EKTOS
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REPORT

Accredited by DANAK under registration number 563 to testing.
TEST: Testing laboratory (DS/EN ISO/IEC 17025)
FCC reg. no.: DK0002

Date	Reference	Page
2019-07-05	P19-0094-1	1 (63)

Test Report

of

Airofit Breathing Trainer:
AF002

FCC ID: 2ATQX-AIROFIT

according to

FCC 47 CFR, Part 15 Subpart C
15.247 Operation within the band 2400 - 2483.5 MHz

Performed by

Søren Søltoft
Senior EMC Engineer

Examined by

David Busk
Lab. Manager, M. Sc. EE.

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Report no.:	P19-0094-1	**Report date:**	2019-07-05
Test started:	2019-05-27	**Test ended:**	2019-06-24
Test laboratory:	EKTOS TRS A/S A. C. Meyers Vænge 15 2450 Copenhagen SV Denmark	**Client:**	Airofit A/S Titangade 11 2200 København N Denmark
Contact person:	Søren Søltoft	**Contact person:**	Christian Tullberg Poulsen
Facility reg. no.	FCC Designation number: DK0002		
Test specimen:	Airofit Breathing Trainer: AF002		
Test specification:	FCC 47 CFR Part 15 Subpart C 15.247 Operation within the band 2400 - 2483.5 MHz The tests relevant for the test specimens are listed in *section 1.1*.		
Documentation:	This test report must always be reproduced in full; reproduction of an excerpt only is subject to written approval of the testing laboratory. The complete test documentation is archived for 10 years at the testing laboratory.		
Test results:	The test specimen complies with relevant parts of the test specifications. The test results relate only to the specimen tested.		
Test personnel:	Søren Søltoft	David Busk	

CONTENTS

1 SUMMARY

See Appendix 1 for photos.

Emission measurements as specified below have been performed.

1.1 Test plan

Standard	Name of the test	Results
FCC 47 CFR Part 15C	15.247 Operation within the band 2400-2483.5 MHz	PASSED
-	Duty cycle measurement	n.a.
15.247 (a) (2)	6 dB bandwidth	PASSED
15.247 (b) (3)	Maximum peak conducted output power	PASSED
15.247 (d)	Emission outside frequency band	PASSED
15.247 (d)	Emission in restricted bands	PASSED
15.247 (d)	Band Edge	PASSED
15.247 (e)	Power spectral density	PASSED
15.207 (a)	AC conducted emission	PASSED
2.1049	Occupied bandwidth	PASSED

PASSED	The test was performed and the test specimen complies with the essential requirements in the standard.
FAILED	The test was performed and the test specimen does not comply with the essential requirements in the standard.
REF	The test is covered by a test in another report and/or on a similar test specimen.
NR	The test is not relevant for the test specimen or has been waived by the manufacturer.
n.a.	Test performed to establish the duty cycle correction factor.

1.2 Test Specimen

Manufacturer	Airofit
Name	Airofit Breathing Trainer
Model	AF002
Firmware	Aerofit FW Version: 1.03
Hardware	AF001
Supply voltage	Internal battery or 5 VDC via micro USB (used during test)

The 2.4 GHz Bluetooth Low Energy radio uses frequencies in the range 2402 MHz to 2480 MHz.

As the frequency range is greater than 10 MHz, at least 3 frequencies are selected for test.

For the conducted test a unit stripped of housing and equipped with a temporary antenna connector was used.
For radiated test a unit in casing was used. It was not modified except for the firmware enabling control of radio parameters.

The following channels were used for testing.
Channel 0 at 2402 MHz.
Channel 19 at 2440 MHz.
Channel 39 at 2480 MHz.

The setting of radio parameters was done by the nRFgo Studio ver. 1.21.2.10 (included 2.4GHz-Front-end Tests ver.1.0) from Nordic Semiconductor ASA running on the Laptop.

See photo in appendix 1.

1.1 Auxiliary Equipment

1.1.1 AC/DC adaptor

Manufacturer	Nokia
Model	AC-50E
Serial no.	409049326369070864506756l9
Details	-
Supply voltage	AC 100 – 240 V 0.20A (120 VAC used during tests)
Output voltage	DC 5 V / 1.3 A
Operational mode	Used as typical charger

See photo in appendix 1.

1.1.2 Laptop

Manufacturer	Lenovo
Model	ThinkPad L460
Serial no.	-
Software	Microsoft Windows 10 Professional
Details	-
Supply voltage	20 VDC from AC/DC power supply

The Laptop was used to configure test specimen into correct mode of operation by the means of nRFgo Studio ver. 1.21.2.10 (included 2.4 GHz-Front-end Tests ver.1.0) from Nordic Semiconductor ASA. A USB to 3-wire adaptor was delivered by client to connect to test specimen during set up of parameters.

1.2 I/O port to test specimen

I/O Port	Type	Shielding	Cable length
Micro USB for charging	Micro USB	Shielded	< 3m

2 TESTS

2.1 Duty Cycle

Test specimen	Airofit Breathing Trainer
Test specification	47 CFR Part 15 Subpart C
Test method	ANSI C63.10:2013
Comments	None
Temperature / Humidity	22°C / 49%RH
Dates of measurements	2019-06-17
Test personnel	David Busk

2.1.1 Test setup

The test was performed radiated in a semi anechoic chamber with absorbers on floor.
See photo of test set up in appendix 1.

2.1.2 Test result

The duty cycle was measured at channel 39 at 2480 MHz.

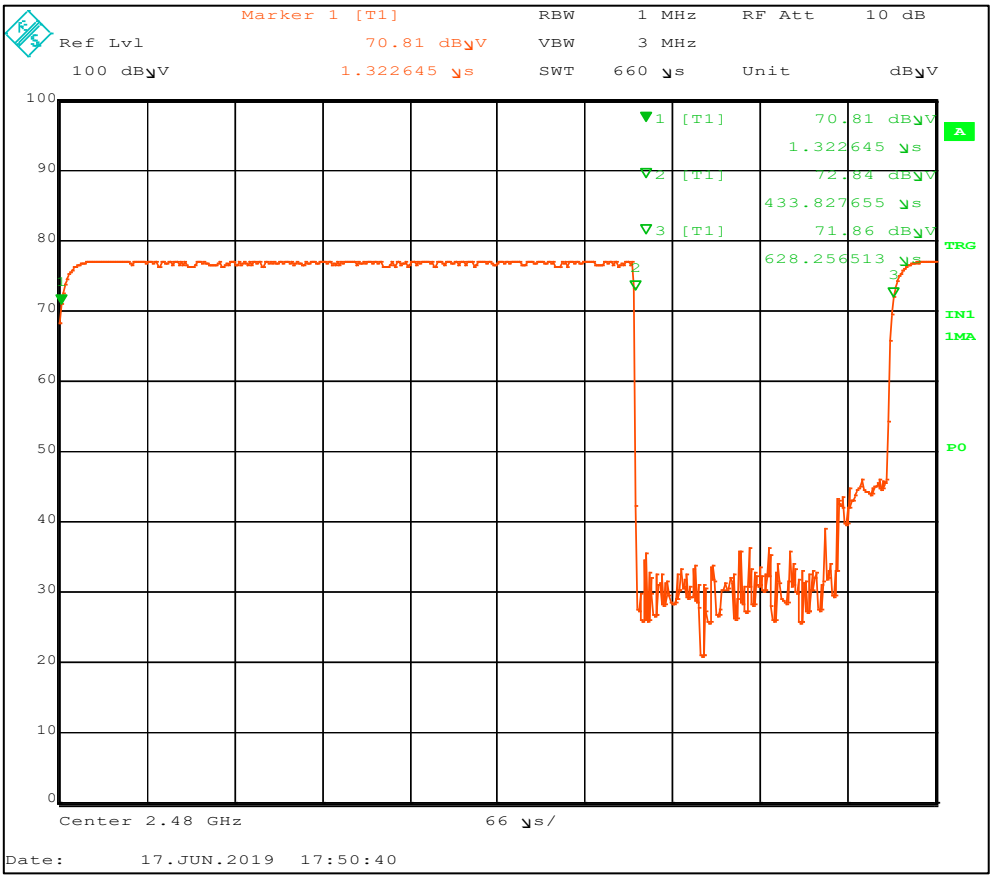

Figure 1. Duty Cycle.

T: 626.93 µs. t_{on}: 432.51µs
Duty cycle = t_{on} / T = 432.51 µs / 626.93 µs = 0.6899.
Duty cycle correction factor according to ANSI C63.10 sec 7.5. = 10 * log (dc) = -3.22 dB.

2.1.3 Test equipment

Description	Supplier	Model	Tag no.	Cal. due date
Receiver EMI Test 20Hz-26.5GHz	Rohde & Schwarz	ESIB 26	20763	2019-12-10

2.2 6 dB Bandwidth

Test specimen	Airofit Breathing Trainer
Test specification	FCC 47 CFR Part 15.247 (a) (2)
Test method	ANSI C63.10:2013 sec. 11.8
Comments	None
Temperature / Humidity	23°C / 64%RH
Dates of measurements	2019-06-20
Test personnel	Søren Søltoft

2.2.1 Test setup

The test specimen was connected to a spectrum analyzer using a temporary antenna connector.

See photo of test set up in appendix 1.

2.2.2 Test result

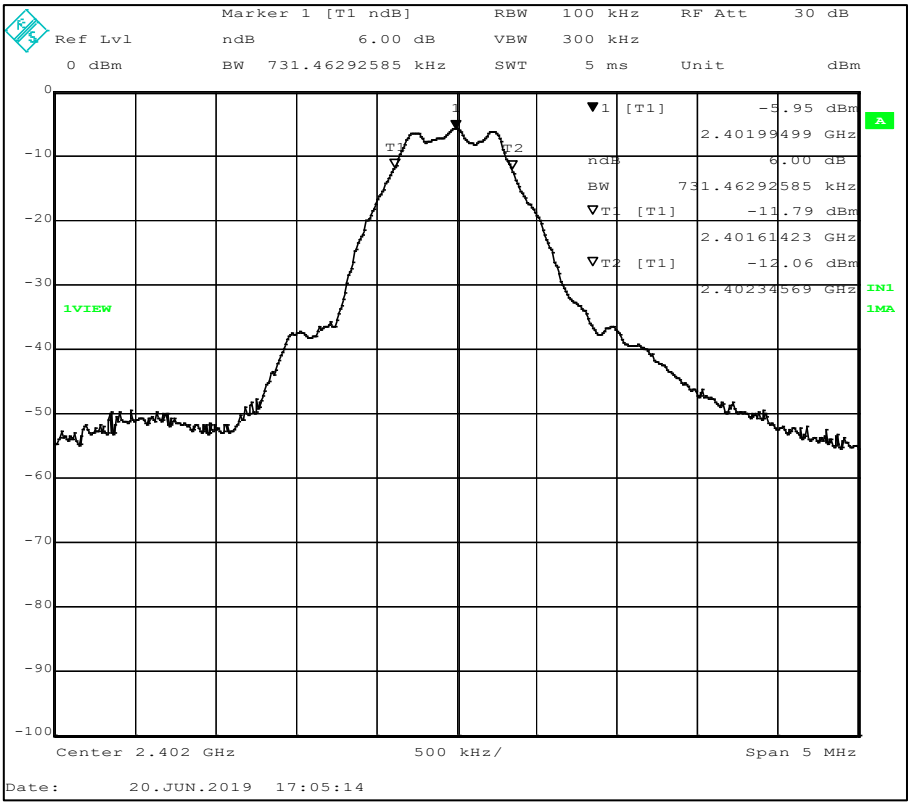

Figure 2. 6 dB Band Width at channel 0 .

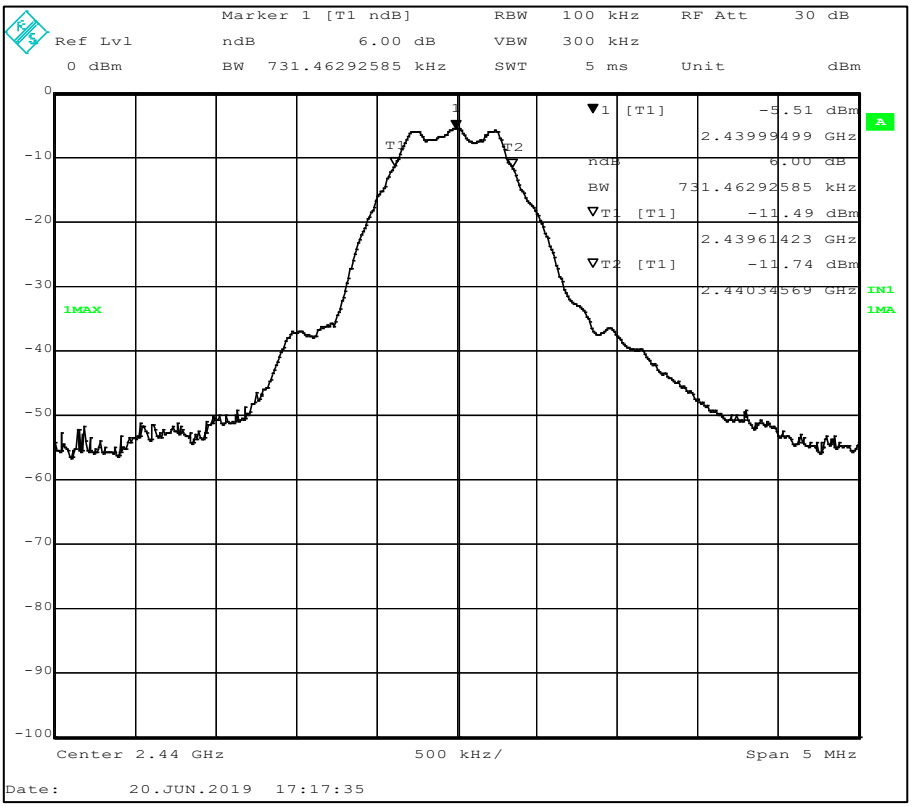

Figure 3. 6 dB Band Width channel 19.

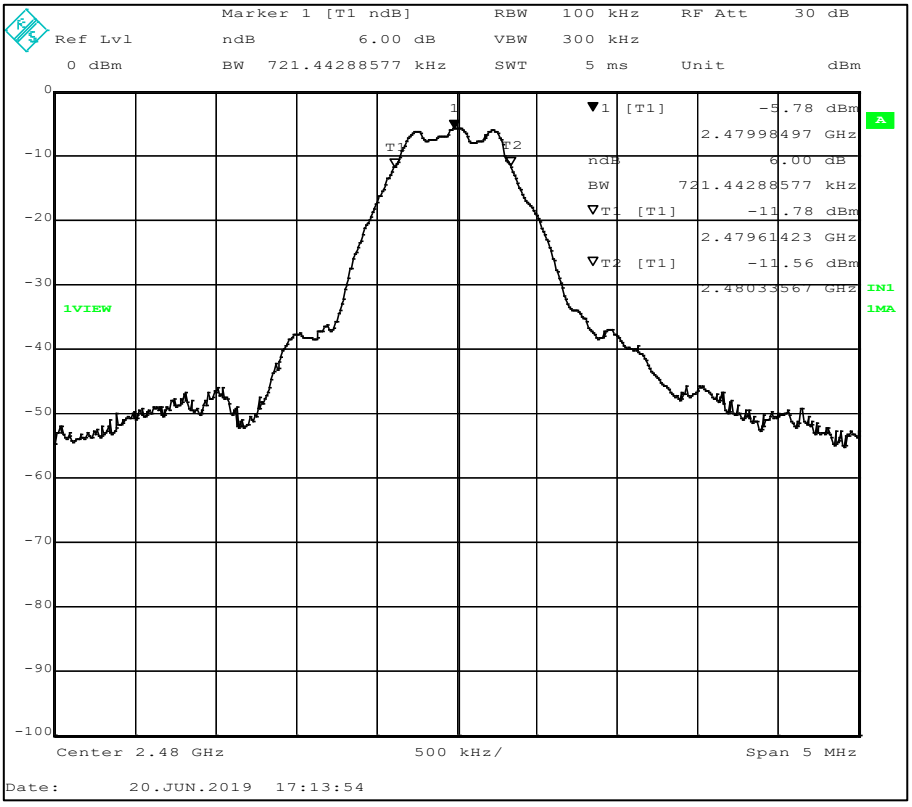

Figure 4. 6 dB Band Width channel 39.

Channel	Frequency [MHz]	6 dB BW [kHz]	Limit [kHz]	Result
0	2402	736.4629	500	PASSED
19	2440	731.4629	500	PASSED
39	2480	721.4429	500	PASSED

Table 1. 6 dB Band Width.

2.2.3 Test equipment

Description	Supplier	Model	Tag no.	Cal. due date
Receiver EMI Test 20Hz-26.5GHz	Rohde & Schwarz	ESIB 26	18880	2019-09-24
Multimeter	Hewlett Packard	34401A	14880	2020-02-14
Power Supply 0-15V 10A	LP Instruments	EA-3012	13037	-

2.3 Maximum peak conducted output power

Test specimen	Airofit Breathing Trainer
Test specification	FCC 47 CFR Part 15.247 (b) (3)
Test method	ANSI C63.10:2013 sec 11.9.1.1
Frequency range	2400-2483.5 MHz
Limits	FCC 47 CFR Part 15.247 (b) (3)
Comments	None
Temperature / Humidity	23°C / 64%RH
Dates of measurements	2019-06-20
Test personnel	Søren Søltoft

2.3.1 Test setup

The test specimen was connected to a spectrum analyzer using a temporary antenna connector.
RBW 1 MHz ≥ DTS BW: 736.5 kHz.

See photo of test set up in appendix 1.

2.3.2 Test results

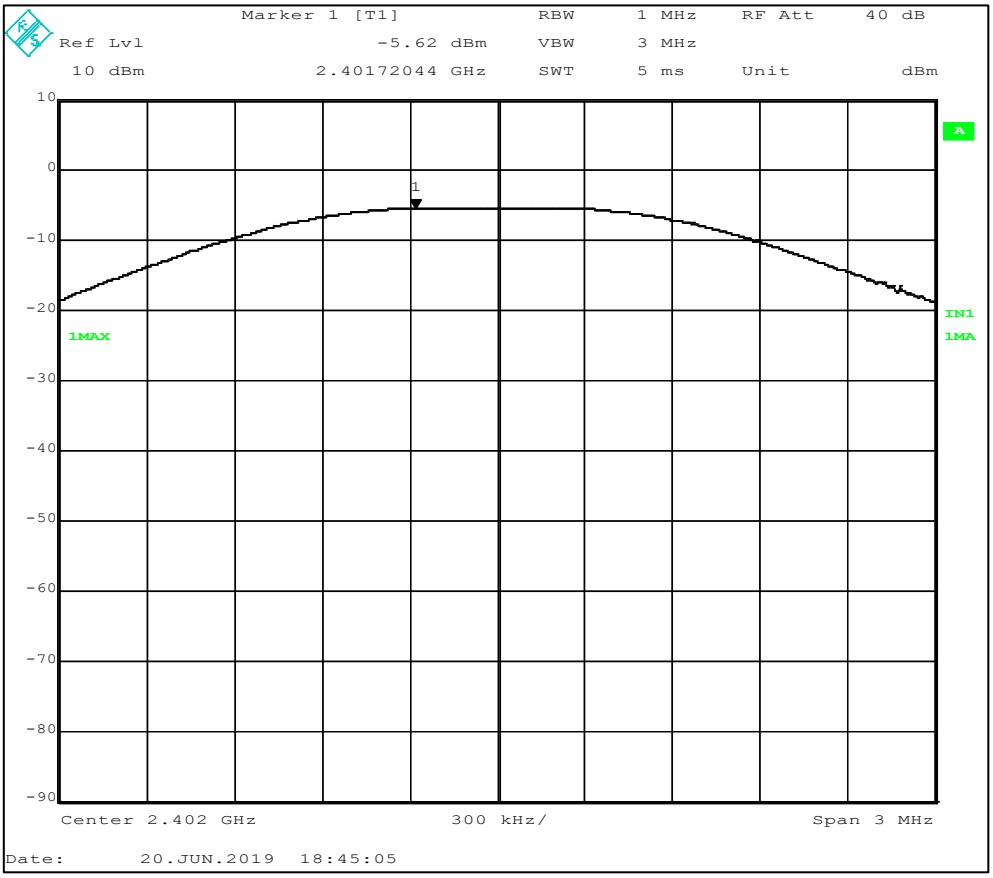

Figure 5. Output power channel 0.

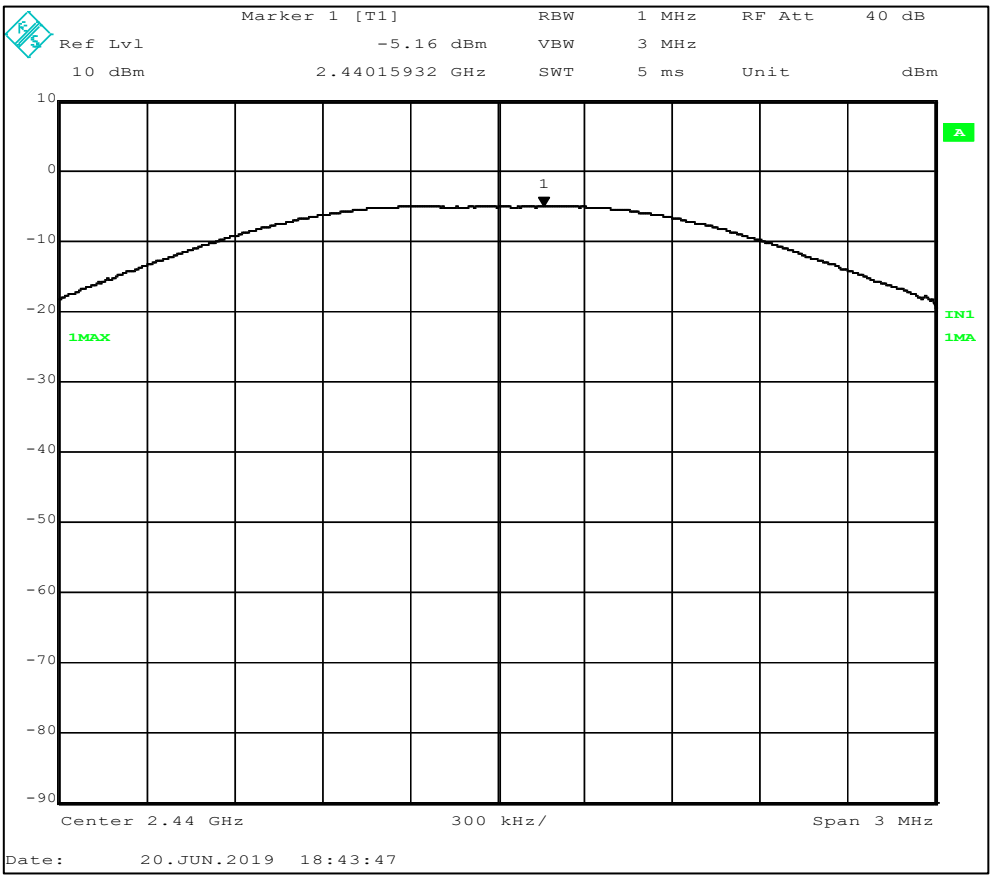

Figure 6. Output power channel 19.

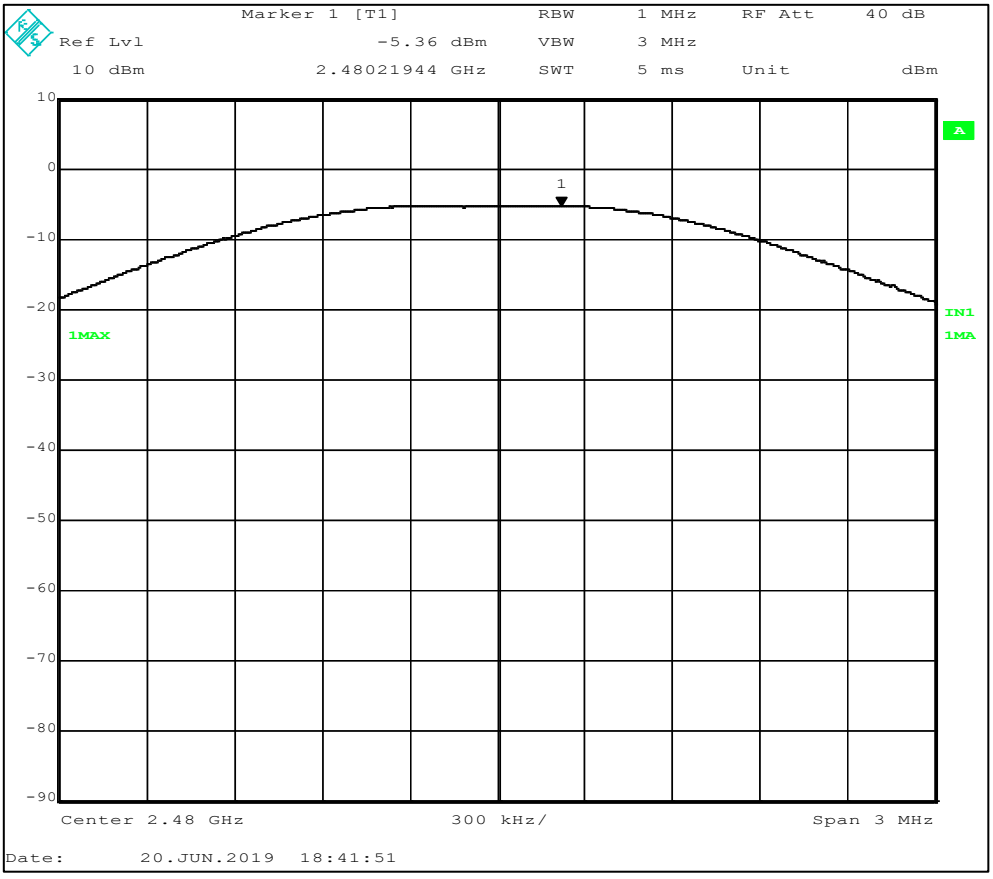

Figure 7. Output power channel 39.

The antenna gain is less than 6 dBi.

Channel	Frequency [MHz]	Output power [dBm]	Limit [dBm]	Result
0	2402	-5.62	30	PASSED
19	2440	-5.16	30	PASSED
39	2480	-5.36	30	PASSED

The nominal voltage of 5 VDC were variated between 85% and 115% without any increase of the output power.

2.3.3 Test equipment

Description	Supplier	Model	Tag no.	Cal. due date
Receiver EMI Test 20Hz-26.5GHz	Rohde & Schwarz	ESIB 26	18880	2019-09-24
Multimeter	Hewlett Packard	34401A	14880	2020-02-14
Power Supply 0-15V 10A	LP Instruments	EA-3012	13037	-

2.4 Emission outside frequency band

Test specimen	Airofit Breathing Trainer
Test specification	47 CFR Part 15.247 (d)
Test method	ANSI C63.10:2013 sec. 11.11
Frequency range	30 MHz – 25 GHz
Limits	47 CFR Part 15.247 (d).
Comments	None
Temperature / Humidity	23°C / 49%RH
Dates of measurements	2019-06-21
Test personnel	Søren Søltoft

2.4.1 Test setup

The temporary antenna connector of the test specimen was connected directly to the spectrum analyzer.

See appendix 1 for photo of test set up

2.4.2 Test results

2.4.2.1 Reference level for test.

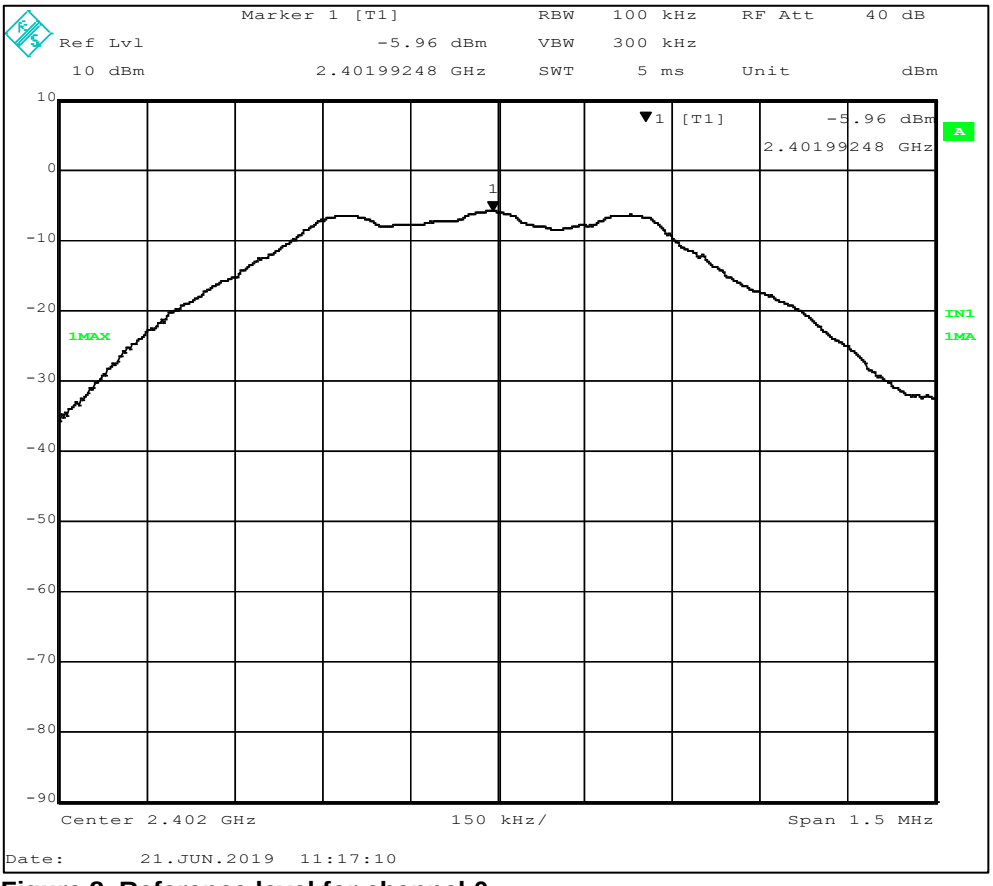

Figure 8. Reference level for channel 0.

