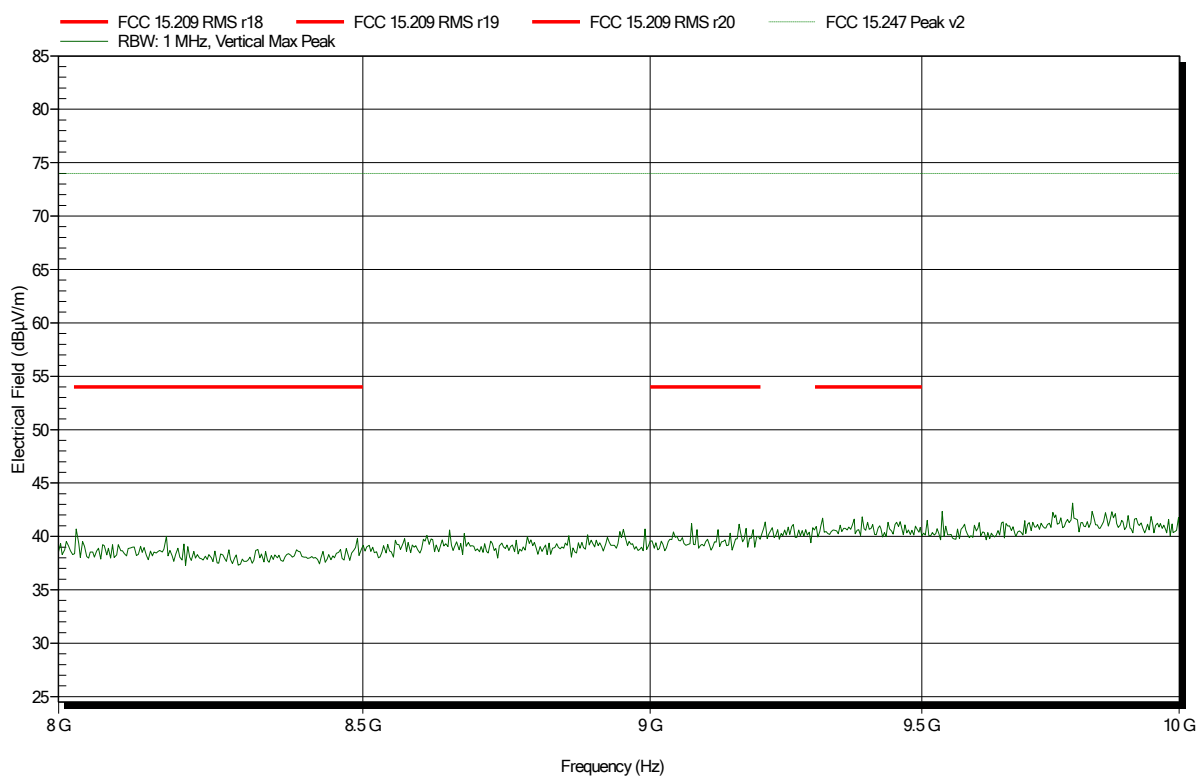


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Toralf Jahn
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Schwarzbeck BBHA 9120D, Vertical
Measurement distance: 1 m converted to 3m
Mode: TX; Wall Antenna, Channel Mid
Test Date: 2020-06-05
Note:

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Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S

EUT Name: Ultrasonic water meter

Model: KWM2220

Test Site: Eurofins Product Service GmbH

Operator: Toralf Jahn

Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC

Antenna: Schwarzbeck BBHA 9120D, Horizontal

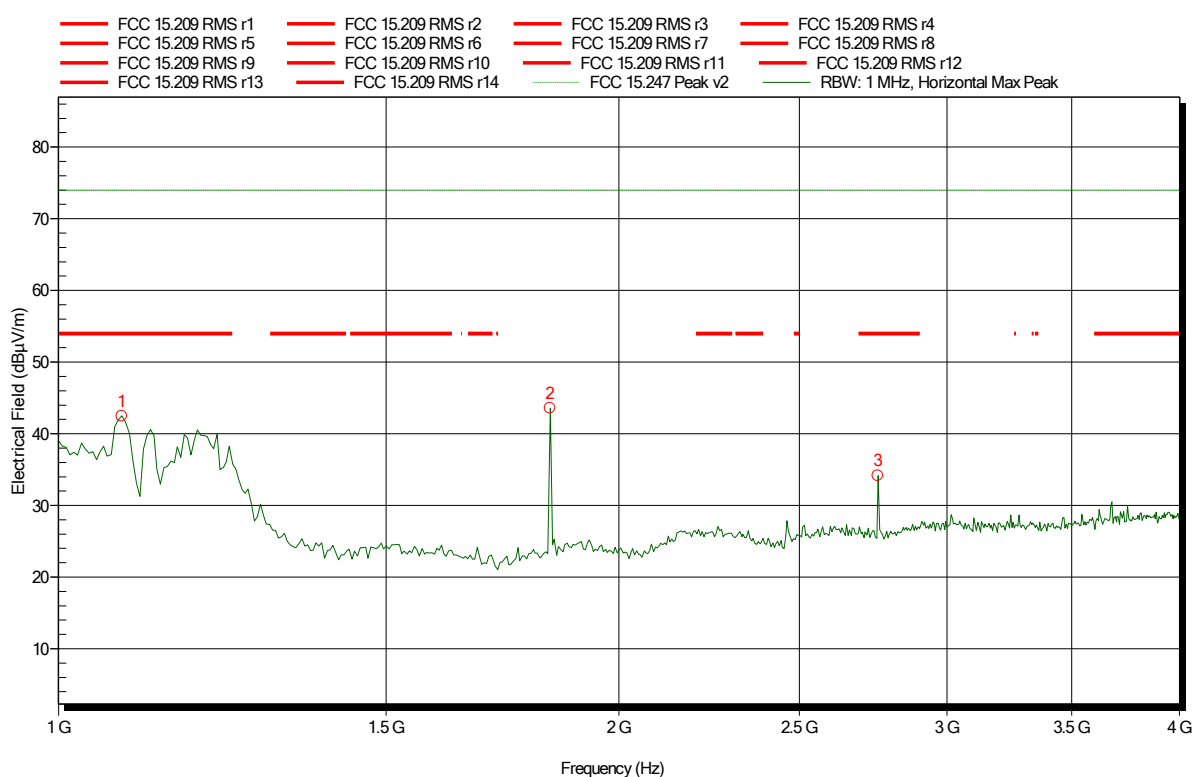
Measurement distance: 1 m converted to 3m

Mode: TX; Wall Antenna, Channel High

Test Date: 2020-06-05

Note:

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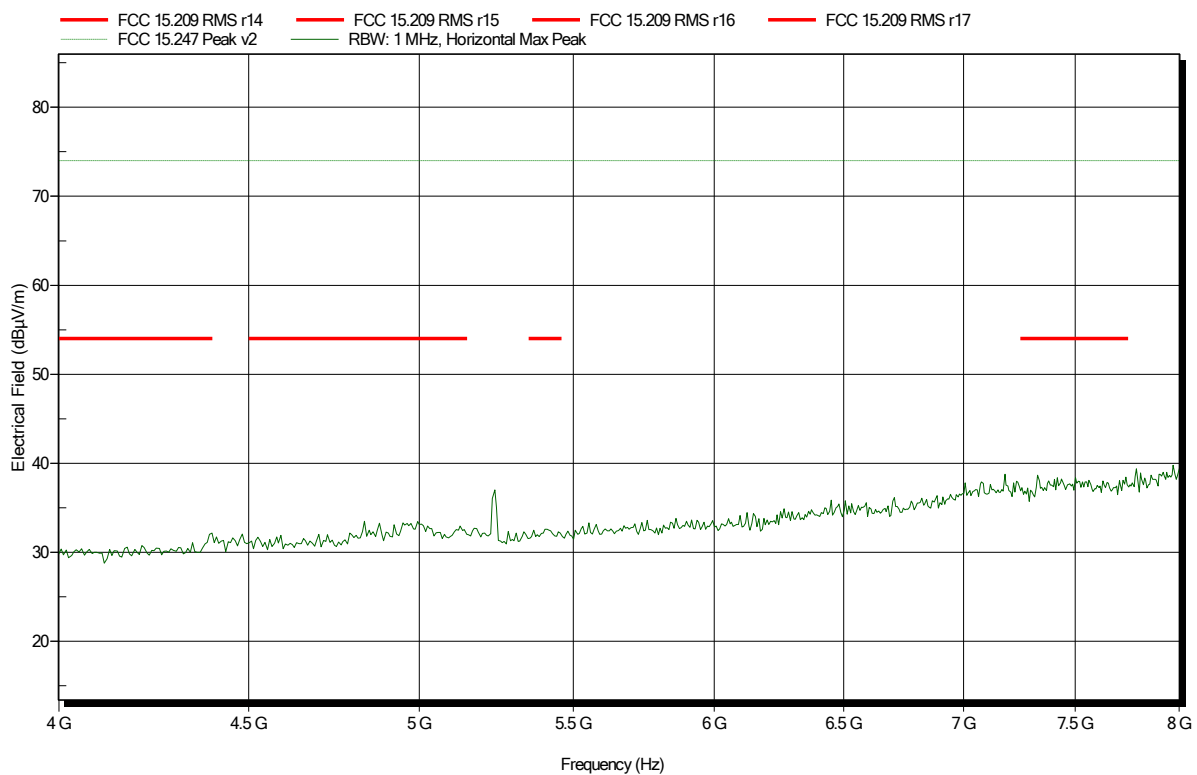
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.082 GHz	42.48 dBμV/m	74 dBμV/m	-31.52 dB	Pass
1.837 GHz	43.57 dBμV/m	74 dBμV/m	-30.43 dB	Pass
2.755 GHz	34.16 dBμV/m	74 dBμV/m	-39.84 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Toralf Jahn
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Schwarzbeck BBHA 9120D, Horizontal
Measurement distance: 1 m converted to 3m
Mode: TX; Wall Antenna, Channel High
Test Date: 2020-06-05
Note:

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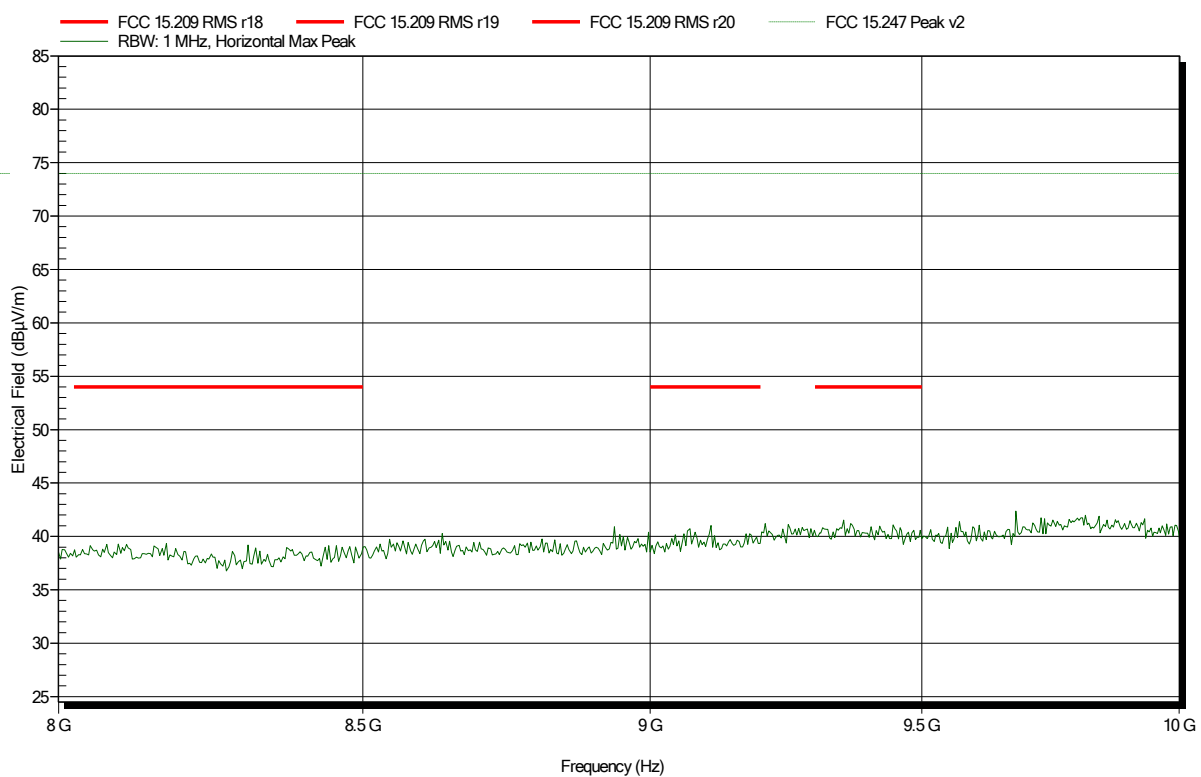


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; Wall Antenna, Channel High
 Test Date: 2020-06-05
 Note:

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Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S

EUT Name: Ultrasonic water meter

Model: KWM2220

Test Site: Eurofins Product Service GmbH

Operator: Toralf Jahn

Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC

Antenna: Schwarzbeck BBHA 9120D, Vertical

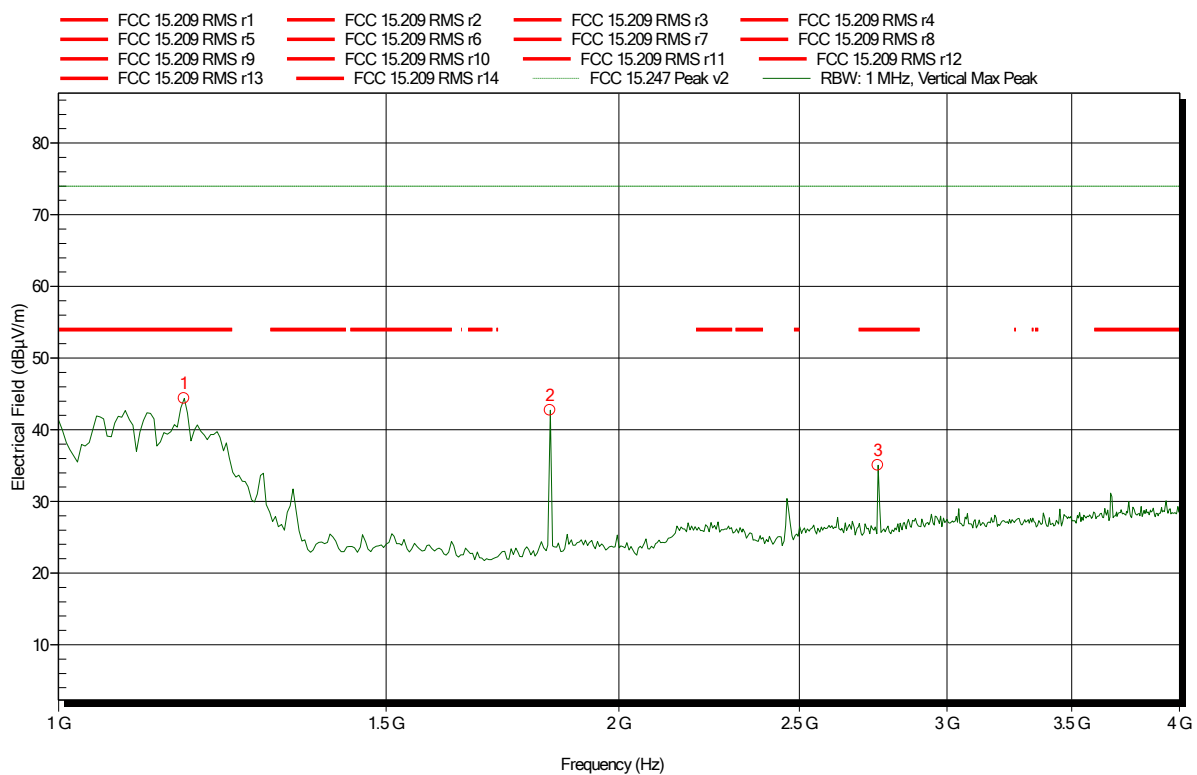
Measurement distance: 1 m converted to 3m

Mode: TX; Wall Antenna, Channel High

Test Date: 2020-06-05

Note:

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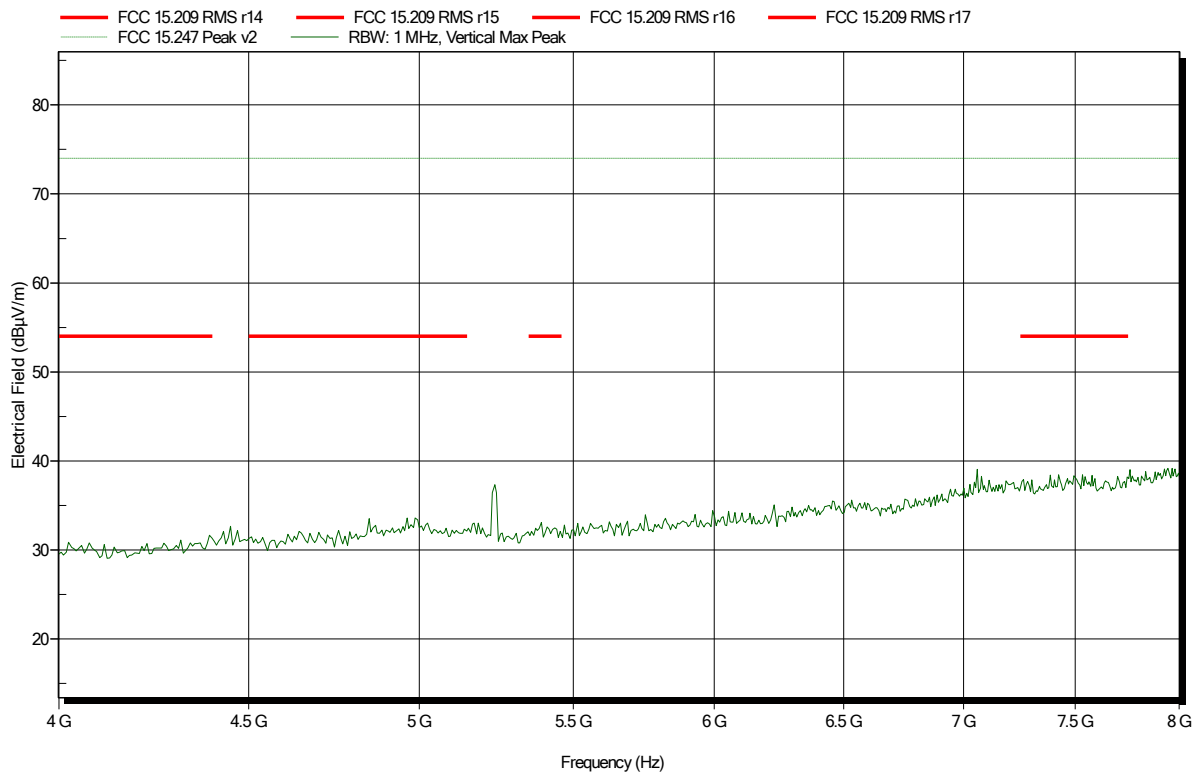
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.168 GHz	44.37 dBμV/m	74 dBμV/m	-29.63 dB	Pass
1.837 GHz	42.72 dBμV/m	74 dBμV/m	-31.28 dB	Pass
2.755 GHz	35.06 dBμV/m	74 dBμV/m	-38.94 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Toralf Jahn
Measurement software: RadiMation, version 2016.1.10
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Schwarzbeck BBHA 9120D, Vertical
Measurement distance: 1 m, converted to 3 m
Mode: TX; Wall Antenna, Channel High
Test Date: 2020-06-05
Note:

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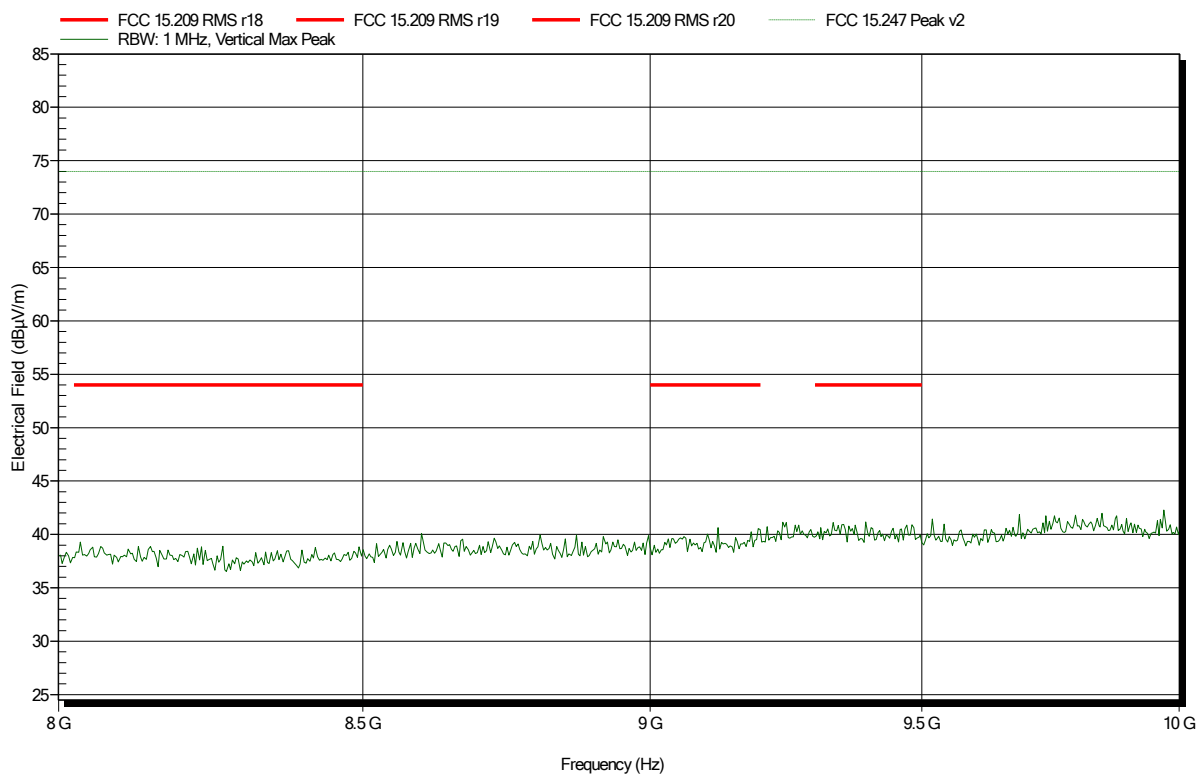


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Toralf Jahn
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Schwarzbeck BBHA 9120D, Vertical
Measurement distance: 1 m converted to 3m
Mode: TX; Wall Antenna, Channel High
Test Date: 2020-06-05
Note:

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Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S

EUT Name: Ultrasonic water meter

Model: KWM2220

Test Site: Eurofins Product Service GmbH

Operator: Toralf Jahn

Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC

Antenna: Schwarzbeck BBHA 9120D, Horizontal

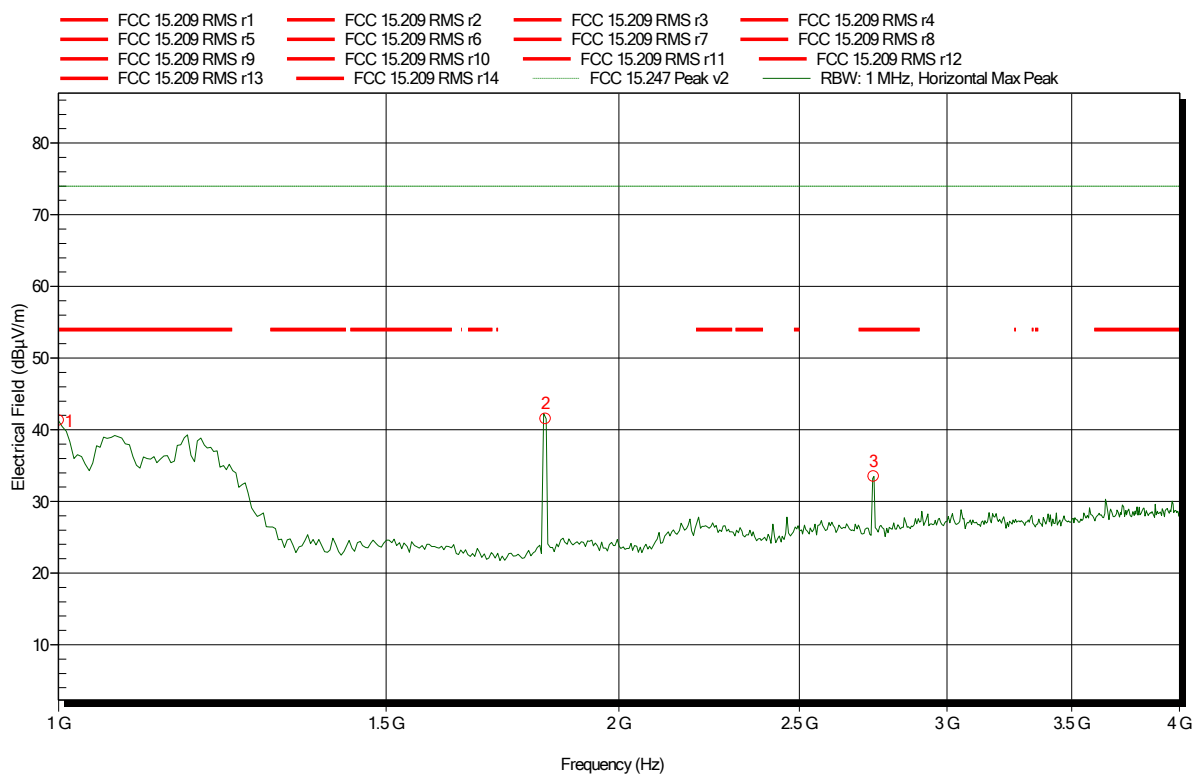
Measurement distance: 1 m converted to 3m

Mode: TX; Pit Antenna 6697916 (Small), Channel Low

Test Date: 2020-06-04

Note:

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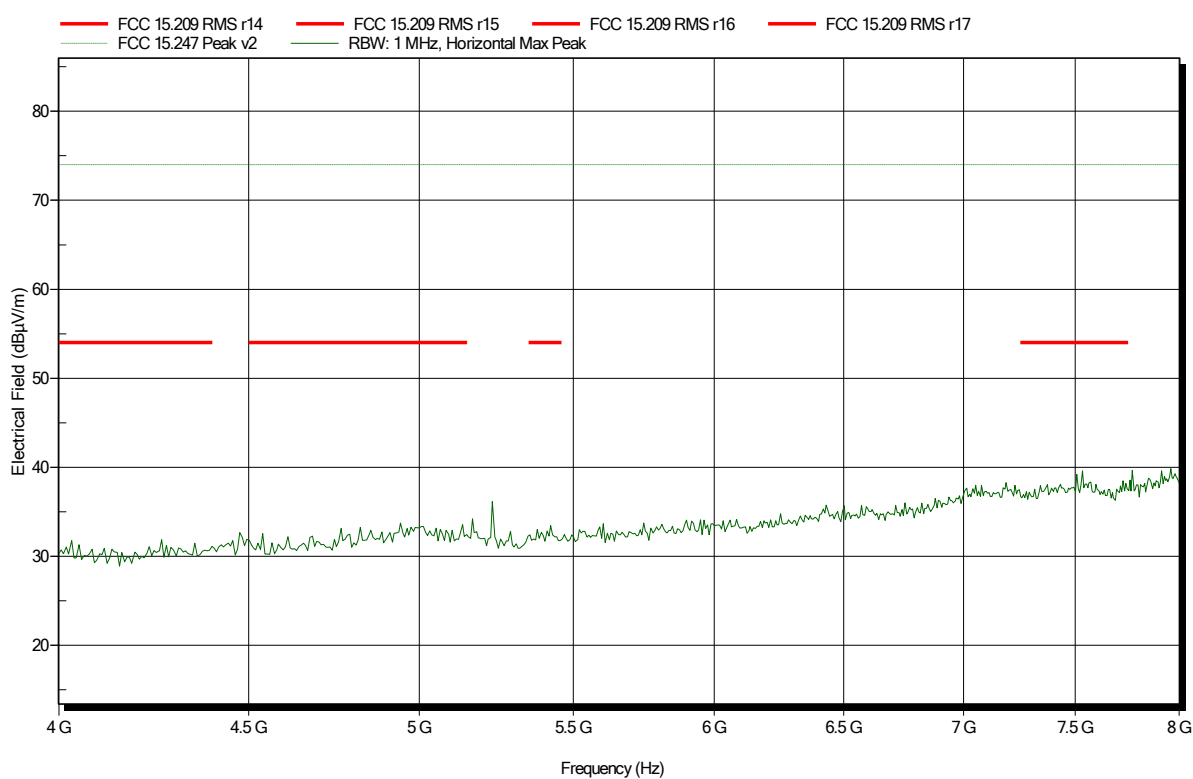
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1 GHz	41.31 dBμV/m	74 dBμV/m	-32.69 dB	Pass
1.827 GHz	41.51 dBμV/m	74 dBμV/m	-32.49 dB	Pass
2.74 GHz	33.49 dBμV/m	74 dBμV/m	-40.51 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; Pit Antenna 6697916 (Small), Channel Low
 Test Date: 2020-06-04
 Note:

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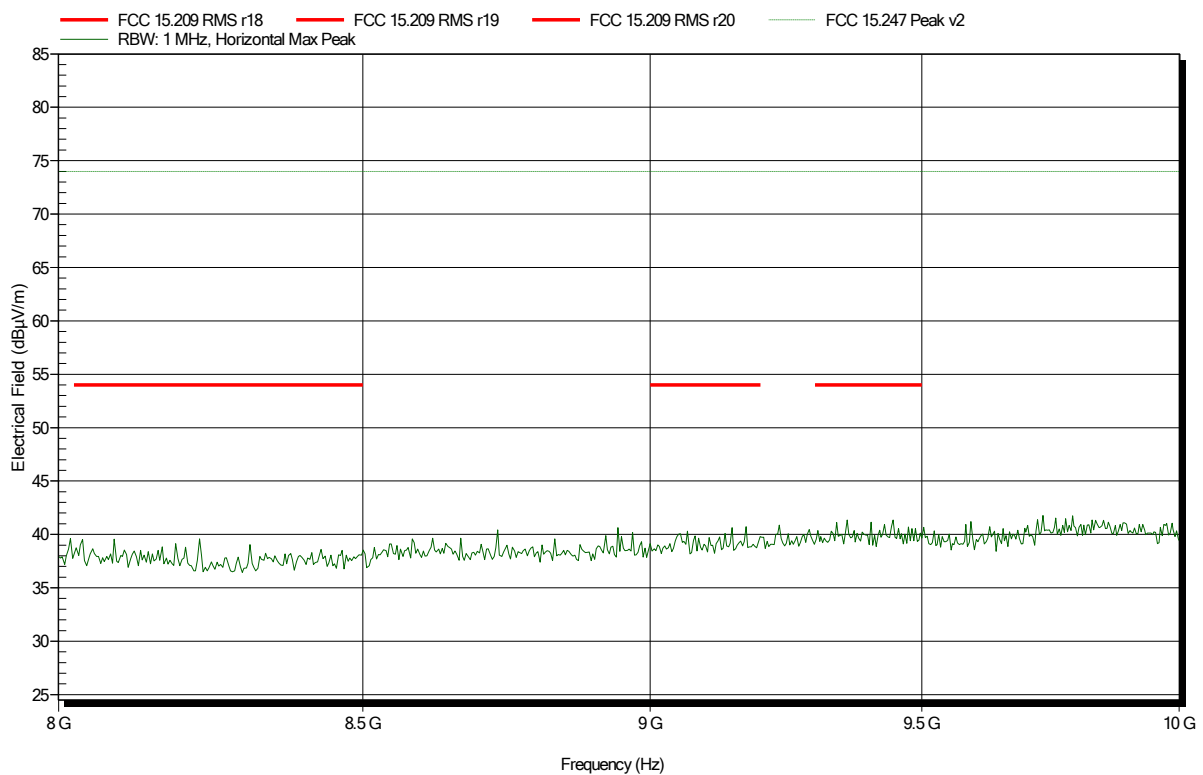


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; Pit Antenna 6697916 (Small), Channel Low
 Test Date: 2020-06-04
 Note:

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Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S