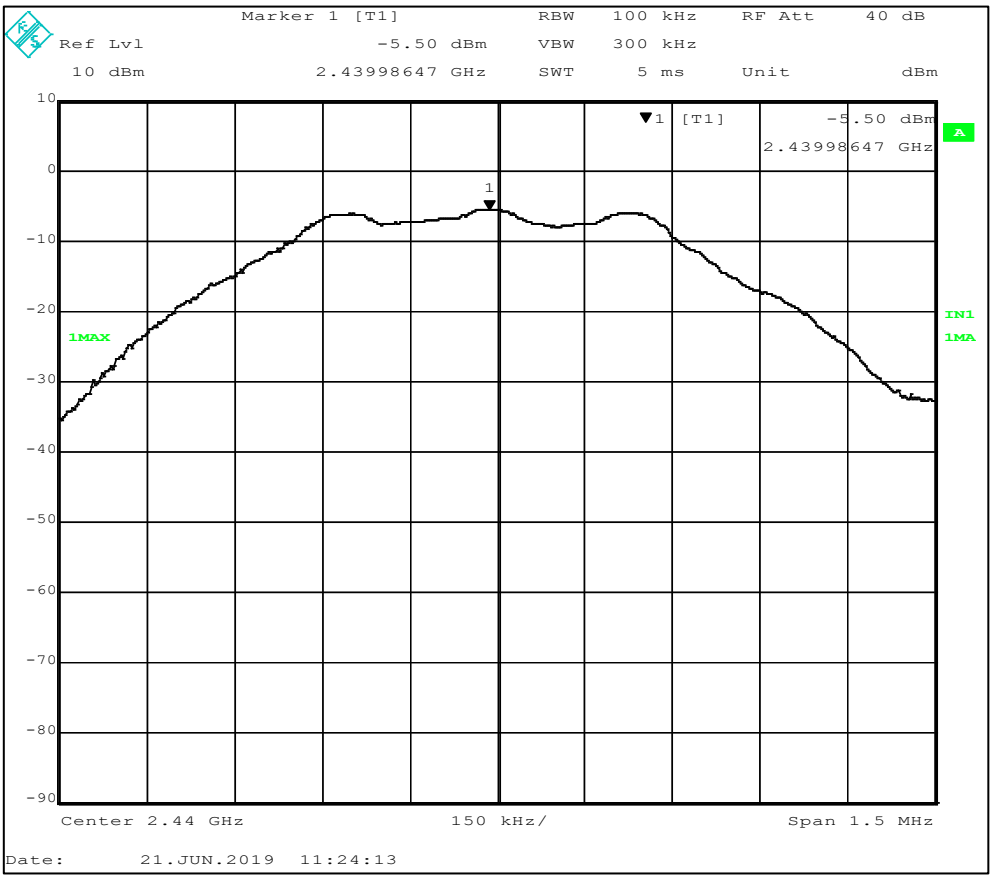

Figure 9. Reference level for channel 19.

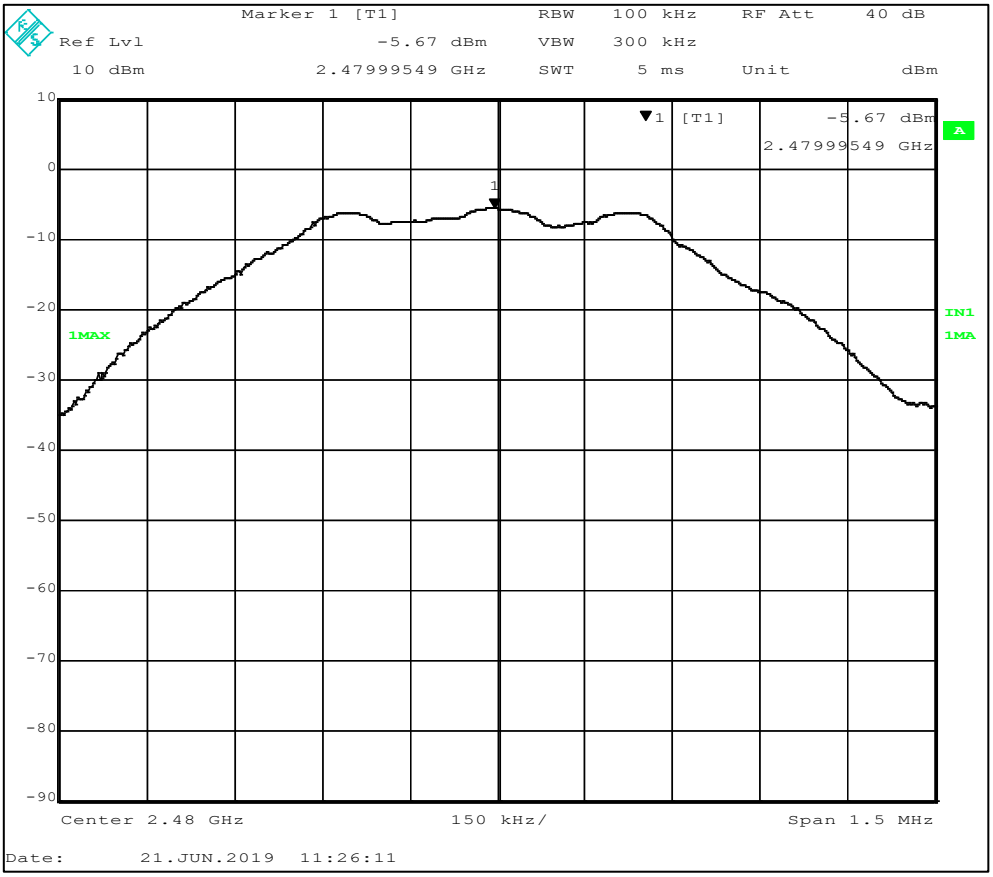

Figure 10. Reference level for channel 39.

2.4.2.2 Test result for channel 0 at 2402 MHz

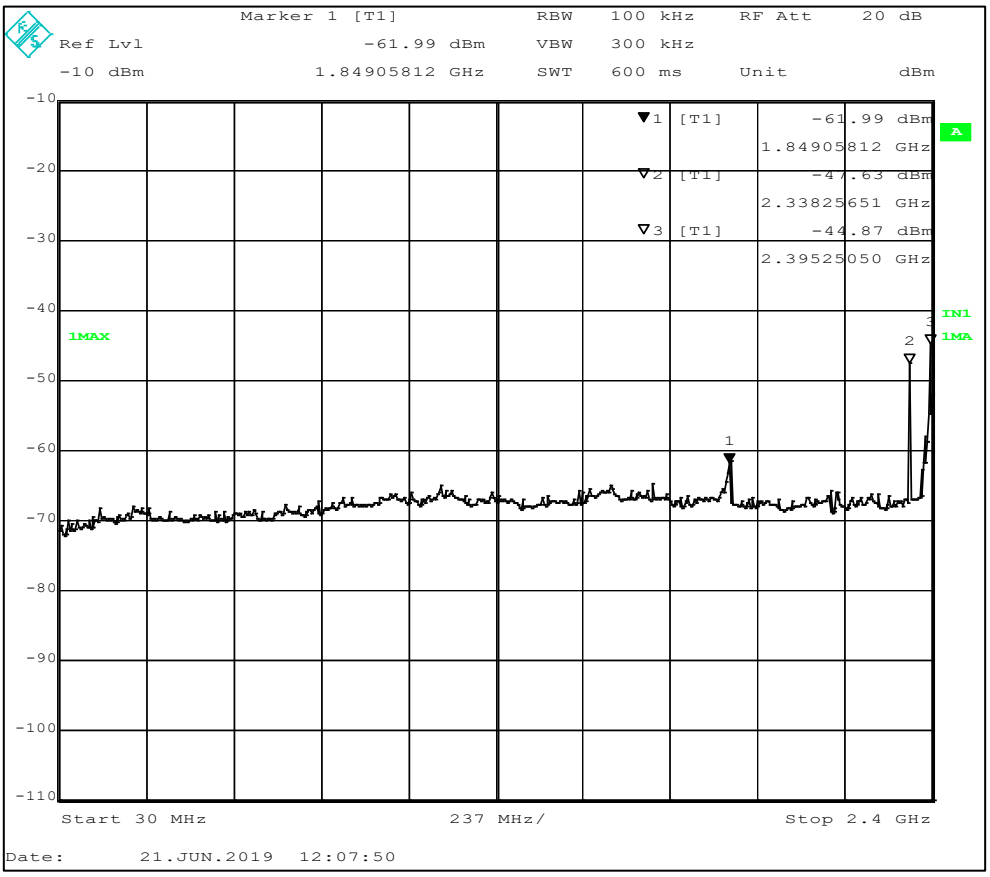

Figure 11. Emission test results. 30 MHz – 2.4 GHz.

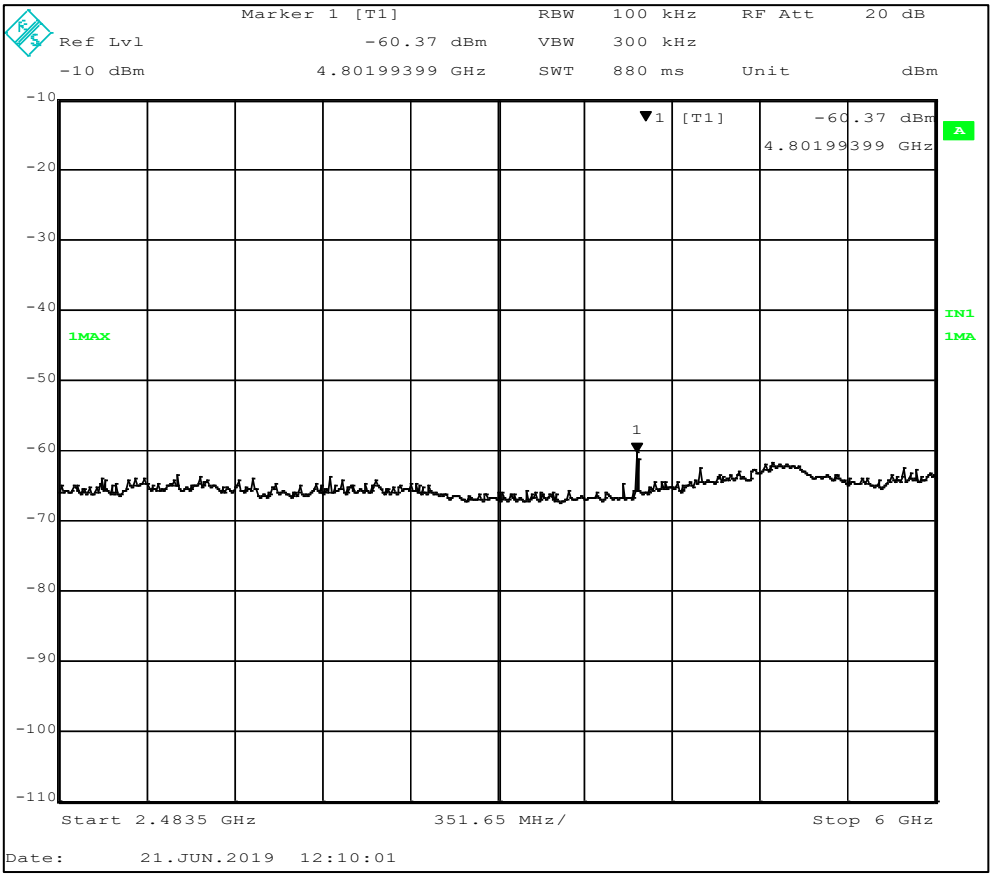

Figure 12. Emission test result 2.4835 GHz to 6 GHz.

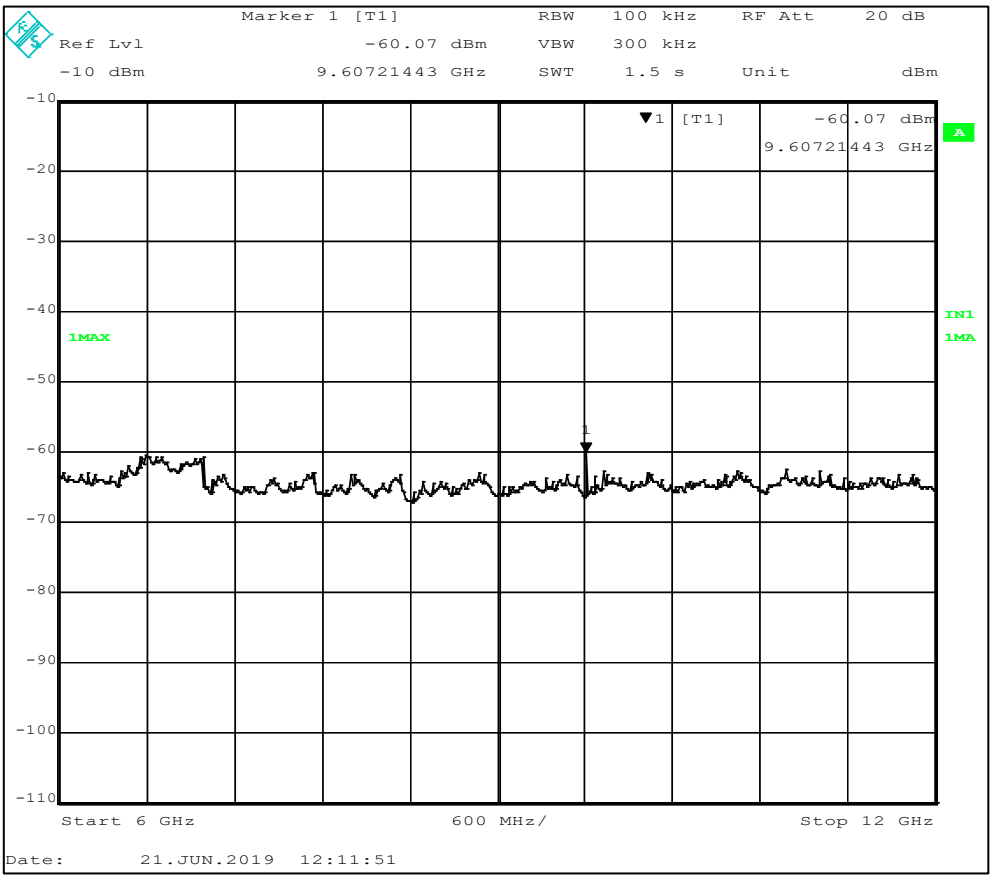

Figure 13. Emission test result 6 GHz to 12 GHz.

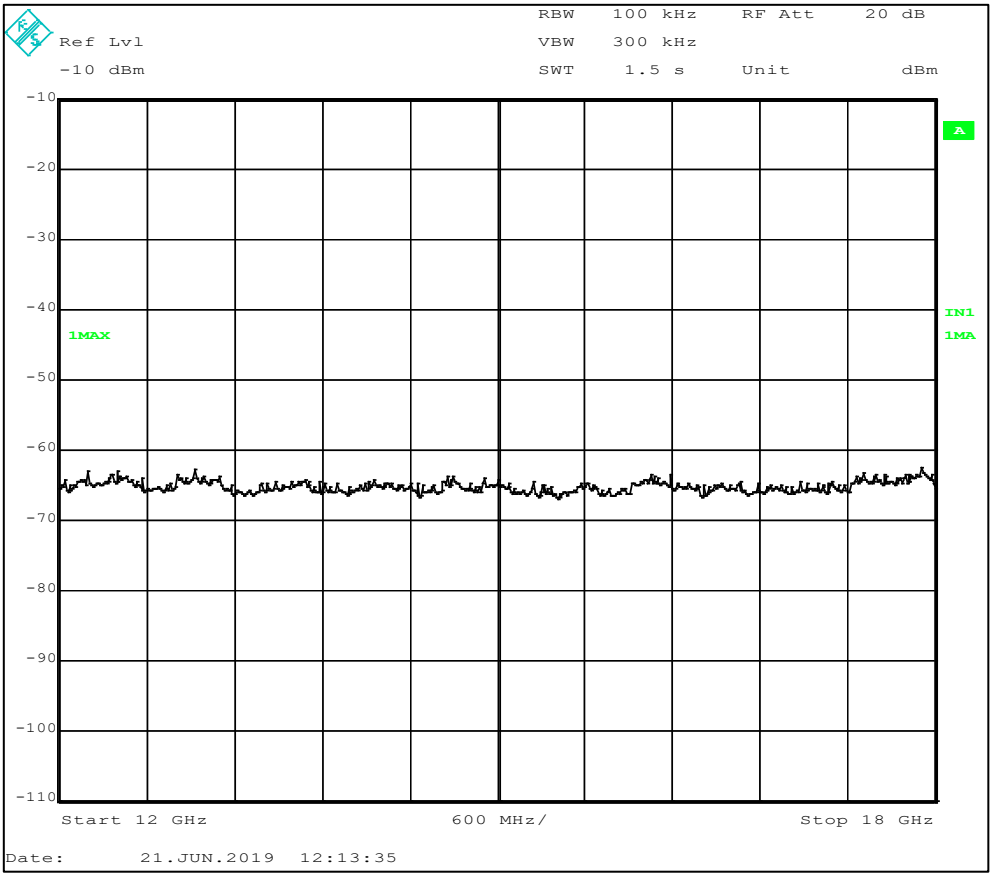

Figure 14. Emission test result 12 GHz to 18 GHz.

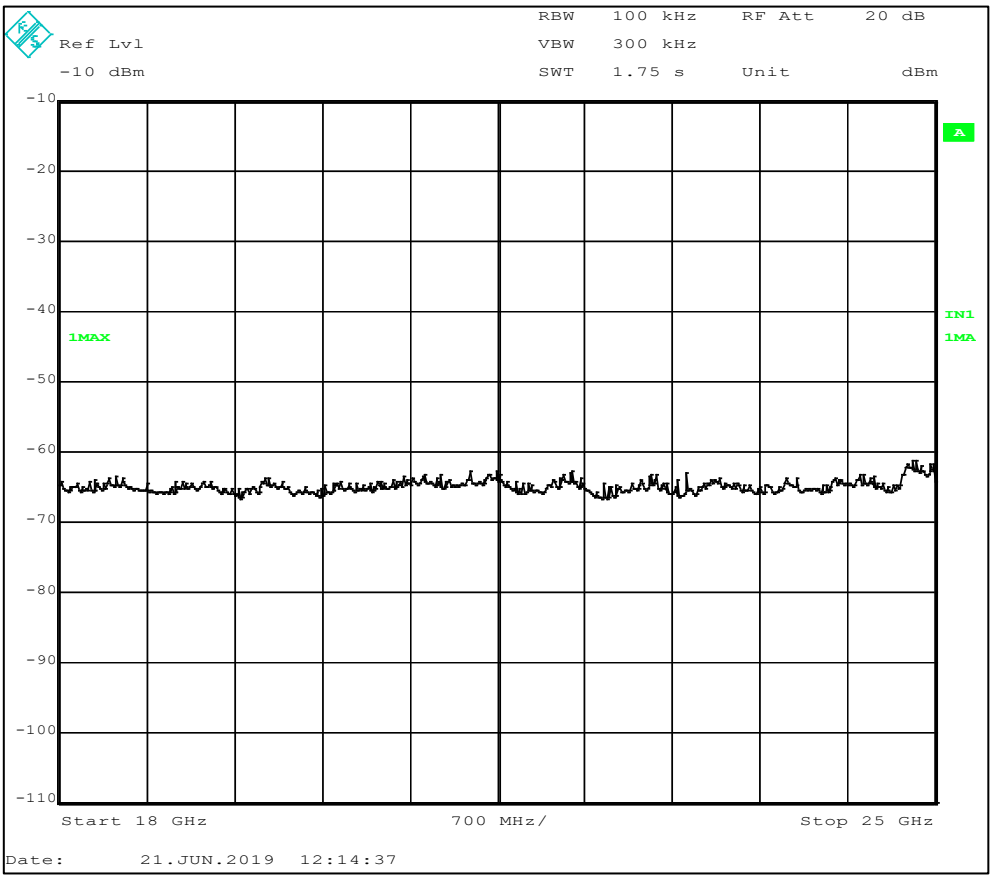

Figure 15. Emission test result 18 GHz to 25 GHz.

Frequency [MHz]	Peak [dBm]	BW [kHz]	Margin [dB]	Limit [dBm]	Result
1849.0581	-61.99	100	36.04	-25.95	PASSED
2338.2565	-47.63	100	21.68	-25.95	PASSED
2395.2505	-44.87	100	18.92	-25.95	PASSED
4801.994	-60.37	100	34.42	-25.95	PASSED
9607.2144	-60.07	100	34.12	-25.95	PASSED

Table 2. Emission test results. Channel 0. 30 MHz to 25 GHz.

2.4.2.3 Test result for channel 19 at 2440 MHz

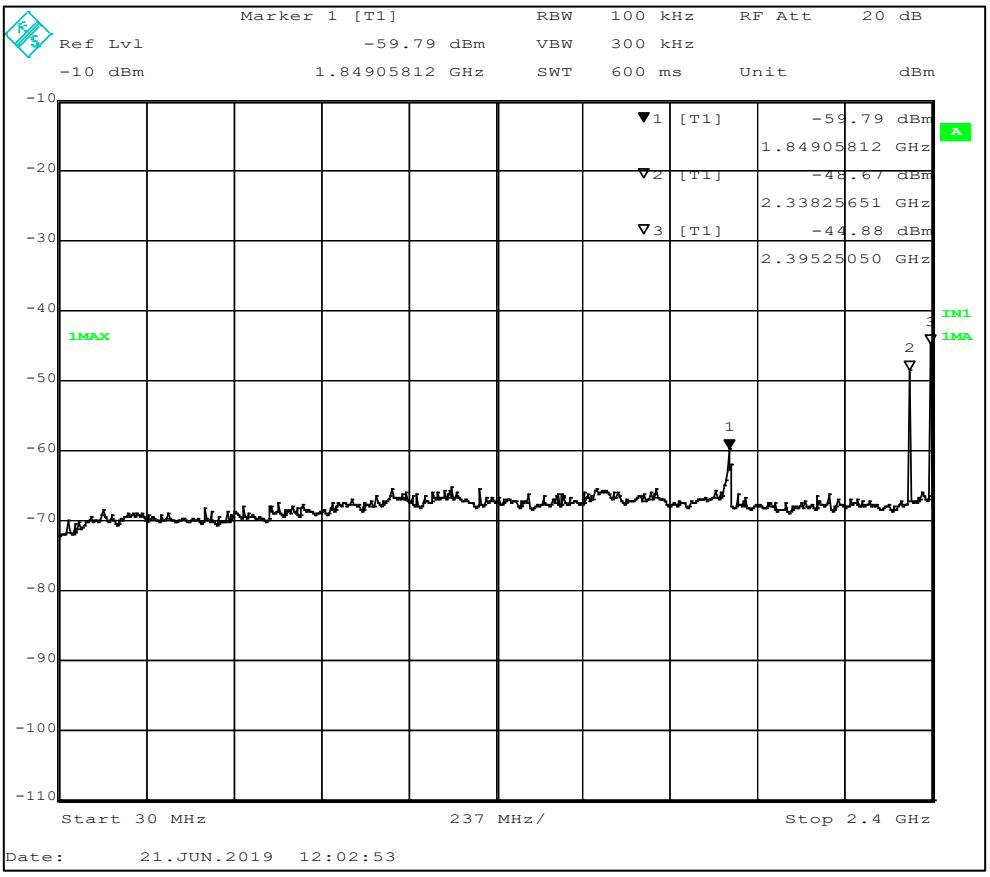

Figure 16. Emission test results. 30 MHz – 2.4 GHz.

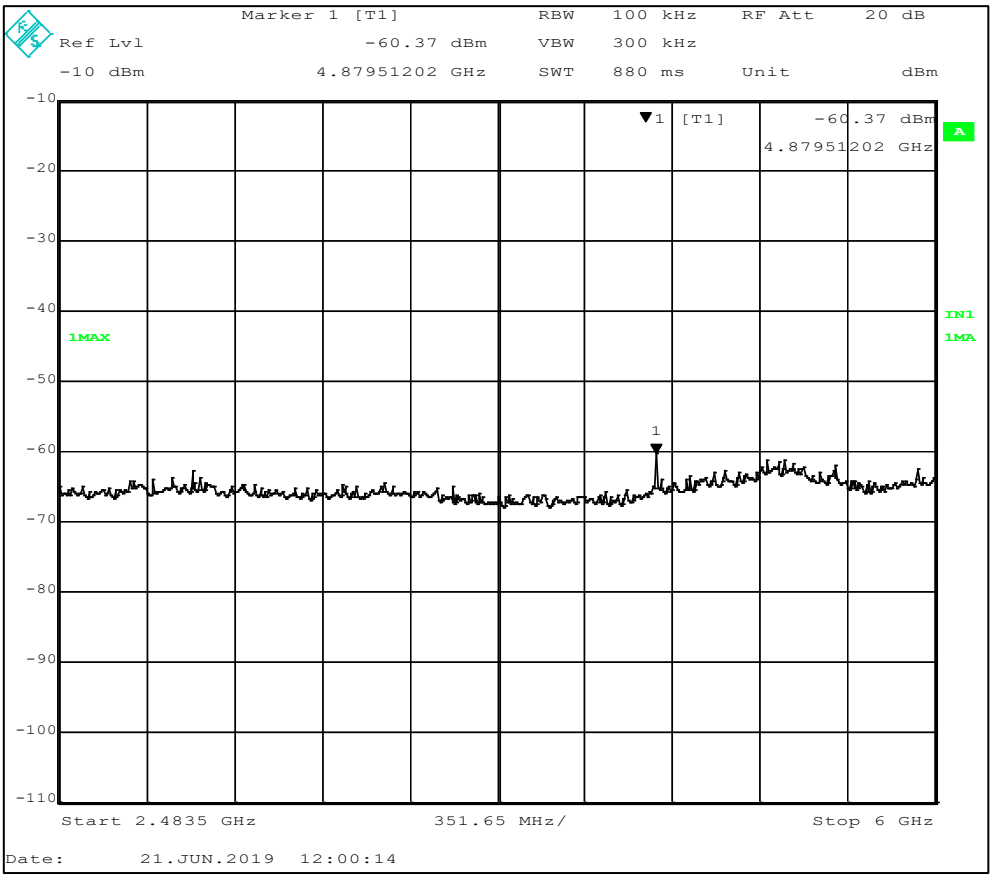

Figure 17. Emission test result 2.4835 GHz to 6 GHz.

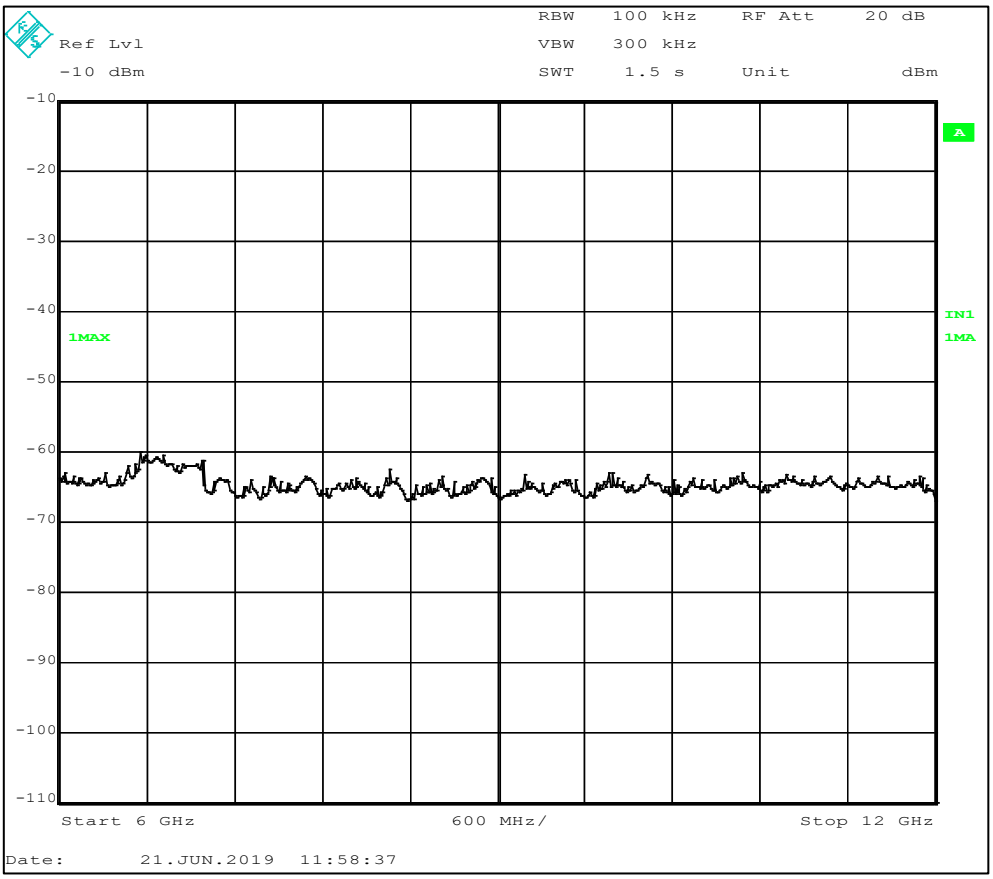

Figure 18. Emission test result 6 GHz to 12 GHz.