EUT Name: Ultrasonic water meter

Model: KWM2220

Test Site: Eurofins Product Service GmbH

Operator: Toralf Jahn

Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC

Antenna: Schwarzbeck BBHA 9120D, Vertical

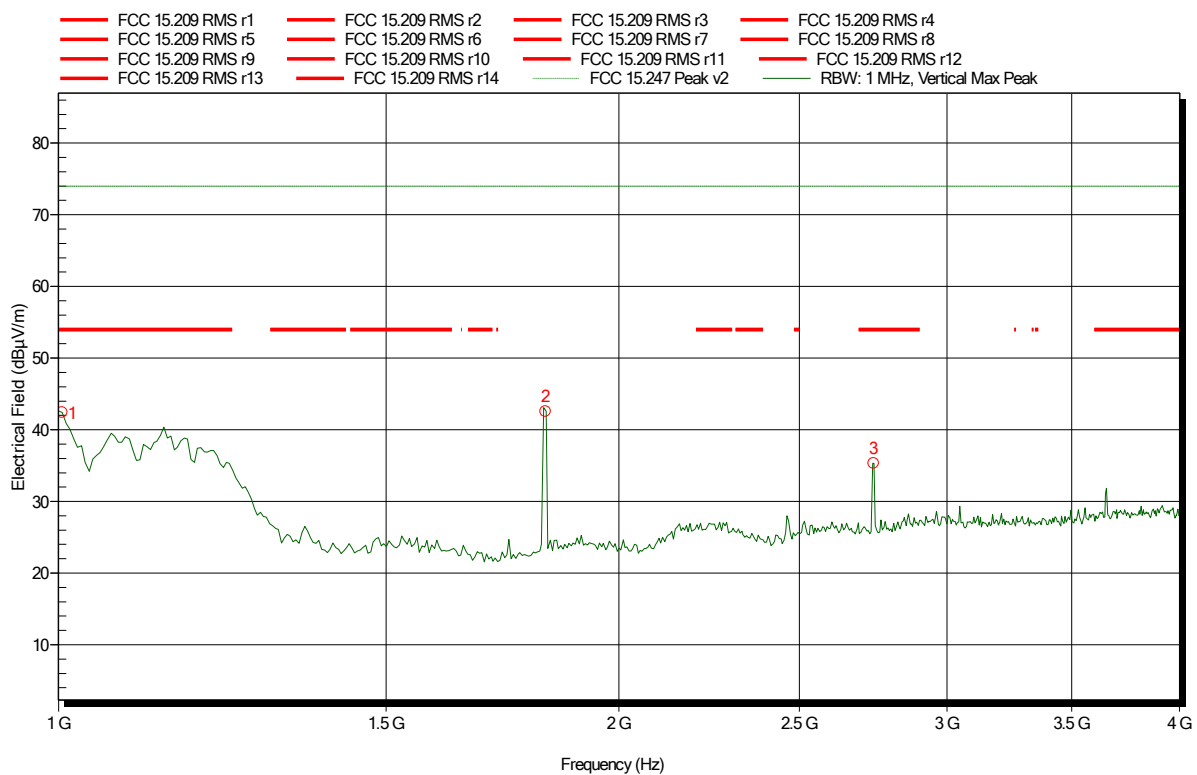
Measurement distance: 1 m converted to 3m

Mode: TX; Pit Antenna 6697916 (Small), Channel Low

Test Date: 2020-06-04

Note:

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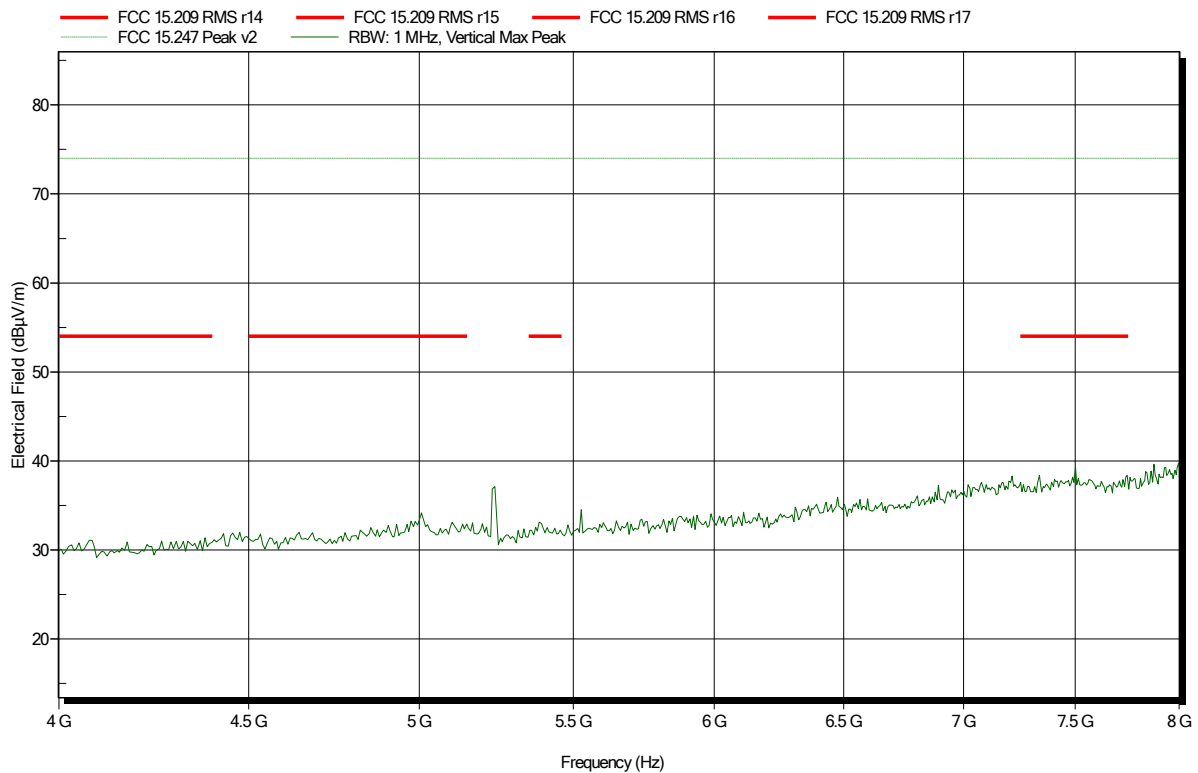
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.005 GHz	42.44 dBμV/m	74 dBμV/m	-31.56 dB	Pass
1.827 GHz	42.57 dBμV/m	74 dBμV/m	-31.43 dB	Pass
2.74 GHz	35.31 dBμV/m	74 dBμV/m	-38.69 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Measurement software: RadiMation, version 2016.1.10
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m, converted to 3 m
 Mode: TX; Pit Antenna 6697916 (Small), Channel Low
 Test Date: 2020-06-04
 Note:

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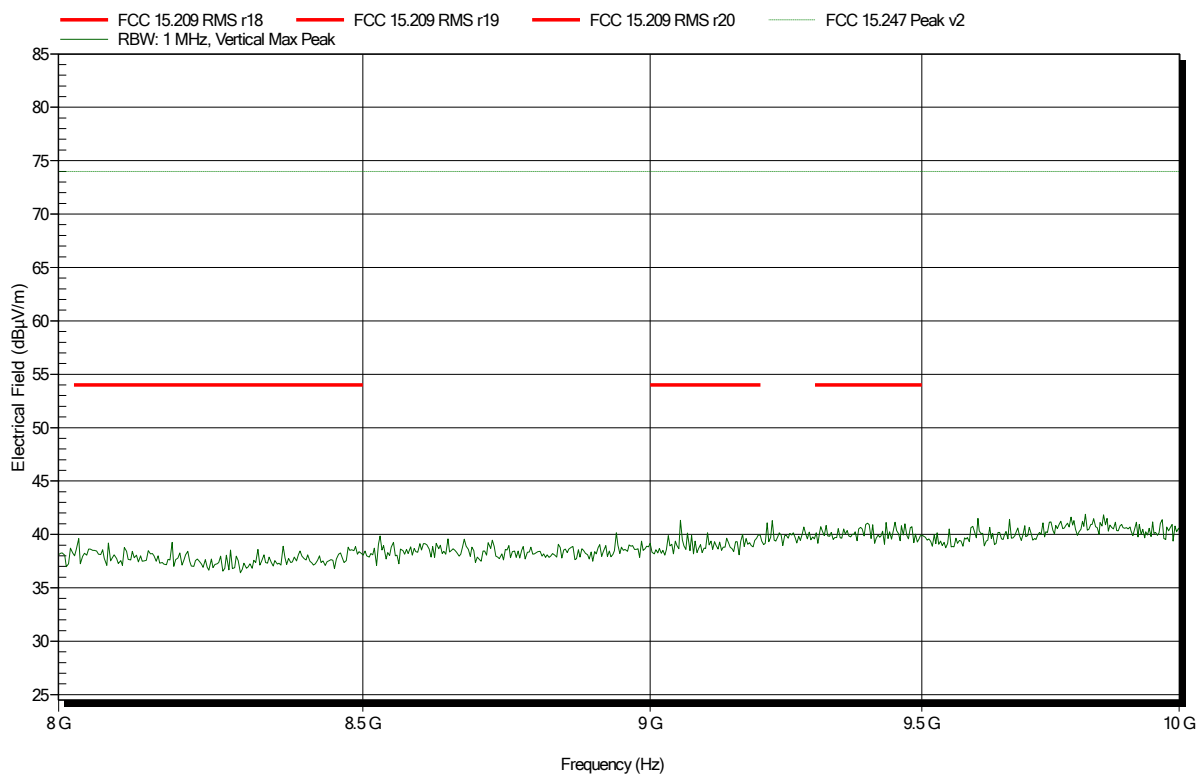


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m converted to 3m
 Mode: TX; Pit Antenna 6697916 (Small), Channel Low
 Test Date: 2020-06-04
 Note:

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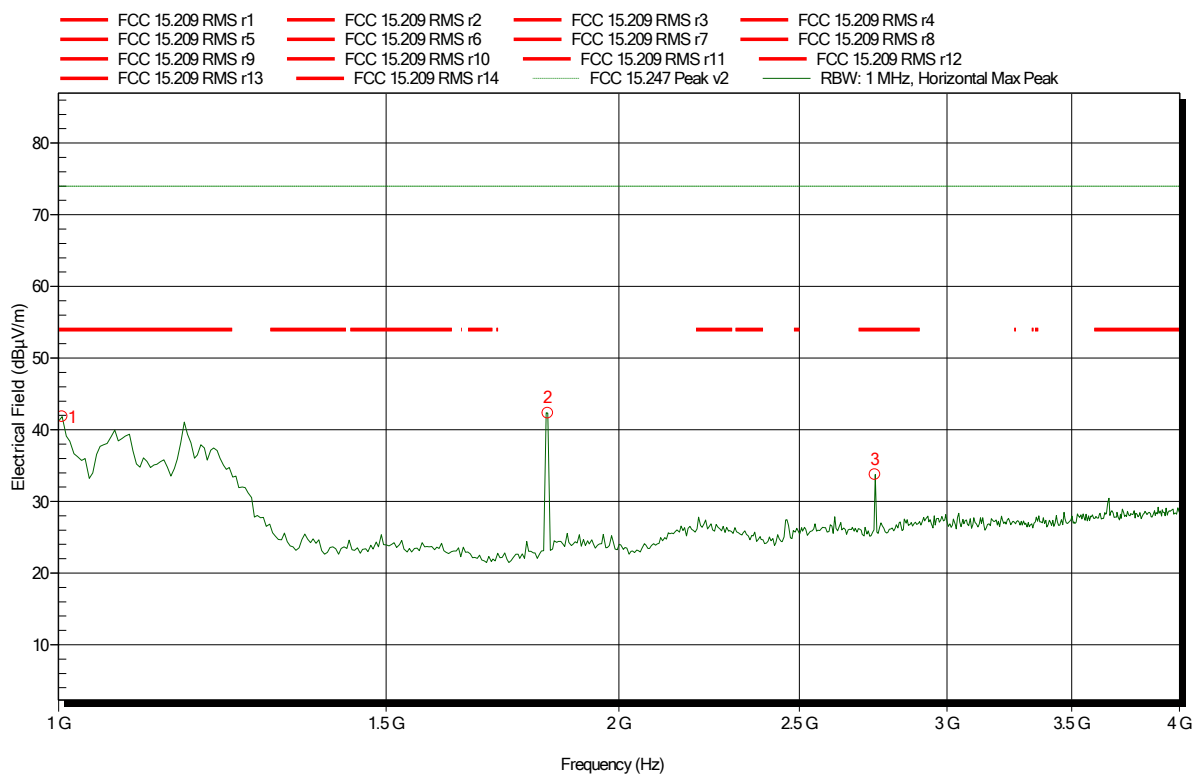


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; Pit Antenna 6697916 (Small), Channel Mid
 Test Date: 2020-06-04
 Note:

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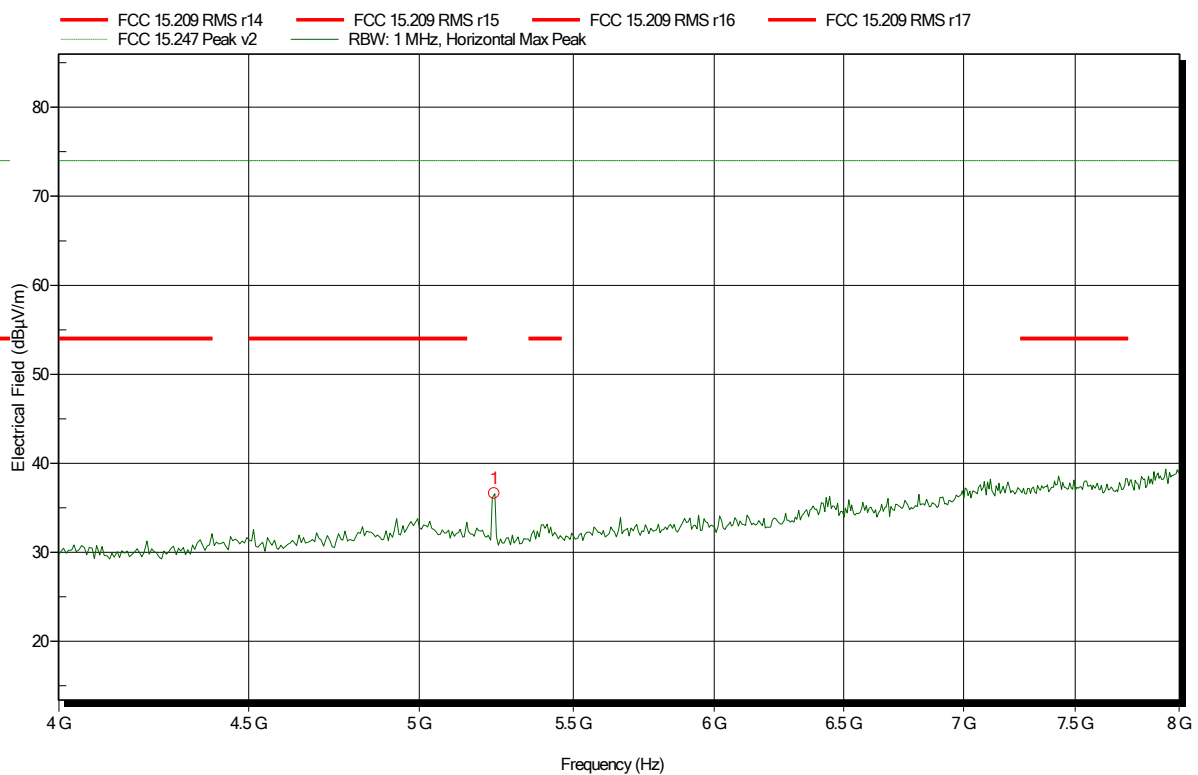
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.005 GHz	41.84 dBμV/m	74 dBμV/m	-32.16 dB	Pass
1.832 GHz	42.31 dBμV/m	74 dBμV/m	-31.69 dB	Pass
2.745 GHz	33.74 dBμV/m	74 dBμV/m	-40.26 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; Pit Antenna 6697916 (Small), Channel Mid
 Test Date: 2020-06-04
 Note:

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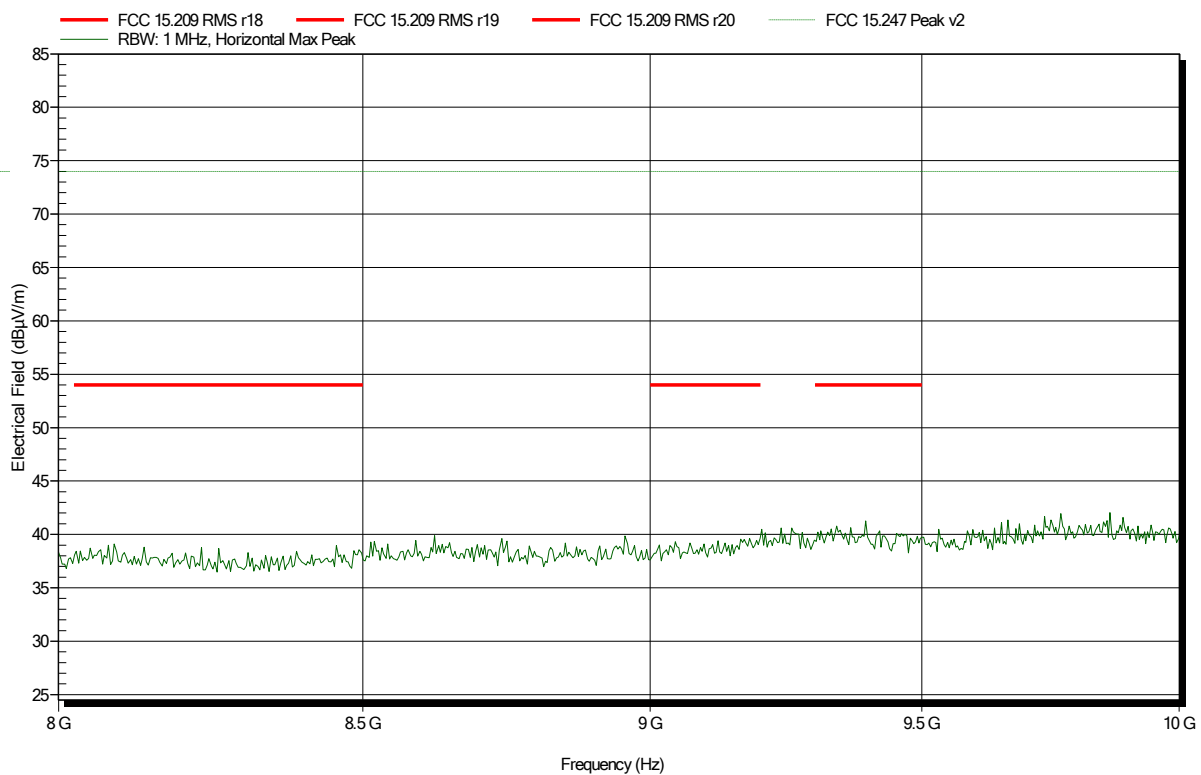
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
5.237 GHz	36.59 dBµV/m	74 dBµV/m	-37.41 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; Pit Antenna 6697916 (Small), Channel Mid
 Test Date: 2020-06-04
 Note:

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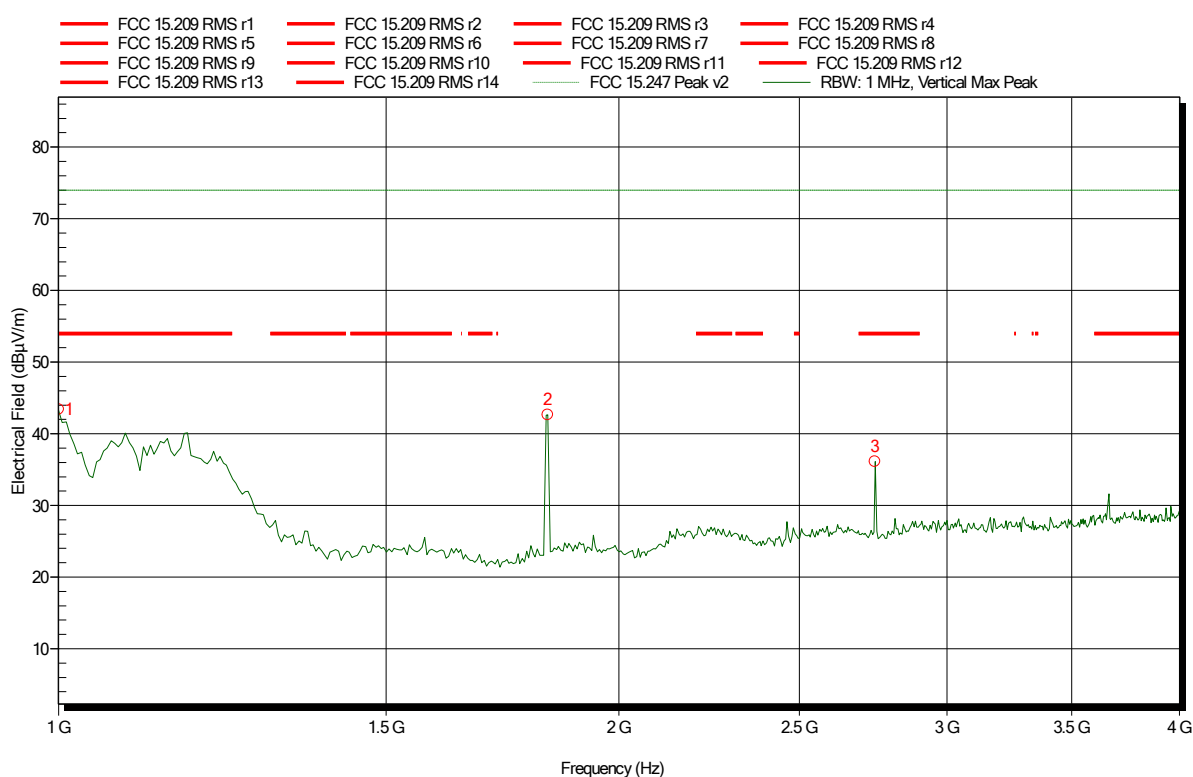


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m converted to 3m
 Mode: TX; Pit Antenna 6697916 (Small), Channel Mid
 Test Date: 2020-06-04
 Note:

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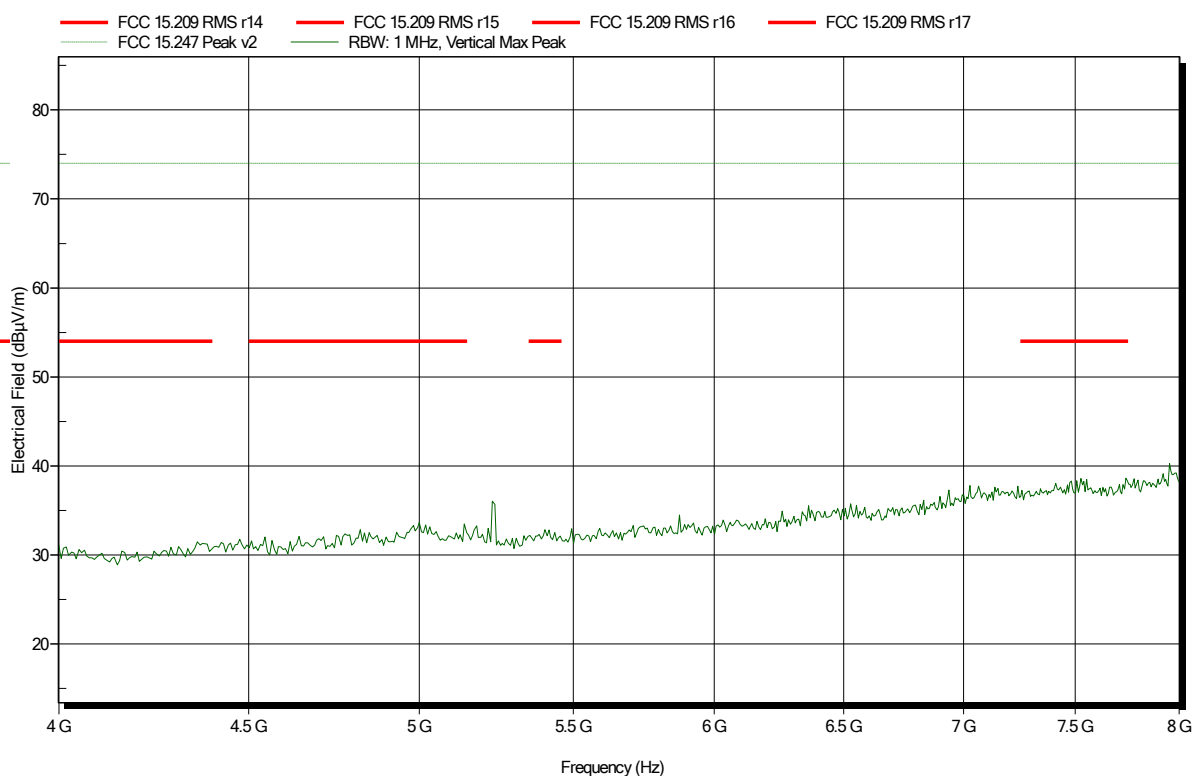


Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1 GHz	43.39 dBμV/m	74 dBμV/m	-30.61 dB	Pass
1.832 GHz	42.64 dBμV/m	74 dBμV/m	-31.36 dB	Pass
2.745 GHz	36.12 dBμV/m	74 dBμV/m	-37.88 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859
 Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Measurement software: RadiMation, version 2016.1.10
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m, converted to 3 m
 Mode: TX; Pit Antenna 6697916 (Small), Channel Mid
 Test Date: 2020-06-04
 Note:

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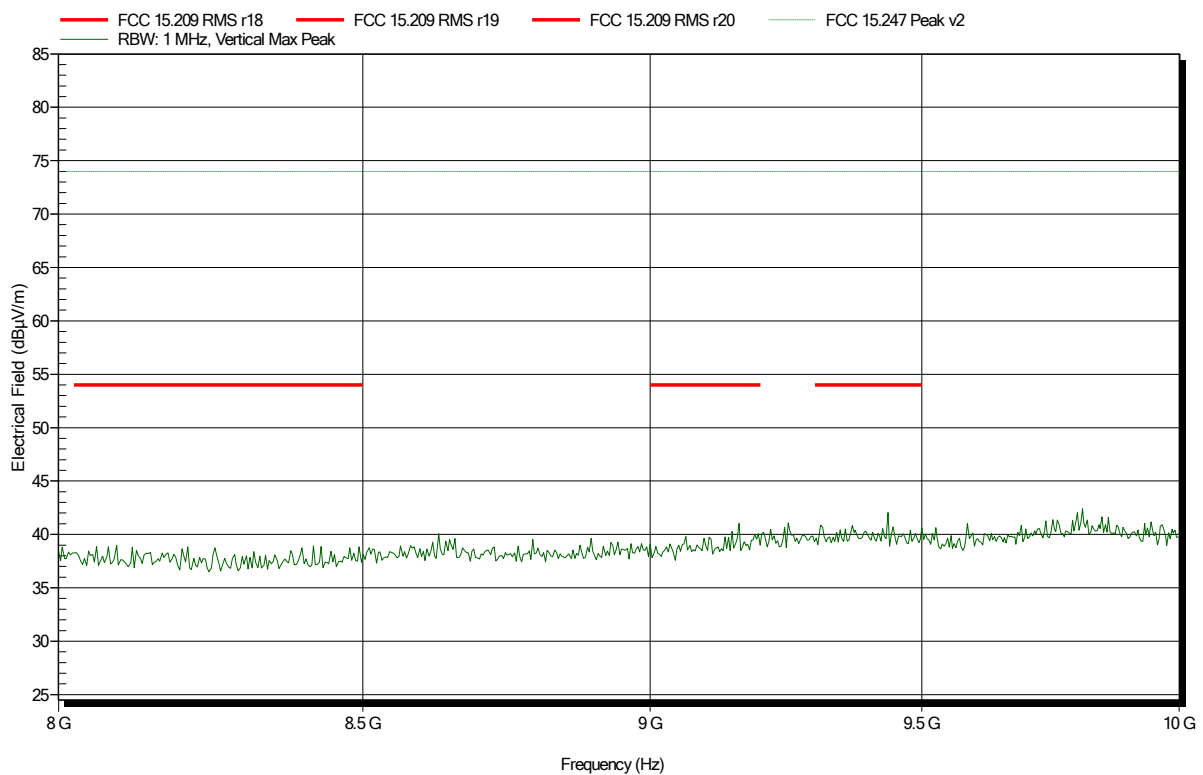


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m converted to 3m
 Mode: TX; Pit Antenna 6697916 (Small), Channel Mid
 Test Date: 2020-06-04
 Note:

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Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S

EUT Name: Ultrasonic water meter

Model: KWM2220

Test Site: Eurofins Product Service GmbH

Operator: Toralf Jahn

Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC

Antenna: Schwarzbeck BBHA 9120D, Horizontal

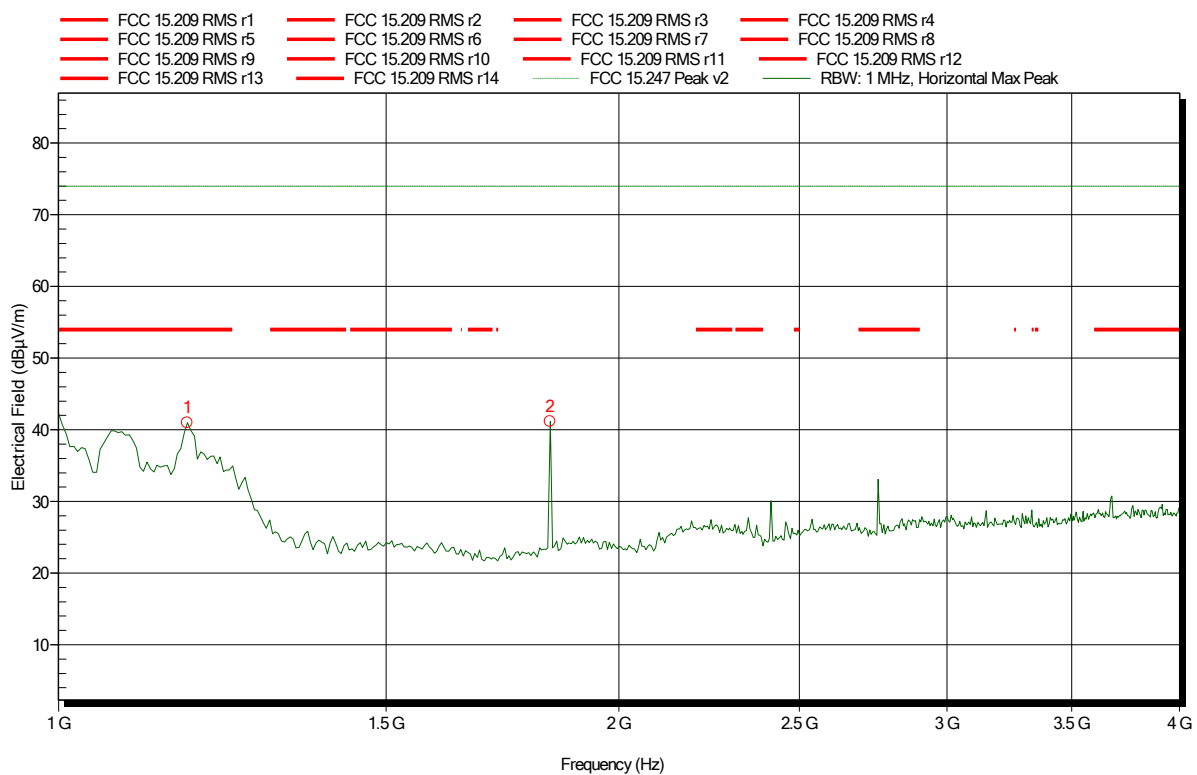
Measurement distance: 1 m converted to 3m

Mode: TX; Pit Antenna 6697916 (Small), Channel High

Test Date: 2020-06-04

Note:

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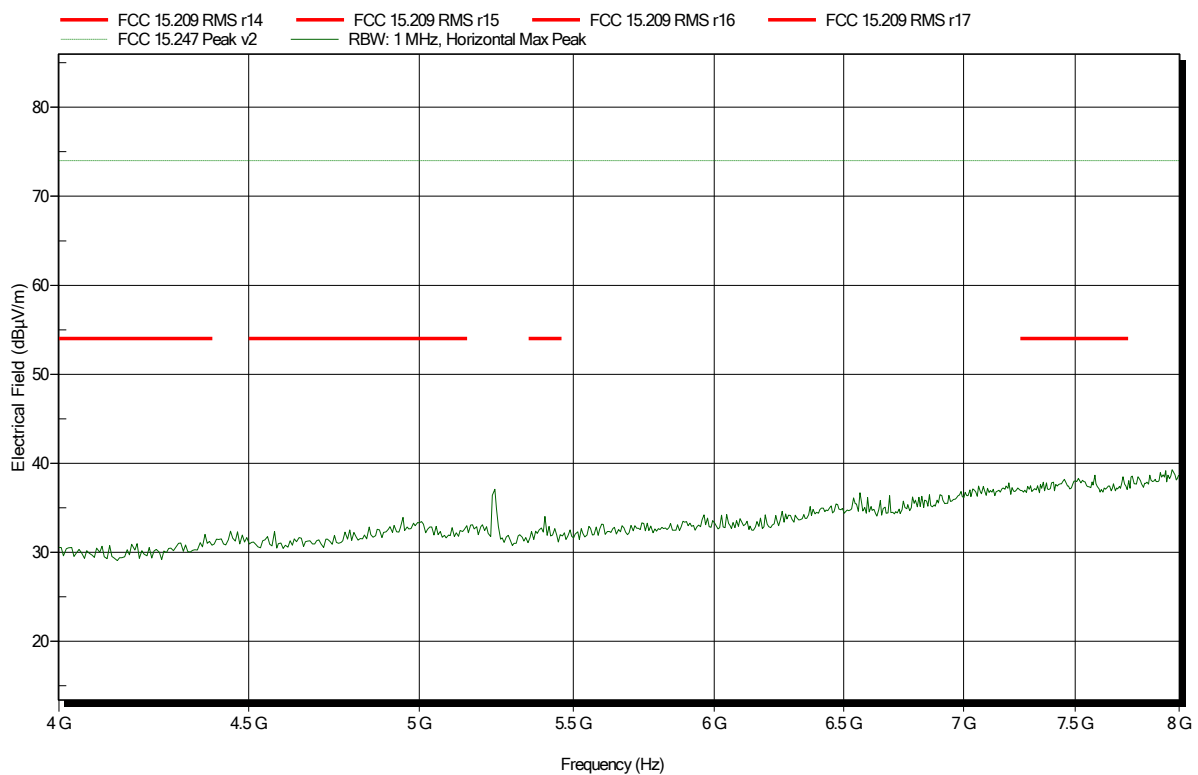
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.173 GHz	40.98 dBμV/m	74 dBμV/m	-33.02 dB	Pass
1.837 GHz	41.17 dBμV/m	74 dBμV/m	-32.83 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; Pit Antenna 6697916 (Small), Channel High
 Test Date: 2020-06-04
 Note:

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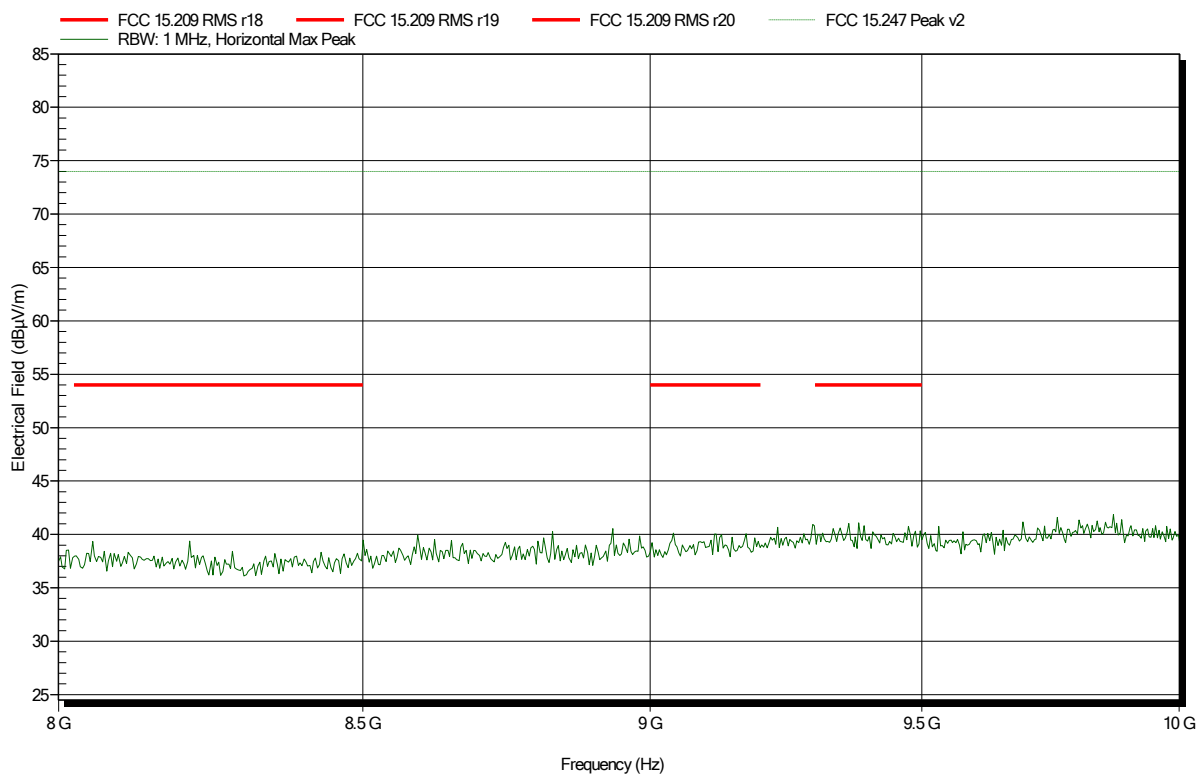


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; Pit Antenna 6697916 (Small), Channel High
 Test Date: 2020-06-04
 Note:

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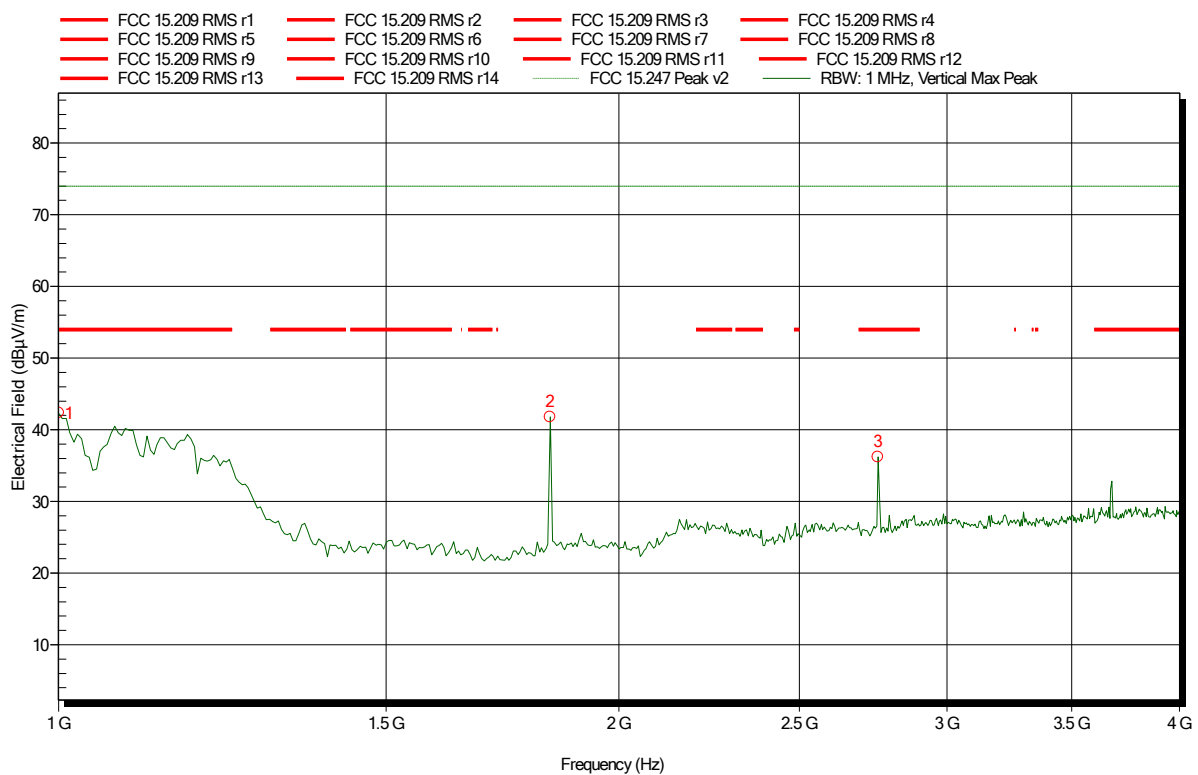


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m converted to 3m
 Mode: TX; Pit Antenna 6697916 (Small), Channel High
 Test Date: 2020-06-04
 Note:

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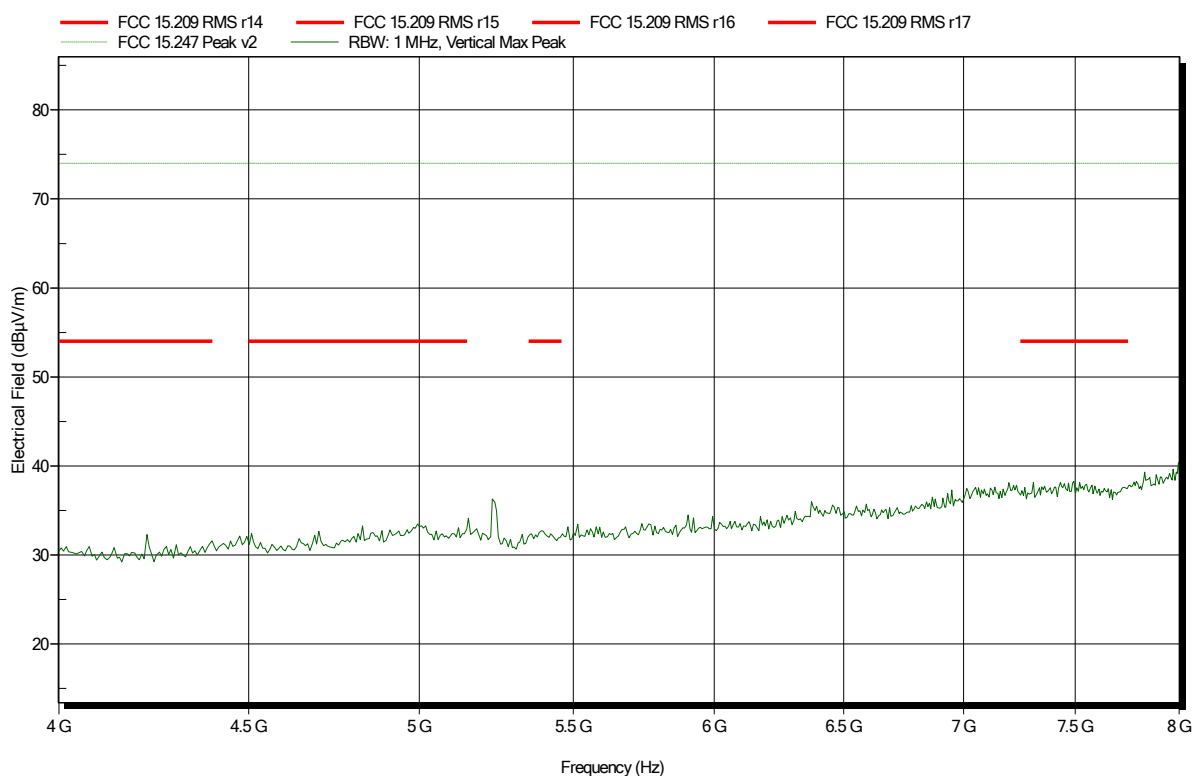


Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1 GHz	42.37 dBμV/m	74 dBμV/m	-31.63 dB	Pass
1.837 GHz	41.78 dBμV/m	74 dBμV/m	-32.22 dB	Pass
2.755 GHz	36.22 dBμV/m	74 dBμV/m	-37.78 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859
 Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Measurement software: RadiMation, version 2016.1.10
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m, converted to 3 m
 Mode: TX; Pit Antenna 6697916 (Small), Channel High
 Test Date: 2020-06-04
 Note:

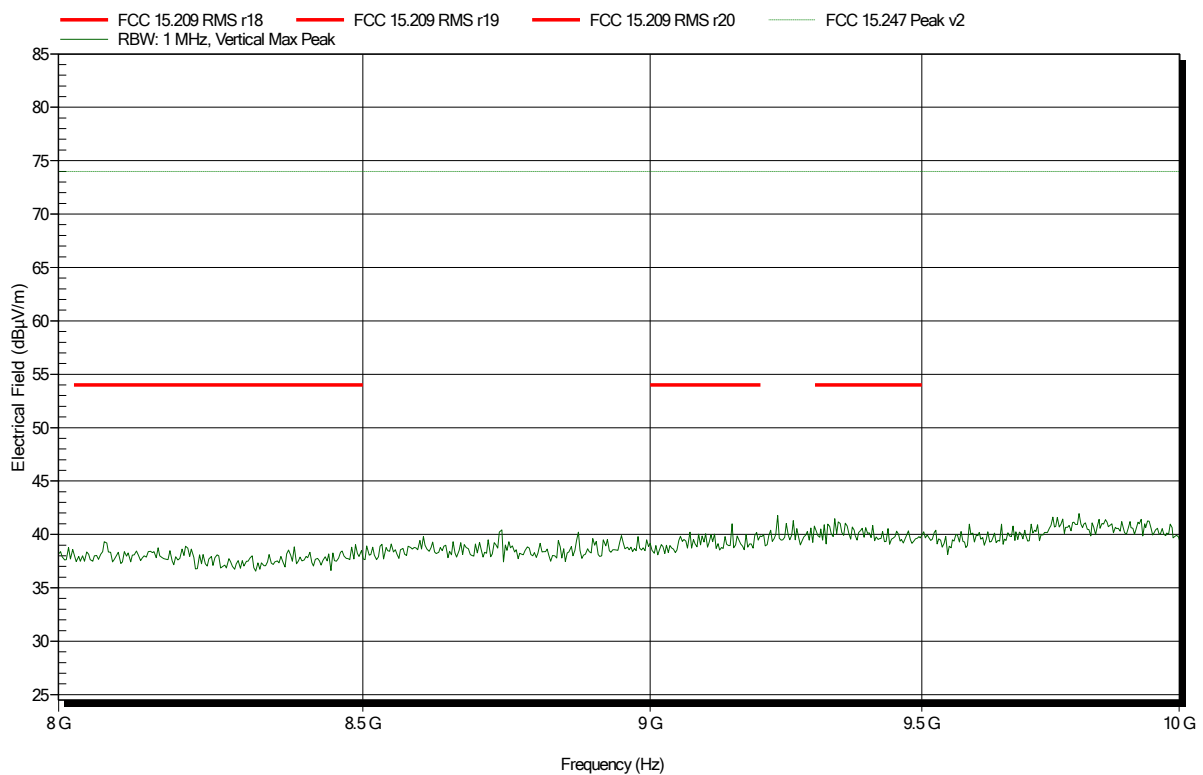
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Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859
 Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m converted to 3m
 Mode: TX; Pit Antenna 6697916 (Small), Channel High
 Test Date: 2020-06-04
 Note:

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Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S

EUT Name: Ultrasonic water meter

Model: KWM2220

Test Site: Eurofins Product Service GmbH

Operator: Toralf Jahn

Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC

Antenna: Schwarzbeck BBHA 9120D, Horizontal

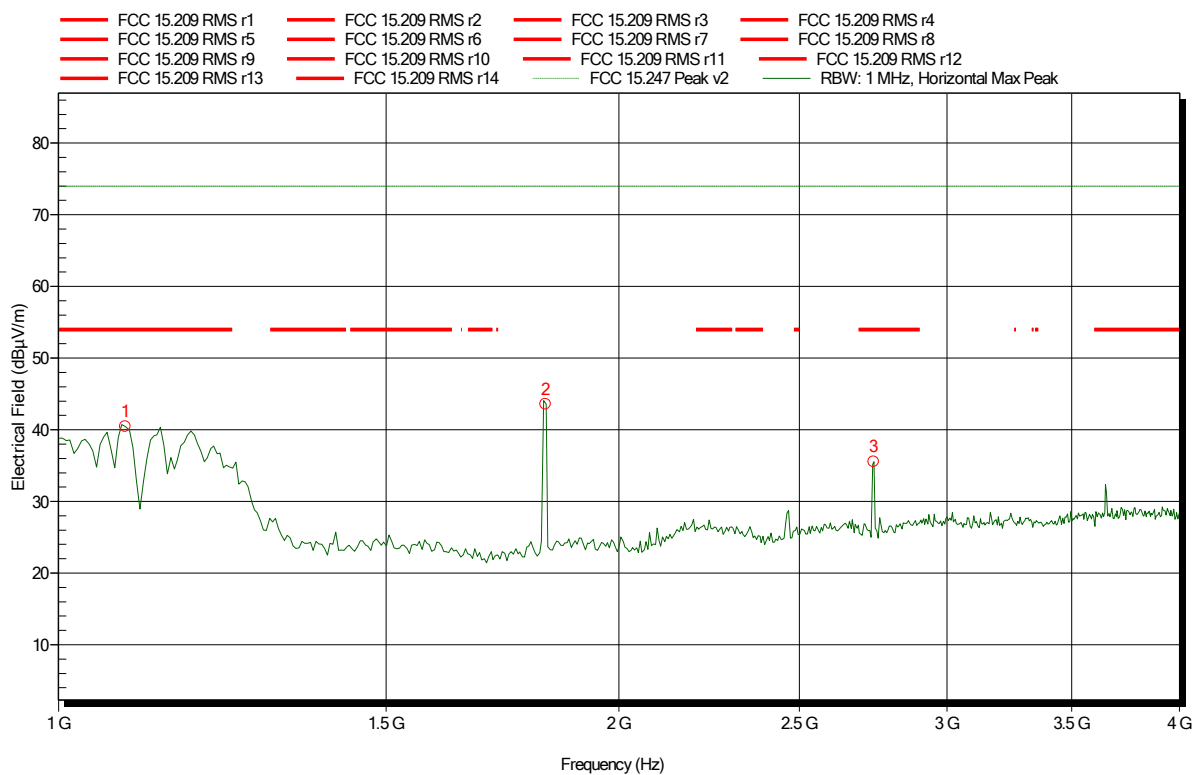
Measurement distance: 1 m converted to 3m

Mode: TX; Pit Antenna 6697902, Channel Low

Test Date: 2020-06-04

Note:

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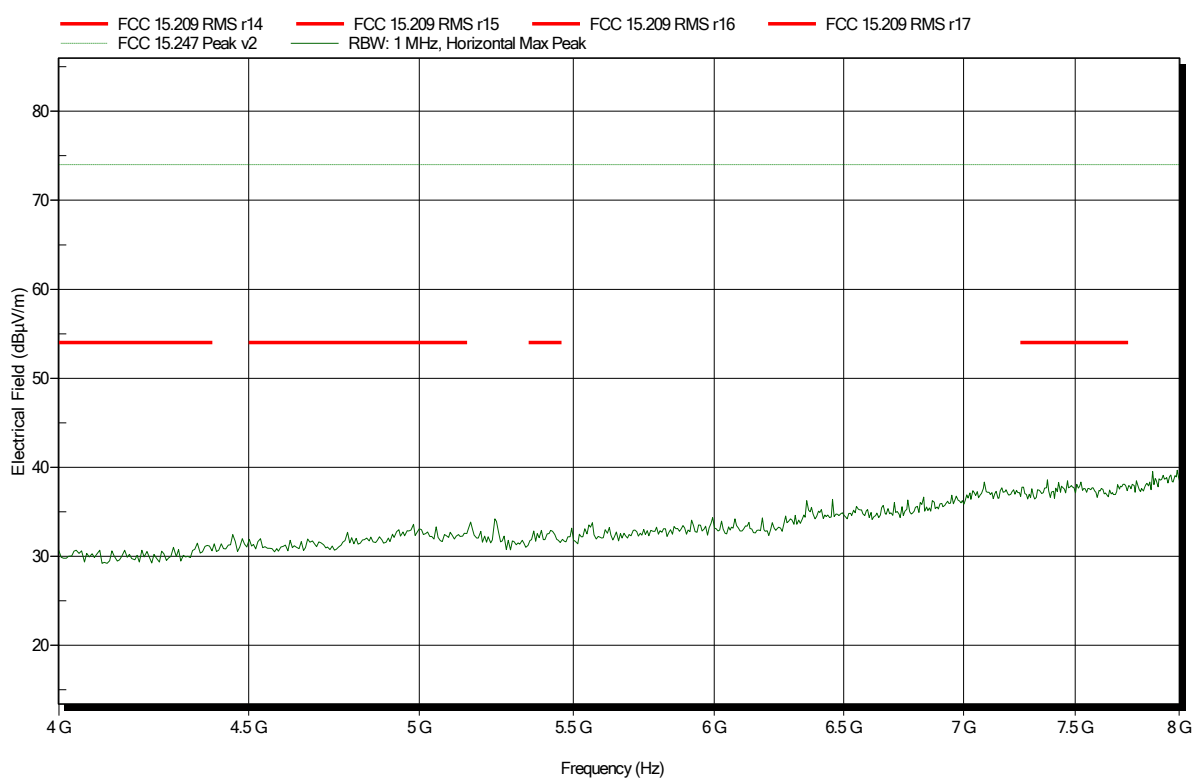
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.087 GHz	40.45 dBμV/m	74 dBμV/m	-33.55 dB	Pass
1.827 GHz	43.58 dBμV/m	74 dBμV/m	-30.42 dB	Pass
2.74 GHz	35.52 dBμV/m	74 dBμV/m	-38.48 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Toralf Jahn
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Schwarzbeck BBHA 9120D, Horizontal
Measurement distance: 1 m converted to 3m
Mode: TX; Pit Antenna 6697902, Channel Low
Test Date: 2020-06-04
Note:

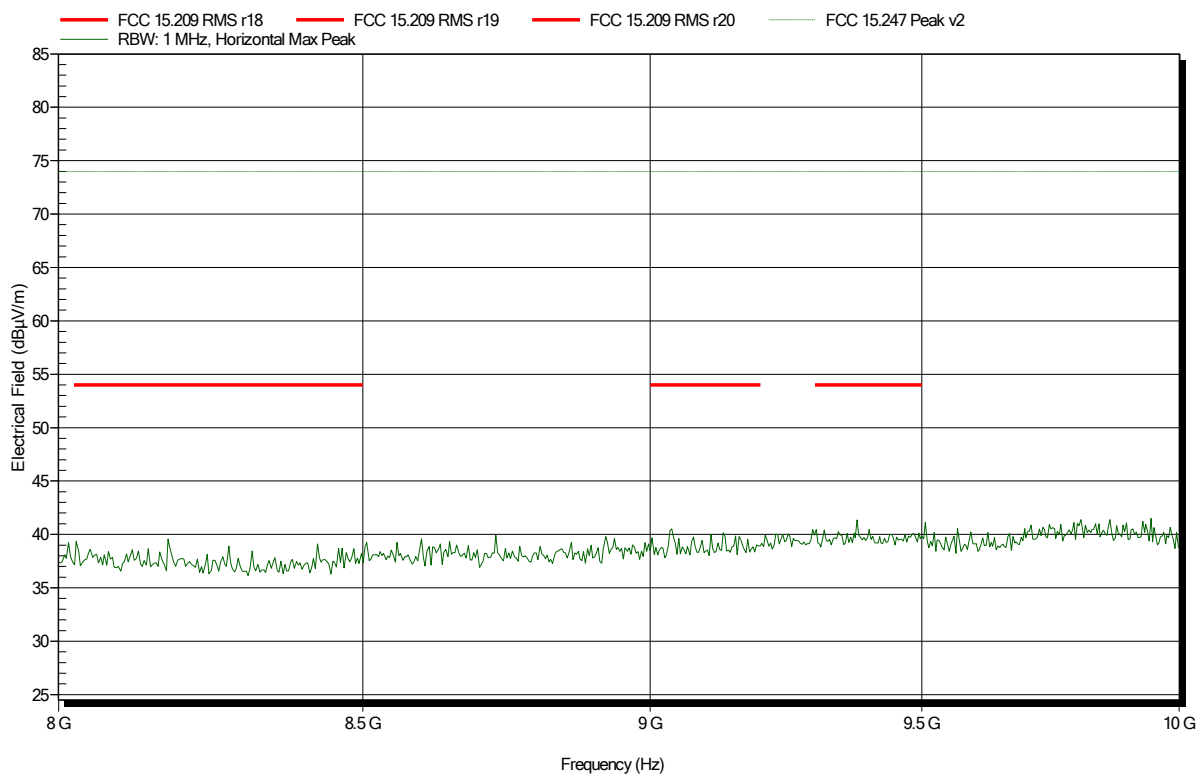
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Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859
 Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; Pit Antenna 6697902, Channel Low
 Test Date: 2020-06-04
 Note:

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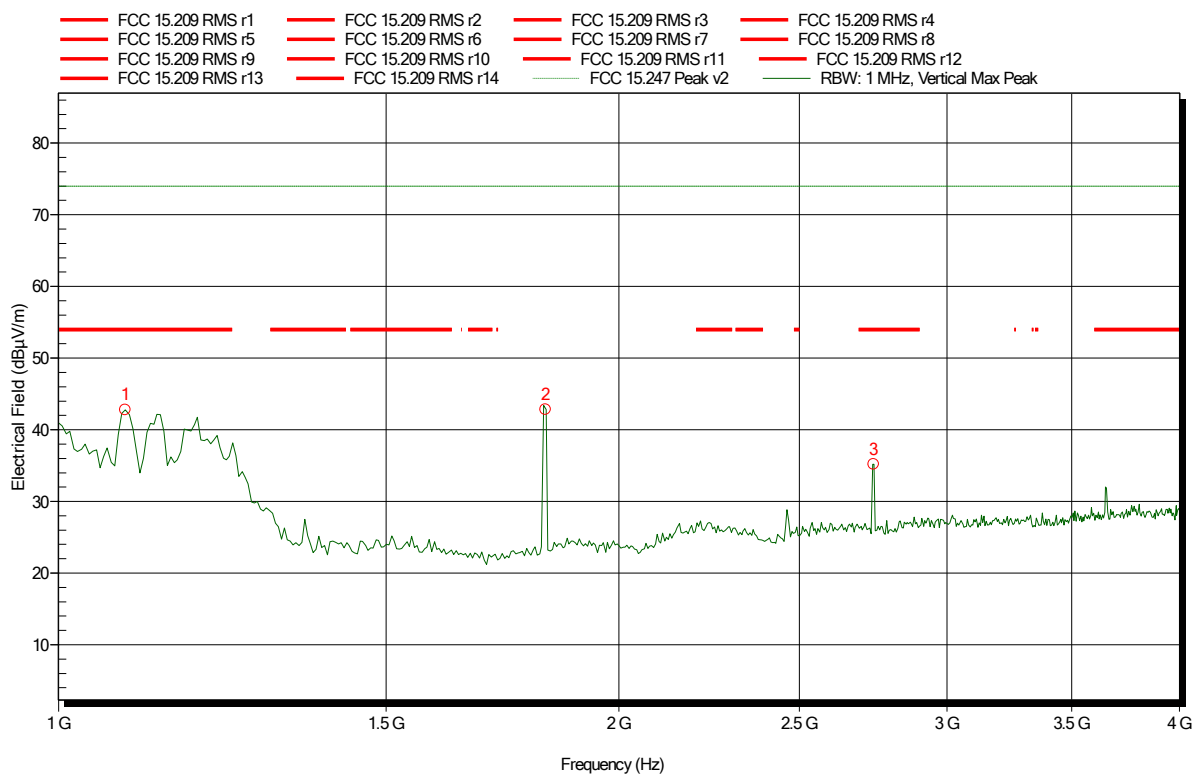


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m converted to 3m
 Mode: TX; Pit Antenna 6697902, Channel Low
 Test Date: 2020-06-04
 Note:

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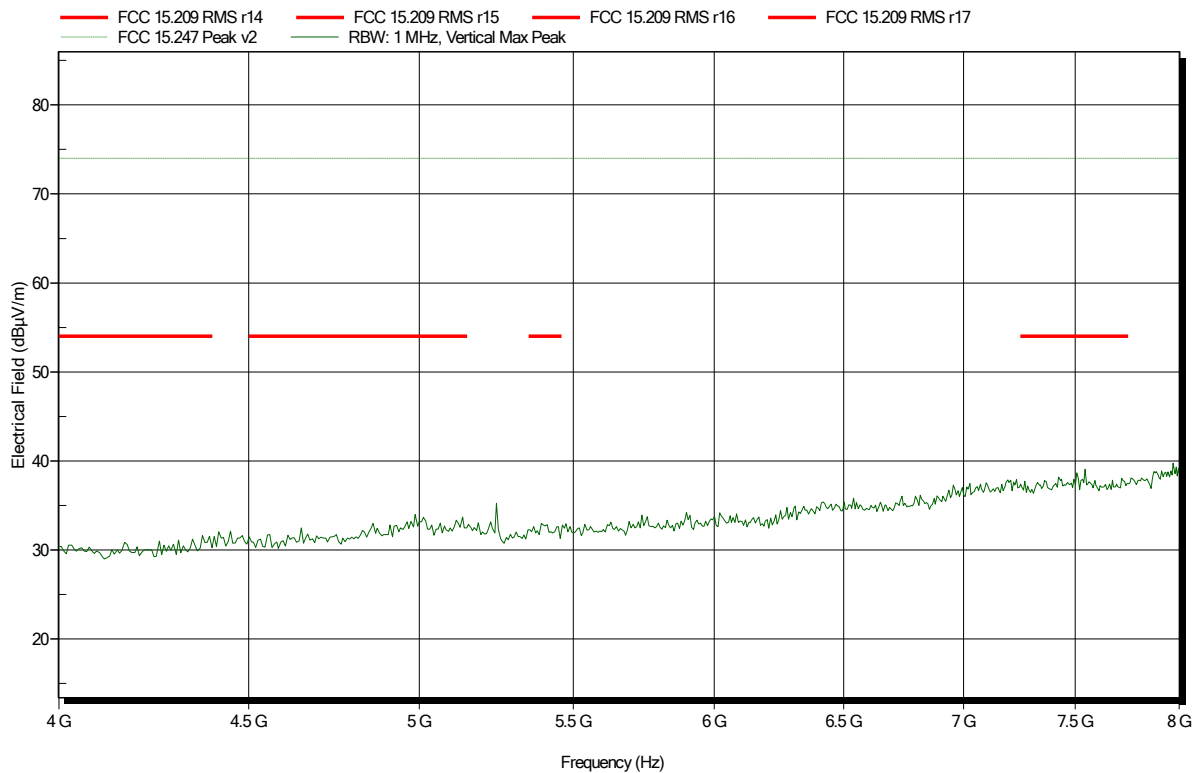
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.087 GHz	42.76 dBμV/m	74 dBμV/m	-31.24 dB	Pass
1.827 GHz	42.81 dBμV/m	74 dBμV/m	-31.19 dB	Pass
2.74 GHz	35.2 dBμV/m	74 dBμV/m	-38.8 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Measurement software: RadiMation, version 2016.1.10
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m, converted to 3 m
 Mode: TX; Pit Antenna 6697902, Channel Low
 Test Date: 2020-06-04
 Note:

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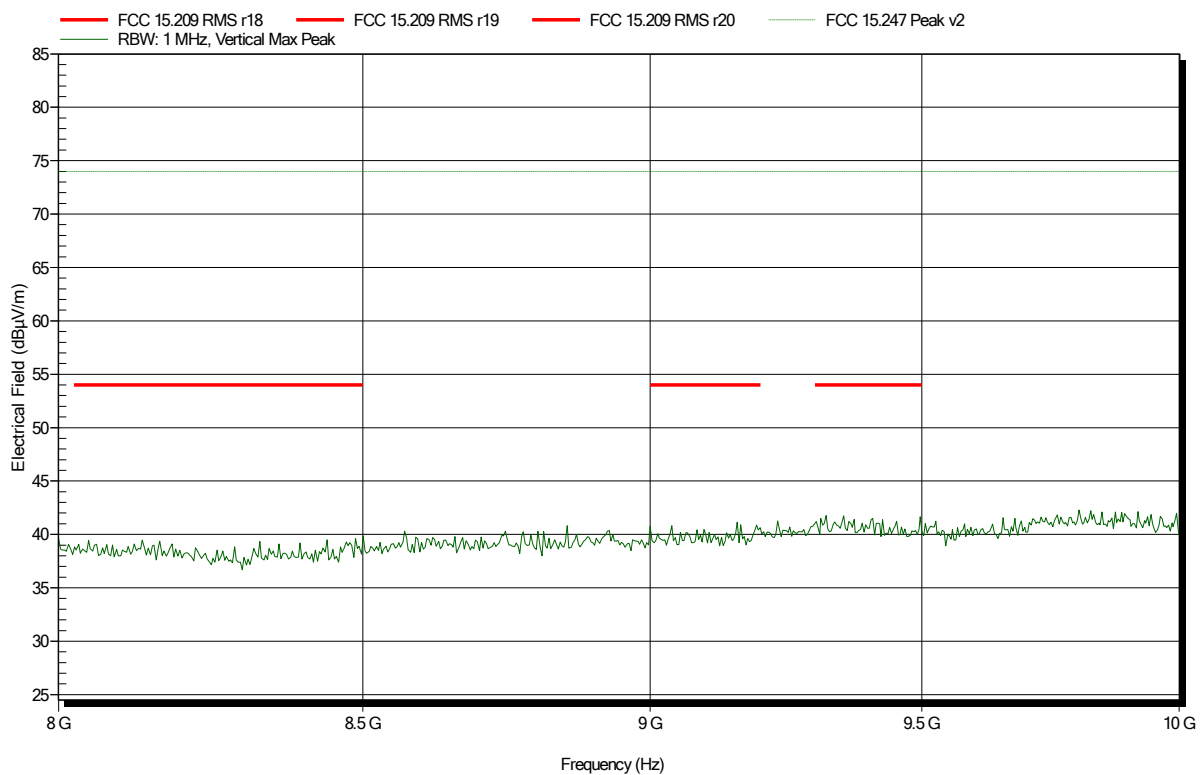


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Toralf Jahn
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Schwarzbeck BBHA 9120D, Vertical
Measurement distance: 1 m converted to 3m
Mode: TX; Pit Antenna 6697902, Channel Low
Test Date: 2020-06-04
Note:

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Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S

EUT Name: Ultrasonic water meter

Model: KWM2220

Test Site: Eurofins Product Service GmbH

Operator: Toralf Jahn

Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC

Antenna: Schwarzbeck BBHA 9120D, Horizontal

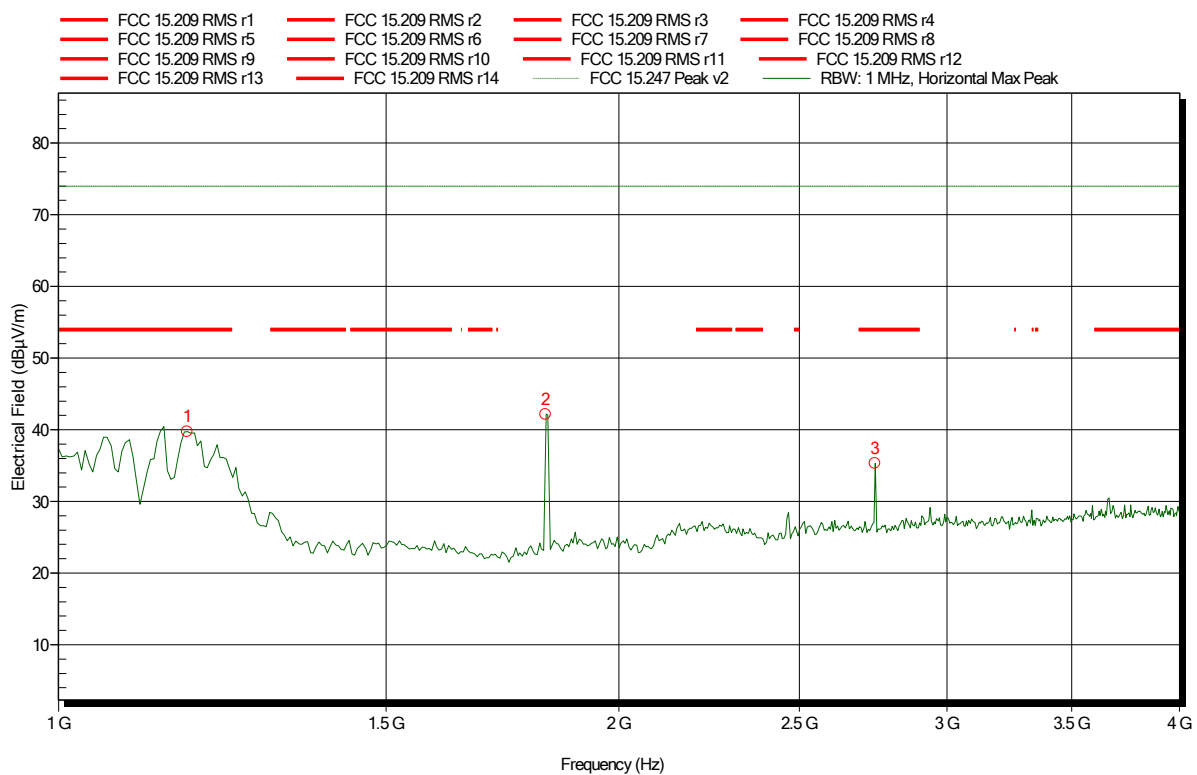
Measurement distance: 1 m converted to 3m