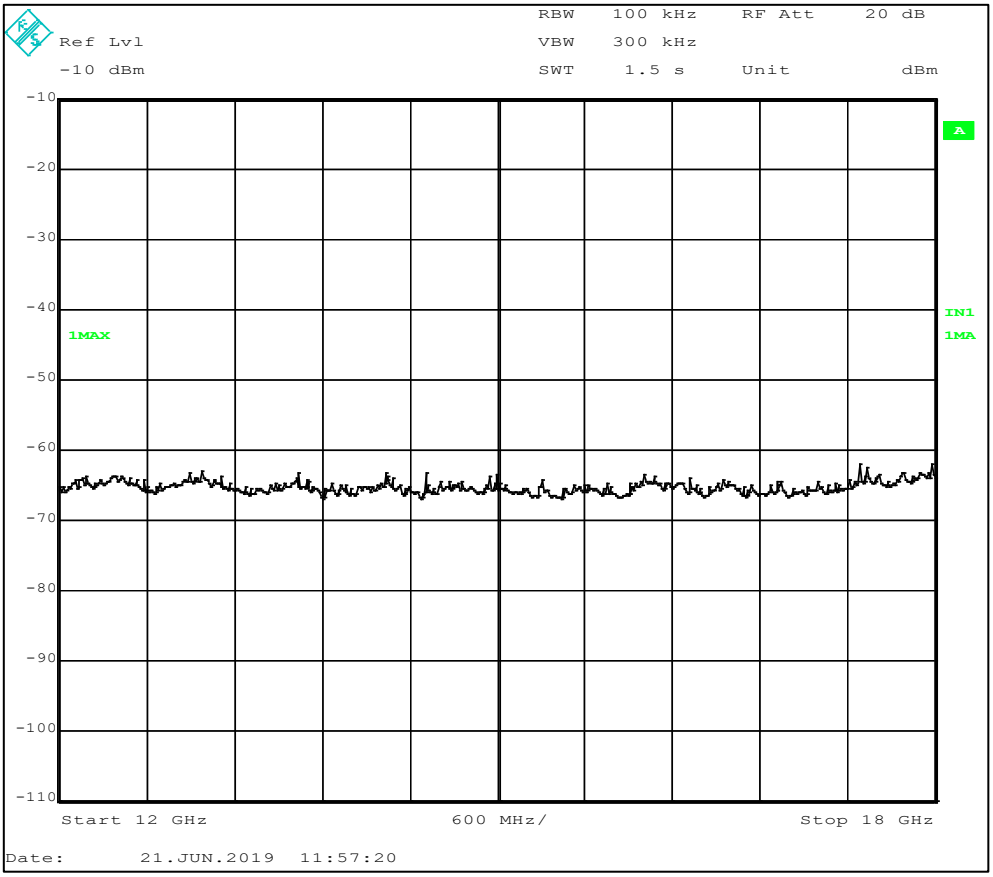

Figure 19. Emission test result 12 GHz to 18 GHz.

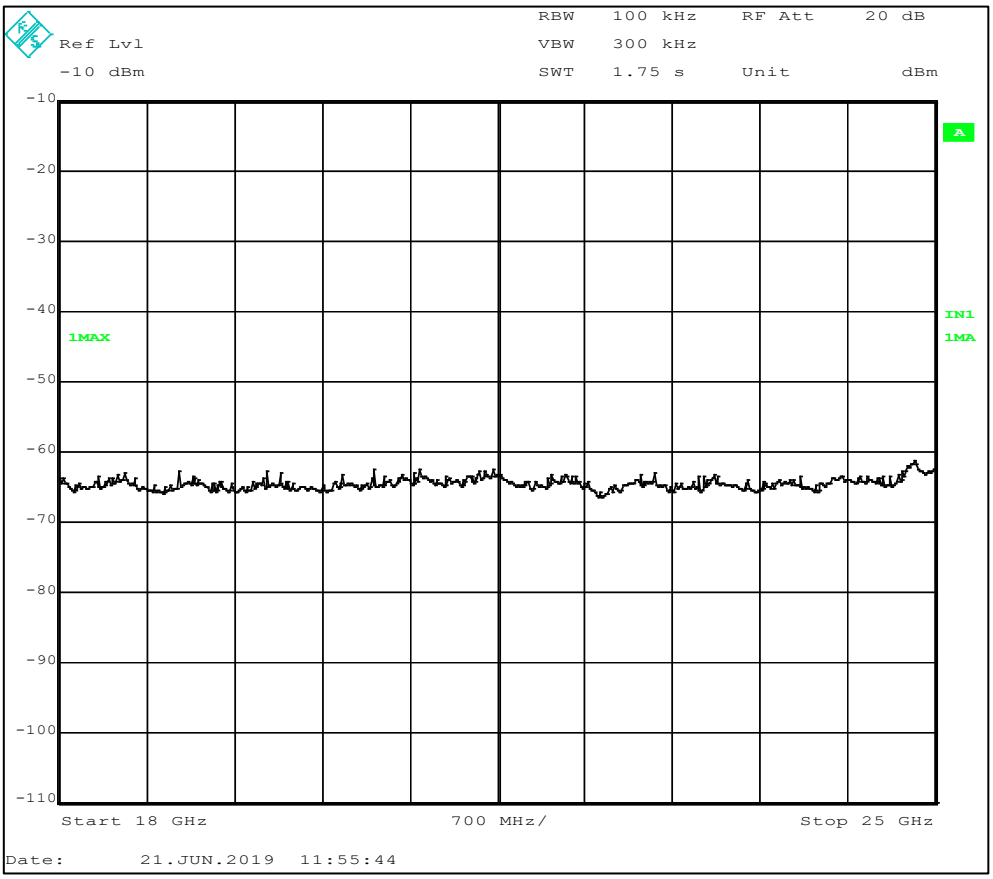

Figure 20. Emission test result 18 GHz to 25 GHz.

Frequency [MHz]	Peak [dBm]	BW [kHz]	Margin [dB]	Limit [dBm]	Result
1849.0581	-59.79	100	34.29	-25.5	PASSED
2338.2565	-48.67	100	23.17	-25.5	PASSED
2395.2505	-44.88	100	19.38	-25.5	PASSED
4879.512	-60.37	100	34.87	-25.5	PASSED

Table 3. Emission test results. Channel 2. 30 MHz to 25 GHz.

2.4.2.4 Test result for channel 39 at 2480 MHz

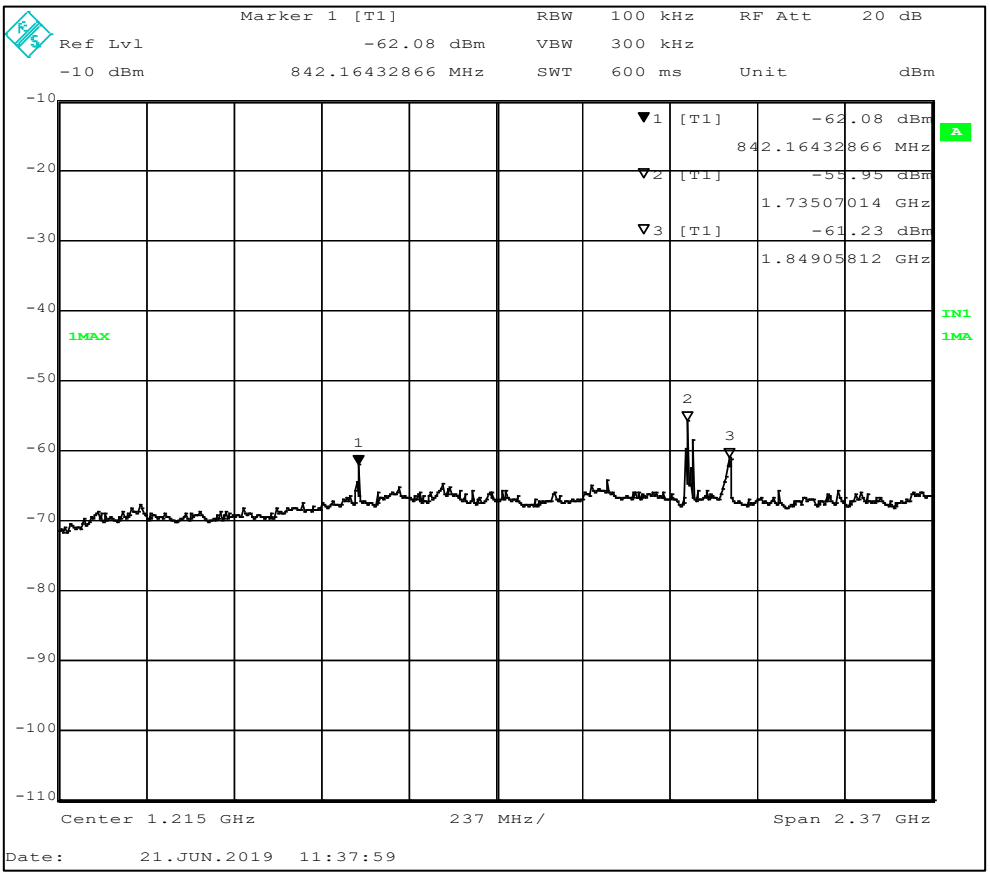

Figure 21. Emission test results. 30 MHz – 2.4 GHz.

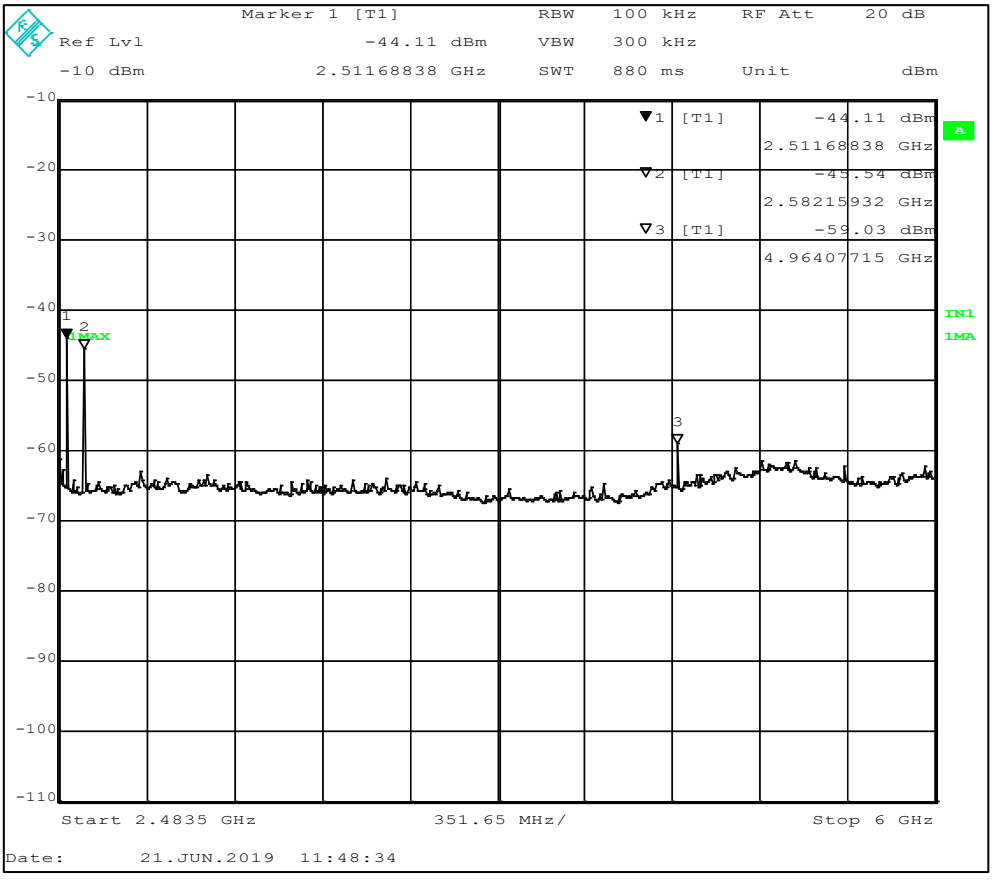

Figure 22. Emission test result 2.4835 GHz to 6 GHz.

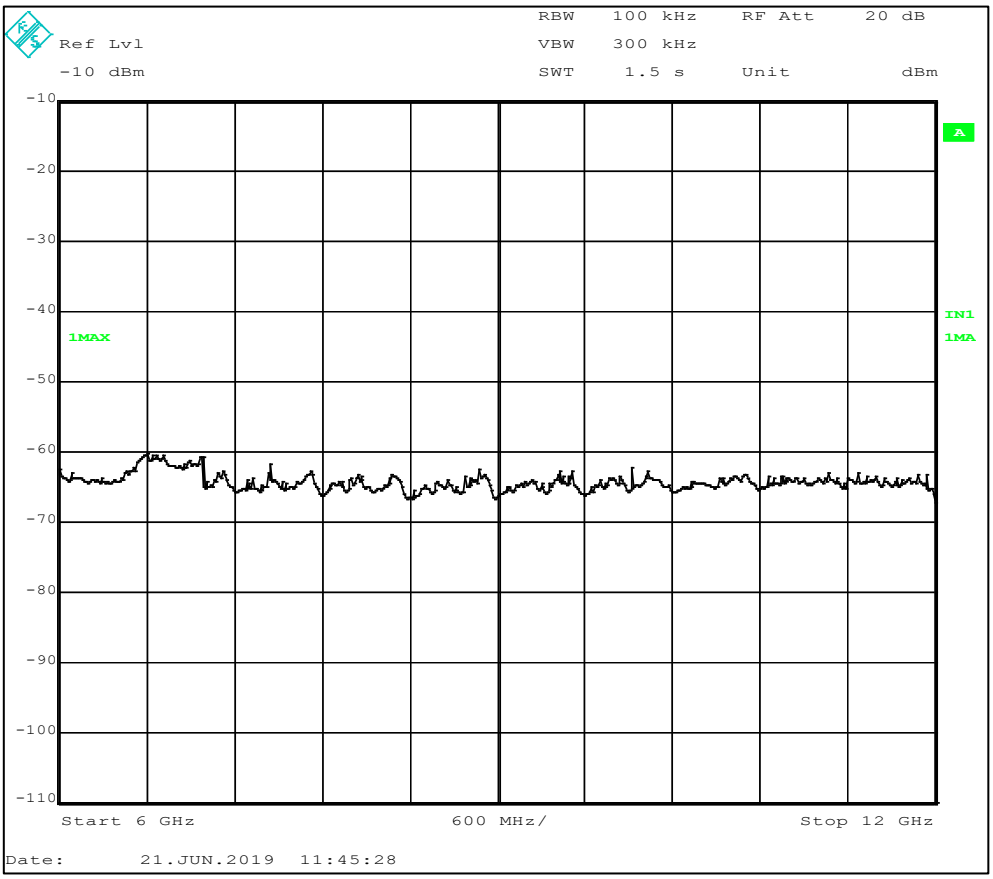

Figure 23. Emission test result 6 GHz to 12 GHz.

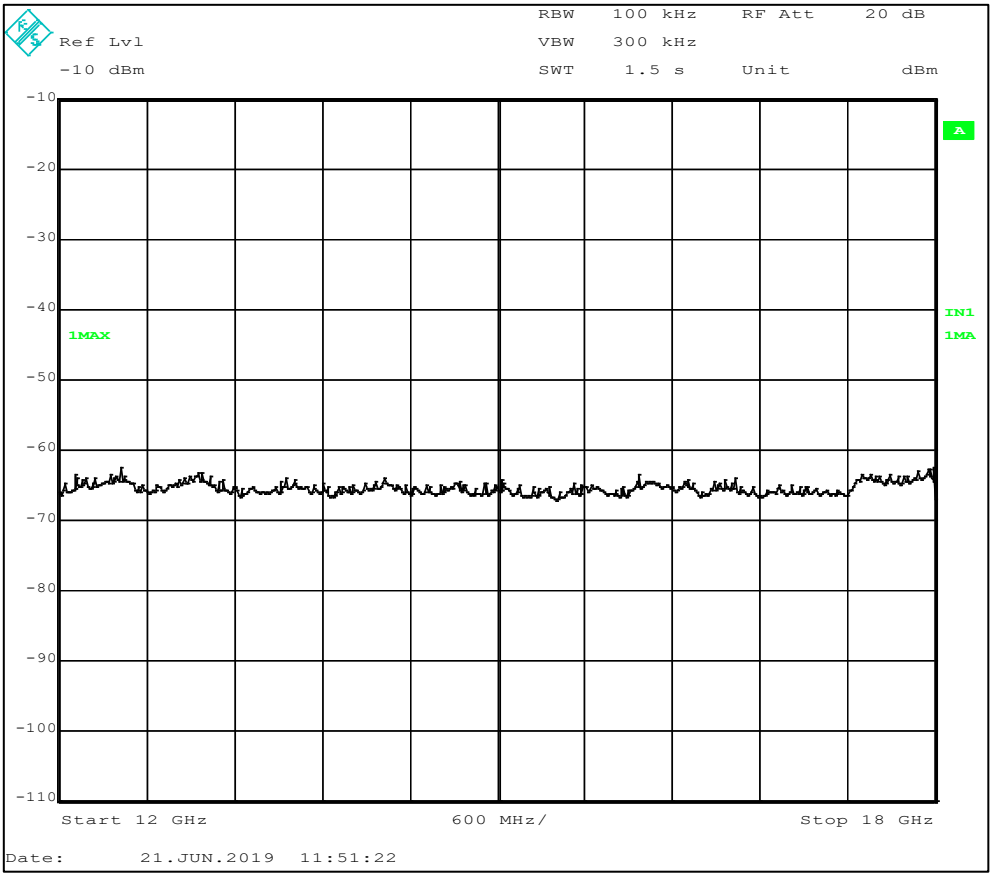

Figure 24. Emission test result 12 GHz to 18 GHz.

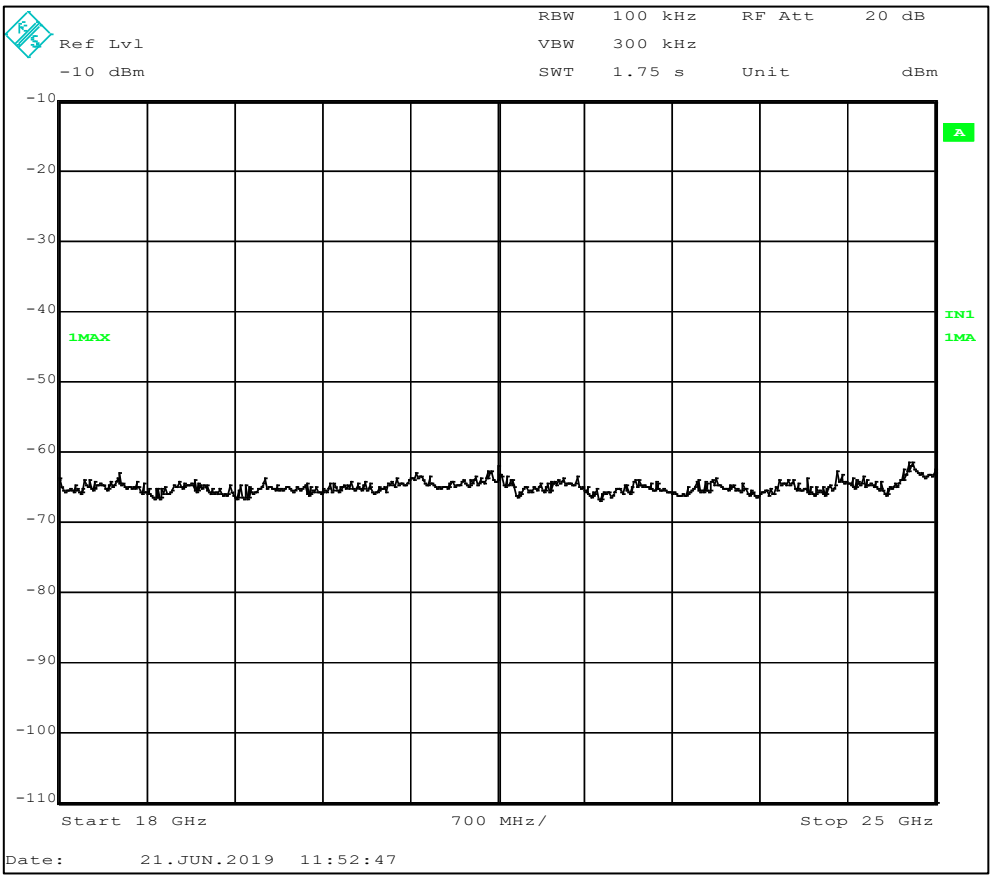

Figure 25. Emission test result 18 GHz to 25 GHz.

Frequency [MHz]	Peak [dBm]	BW [kHz]	Margin [dB]	Limit [dBm]	Result
842.1643	-62.08	100	36.41	-25.67	PASSED
1735.0701	-55.95	100	30.28	-25.67	PASSED
1849.0581	-61.23	100	35.56	-25.67	PASSED
2511.6884	-44.11	100	18.44	-25.67	PASSED
2582.1593	-45.54	100	19.87	-25.67	PASSED
4964.0772	-59.03	100	33.36	-25.67	PASSED

Table 4. Emission test results. Channel 39. 30 MHz to 25 GHz.

2.4.3 Test equipment

Description	Supplier	Model	Tag no.	Cal. due date
Receiver EMI Test 20Hz-26.5GHz	Rohde & Schwarz	ESIB 26	18880	2019-09-24
Multimeter	Hewlett Packard	34401A	14880	2020-02-14
Power Supply 0-15V 10A	LP Instruments	EA-3012	13037	-

2.5 Emission in restricted bands

Test specimen	Airofit Breathing Trainer
Test specification	47 CFR Part 15.247 (d)
Test method	ANSI C63.10:2013 sec. 11.12
Frequency range	30 MHz – 25 GHz
Limits	15.209 in restricted bands.
Comments	None
Temperature / Humidity	22°C / 38%RH, 21°C / 39%RH, 22°C / 45%RH, 21°C / 54%RH
Dates of measurements	2019-05-27, 2019-05-28, 2019-06-04, 2019-06-05
Test personnel	Søren Søltoft, David Busk

2.5.1 Test setup

The measurement was performed in the full frequency range from 30 MHz to 25 GHz regardless whether it was a restricted band or not.

The test specimen was supplied by a typical ACDC adaptor with USB interface..

Channel 19 (2440 MHz) was tested in 3 orientations (Vertical, horizontal and horizontal -90 degree).

The worst case orientation was chosen for test on channel 0 and channel 39.

Channel 0 (2402 MHz) was tested in horizontal orientation.

Channel 39 (2480 MHz) was tested in horizontal orientation.

The test of radiated emission was performed in a semi anechoic chamber. The measurements were performed with both horizontal and vertical antenna polarization.

A measuring distance of 3 m was used in frequency range 30 MHz to 14 GHz.

In range 14 GHz to 25 GHz the distance was 0.5 m.

The EUT was placed on a non-conductive table.

For measurements below 1 GHz. the height was 0.8 m and above 1 GHz the height was 1.5 m.

1. A pre-measurement is performed with peak detector. The test object is measured in eight directions with the antenna in the frequency range 30-1000 MHz and in eighteen directions at frequencies above 1 GHz, with the antenna at three heights, 1.0 m, 1.5 m and 2.0 m. In the frequency range of 14 GHz to 25 GHz the measurement distance was 0.5 m.
2. If the emission is close or above the limit during the pre-measurement, the test object is scanned 360 degrees and the antenna height scanned from 1 to 4 m for maximum response. Then the emission is measured with the quasi-peak detector on frequencies below 1 GHz and with the CISPR-average detector above 1 GHz.

The following RBW were used:

30 MHz-1 GHz: RBW = 120 kHz

1-25 GHz: RBW = 1 MHz

See appendix 1 for photo of test set up

2.5.2 Test results

2.5.2.1 Channel 19 at 2440 MHz

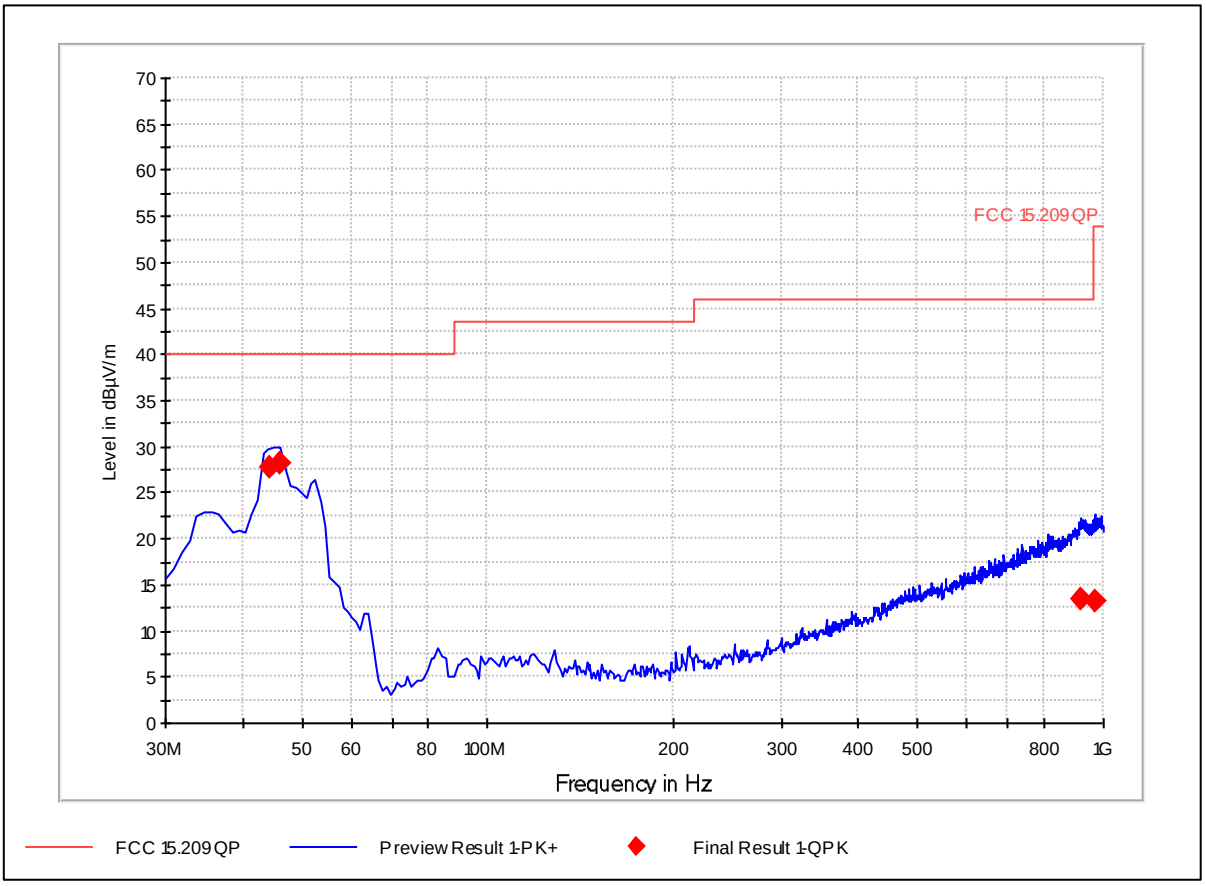

Figure 26. Radiated emission test results. 30 - 1000 MHz. EUT ver.

Frequency [MHz]	QP [dBµV/m]	BW [kHz]	Height [cm]	Pol.	Azimuth [deg]	Margin [dB]	Limit [dBµV/m]	Result
44.296373	27.6	120	127.1	V	104.0	12.4	40.0	PASSED
46.152024	28.1	120	119.0	V	39.0	11.9	40.0	PASSED
919.699679	13.5	120	359.0	V	208.0	32.5	46.0	PASSED
966.583868	13.3	120	234.8	V	272.0	40.7	54.0	PASSED

Table 5. Radiated emission test results. 30 - 1000 MHz. Quasi peak detector. EUT ver.

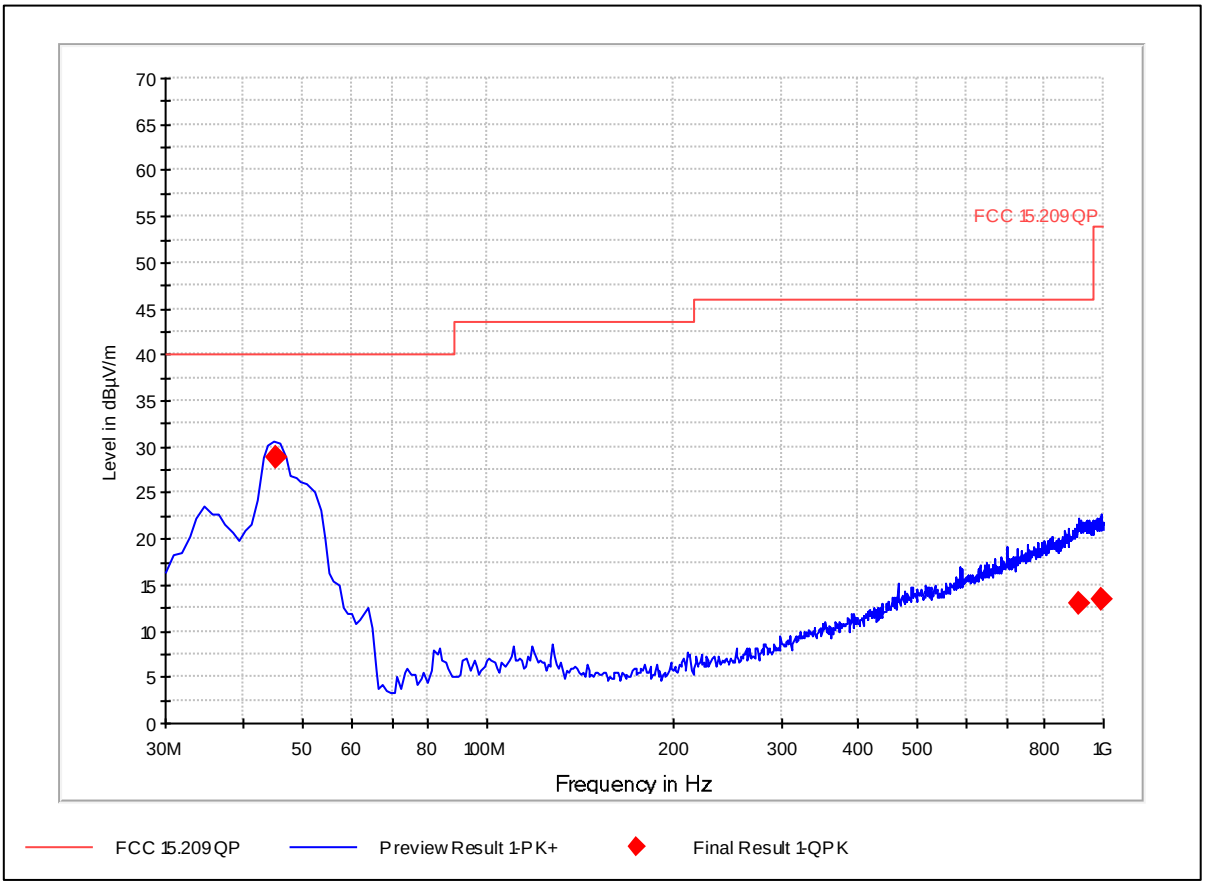

Figure 27. Radiated emission test results. 30 - 1000 MHz. EUT hor.

Frequency [MHz]	QP [dBµV/m]	BW [kHz]	Height [cm]	Pol.	Azimuth [deg]	Margin [dB]	Limit [dBµV/m]	Result
45.500140	28.7	120	123.9	V	39.0	11.3	40.0	PASSED
914.357655	13.0	120	351.1	V	102.0	33.0	46.0	PASSED
992.763968	13.5	120	399.9	V	303.0	40.5	54.0	PASSED

Table 6. Radiated emission test results. 30 - 1000 MHz. Quasi peak detector. EUT hor.

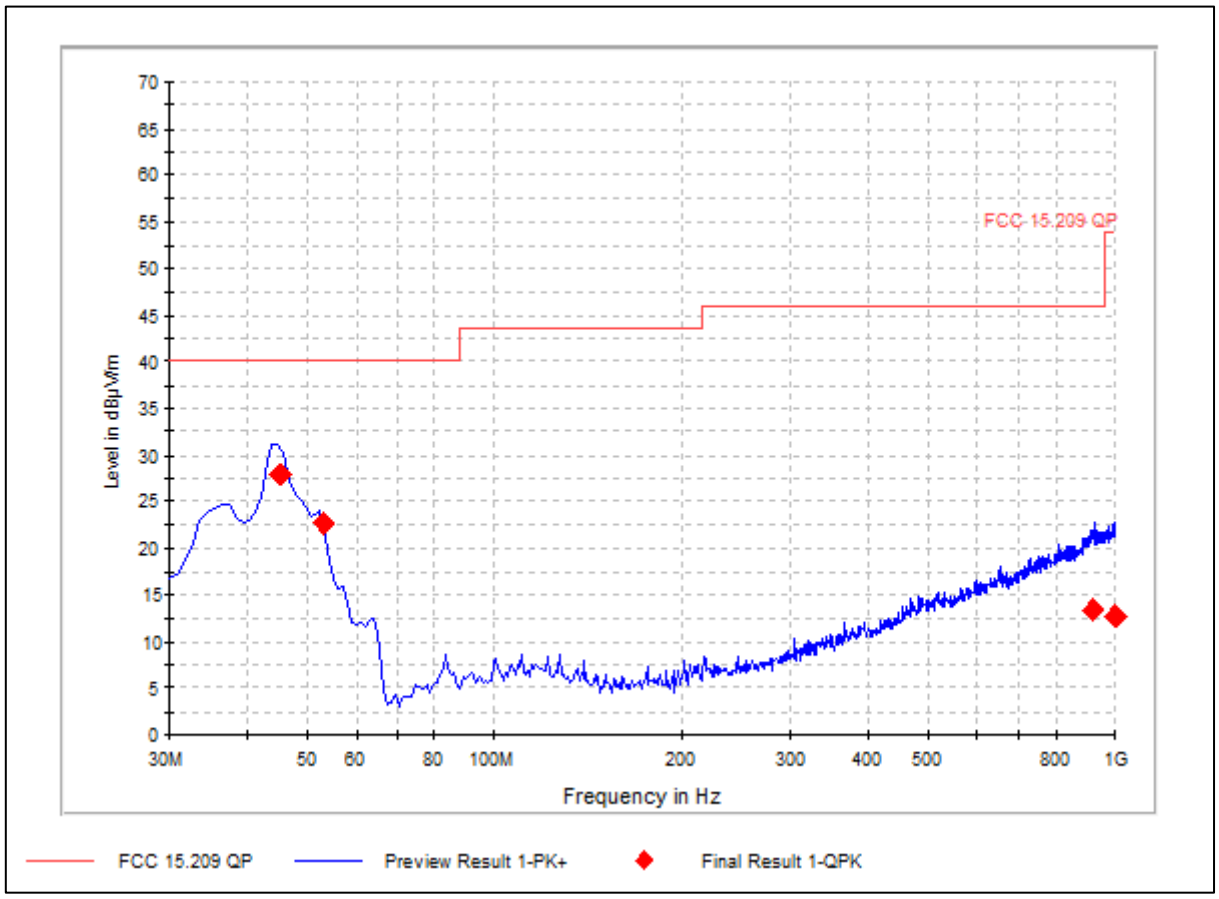

Figure 28. Radiated emission test results. 30 - 1000 MHz. EUT hor -90.

Frequency [MHz]	QP [dBµV/m]	BW [kHz]	Height [cm]	Pol.	Azimuth [deg]	Margin [dB]	Limit [dBµV/m]	Result
45.288257	27.9	120	100.1	V	242.0	12.1	40.0	PASSED
53.115210	22.8	120	100.1	V	167.0	17.2	40.0	PASSED
921.915691	13.3	120	294.7	H	209.0	32.7	46.0	PASSED
998.067996	12.9	120	243.9	H	286.0	41.1	54.0	PASSED

Table 7. Radiated emission test results. 30 - 1000 MHz. Quasi peak detector. EUT hor-90.

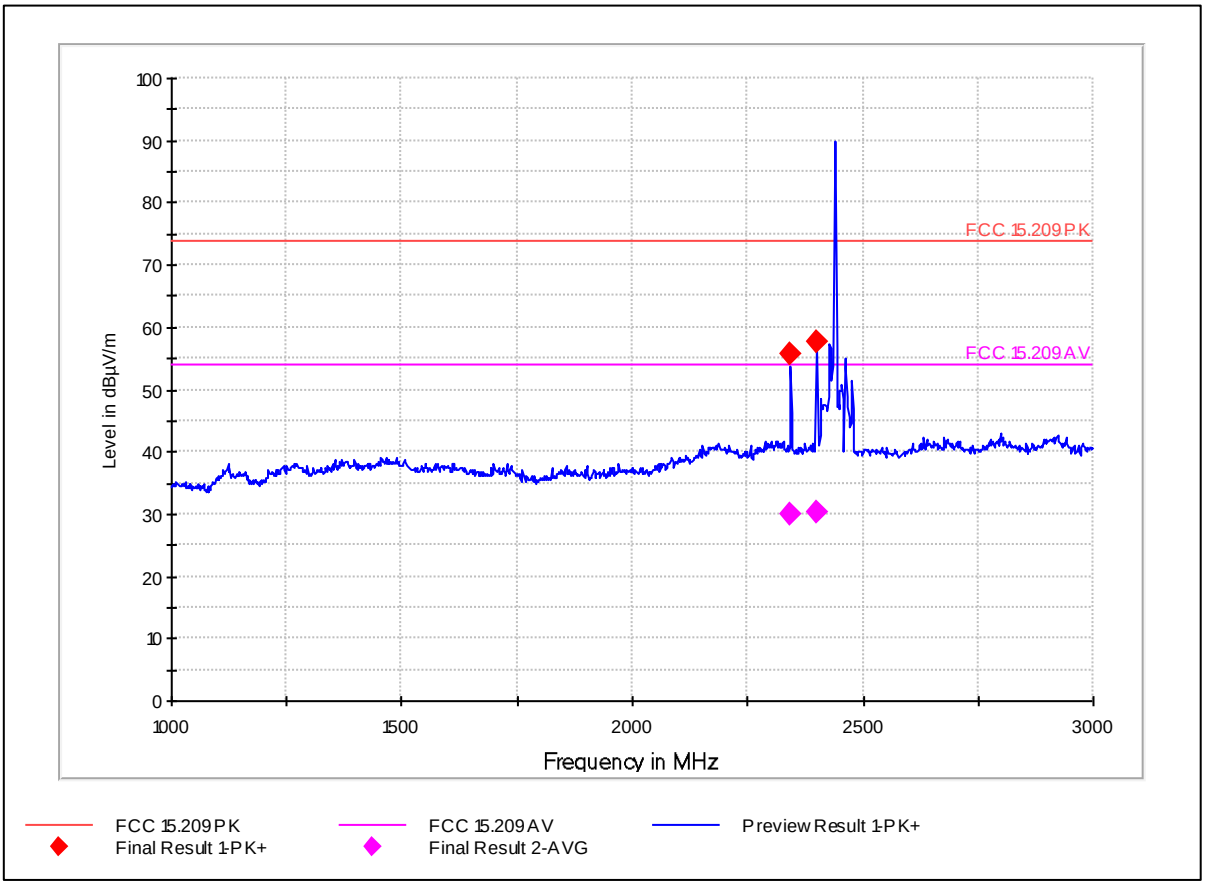

Figure 29. Radiated emission test results 1 - 3 GHz. EUT ver.

The emissions in the frequency band 2.4 – 2.4835 GHz are ignored.

Frequency [MHz]	Peak [dBµV/m]	BW [kHz]	Height [cm]	Pol.	Azimuth [deg]	Margin [dB]	Limit [dBµV/m]	Result
2343.285371	55.7	1000	154.8	V	157.0	18.3	74.0	PASSED
2399.901603	57.7	1000	155.1	V	158.0	16.3	74.0	PASSED

Table 8. Radiated emission test results 1 - 3 GHz. Peak detector. EUT ver.

Frequency [MHz]	Average [dBµV/m]	BW [kHz]	Height [cm]	Pol.	Azimuth [deg]	Margin [dB]	Limit [dBµV/m]	Result
2343.285371	29.9	1000	154.8	V	157.0	24.1	54.0	PASSED
2399.901603	30.2	1000	155.1	V	158.0	23.8	54.0	PASSED

Table 9. Radiated emission test results- 1 - 3 GHz. Average detector. EUT ver.

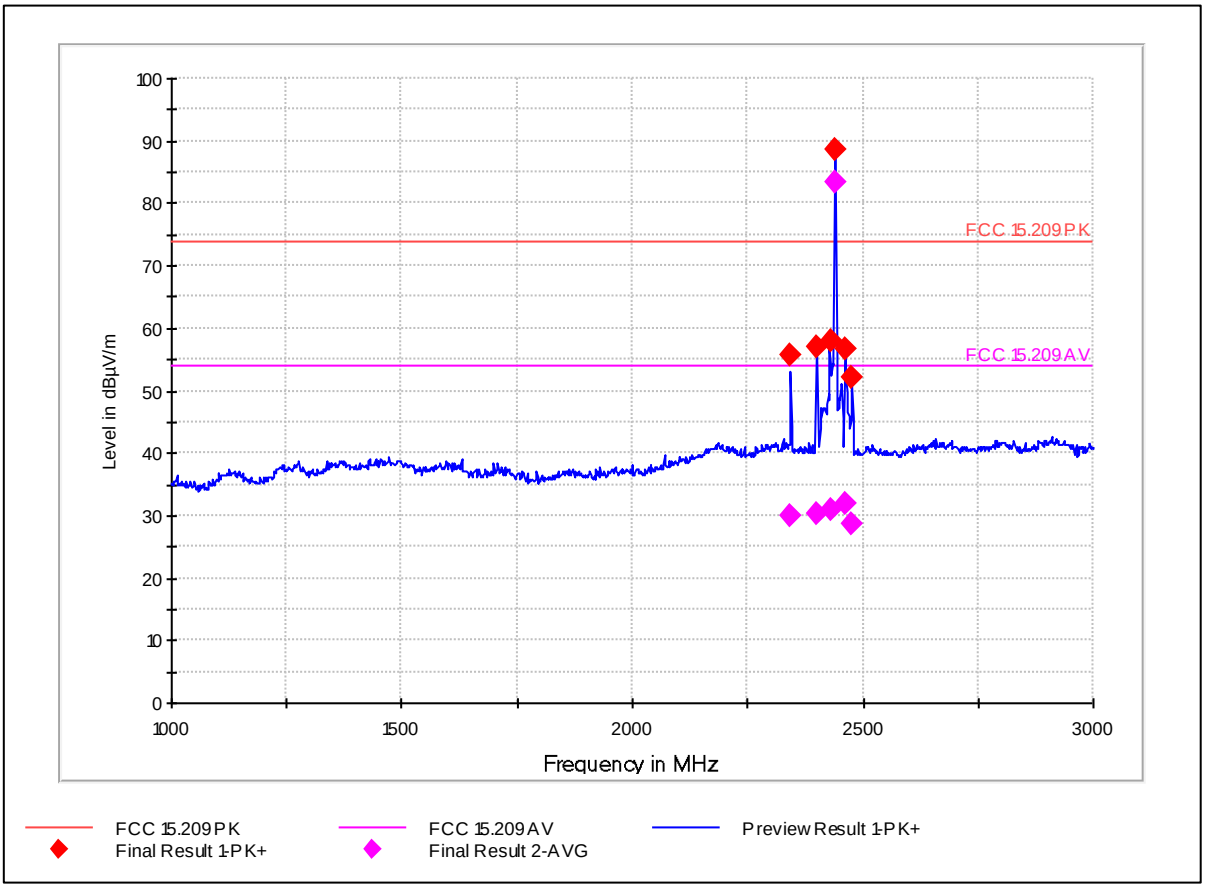

Figure 30. Radiated emission test results 1 - 3 GHz. EUT hor.

The emissions in the frequency band 2.4 – 2.4835 GHz are ignored.

Frequency [MHz]	Peak [dBµV/m]	BW [kHz]	Height [cm]	Pol.	Azimuth [deg]	Margin [dB]	Limit [dBµV/m]	Result
2343.285371	55.6	1000	155.1	H	135.0	18.4	74.0	PASSED
2399.901603	57.0	1000	154.8	H	134.0	17.0	74.0	PASSED
2429.957715	57.9	1000	155.0	H	142.0	-	-	-
2439.777756	88.6	1000	155.3	H	142.0	-	-	-
2461.321844	56.6	1000	155.3	H	140.0	-	-	-
2477.053908	52.1	1000	155.2	H	136.0	-	-	-

Table 10. Radiated emission test results 1 - 3 GHz. Peak detector. EUT hor.

Frequency [MHz]	Average [dBµV/m]	BW [kHz]	Height [cm]	Pol.	Azimuth [deg]	Margin [dB]	Limit [dBµV/m]	Result
2343.285371	30.0	1000	155.1	H	135.0	24.0	54.0	PASSED
2399.901603	30.2	1000	154.8	H	134.0	23.8	54.0	PASSED
2429.957715	31.1	1000	155.0	H	142.0	-	-	-
2439.777756	83.4	1000	155.3	H	142.0	-	-	-
2461.321844	32.0	1000	155.3	H	140.0	-	-	-
2477.053908	28.7	1000	155.2	H	136.0	-	-	-

Table 11. Radiated emission test results- 1 - 3 GHz. Average detector. EUT hor.

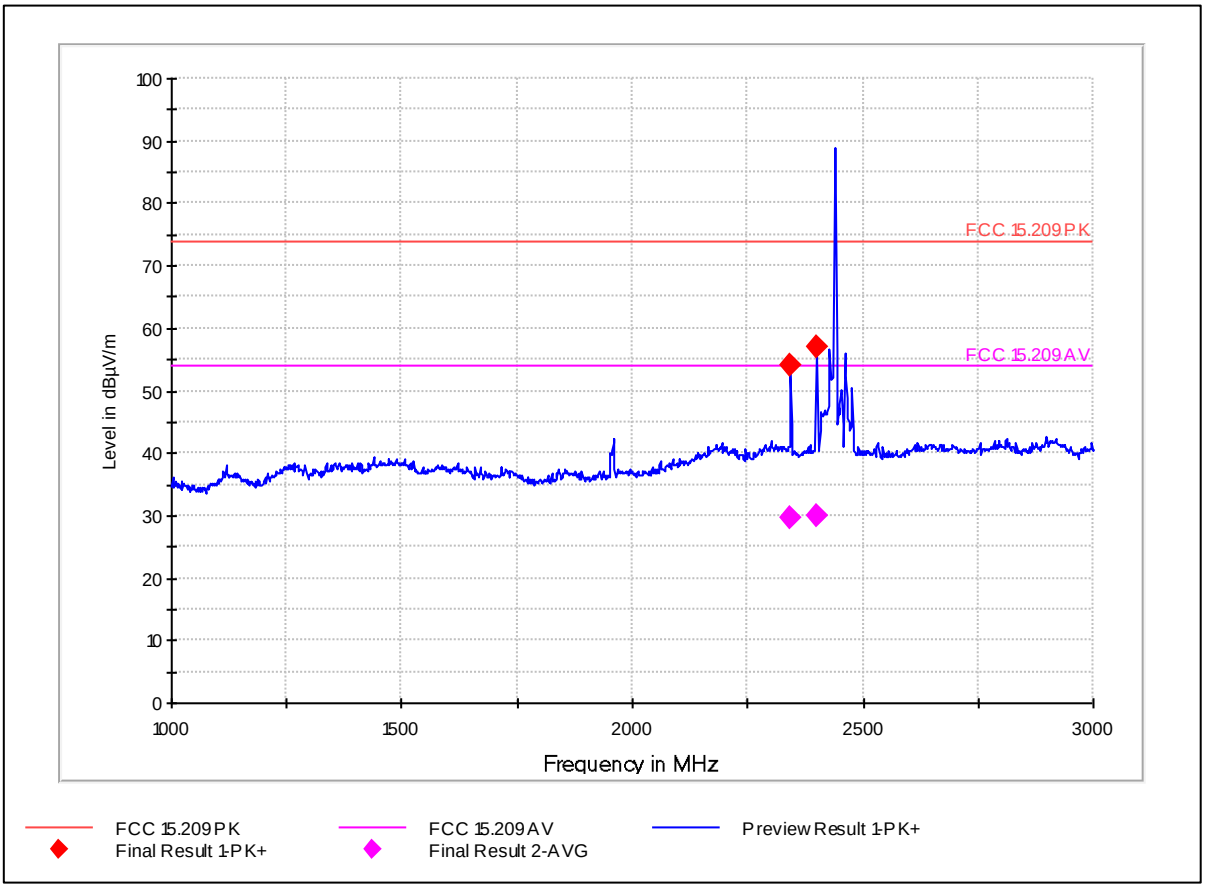

Figure 31. Radiated emission test results 1 - 3 GHz. EUT hor - 90.

The emissions in the frequency band 2.4 – 2.4835 GHz are ignored.

Frequency	Peak	BW	Height	Pol.	Azimuth	Margin	Limit	Result
2343.285371	54.2	1000	155.1	H	111.0	19.8	74.0	PASSED
2399.897595	57.0	1000	155.0	H	120.0	17.0	74.0	PASSED

Table 12. Radiated emission test results 1 - 3 GHz. Peak detector. EUT hor -90.

Frequency [MHz]	Average [dBµV/m]	BW [kHz]	Height [cm]	Pol.	Azimuth [deg]	Margin [dB]	Limit [dBµV/m]	Result
2343.285371	29.8	1000	155.1	H	111.0	24.2	54.0	PASSED
2399.897595	30.1	1000	155.0	H	120.0	23.9	54.0	PASSED

Table 13. Radiated emission test results- 1 - 3 GHz. Average detector. EUT hor -90.

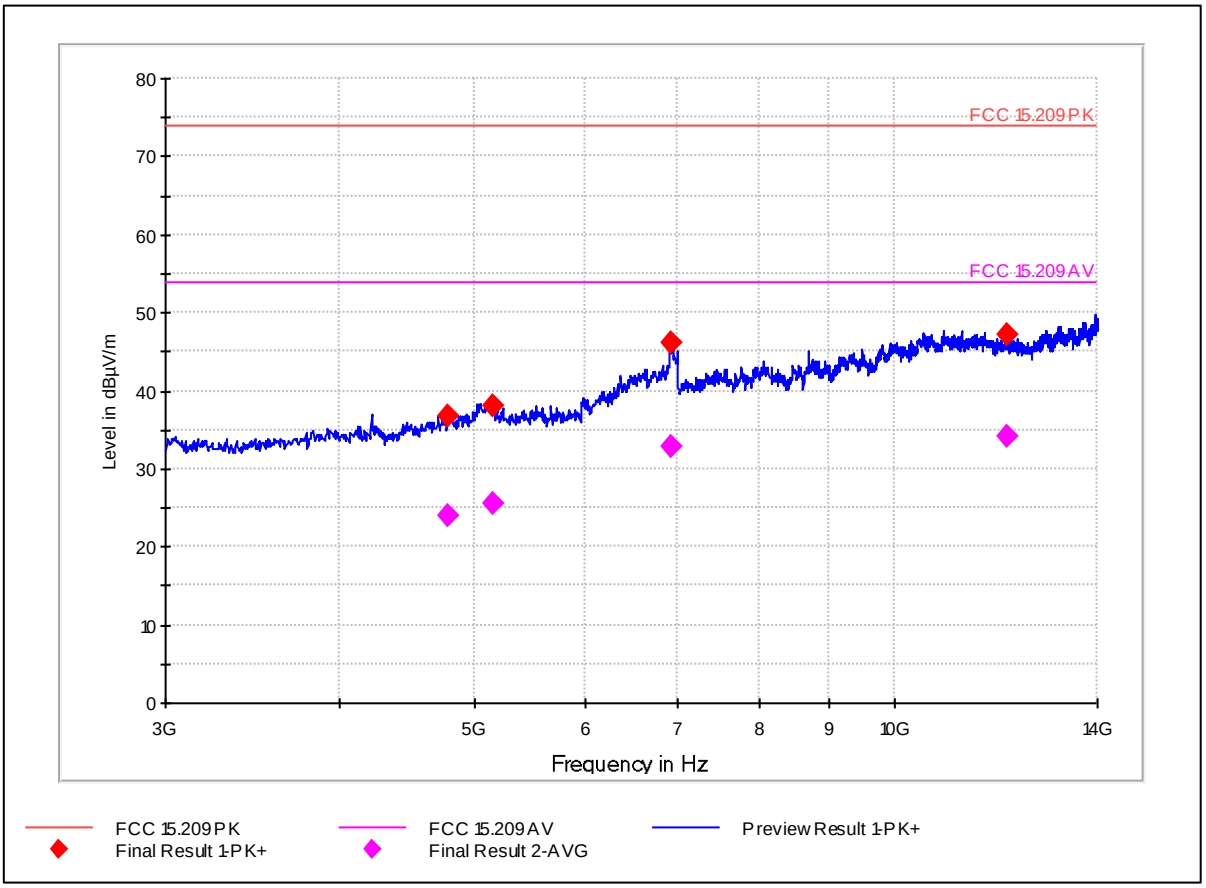

Figure 32. Radiated emission test results 3 - 14 GHz. EUT ver.

Frequency [MHz]	Peak [dBµV/m]	BW [kHz]	Height [cm]	Pol.	Azimuth [deg]	Margin [dB]	Limit [dBµV/m]	Result
4789.187174	36.7	1000	154.8	V	149.0	37.3	74.0	PASSED
5157.928657	38.2	1000	155.0	V	56.0	35.8	74.0	PASSED
6925.035671	46.2	1000	174.7	V	64.0	27.8	74.0	PASSED
12045.102204	47.3	1000	334.0	V	31.0	26.7	74.0	PASSED

Table 14. Radiated emission test results 3 - 14 GHz. Peak detector. EUT ver.

The following frequencies are harmonic of the fundamental and thus pulsed.
The average value is calculated by correcting the Peak detector level with the Duty Cycle Correction Factor found in section 2.1.

Frequency [MHz]	Peak [dBuV/m]	Correction Factor [dB]	Average [dBuV/m]	Margin [dB]	Limit [dBuV/m]	Result
-	-	-	-	-	54.0	-

Table 15. Radiated emission test results 3 - 14 GHz. Average. Pulsed signal. EUT ver.

Frequency [MHz]	Average [dBµV/m]	BW [kHz]	Height [cm]	Pol.	Azimuth [deg]	Margin [dB]	Limit [dBµV/m]	Result
4789.187174	23.9	1000	154.8	V	149.0	30.1	54.0	PASSED
5157.928657	25.6	1000	155.0	V	56.0	28.4	54.0	PASSED
6925.035671	32.8	1000	174.7	V	64.0	21.2	54.0	PASSED
12045.102204	34.2	1000	334.0	V	31.0	19.8	54.0	PASSED

Table 16. Radiated emission test results 3 - 14 GHz. Average detector. EUT ver.

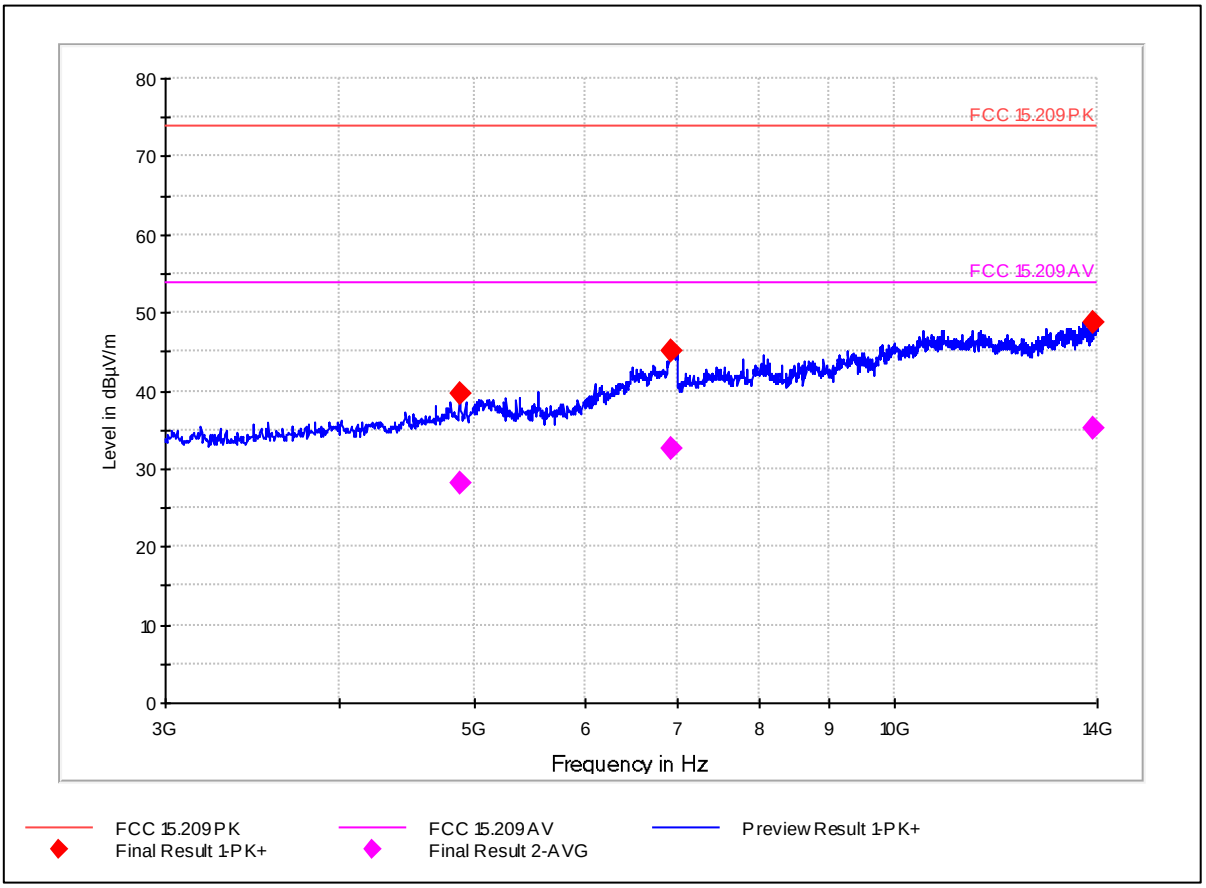

Figure 33. Radiated emission test results 3 - 14 GHz. EUT hor.