Mode: TX; Pit Antenna 6697902, Channel Mid

Test Date: 2020-06-04

Note:

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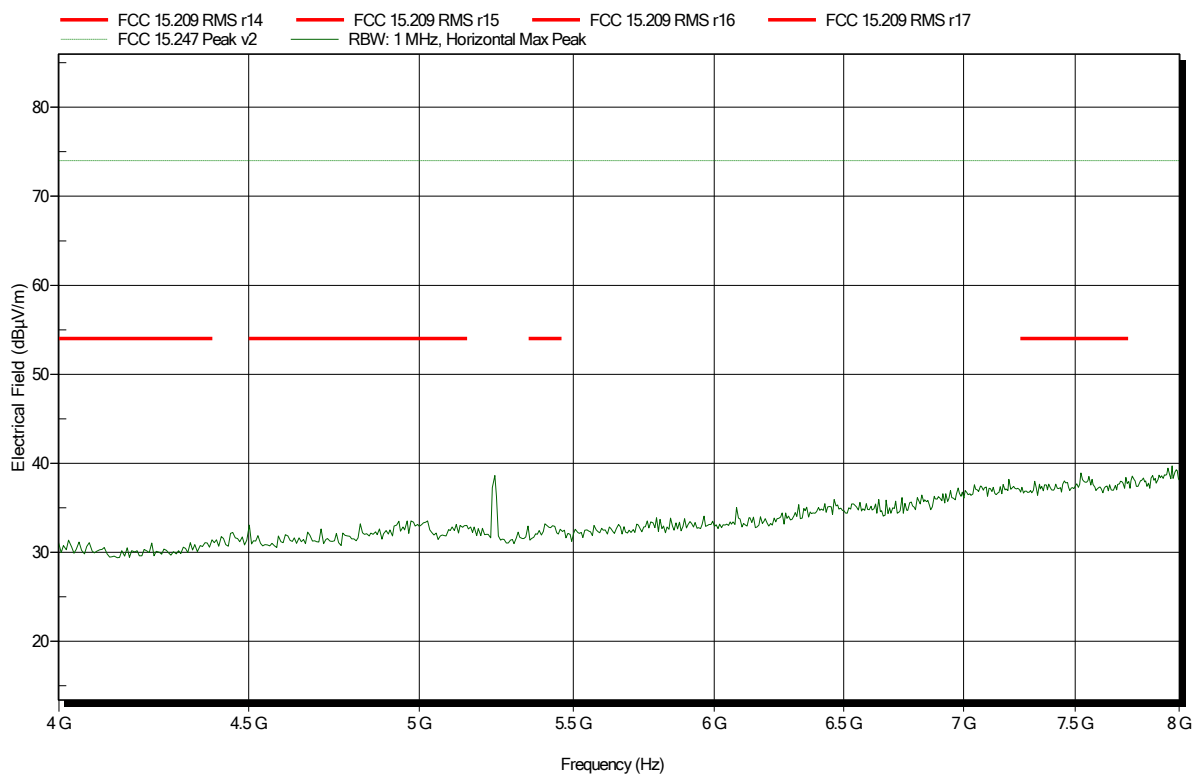
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.173 GHz	39.73 dBμV/m	74 dBμV/m	-34.27 dB	Pass
1.827 GHz	42.17 dBμV/m	74 dBμV/m	-31.83 dB	Pass
2.745 GHz	35.33 dBμV/m	74 dBμV/m	-38.67 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; Pit Antenna 6697902, Channel Mid
 Test Date: 2020-06-04
 Note:

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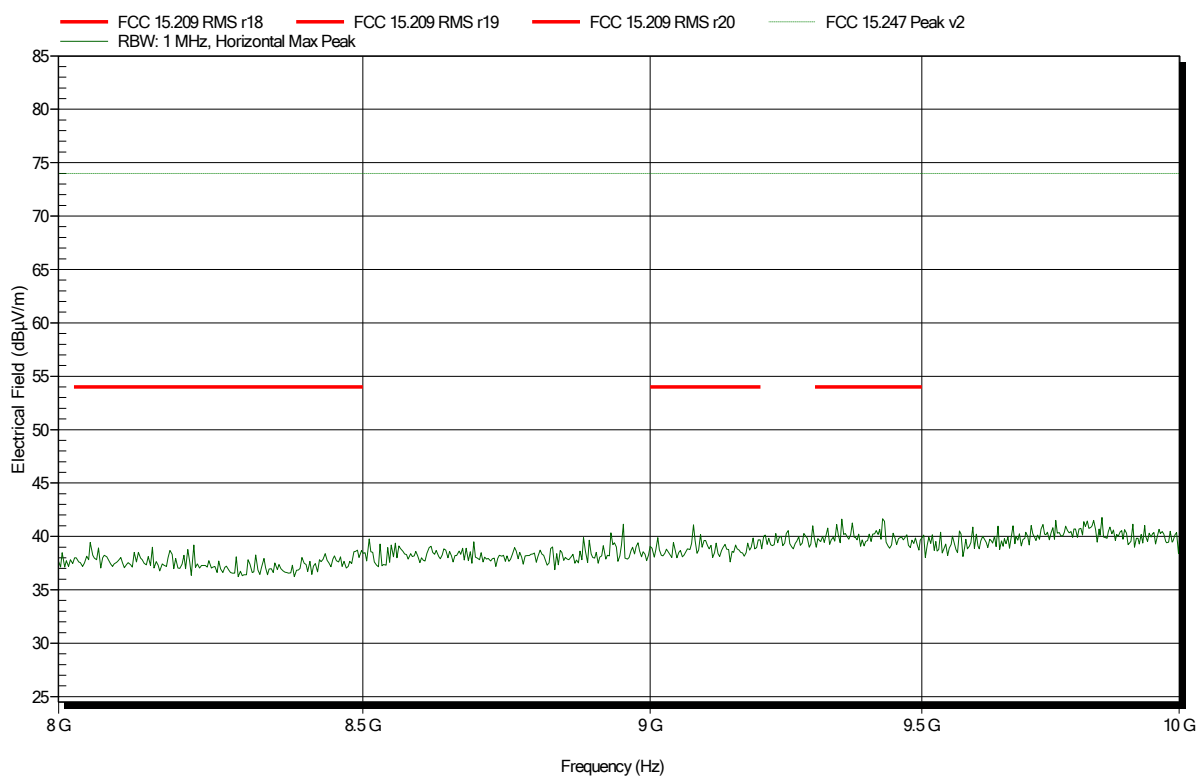


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; Pit Antenna 6697902, Channel Mid
 Test Date: 2020-06-04
 Note:

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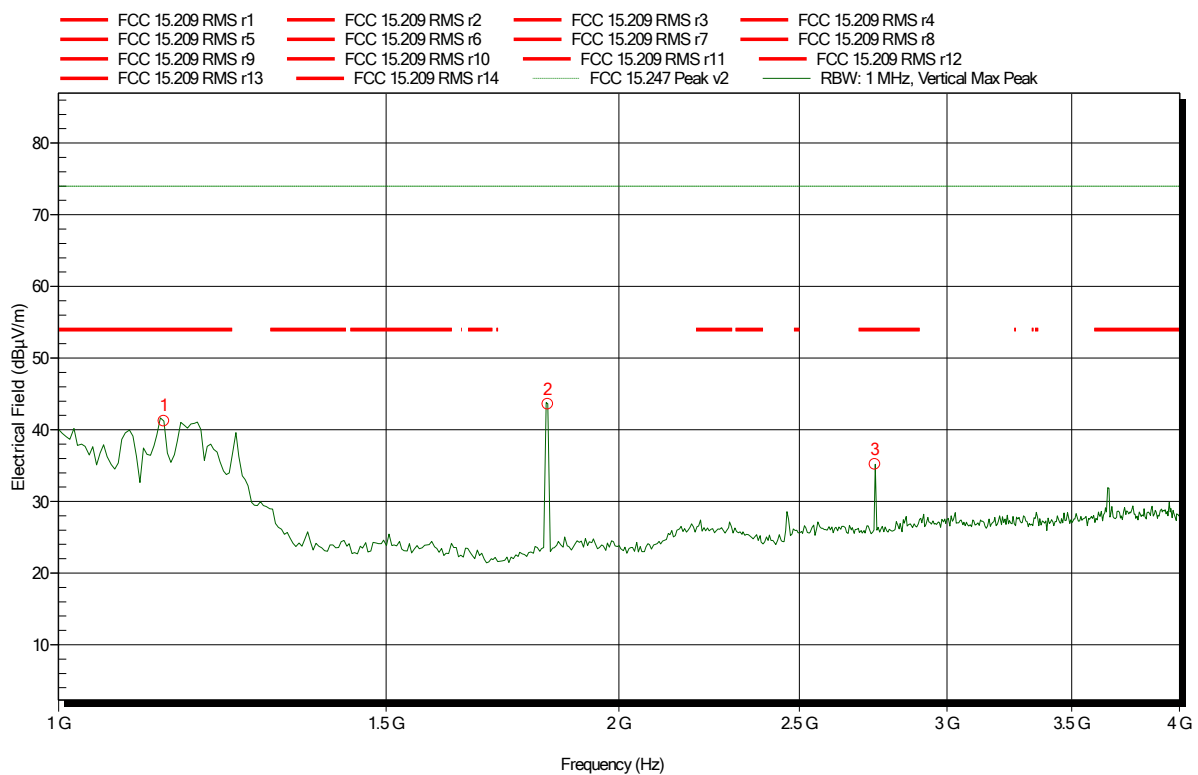


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m converted to 3m
 Mode: TX; Pit Antenna 6697902, Channel Mid
 Test Date: 2020-06-04
 Note:

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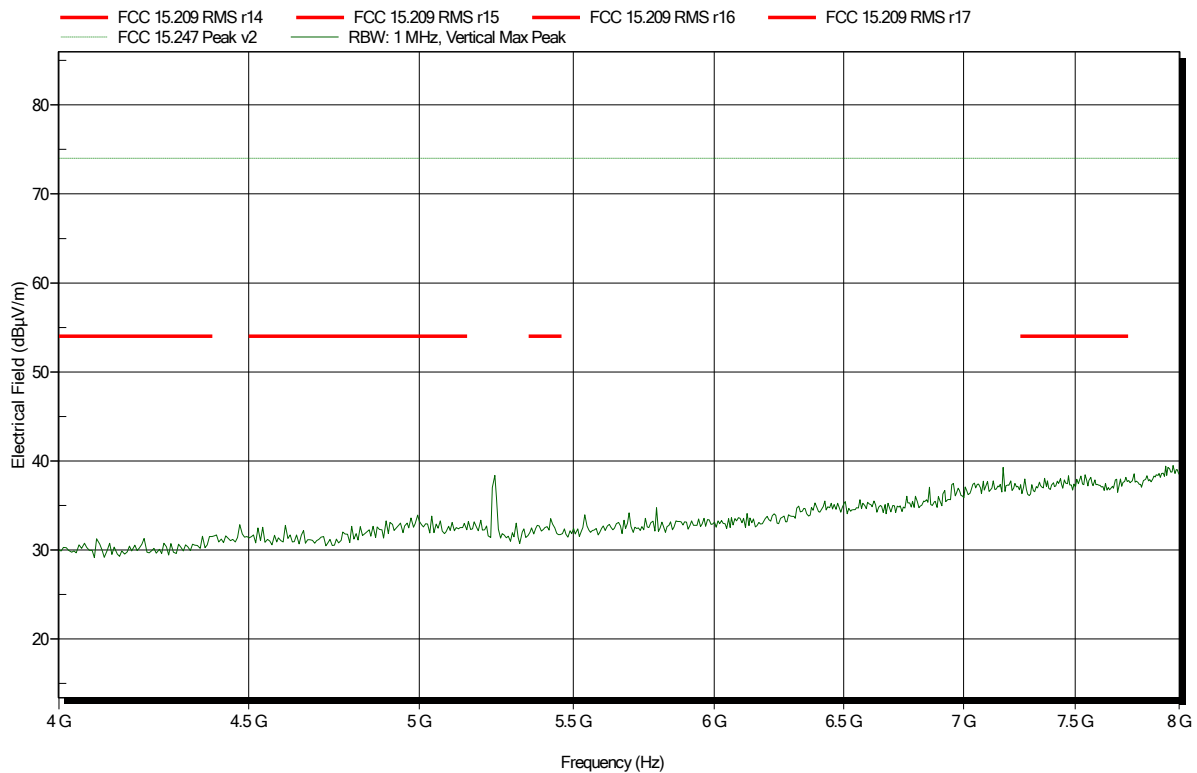
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.139 GHz	41.22 dBμV/m	74 dBμV/m	-32.78 dB	Pass
1.832 GHz	43.6 dBμV/m	74 dBμV/m	-30.4 dB	Pass
2.745 GHz	35.18 dBμV/m	74 dBμV/m	-38.82 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Measurement software: RadiMation, version 2016.1.10
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m, converted to 3 m
 Mode: TX; Pit Antenna 6697902, Channel Mid
 Test Date: 2020-06-04
 Note:

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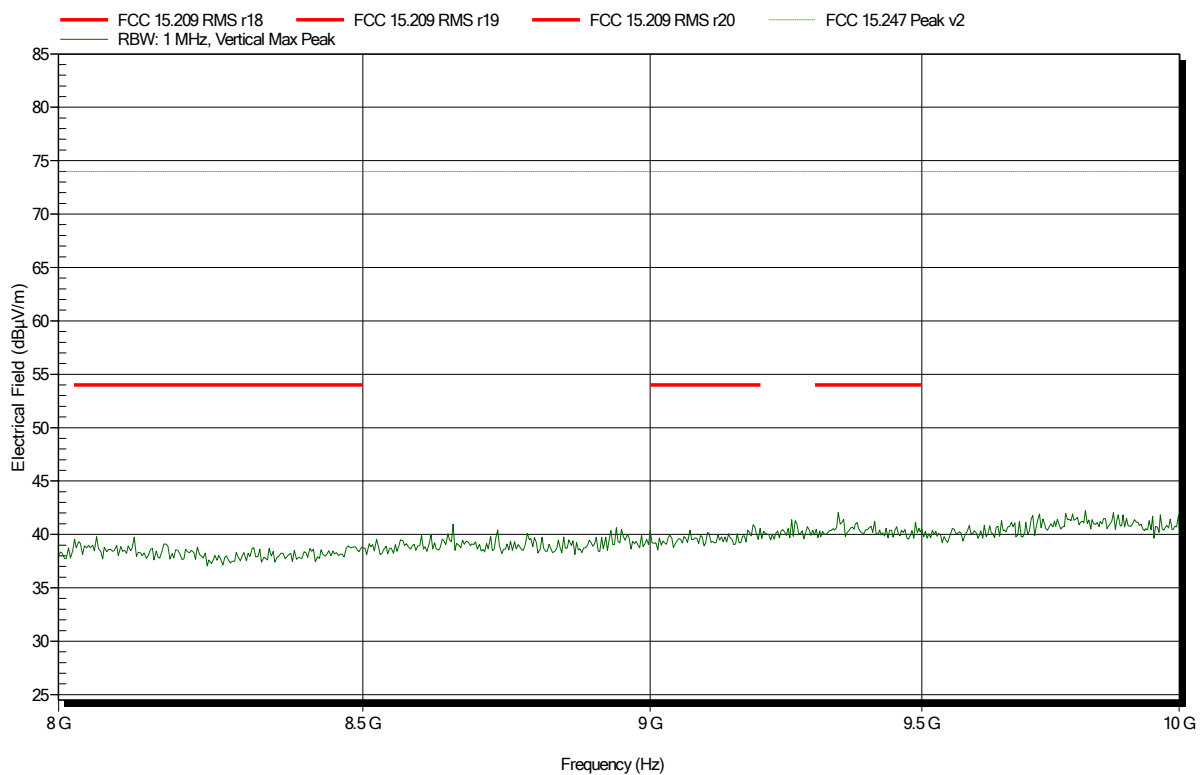


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
EUT Name: Ultrasonic water meter
Model: KWM2220
Test Site: Eurofins Product Service GmbH
Operator: Toralf Jahn
Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
Antenna: Schwarzbeck BBHA 9120D, Vertical
Measurement distance: 1 m converted to 3m
Mode: TX; Pit Antenna 6697902, Channel Mid
Test Date: 2020-06-04
Note:

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Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S

EUT Name: Ultrasonic water meter

Model: KWM2220

Test Site: Eurofins Product Service GmbH

Operator: Toralf Jahn

Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC

Antenna: Schwarzbeck BBHA 9120D, Horizontal

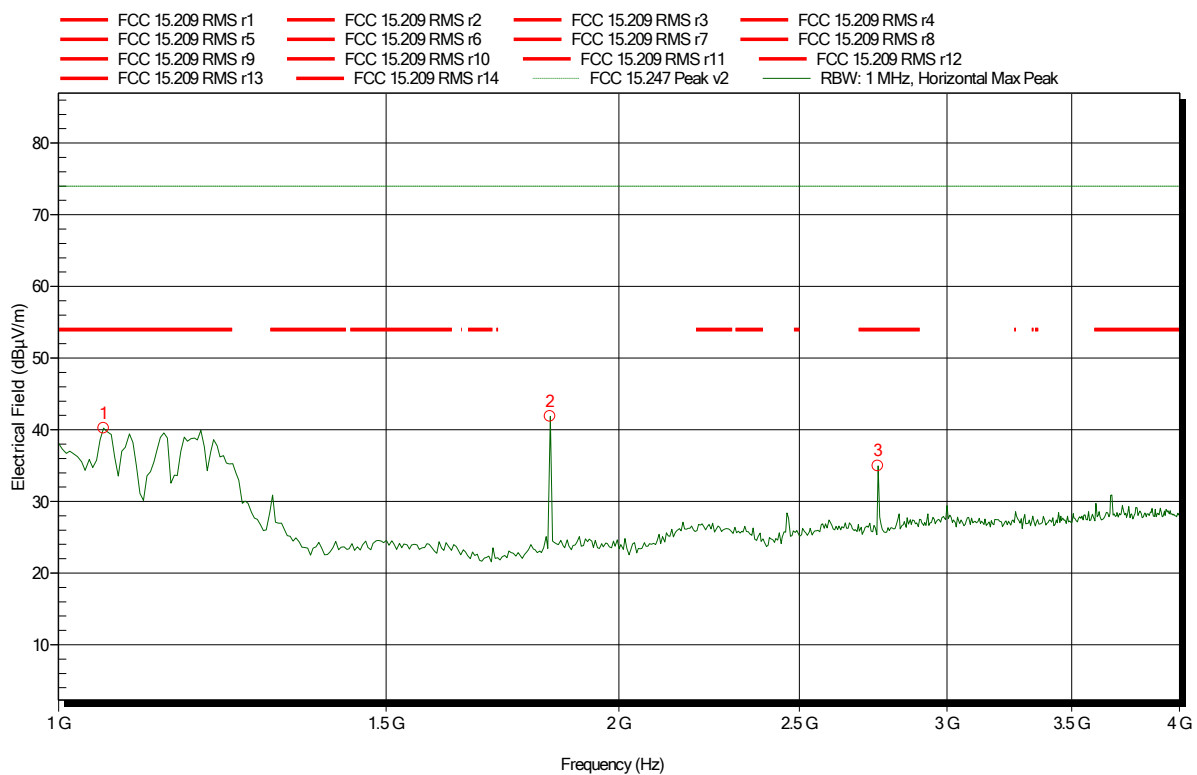
Measurement distance: 1 m converted to 3m

Mode: TX; Pit Antenna 6697902, Channel High

Test Date: 2020-06-04

Note:

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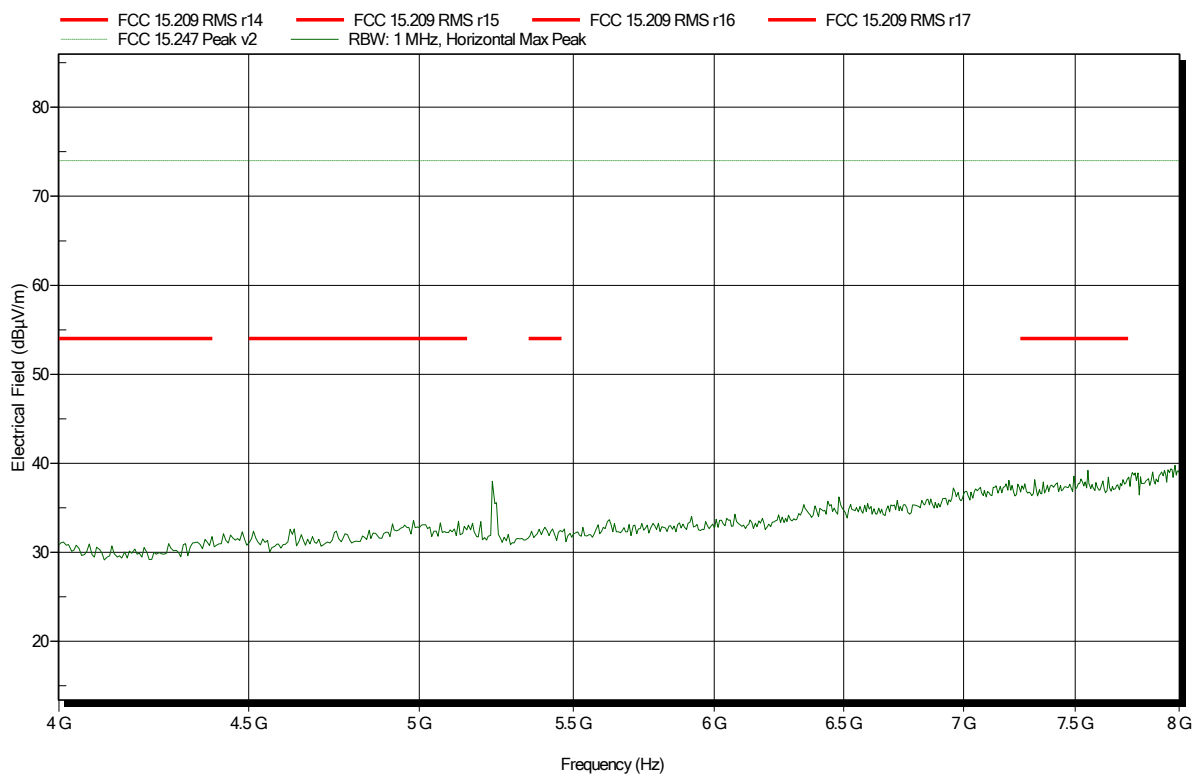


Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.058 GHz	40.25 dBμV/m	74 dBμV/m	-33.75 dB	Pass
1.837 GHz	41.88 dBμV/m	74 dBμV/m	-32.12 dB	Pass
2.755 GHz	34.97 dBμV/m	74 dBμV/m	-39.03 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859
 Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; Pit Antenna 6697902, Channel High
 Test Date: 2020-06-04
 Note:

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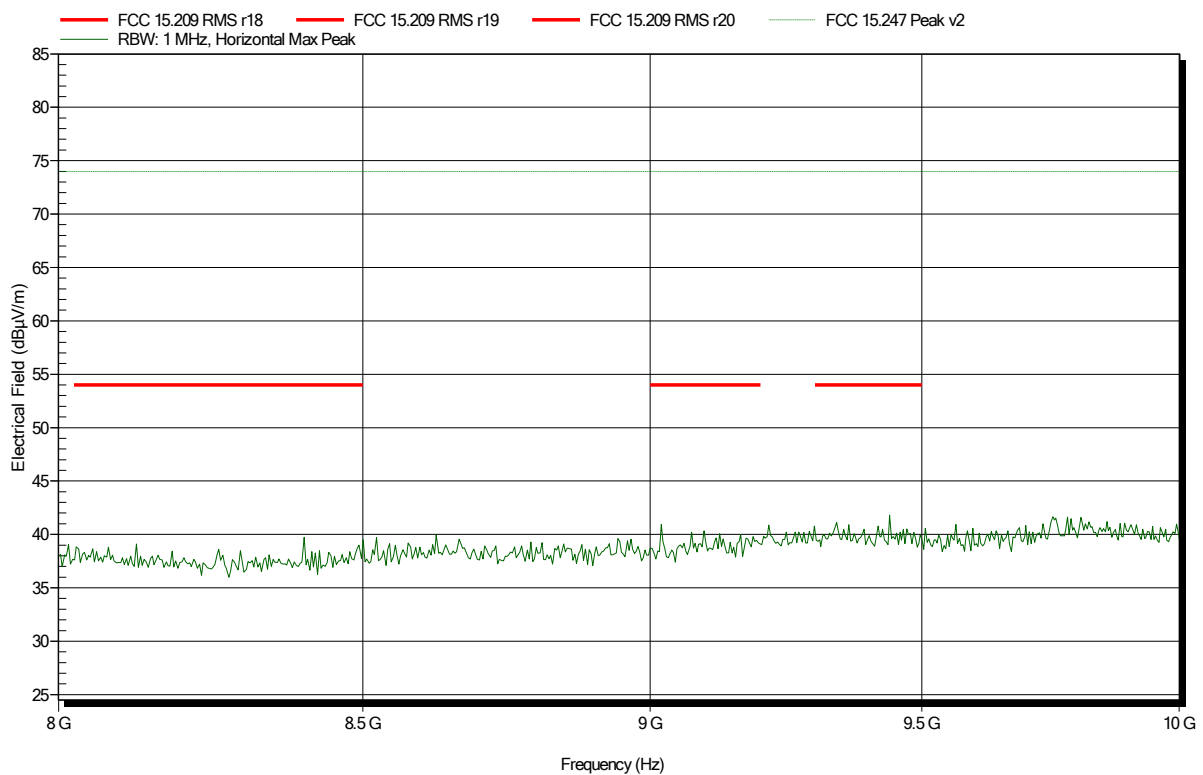


Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Horizontal
 Measurement distance: 1 m converted to 3m
 Mode: TX; Pit Antenna 6697902, Channel High
 Test Date: 2020-06-04
 Note:

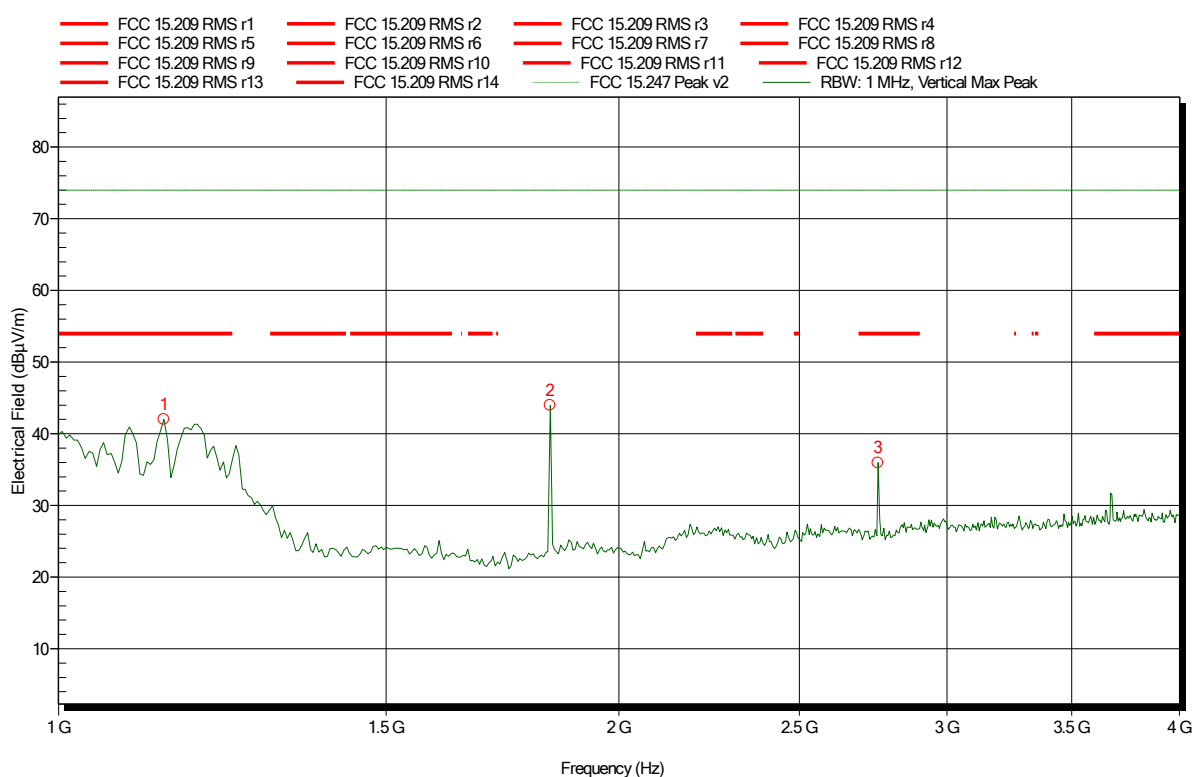
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Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859
 Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m converted to 3m
 Mode: TX; Pit Antenna 6697902, Channel High
 Test Date: 2020-06-04
 Note:

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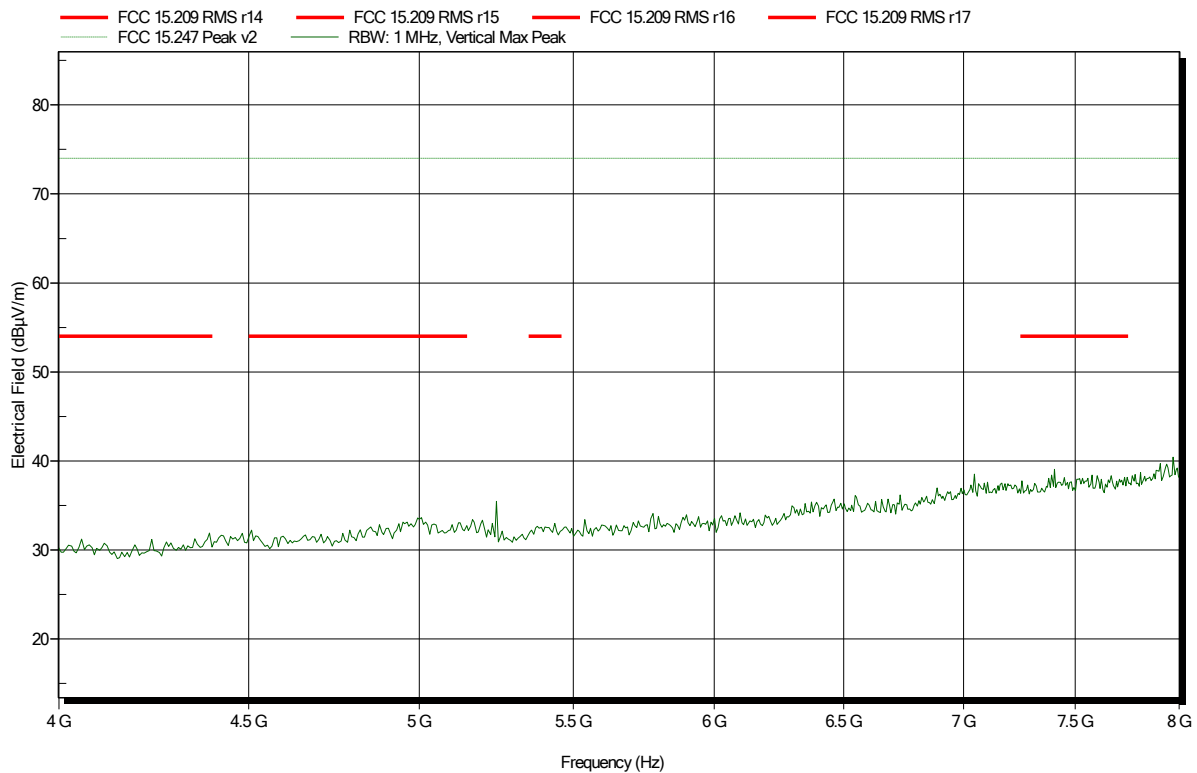
Frequency	Peak	Peak Limit	Peak Difference	Peak Status
1.139 GHz	42 dBμV/m	74 dBμV/m	-32 dB	Pass
1.837 GHz	43.98 dBμV/m	74 dBμV/m	-30.02 dB	Pass
2.755 GHz	35.96 dBμV/m	74 dBμV/m	-38.04 dB	Pass

Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Measurement software: RadiMation, version 2016.1.10
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m, converted to 3 m
 Mode: TX; Pit Antenna 6697902, Channel High
 Test Date: 2020-06-04
 Note:

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Spurious emissions according to FCC 47 e-CFR §15.247

Project number: G0M-2002-8859

Applicant: Kamstrup A/S
 EUT Name: Ultrasonic water meter
 Model: KWM2220
 Test Site: Eurofins Product Service GmbH
 Operator: Toralf Jahn
 Test Conditions: Tnom: 24°C, Vnom: 3.6 VDC
 Antenna: Schwarzbeck BBHA 9120D, Vertical
 Measurement distance: 1 m converted to 3m
 Mode: TX; Pit Antenna 6697902, Channel High
 Test Date: 2020-06-04
 Note:

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