Frequency [MHz]	Peak [dBµV/m]	BW [kHz]	Height [cm]	Pol.	Azimuth [deg]	Margin [dB]	Limit [dBµV/m]	Result
4879.557515	39.7	1000	155.1	H	242.0	34.3	74.0	PASSED
6920.845691	45.1	1000	212.0	H	266.0	28.9	74.0	PASSED
13893.694589	48.6	1000	182.1	H	87.0	25.4	74.0	PASSED

Table 17. Radiated emission test results 3 - 14 GHz. Peak detector. EUT hor.

The following frequencies are harmonic of the fundamental and thus pulsed.
The average value is calculated by correcting the Peak detector level with the Duty Cycle Correction Factor found in section 2.1.

Frequency [MHz]	Peak [dBuV/m]	Correction Factor [dB]	Average [dBuV/m]	Margin [dB]	Limit [dBuV/m]	Result
4879.557515	39.7	-3.22	36.48	16.42	54.0	PASSED

Table 18. Radiated emission test results 3 - 14 GHz. Average. Pulsed signal EUT hor.

Frequency [MHz]	Average [dBµV/m]	BW [kHz]	Height [cm]	Pol.	Azimuth [deg]	Margin [dB]	Limit [dBµV/m]	Result
6920.845691	32.5	1000	212.0	H	266.0	21.5	54.0	PASSED
13893.694589	35.1	1000	182.1	H	87.0	18.9	54.0	PASSED

Table 19. Radiated emission test results 3 - 14 GHz. Average detector. EUT hor.

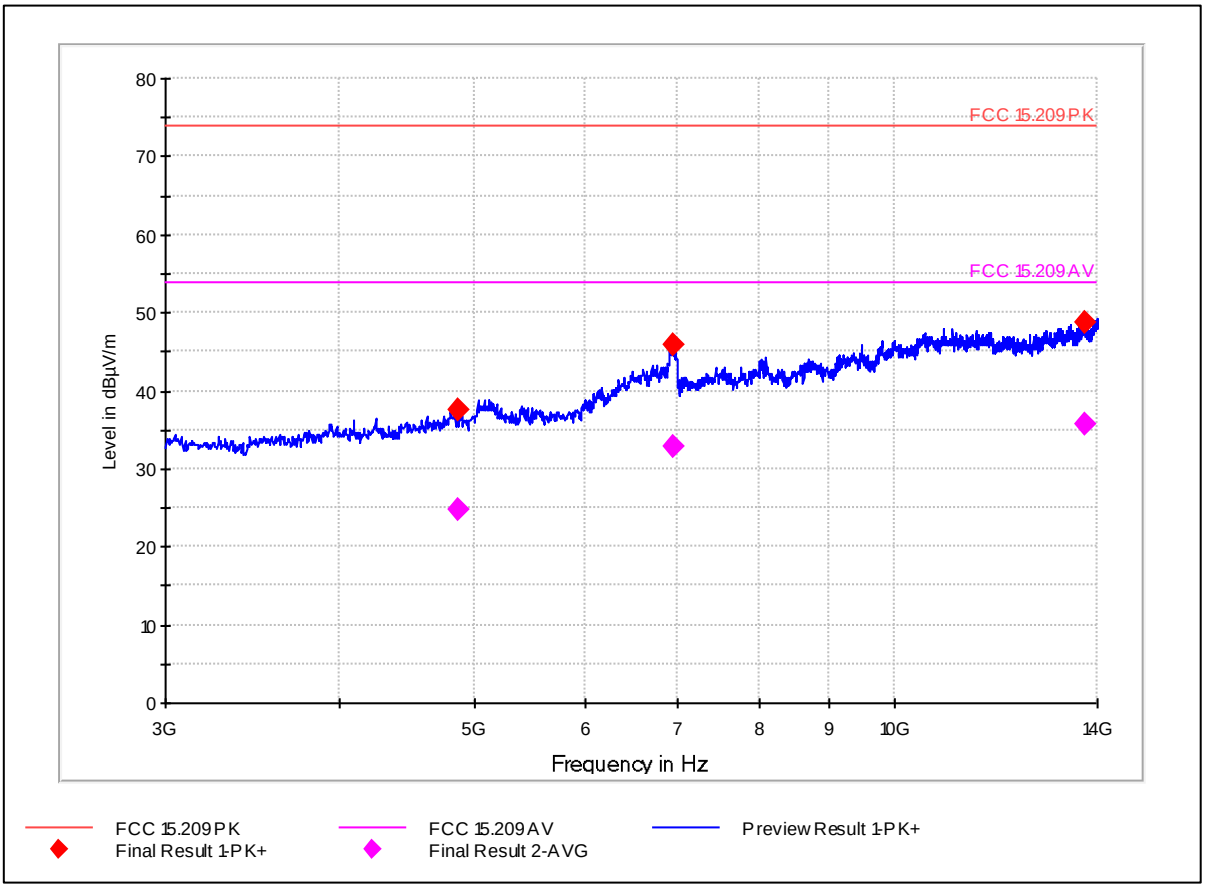

Figure 34. Radiated emission test results 3 - 14 GHz. EUT hor - 90.

Frequency [MHz]	Peak [dBµV/m]	BW [kHz]	Height [cm]	Pol.	Azimuth [deg]	Margin [dB]	Limit [dBµV/m]	Result
4871.347495	37.5	1000	400.2	V	340.0	36.5	74.0	PASSED
6938.065732	46.0	1000	219.0	V	260.0	28.0	74.0	PASSED
13706.998798	48.8	1000	205.3	V	89.0	25.2	74.0	PASSED

Table 20. Radiated emission test results 3 - 14 GHz. Peak detector. EUT hor - 90.

The following frequencies are harmonic of the fundamental and thus pulsed.
The average value is calculated by correcting the Peak detector level with the Duty Cycle Correction Factor found in section 2.1.

Frequency [MHz]	Peak [dBuV/m]	Correction Factor [dB]	Average [dBuV/m]	Margin [dB]	Limit [dBuV/m]	Result
4871.347495	37.5	-3.22	34,28	19.72	54.0	PASSED

Table 21. Radiated emission test results 3 - 14 GHz. Average. Pulsed signal EUT hor - 90.

Frequency [MHz]	Average [dBµV/m]	BW [kHz]	Height [cm]	Pol.	Azimuth [deg]	Margin [dB]	Limit [dBµV/m]	Result
6938.065732	32.9	1000	219.0	V	260.0	21.1	54.0	PASSED
13706.998798	35.7	1000	205.3	V	89.0	18.3	54.0	PASSED

Table 22. Radiated emission test results 3 - 14 GHz. Average detector. EUT hor - 90.

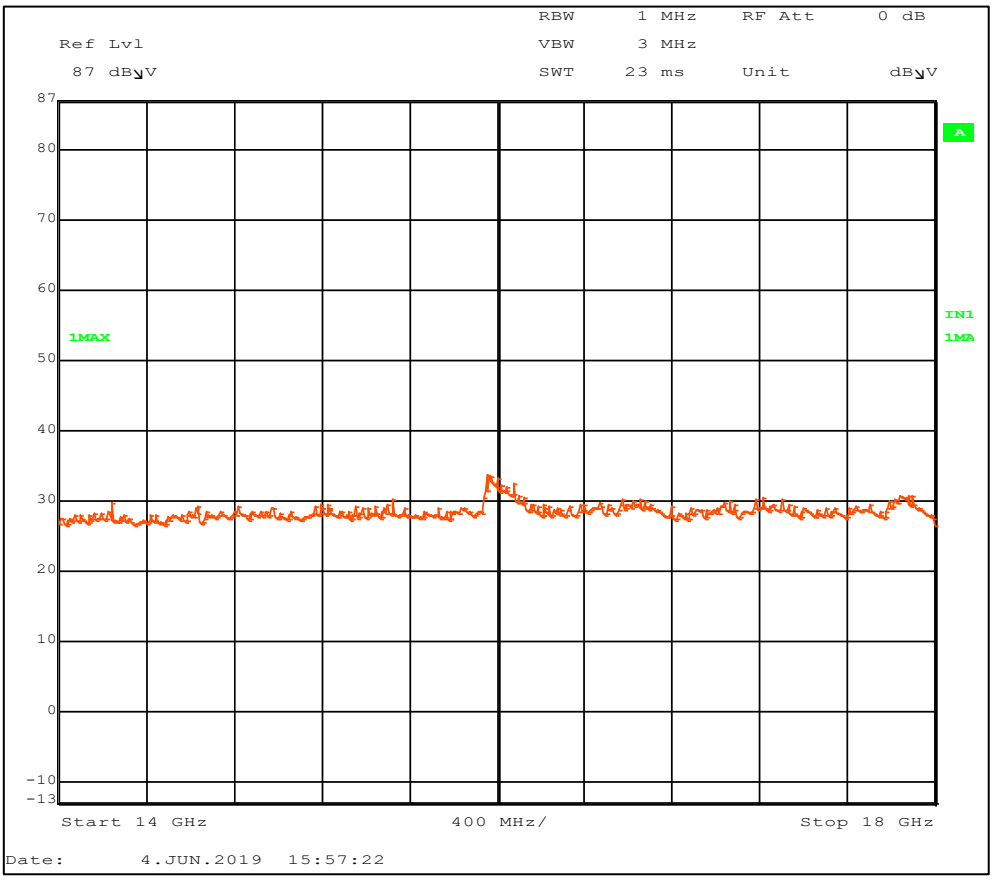

Figure 35 Radiated emission test results 14 - 18 GHz. Peak detector. 3 orient.

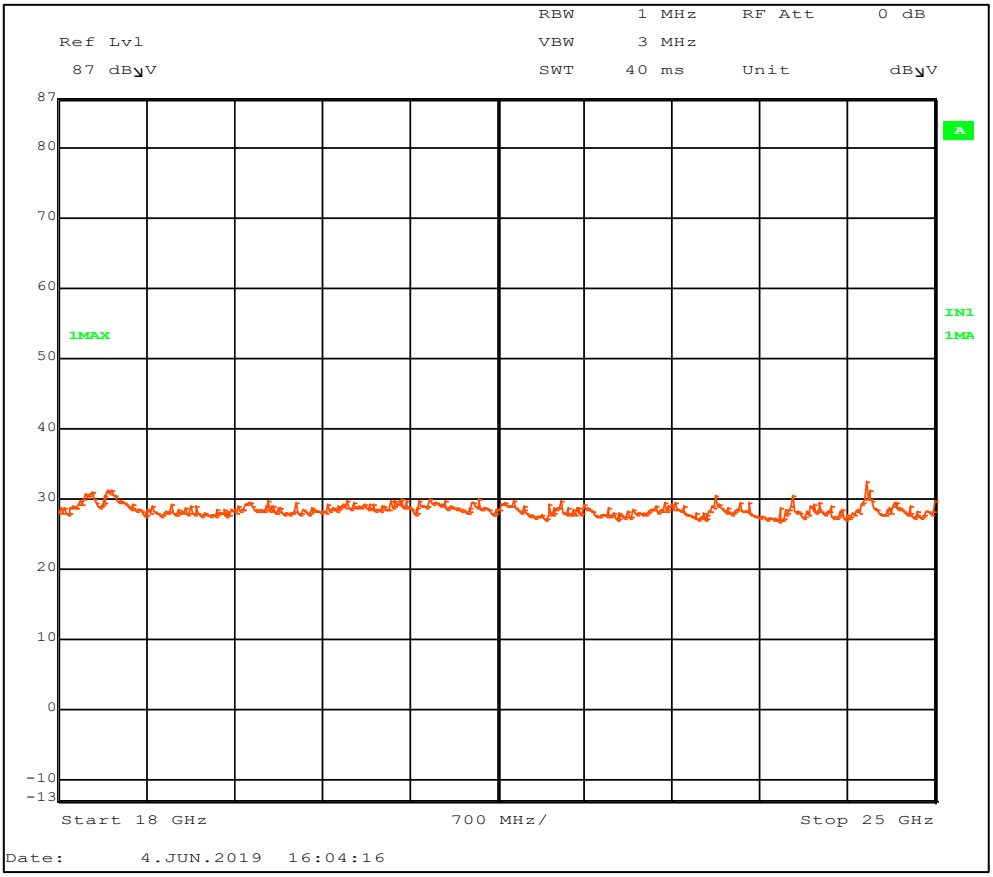

Figure 36. Radiated emission test results 18 - 25 GHz. Peak detector. 3 orient.

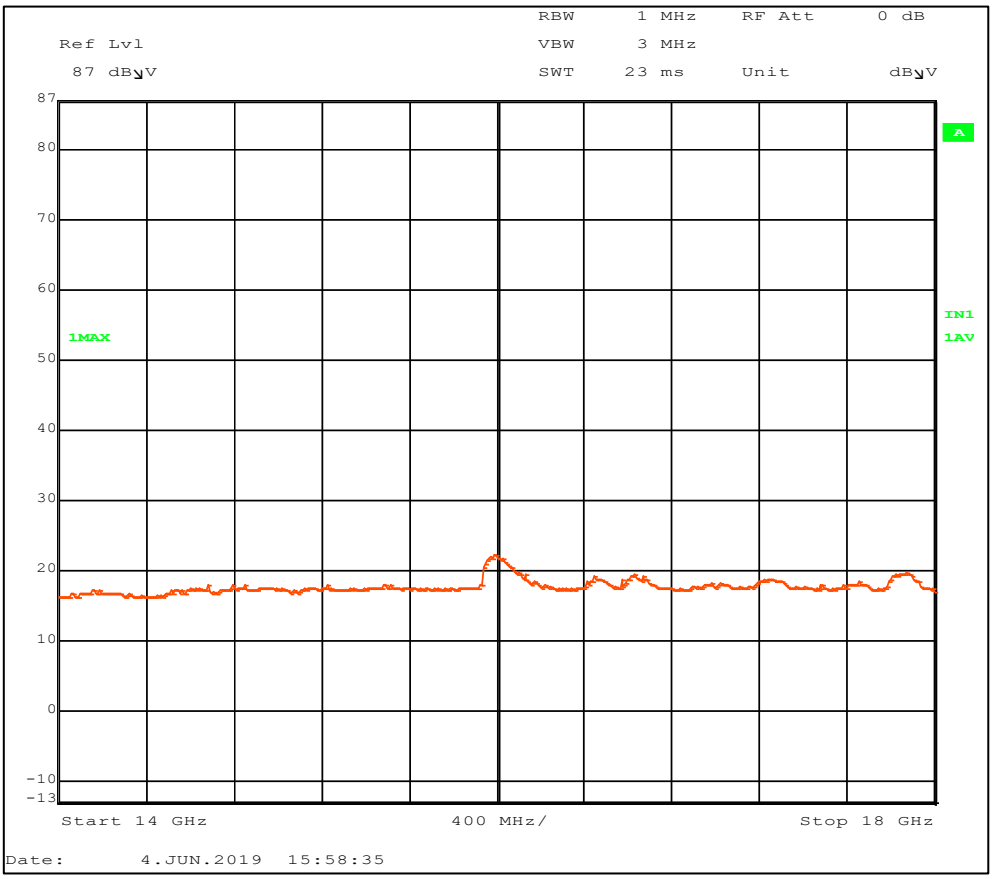

Figure 37. Radiated emission test results 14 - 18 GHz. Average detector. 3 orient.

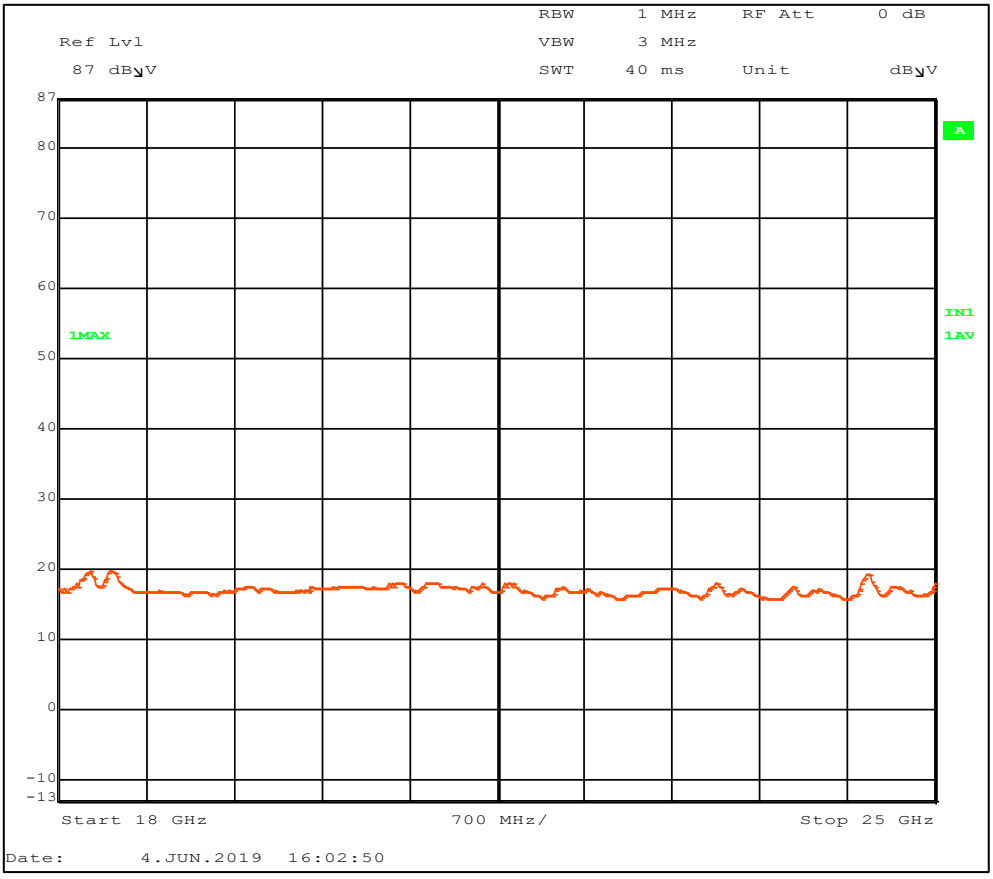

Figure 38. Radiated emission test results 18 - 25 GHz. Average detector. 3 orient.

Average Limit 3 m.	Peak limit 3 m	3 m / 0.5 m factor	Average Limit 0.5 m.	Peak limit 0.5 m
dBµV/m	dBµV/m	dB	dBµV/m	dBµV/m
53.98	73.98	15.56 dB	69.54	89.54

Table 23. Calculation of limit at 0.5 m.

Frequency	AF	Cable loss	Correction factor
GHz	dB/m	dB	dB/m
14	37,1	< 2	39.1
18	37,4	< 2	39.4
18	40.3	< 2	42.3
25	40.6	< 2	42.6

Table 24. Correction factors 14 – 25 GHz.

Frequency [MHz]	Peak [dBµV/m]	BW [kHz]	Height [cm]	Pol.	Azimuth [deg]	Margin [dB]	Limit [dBµV/m]	Result
-	-	1000	-	-	-	-	89.54	PASSED

Table 25. Radiated emission test results 14 - 25 GHz. Peak detector. 3 orient.

Frequency [MHz]	Average [dBµV/m]	BW [kHz]	Height [cm]	Pol.	Azimuth [deg]	Margin [dB]	Limit [dBµV/m]	Result
-	-	1000	-	-	-	-	69.54	PASSED

Table 26. Radiated emission test results 14 – 25 GHz. Average detector. 3 orient.

2.5.2.2 Channel 0 at 2402 MHz

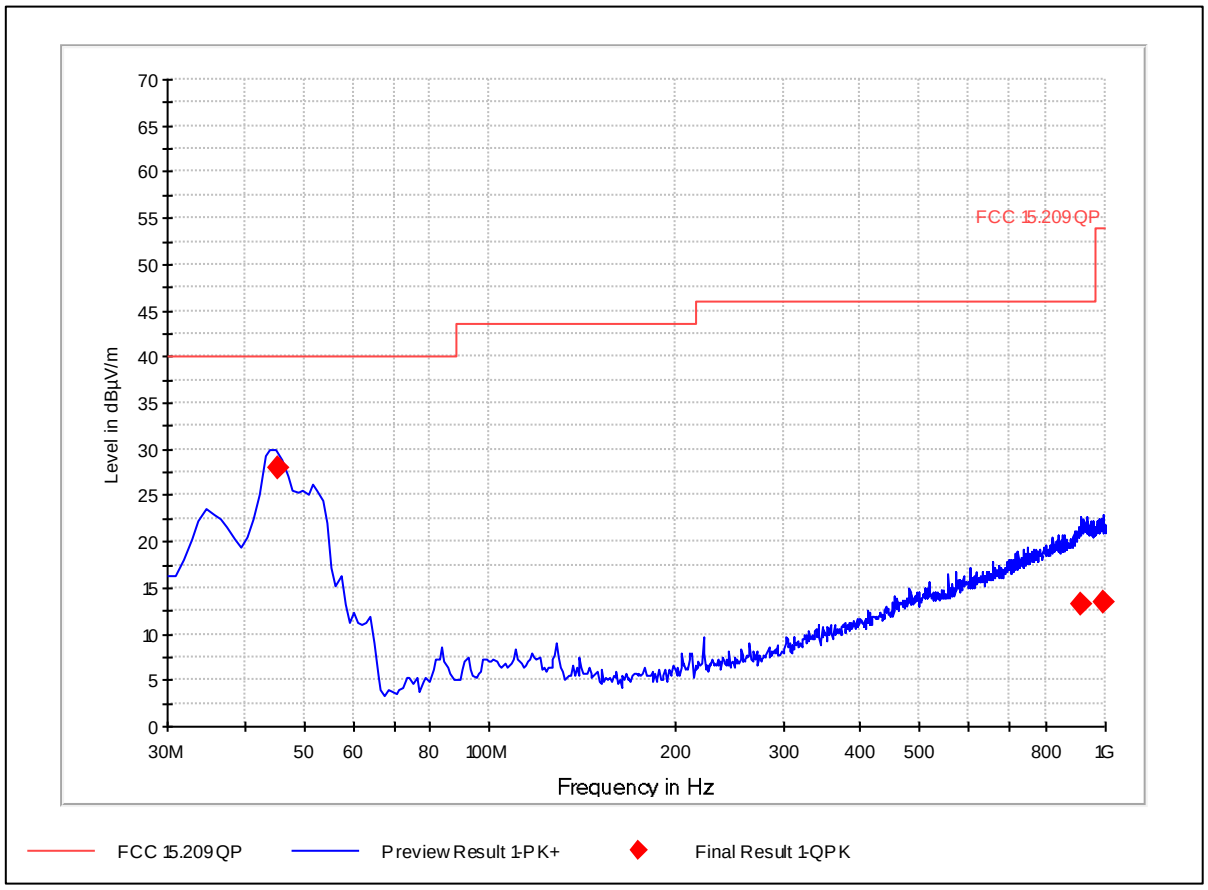

Figure 39. Radiated emission test results. 30 - 1000 MHz. EUT hor.

Frequency [MHz]	QP [dBµV/m]	BW [kHz]	Height [cm]	Pol.	Azimuth [deg]	Margin [dB]	Limit [dBµV/m]	Result
45.318257	28.0	120	128.0	V	15.0	12.0	40.0	PASSED
910.979639	13.1	120	399.9	H	54.0	32.9	46.0	PASSED
993.607976	13.5	120	282.0	V	290.0	40.5	54.0	PASSED

Table 27. Radiated emission test results. 30 - 1000 MHz. Quasi peak detector. EUT hor.

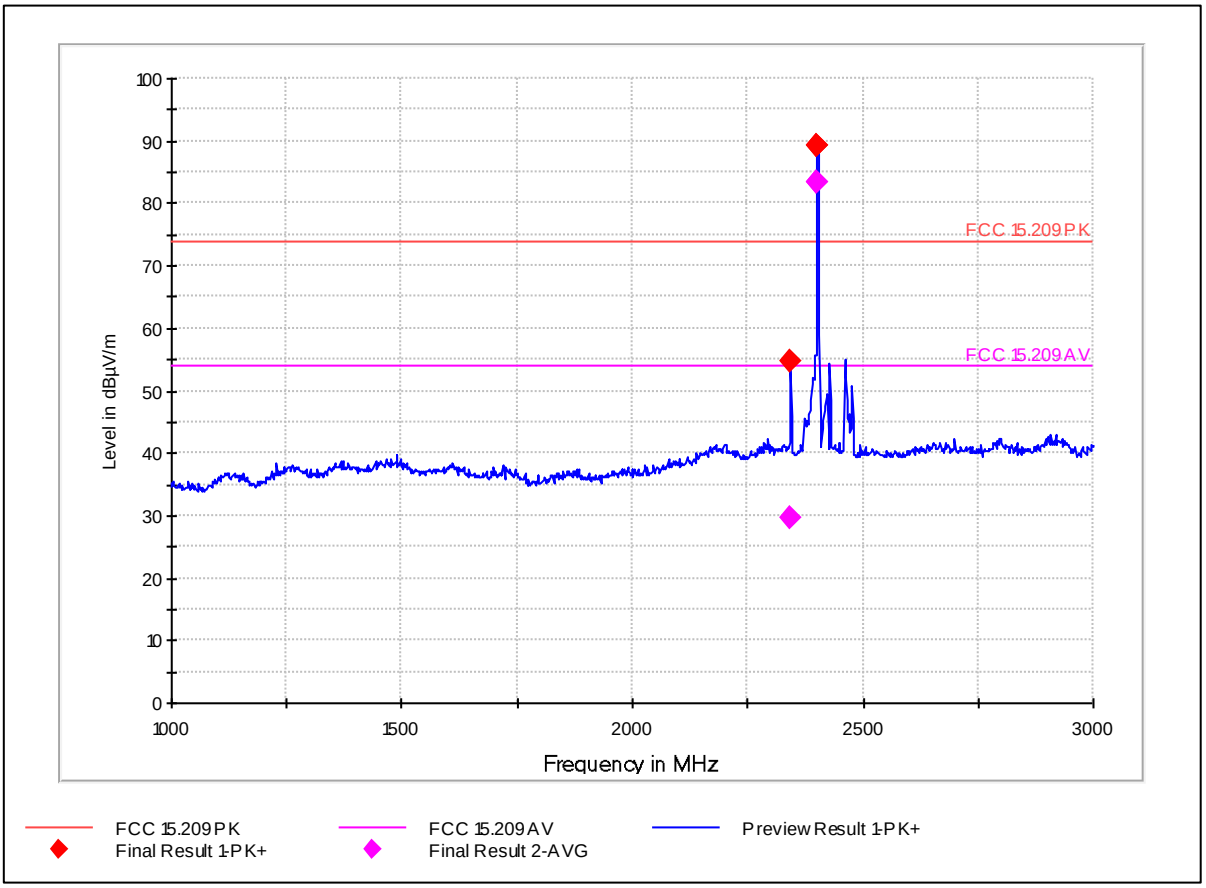

Figure 40. Radiated emission test results. 1 – 3 GHz. EUT hor.

The emissions in the frequency band 2.4 – 2.4835 GHz are ignored.

Frequency [MHz]	QP [dBµV/m]	BW [kHz]	Height [cm]	Pol.	Azimuth [deg]	Margin [dB]	Limit [dBµV/m]	Result
2343.285371	54.7	1000	155.1	H	140.0	19.3	74.0	PASSED
2401.693587	89.4	1000	155.1	H	141.0	-	-	-
2401.701603	89.3	1000	155.1	H	136.0	-	--	-

Table 28. Radiated emission test results. 1 – 3 GHz. Quasi peak detector. EUT hor.

Frequency [MHz]	AVG [dBµV/m]	BW [kHz]	Height [cm]	Pol.	Azimuth [deg]	Margin [dB]	Limit [dBµV/m]	Result
2343.285371	29.8	1000	155.1	H	140.0	24.2	54.0	PASSED
2401.693587	83.4	1000	155.1	H	141.0	-	-	-
2401.701603	83.3	1000	155.1	H	136.0	-	--	-

Table 29. Radiated emission test results- 1 - 3 GHz. Average detector. EUT hor.

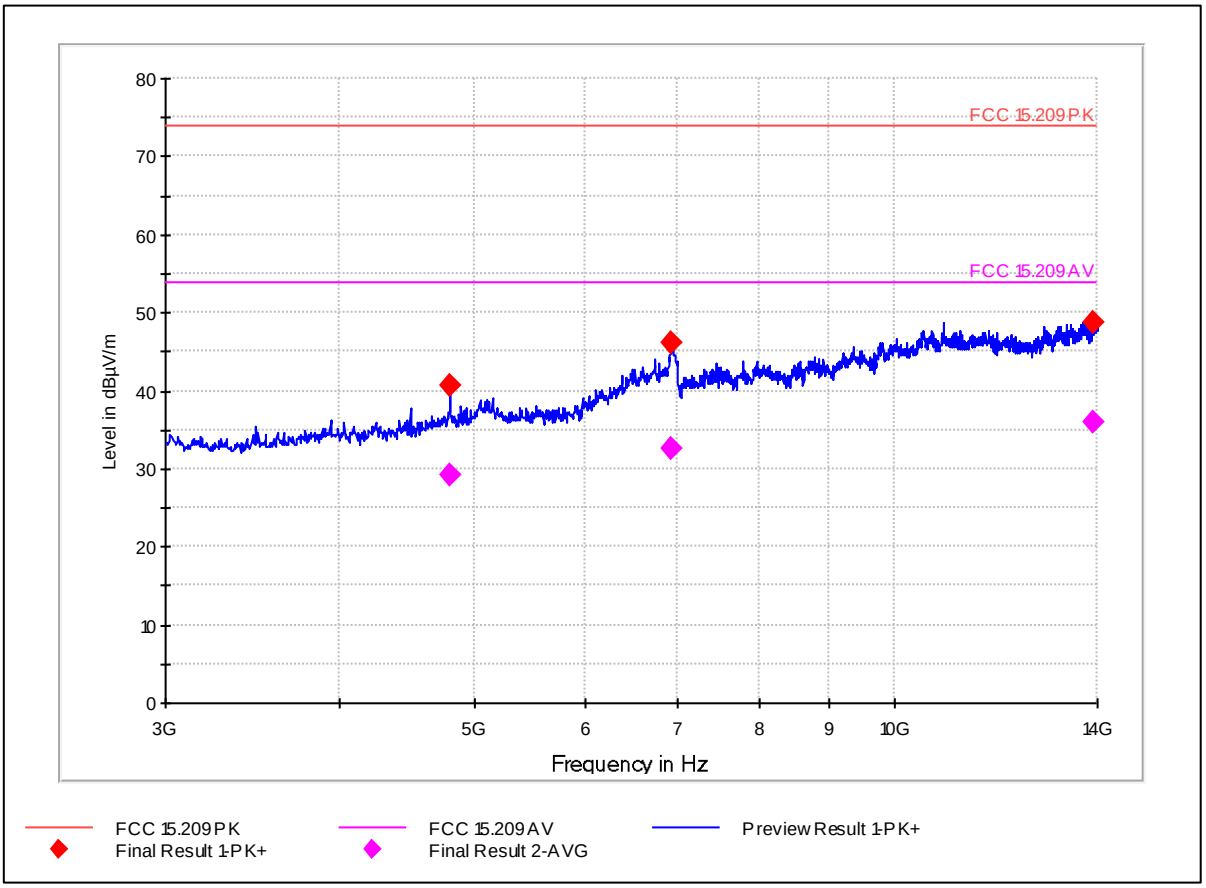

Figure 41. Radiated emission test results 3 - 14 GHz. EUT hor.

Frequency [MHz]	Peak [dBµV/m]	BW [kHz]	Height [cm]	Pol.	Azimuth [deg]	Margin [dB]	Limit [dBµV/m]	Result
4803.607214	40.8	1000	155.1	V	201.0	33.2	74.0	PASSED
6929.475752	46.2	1000	155.1	H	0.0	27.8	74.0	PASSED
13910.324649	48.8	1000	325.0	V	256.0	25.2	74.0	PASSED

Table 30. Radiated emission test results 3 - 14 GHz. Peak detector. EUT hor.

The following frequencies are harmonic of the fundamental and thus pulsed.
The average value is calculated by correcting the Peak detector level with the Duty Cycle Correction Factor found in section 2.1.

Frequency [MHz]	Peak [dBuV/m]	Correction Factor [dB]	Average [dBuV/m]	Margin [dB]	Limit [dBuV/m]	Result
4803.607214	40.8	-3.22	37,58	16.42	54.0	PASSED

Table 31. Radiated emission test results 3 - 14 GHz. Average. Pulsed signal. EUT hor.

Frequency [MHz]	Average [dBµV/m]	BW [kHz]	Height [cm]	Pol.	Azimuth [deg]	Margin [dB]	Limit [dBµV/m]	Result
6929.475752	32.7	1000	155.1	H	0.0	21.3	54.0	PASSED
13910.324649	35.9	1000	325.0	V	256.0	18.1	54.0	PASSED

Table 32. Radiated emission test results 3 - 14 GHz. Average detector. EUT hor.

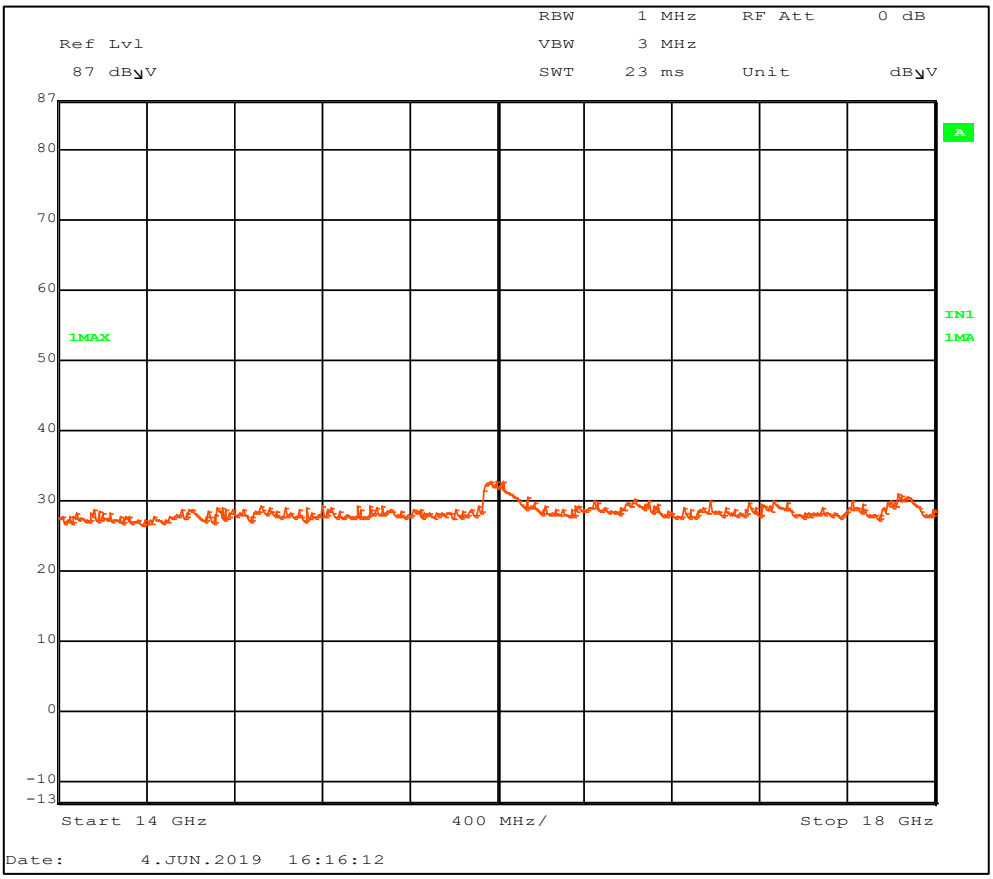

Figure 42 Radiated emission test results 14 - 18 GHz. Peak detector.

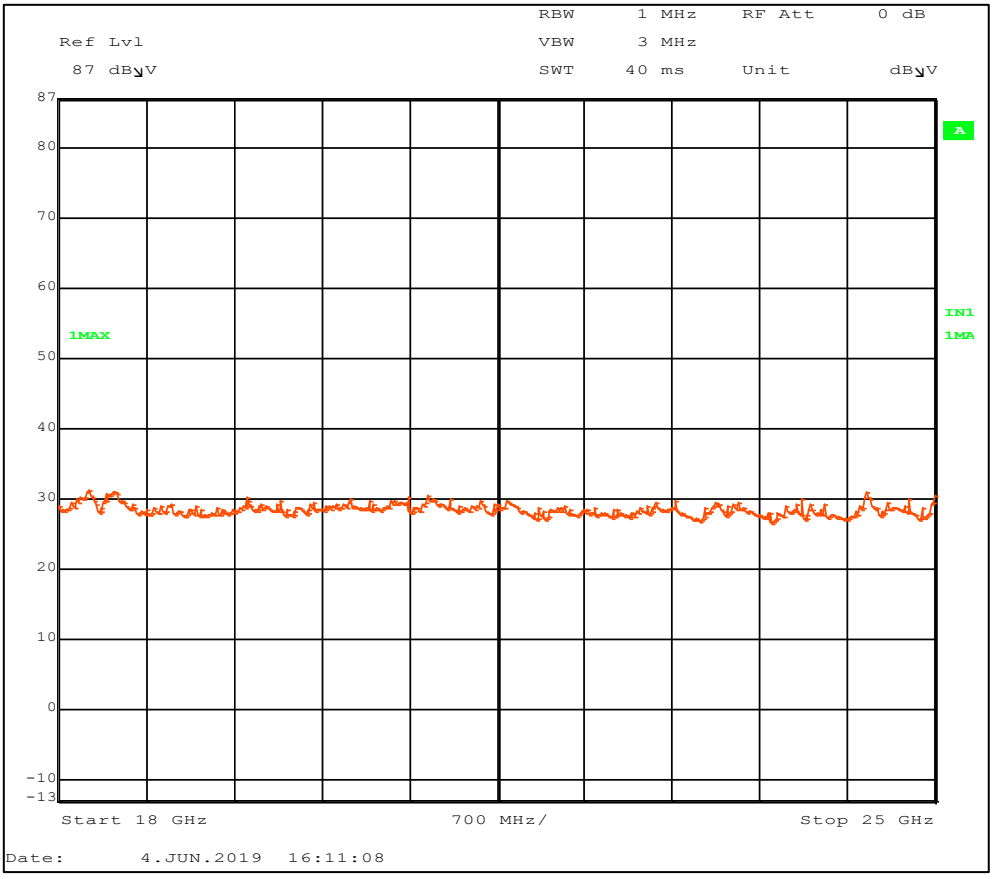

Figure 43. Radiated emission test results 18 - 25 GHz. Peak detector.

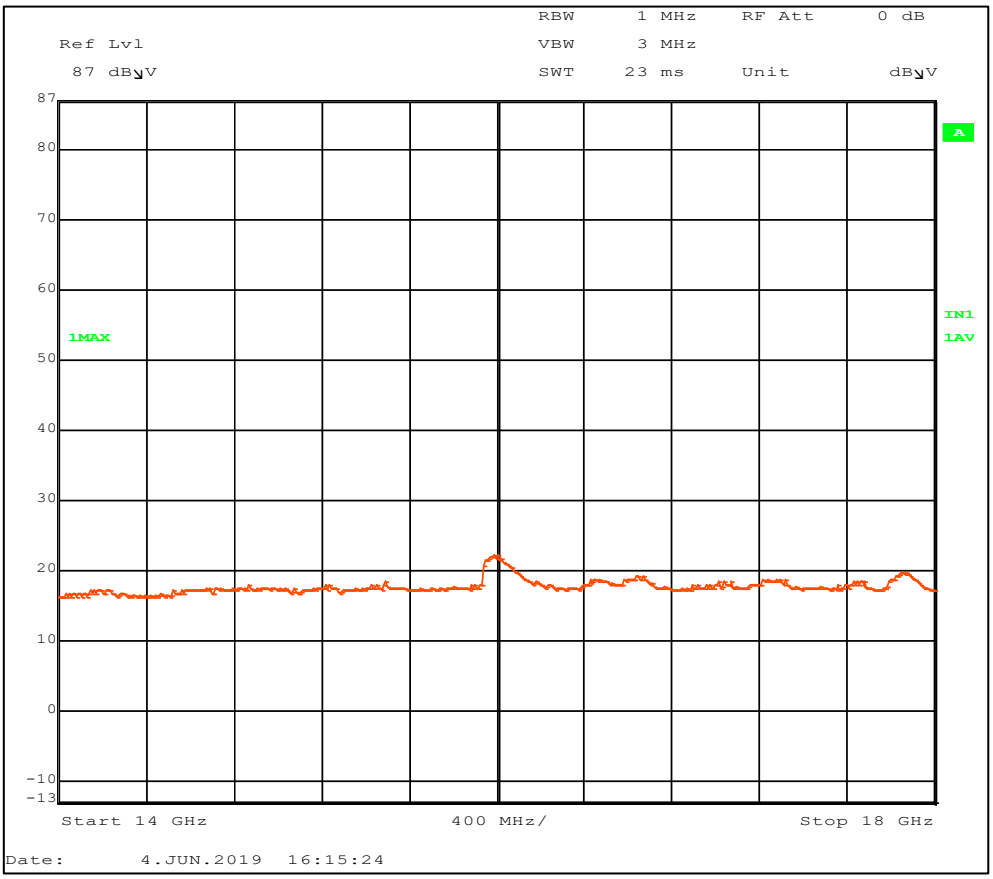

Figure 44. Radiated emission test results 14 - 18 GHz. Average detector.

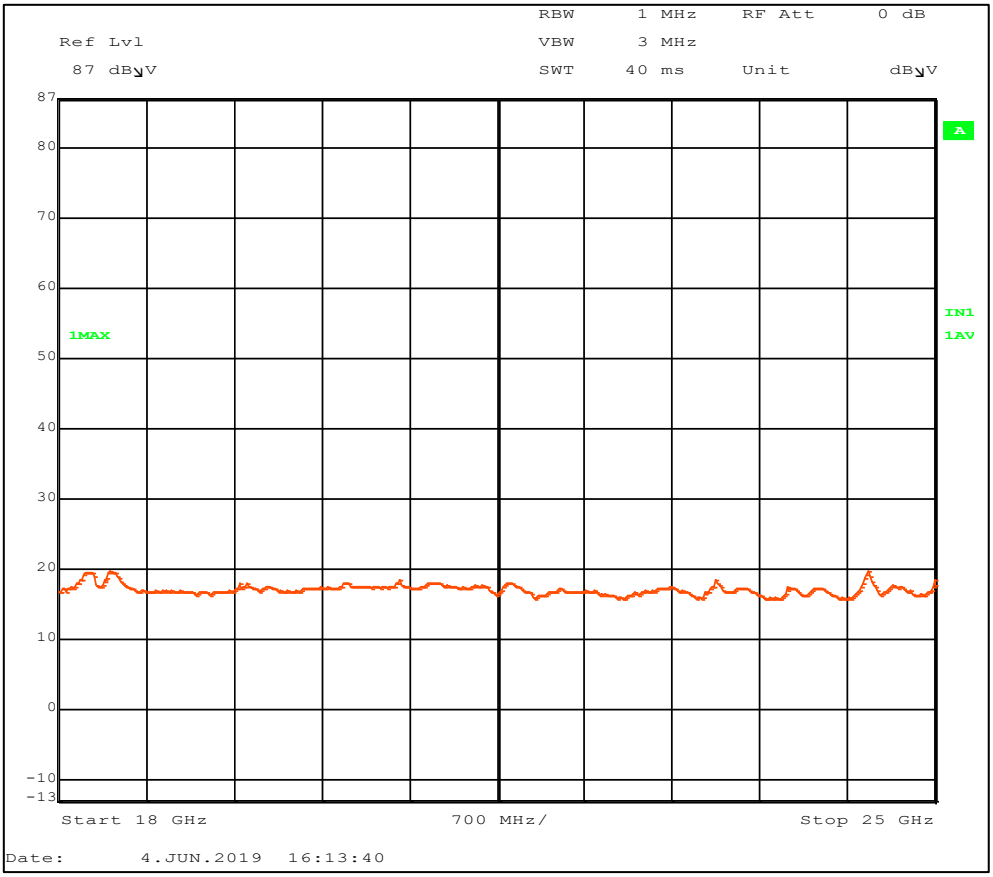

Figure 45. Radiated emission test results 18 - 25 GHz. Average detector.

Average Limit 3 m.	Peak limit 3 m	3 m / 0.5 m factor	Average Limit 0.5 m.	Peak limit 0.5 m
dBµV/m	dBµV/m	dB	dBµV/m	dBµV/m
53.98	73.98	15.56 dB	69.54	89.54

Table 33. Calculation of limit at 0.5 m.

Frequency	AF	Cable loss	Correction factor
GHz	dB/m	dB	dB/m
14	37,1	< 2	39.1
18	37,4	< 2	39.4
18	40.3	< 2	42.3
25	40.6	< 2	42.6

Table 34. Correction factors 14 – 25 GHz.

Frequency [MHz]	Peak [dBµV/m]	BW [kHz]	Height [cm]	Pol.	Azimuth [deg]	Margin [dB]	Limit [dBµV/m]	Result
-	-	1000	-	-	-	-	89.54	PASSED

Table 35. Radiated emission test results 14 - 25 GHz. Peak detector.

Frequency [MHz]	Average [dBµV/m]	BW [kHz]	Height [cm]	Pol.	Azimuth [deg]	Margin [dB]	Limit [dBµV/m]	Result
-	-	1000	-	-	-	-	69.54	PASSED

Table 36. Radiated emission test results 14 – 25 GHz. Average detector.

2.5.2.3 Channel 39 at 2480 MHz

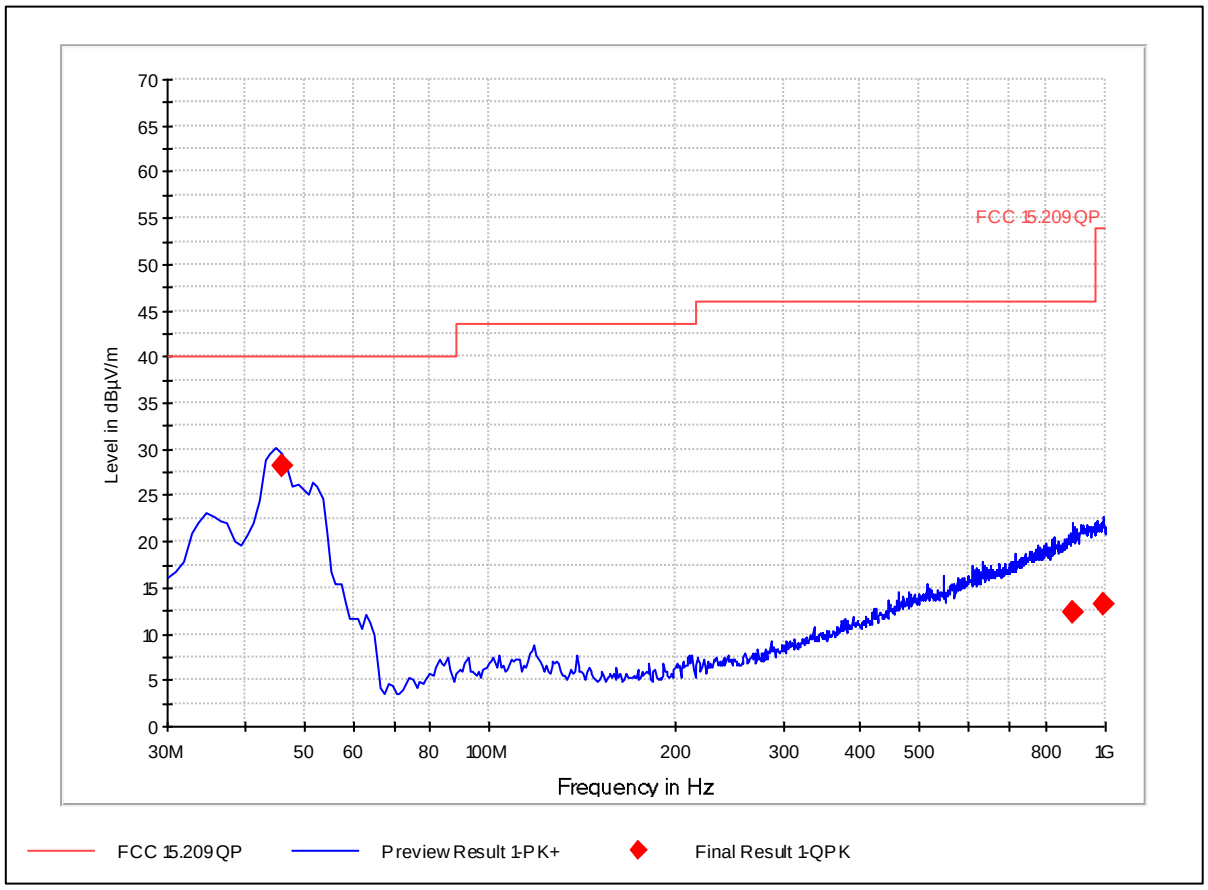

Figure 46. Radiated emission test results 30 - 1000 MHz. EUT hor.

Frequency [MHz]	QP [dBµV/m]	BW [kHz]	Height [cm]	Pol.	Azimuth [deg]	Margin [dB]	Limit [dBµV/m]	Result
46.150140	28.1	120	125.9	V	15.0	11.9	40.0	PASSED
886.401543	12.3	120	128.1	V	0.0	33.7	46.0	PASSED
995.619980	13.3	120	219.8	V	330.0	40.7	54.0	PASSED

Table 37. Radiated emission test results. 30 - 1000 MHz. Quasi peak detector. EUT hor.

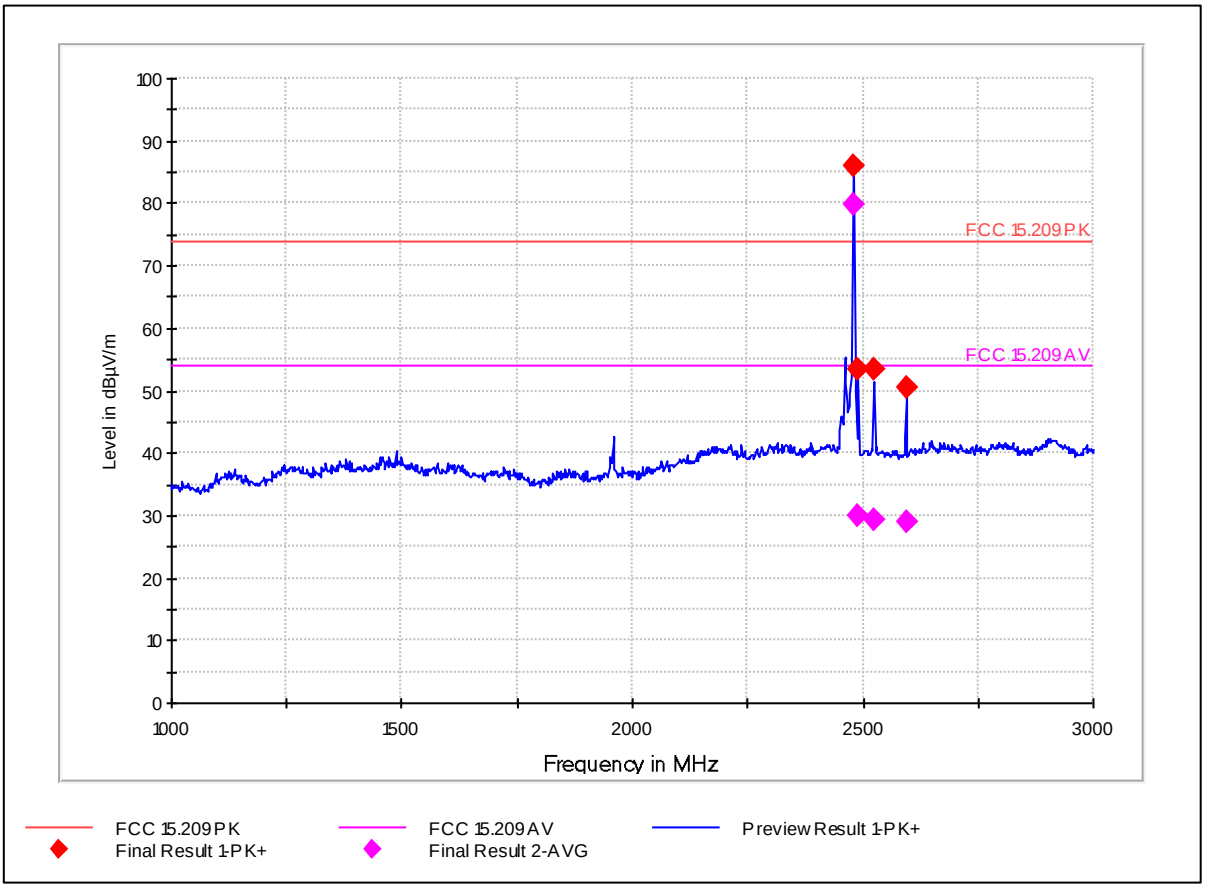

Figure 47. Radiated emission test results 1 - 3 GHz. EUT hor.

The emissions in the frequency band 2.4 – 2.4835 GHz are ignored.

Frequency [MHz]	Peak [dBµV/m]	BW [kHz]	Height [cm]	Pol.	Azimuth [deg]	Margin [dB]	Limit [dBµV/m]	Result
2479.661924	86.1	1000	155.1	H	136.0	-	-	-
2490.281964	53.5	1000	154.8	V	198.0	20.5	74.0	PASSED
2523.946092	53.4	1000	155.1	H	142.0	20.6	74.0	PASSED
2594.290381	50.4	1000	155.1	H	137.0	23.6	74.0	PASSED

Table 38. Radiated emission test results 1 - 3 GHz. Peak detector. EUT hor.

Frequency [MHz]	Average [dBµV/m]	BW [kHz]	Height [cm]	Pol.	Azimuth [deg]	Margin [dB]	Limit [dBµV/m]	Result
2479.661924	79.7	1000	155.1	H	136.0	-	-	-
2490.281964	29.9	1000	154.8	V	198.0	24.1	54.0	PASSED
2523.946092	29.4	1000	155.1	H	142.0	24.6	54.0	PASSED
2594.290381	28.8	1000	155.1	H	137.0	25.2	54.0	PASSED

Table 39. Radiated emission test results 1 - 3 GHz. Average detector. EUT hor.

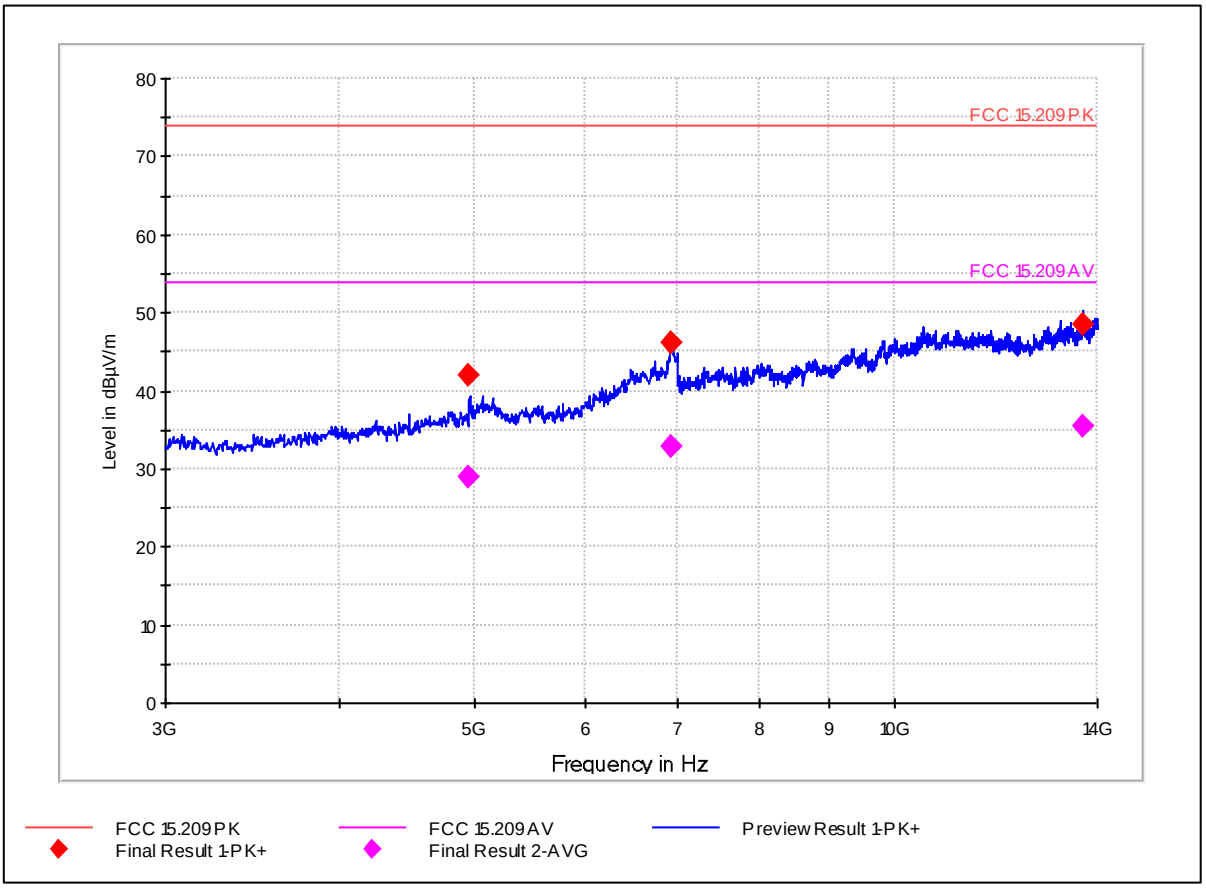

Figure 48. Radiated emission test results 3 - 14 GHz. EUT hor.

Frequency [MHz]	Peak [dBµV/m]	BW [kHz]	Height [cm]	Pol.	Azimuth [deg]	Margin [dB]	Limit [dBµV/m]	Result
4959.527856	41.9	1000	154.8	H	233.0	32.1	74.0	PASSED
6925.645691	46.1	1000	294.8	H	180.0	27.9	74.0	PASSED
13655.023647	48.5	1000	196.9	H	149.0	25.5	74.0	PASSED

Table 40. Radiated emission test results 3 - 14 GHz. Peak detector. EUT hor.

The following frequencies are harmonic of the fundamental and thus pulsed.
The average value is calculated by correcting the Peak detector level with the Duty Cycle Correction Factor found in section 2.1.

Frequency [MHz]	Peak [dBuV/m]	Correction Factor [dB]	Average [dBuV/m]	Margin [dB]	Limit [dBuV/m]	Result
4959.527856	41.9	-3.22	38,68	15,32	54.0	PASSED

Table 41. Radiated emission test results 3 - 14 GHz. Average. Pulsed signal EUT hor.

Frequency [MHz]	Average [dBµV/m]	BW [kHz]	Height [cm]	Pol.	Azimuth [deg]	Margin [dB]	Limit [dBµV/m]	Result
6925.645691	32.9	1000	294.8	H	180.0	21.1	54.0	PASSED
13655.023647	35.4	1000	196.9	H	149.0	18.6	54.0	PASSED

Table 42. Radiated emission test results 3 - 14 GHz. Average detector. EUT hor.

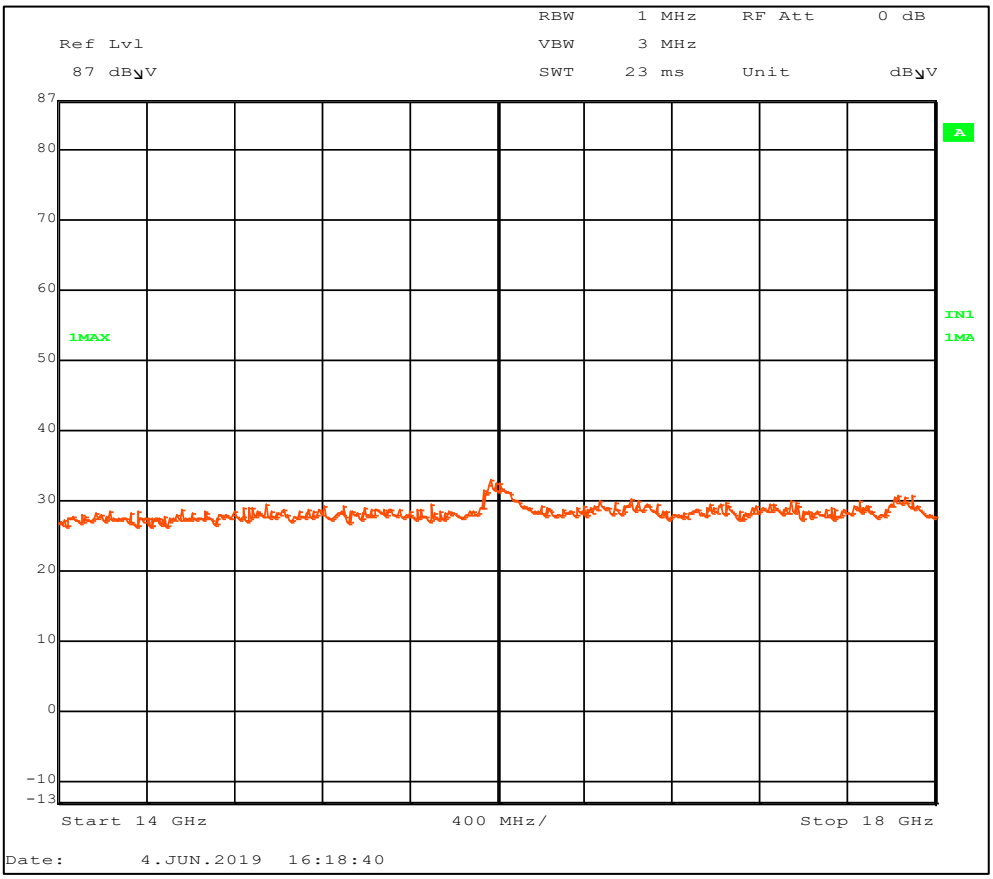

Figure 49. Radiated emission test results 14 - 18 GHz. Peak detector.

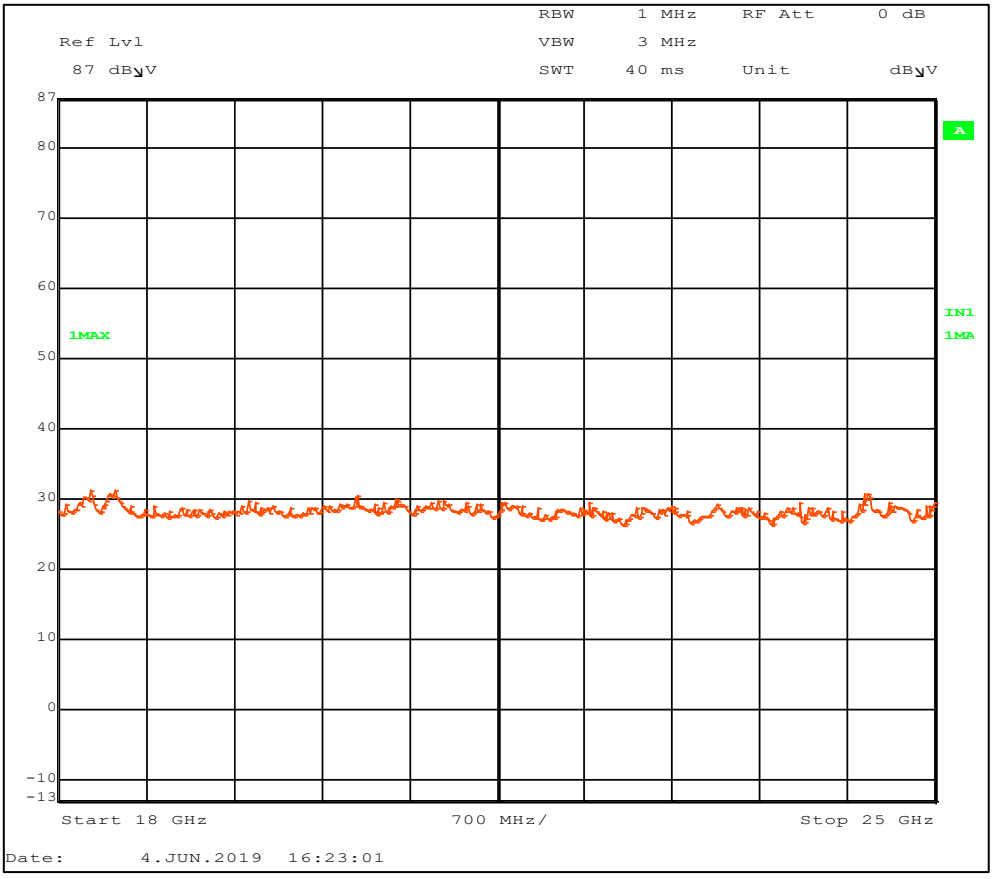

Figure 50. Radiated emission test results 18 - 25 GHz. Peak detector.

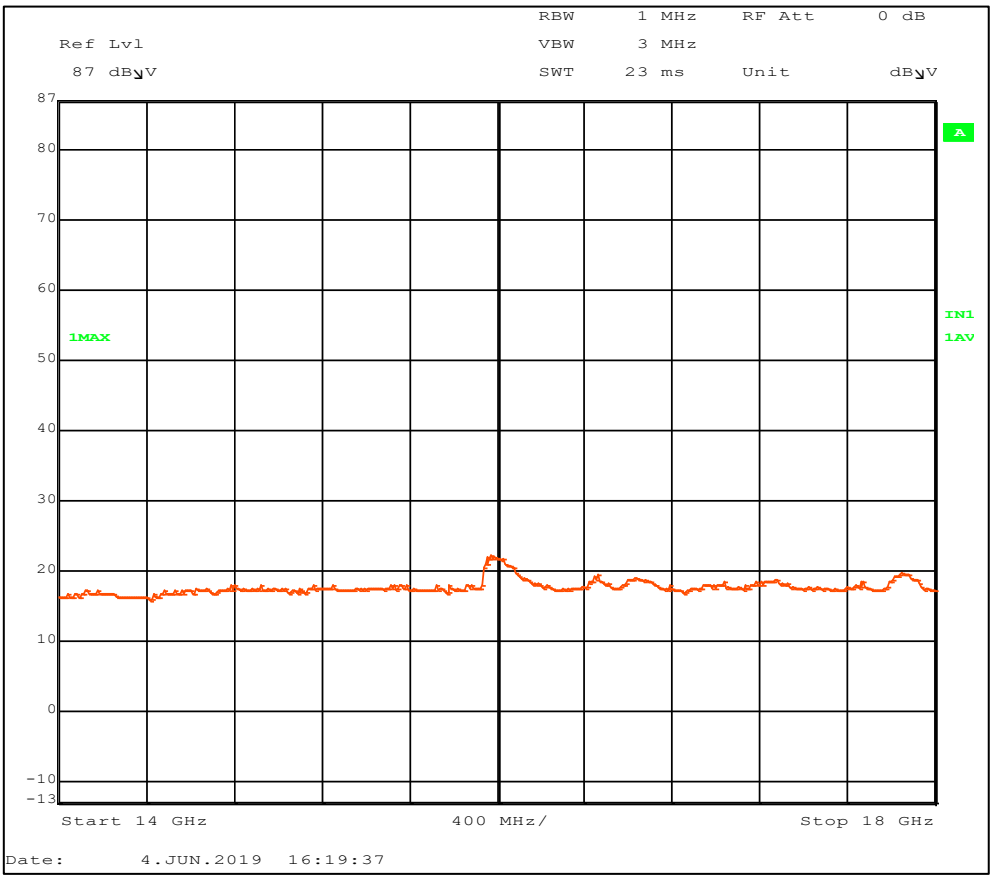

Figure 51. Radiated emission test results 14 - 18 GHz. Average detector.

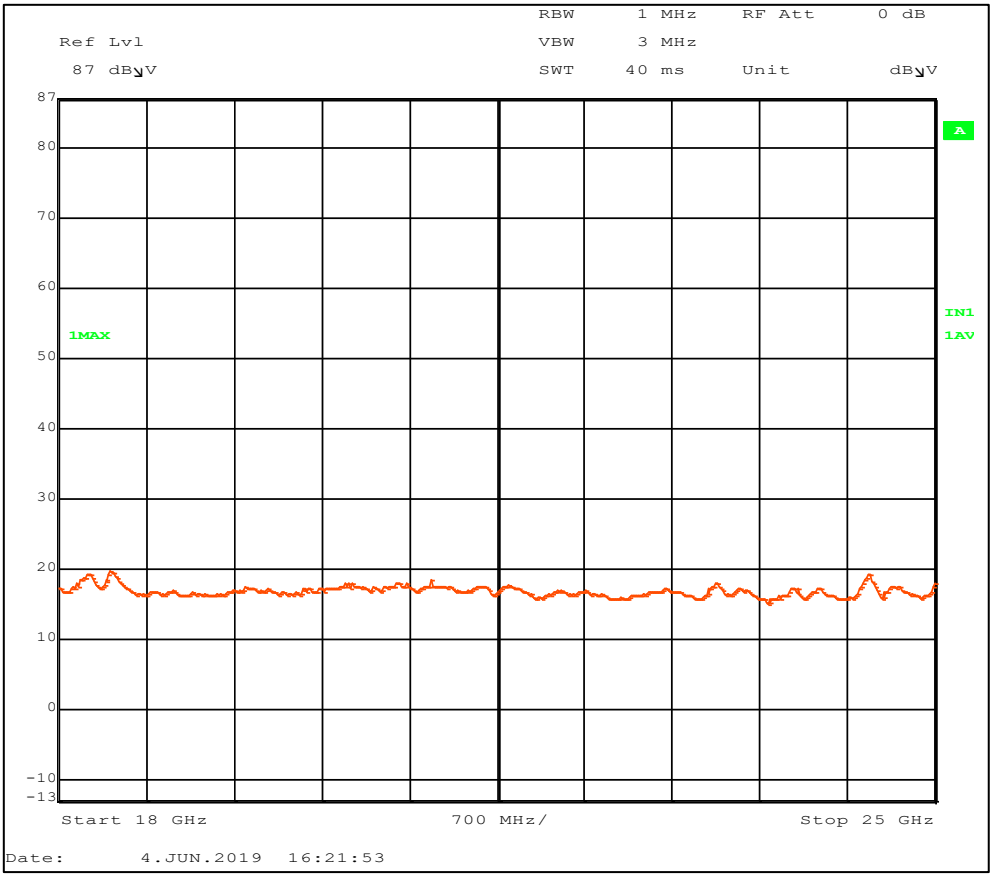

Figure 52. Radiated emission test results 18 - 25 GHz. Average detector.

Average Limit 3 m.	Peak limit 3 m	3 m / 0.5 m factor	Average Limit 0.5 m.	Peak limit 0.5 m
dBµV/m	dBµV/m	dB	dBµV/m	dBµV/m
53.98	73.98	15.56 dB	69.54	89.54

Table 43. Calculation of limit at 0.5 m.

Frequency	AF	Cable loss	Correction factor
GHz	dB/m	dB	dB/m
14	37,1	< 2	39.1
18	37,4	< 2	39.4
18	40.3	< 2	42.3
25	40.6	< 2	42.6

Table 44. Correction factors 14 – 25 GHz.

Frequency [MHz]	Peak [dBµV/m]	BW [kHz]	Height [cm]	Pol.	Azimuth [deg]	Margin [dB]	Limit [dBµV/m]	Result
-	-	1000	-	-	-	-	89.54	PASSED

Table 45. Radiated emission test results. 14 - 25 GHz. Peak detector.

Frequency [MHz]	Average [dBµV/m]	BW [kHz]	Height [cm]	Pol.	Azimuth [deg]	Margin [dB]	Limit [dBµV/m]	Result
-	-	1000	-	-	-	-	69.54	PASSED

Table 46. Radiated emission test results 14.- 25 GHz. Average detector.

2.5.3 Test equipment

Description	Supplier	Model	Tag no.	Cal. due date
Antenna, 30MHz-3GHz	Rohde & Schwarz	HL562	19830	2019-10-14
Antenna Horn	Schwarzbeck	BBHA 9120 D	20031	2022-04-15
Antenna Std gain Horn 12GHz - 18GHz	Narda	639 + 609	17219	NA
Antenna Std gain Horn 18 - 26.5 GHz	Narda	638 + 4608B	17524	NA
Analyzer 20Hz-26.5GHz	Rohde & Schwarz	ESI 26	20763	2019-12-10

Table 47. Radiated emission test equipment.

2.6 Band edge

Test specimen	Airofit Breathing Trainer
Test specification	558074 D01 15.247 Measurement Guidance v05r2
Test method	ANSI C63.10:2013 sec. 11.12
Comments	None
Temperature / Humidity	22°C / 49%RH
Dates of measurements	2019-06-17
Test personnel	David Busk

2.6.1 Test setup

The measurement was performed radiated in a semi anechoic chamber with absorbers on the floor.
The measuring distance was 3 m.
The EUT was placed on a non-conductive table, 1.5 m above the floor.

The test specimen was placed in the orientation giving the highest RF output at the fundamental frequency.
The measurements were performed at the edge of the nearest restricted band below and above the DTS band. Below at 2390 MHz and above at 2483.5 MHz.

See appendix 1 for photo of test set up

2.6.2 Test results

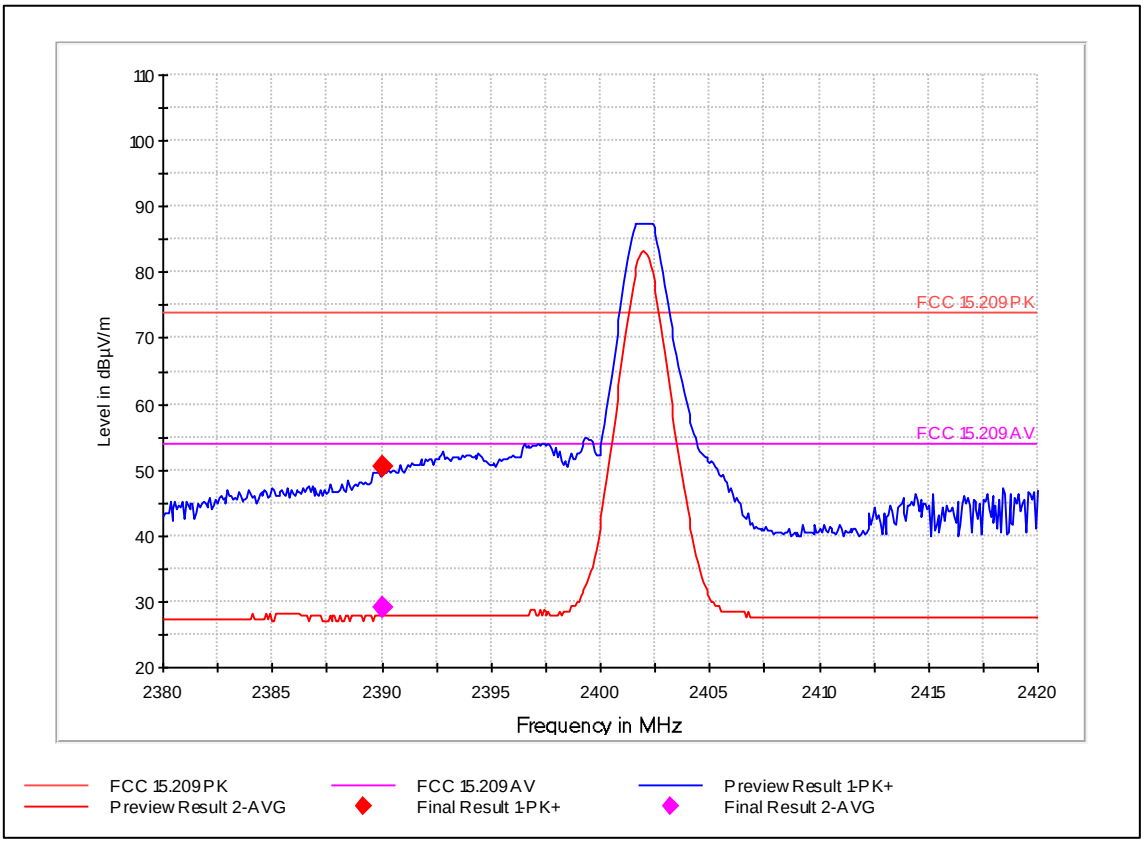

Figure 53. Band Edge for channel 0.

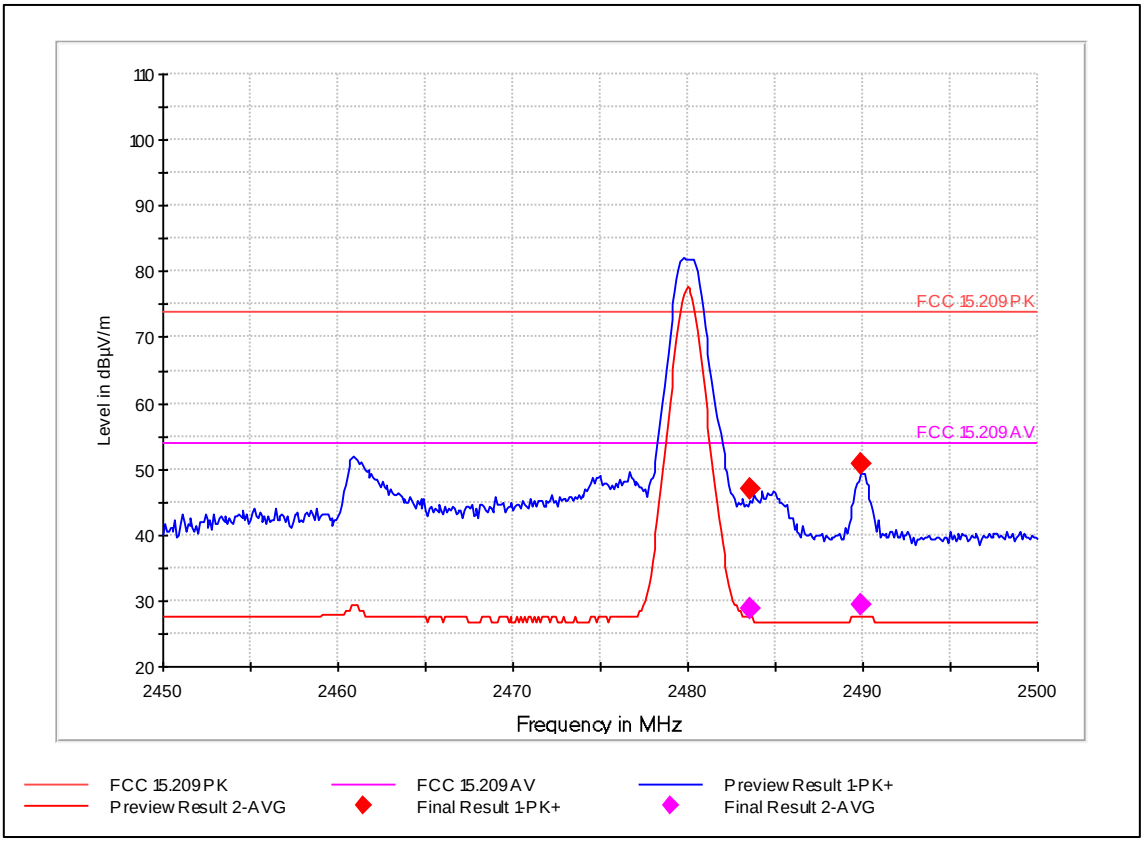

Figure 54. Band Edge for channel 39.

Because both peak and average levels were below the average limit, no investigation of pulsed behavior was performed.

Frequency [MHz]	Peak [dBµV/m]	BW [kHz]	Height [cm]	Pol.	Azimuth [deg]	Margin [dB]	Limit [dBµV/m]	Result
2390.020040	50.5	1000	155.0	H	41.0	23.5	74.0	PASSED

Table 48. Band Edge for channel 0. Peak detector.

Frequency [MHz]	Average [dBµV/m]	BW [kHz]	Height [cm]	Pol.	Azimuth [deg]	Margin [dB]	Limit [dBµV/m]	Result
2390.020040	29.0	1000	155.0	H	41.0	25.0	54.0	PASSED

Table 49. Band Edge for channel 0. Average detector.

Frequency [MHz]	Peak [dBµV/m]	BW [kHz]	Height [cm]	Pol.	Azimuth [deg]	Margin [dB]	Limit [dBµV/m]	Result
2483.567134	46.8	1000	155.0	H	41.0	27.2	74.0	PASSED
2489.879760	50.7	1000	155.0	H	41.0	23.3	74.0	PASSED

Table 50. Band Edge for channel 39. Peak detector.

Frequency [MHz]	Average [dBµV/m]	BW [kHz]	Height [cm]	Pol.	Azimuth [deg]	Margin [dB]	Limit [dBµV/m]	Result
2483.567134	28.8	1000	155.0	H	41.0	25.2	54.0	PASSED
2489.879760	29.3	1000	155.0	H	41.0	24.7	54.0	PASSED

Table 51. Band Edge for channel 39. Average detector.

2.6.3 Test equipment

Description	Supplier	Model	Tag no.	Cal. due date
Receiver EMI Test 20Hz-26.5GHz	Rohde & Schwarz	ESI 26	20763	2019-12-10
Antenna Horn	Schwarzbeck	BBHA 9120 D	20031	2022-04-15

Table 52. Band Edge test equipment.

2.7 Power spectral density

Test specimen	Airofit Breathing Trainer
Test specification	FCC 47 CFR Part 15.247 (e)
Test method	ANSI C63.10:2013 sec 11.10.2
Limits	FCC 47 CFR Part 15.247 (e)
Comments	None
Temperature / Humidity	23°C / 49%RH
Dates of measurements	2019-06-21
Test personnel	Søren Søltoft

2.7.1 Test setup

The test specimen was connected to a spectrum analyzer using a temporary antenna connector.

See photo of test set up in appendix 1.

2.7.2 Test results

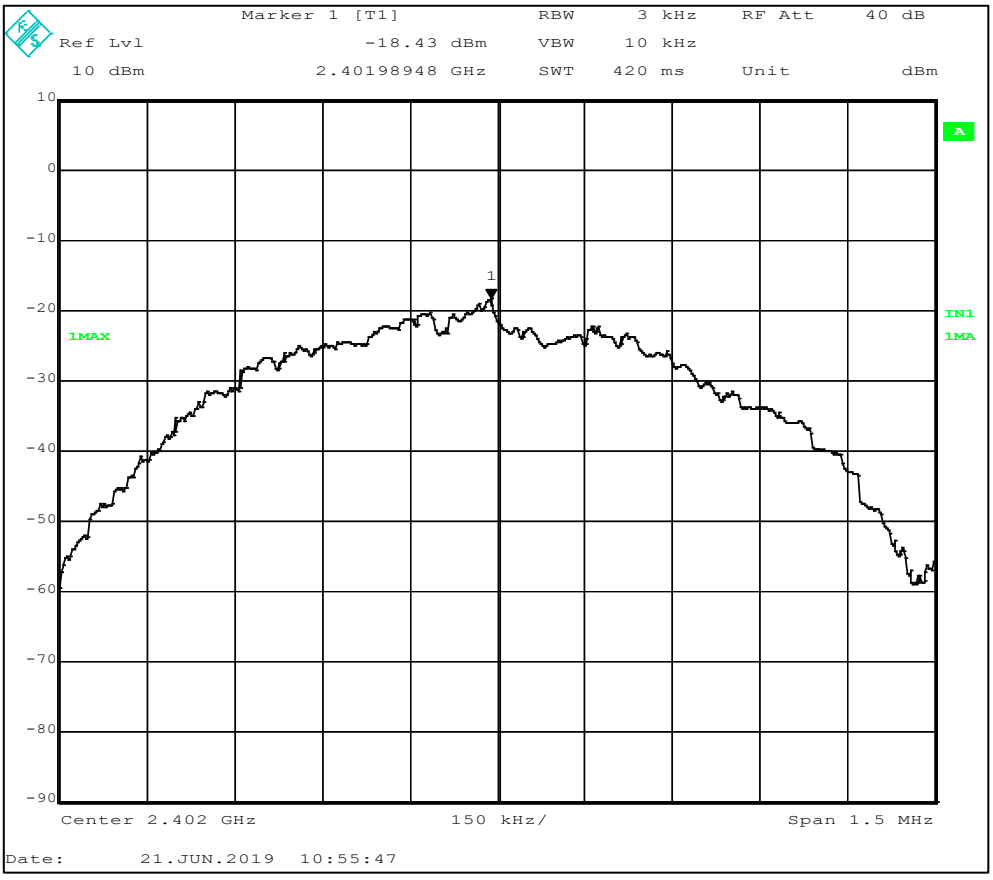

Figure 55. Power spectral density channel 0.

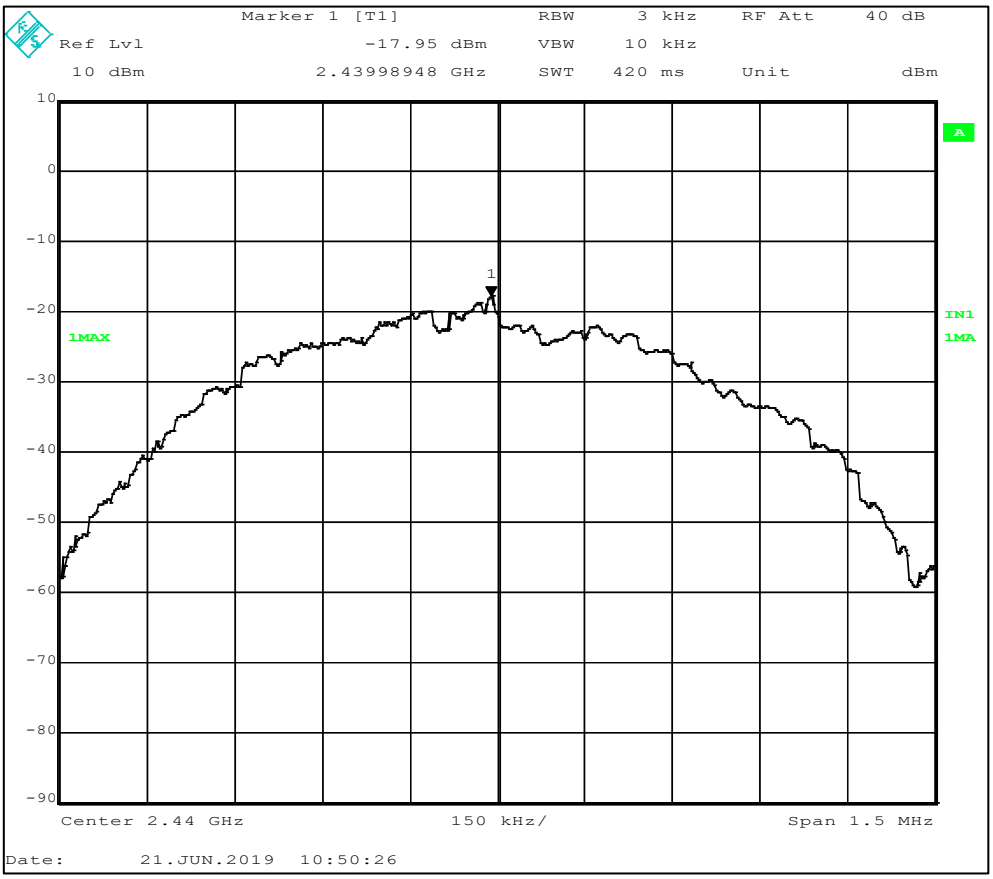

Figure 56. Power spectral density channel 19.

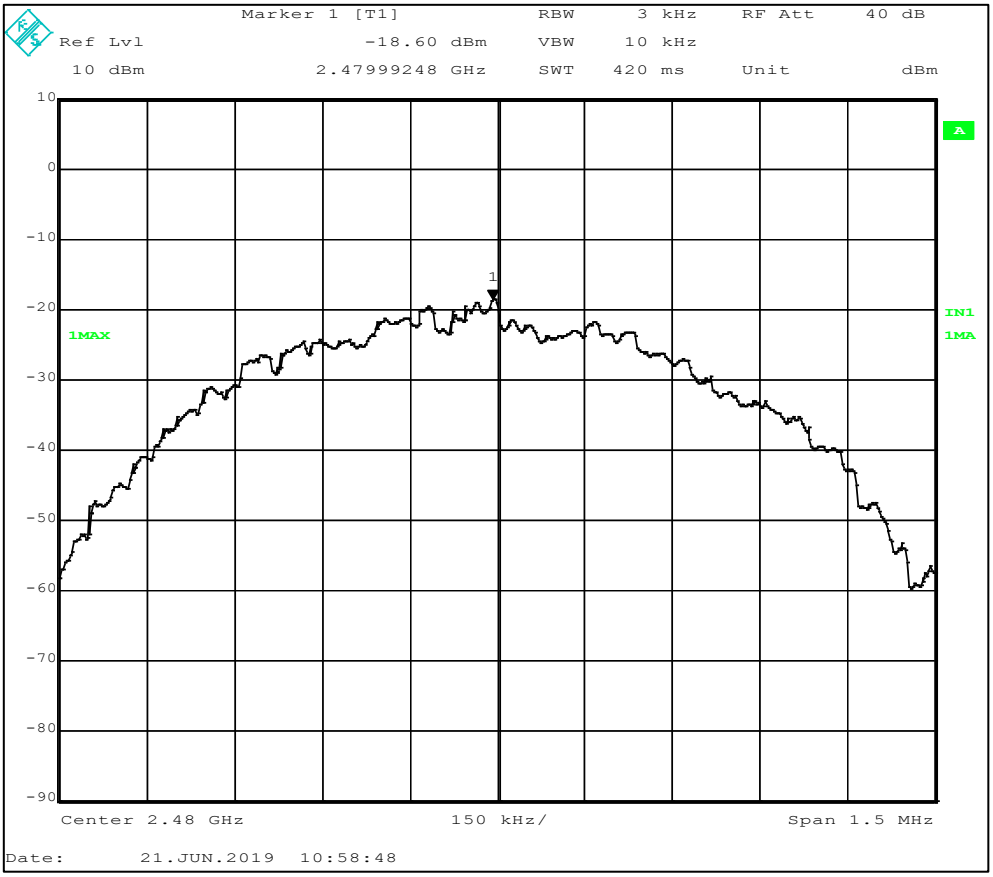

Figure 57. Power spectral density channel 39.

Channel	Frequency [MHz]	Power Spectral density [dBm]	Limit [dBm]	Result
1	2402	-18.43	8	PASSED
19	2440	-17.95	8	PASSED
39	2480	-18.6	8	PASSED

2.7.3 Test equipment

Description	Supplier	Model	Tag no.	Cal. due date
Receiver EMI Test 20Hz-26.5GHz	Rohde & Schwarz	ESIB 26	18880	2019-09-24
Multimeter	Hewlett Packard	34401A	14880	2020-02-14
Power Supply 0-15V 10A	LP Instruments	EA-3012	13037	-

2.8 AC Conducted emission

Test specimen	Airofit Breathing Trainer
Test specification	47 CFR Part 15.207
Test method	ANSI C63.10:2013 sec. 6.2
Frequency range	0.15 - 30 MHz
Limits	47 CFR Part 15.207
Comments	None
Temperature / Humidity	24°C / 40%RH
Dates of measurements	2019-06-24
Test personnel	Søren Søltoft

2.8.1 Test setup

Measurements were performed with the test specimen powered from a typical AC/DC adaptor.

The test specimen was set to max power with max duty cycle at channel 0, 19 and 39.
The mains supply was 120 VAC 60 Hz.

See appendix 1 for photo of test set up

2.8.2 Test results

2.8.2.1 Channel 0 at 2402 MHz

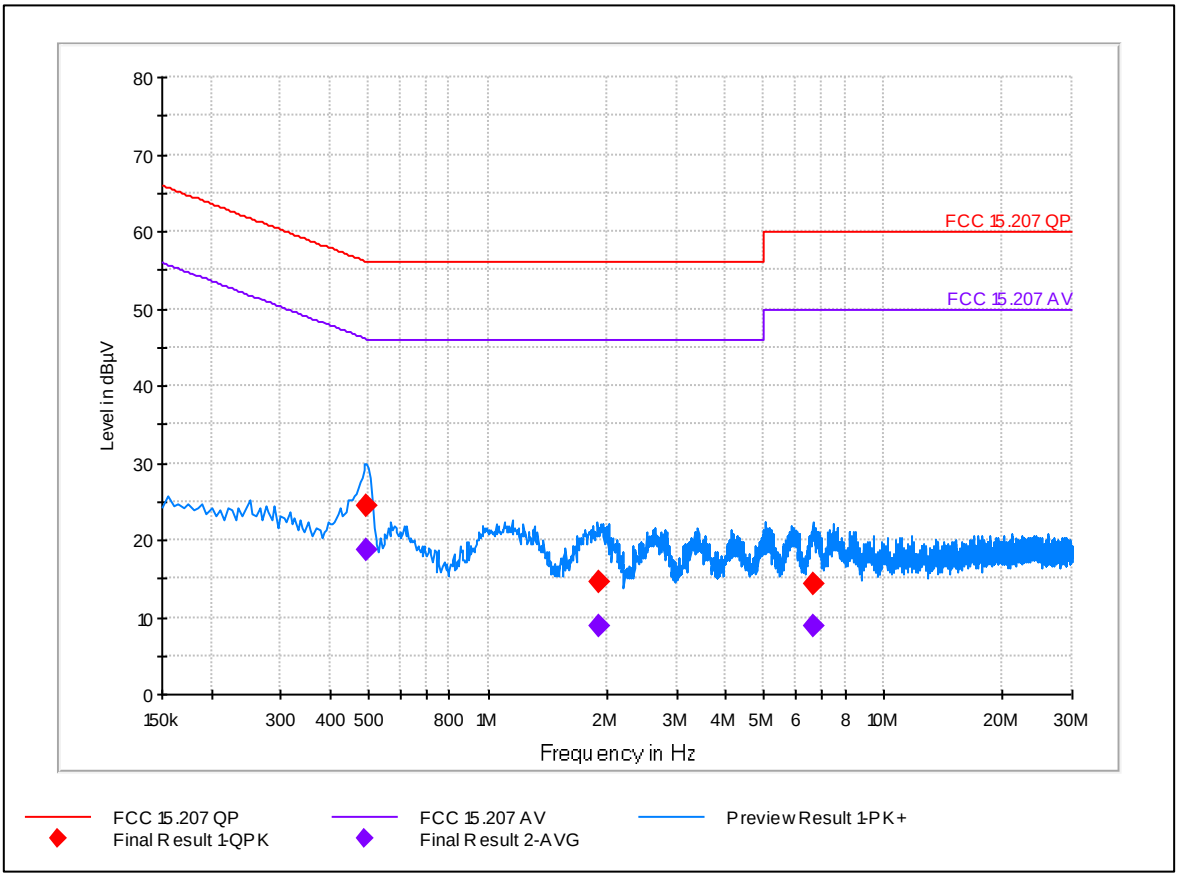

Figure 58. AC Conducted emission. Powered by ACDC adaptor.

Frequency [MHz]	QuasiPeak [dBµV]	BW [kHz]	Line	Margin [dB]	Limit [dBµV]	Result
0.493200	24.5	9.000	L1	31.60	56.10	PASSED
1.916000	14.5	9.000	L1	41.50	56.00	PASSED
6.628300	14.4	9.000	L1	45.60	60.00	PASSED

Table 53. AC Conducted emission. Powered by ACDC adaptor. QuasiPeak detector.

Frequency [MHz]	Average [dBµV]	BW [kHz]	Line	Margin [dB]	Limit [dBµV]	Result
0.493200	18.6	9.000	L1	27.50	46.10	PASSED
1.916000	8.8	9.000	L1	37.20	46.00	PASSED
6.628300	8.9	9.000	L1	41.10	50.00	PASSED

Table 54. AC Conducted emission. Powered by ACDC adaptor. Average detector.

2.8.2.2 Channel 19 at 2440 MHz

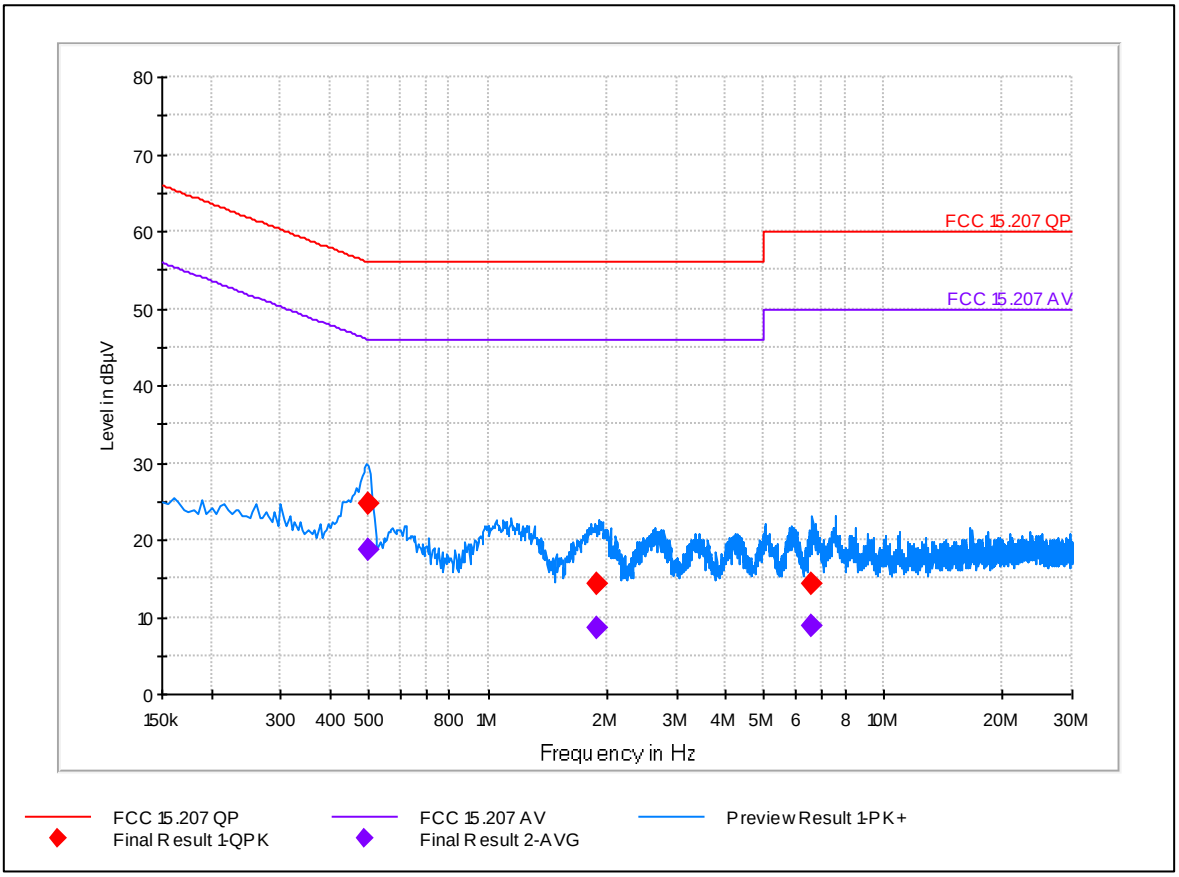

Figure 59. AC Conducted emission. Powered by ACDC adaptor.

Frequency [MHz]	QuasiPeak [dBµV]	BW [kHz]	Line	Margin [dB]	Limit [dBµV]	Result
0.498700	24.6	9.000	L1	31.50	56.00	PASSED
1.878900	14.2	9.000	L1	41.80	56.00	PASSED
6.607700	14.4	9.000	L1	45.60	60.00	PASSED

Table 55. AC Conducted emission. Powered by ACDC adaptor. QuasiPeak detector.

Frequency [MHz]	Average [dBµV]	BW [kHz]	Line	Margin [dB]	Limit [dBµV]	Result
0.498700	18.8	9.000	L1	27.20	46.00	PASSED
1.878900	8.7	9.000	L1	37.30	46.00	PASSED
6.607700	8.8	9.000	L1	41.20	50.00	PASSED

Table 56. AC Conducted emission. Powered by ACDC adaptor. Average detector.

2.8.2.3 Channel 39 at 2480 MHz

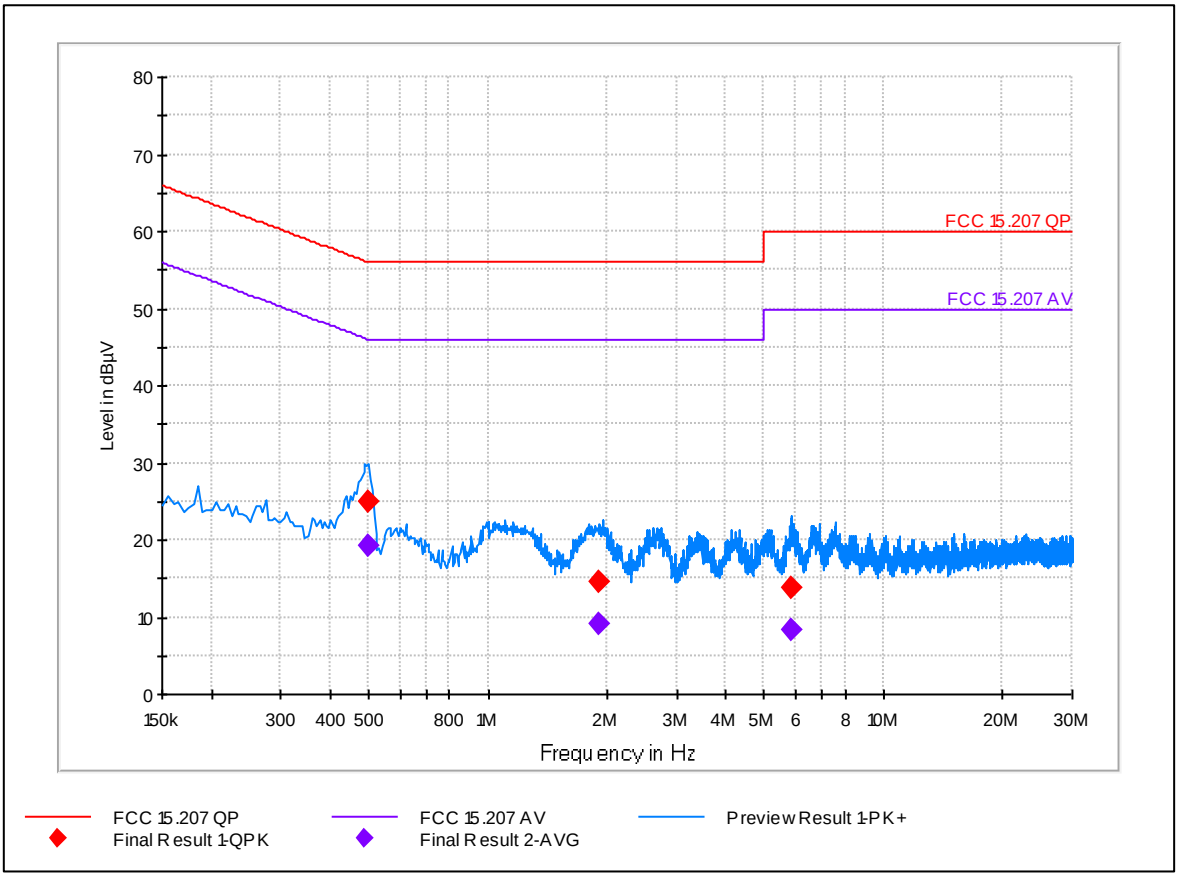

Figure 60. AC Conducted emission. Powered by ACDC adaptor.

Frequency [MHz]	QuasiPeak [dBµV]	BW [kHz]	Line	Margin [dB]	Limit [dBµV]	Result
0.497400	25.0	9.000	L1	31.10	56.00	PASSED
1.919900	14.5	9.000	L1	41.50	56.00	PASSED
5.835900	13.7	9.000	L1	46.30	60.00	PASSED

Table 57. AC Conducted emission. Powered by ACDC adaptor. QuasiPeak detector.

Frequency [MHz]	Average [dBµV]	BW [kHz]	Line	Margin [dB]	Limit [dBµV]	Result
0.497400	19.2	9.000	L1	26.80	46.00	PASSED
1.919900	9.1	9.000	L1	36.90	46.00	PASSED
5.835900	8.2	9.000	L1	41.80	50.00	PASSED

Table 58. AC Conducted emission. Powered by ACDC adaptor. Average detector.

2.8.3 Test equipment

Description	Supplier	Model	Tag no.	Cal. due date
V-network Two Line	R&S	ESH3-Z5	13935	2019-09-25
Receiver EMI Test 20Hz-26.5GHz	Rohde & Schwarz	ESIB 26	18880	2019-09-24

2.9 Occupied bandwidth

Test specimen	Airofit Breathing Trainer
Test specification	47 CFR Part 2.1049
Test method	ANSI C63.10:2013 sec. 6.9.3
Comments	None
Temperature / Humidity	23°C / 64%RH
Dates of measurements	2019-06-20
Test personnel	Søren Søltoft

2.9.1 Test setup

The test specimen was connected to a spectrum analyzer using a temporary antenna connector.

See photo of test set up in appendix 1.

2.9.2 Test results

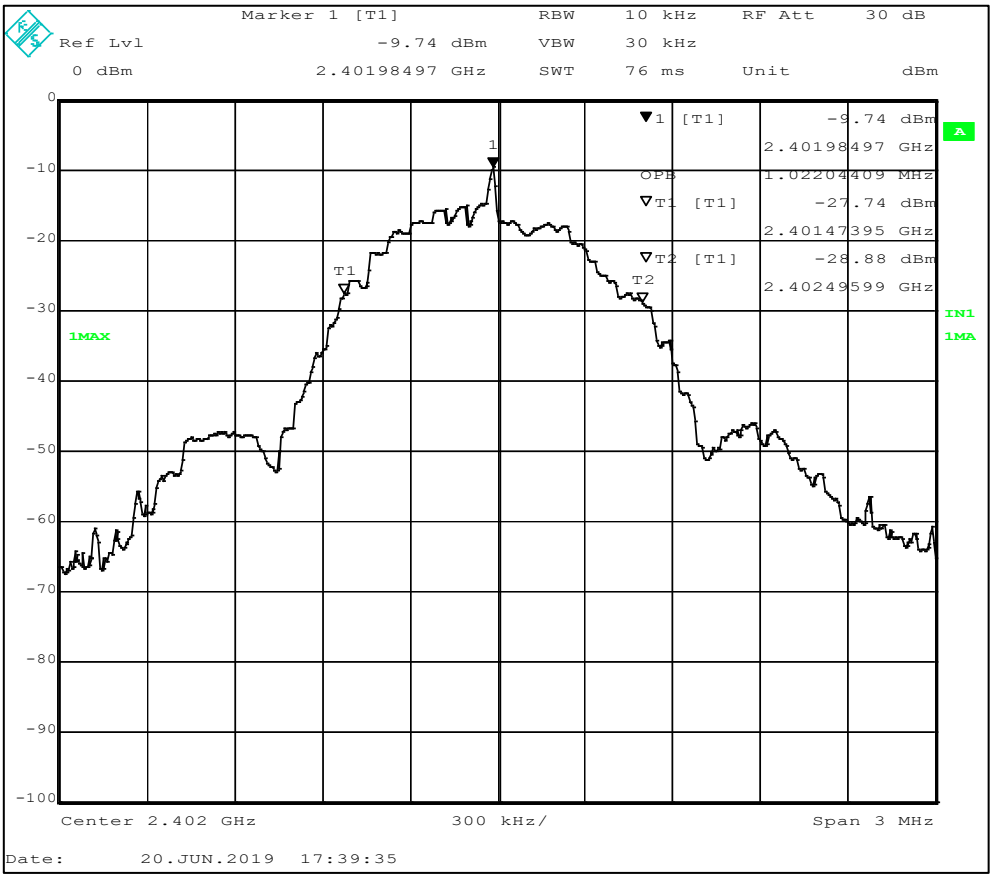

Figure 61. Occupied bandwidth 99% channel 0.

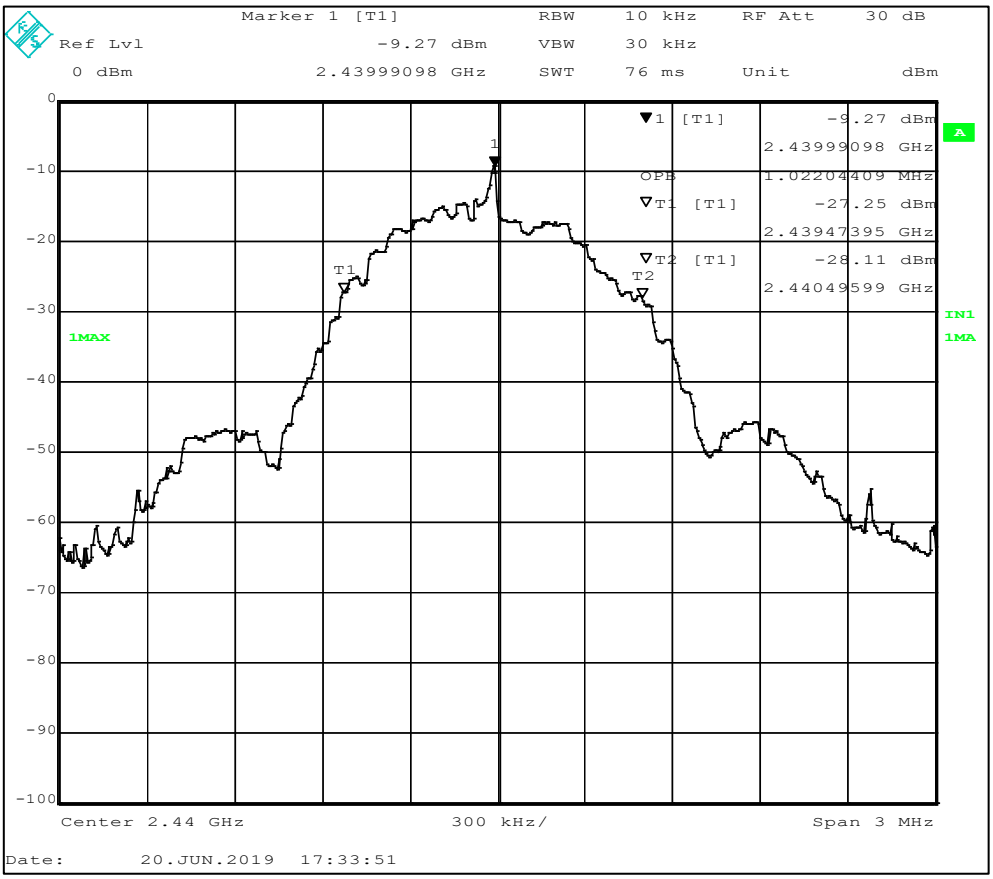

Figure 62. Occupied bandwidth 99% channel 19.

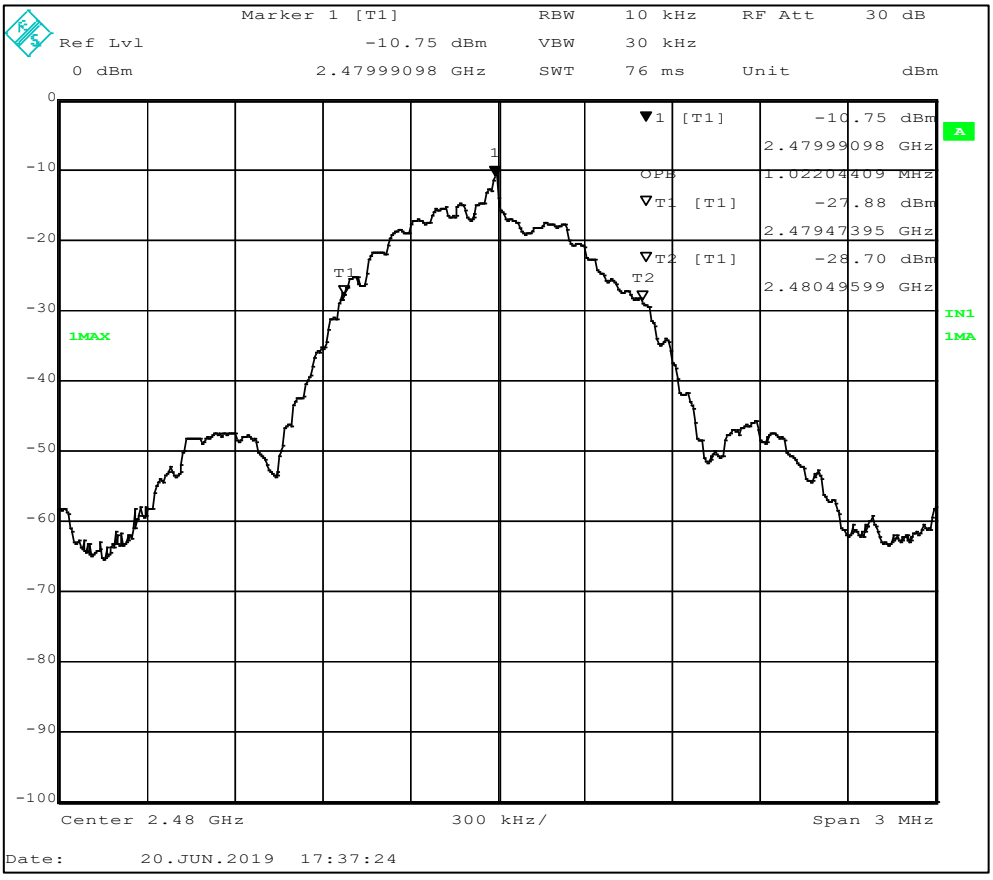

Figure 63. Occupied bandwidth 99% channel 39.

Channel	Frequency [MHz]	Occupied bandwidth 99% [MHz]	Result
0	2402	1.022044	PASSED
19	2440	1.022044	PASSED
39	2480	1.022044	PASSED

Table 59. 99% Occupied bandwidth results.

2.9.3 Test equipment

Description	Supplier	Model	Tag no.	Cal. due date
Receiver EMI Test 20Hz-26.5GHz	Rohde & Schwarz	ESIB 26	18880	2019-09-24
Multimeter	Hewlett Packard	34401A	14880	2020-02-14
Power Supply 0-15V 10A	LP Instruments	EA-3012	13037	-

Table 60. 99% Occupied bandwidth test equipment.

3 MEASURING UNCERTAINTIES

Compliancy evaluation is based on a shared risk principle with respect to the measurement uncertainty.

	Frequency [MHz]	Polarization	Expanded Uncertainty [dB] (k=2)
Radiated emission	30 - 200	Vertical	**4.59**
	200 - 1000	Vertical	**4.77**
	1000 - 18000	Vertical	**3.76**
	18000 - 25000	Vertical	**4.10**
	30 - 200	Horizontal	**4.57**
	200 - 1000	Horizontal	**4.86**
	1000 - 18000	Horizontal	**3.77**
	18000 - 26500	Horizontal	**4.11**
Conducted emission (CISPR 16-4)	0.01 - 30	-	**3.44**
Conducted emission (ESIB 26)	<1000		**2.58**
	1000 - 7000		**2.76**
	7000 - 18000		**3.38**
	18000 - 26500		**3.79**