CONFORMANCE TEST REPORT
FOR
FCC 47 CFR, Part 15 Subpart C

Report No.: 17-11-MAS-079-01

Client:	Fames Technology Co., Ltd
Product:	Keyless receiver
Model:	38700-LGC6-E00
FCC ID:	2AOP538700-LGC6-E00
Manufacturer/supplier:	Fames Technology Co., Ltd

Date test item received:	2017/11/14
Date test campaign completed:	2017/12/28
Date of issue:	2018/01/15

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Total number of pages of this test report: 51 pages

Total number of pages of photos: External photos 2 pages
Internal photos 3 pages
Setup photos 3 pages

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Client	: Fames Technology Co., Ltd
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Manufacturer	: Fames Technology Co., Ltd
Address	: 4F., No.1, Ln. 15, Ziqiang St., Tucheng Dist., New Taipei City 236, Taiwan (R.O.C.)
EUT	: Keyless receiver
Trade name	: KYMCO
Model No.	: 38700-LGC6-E00
Power Source	: 12 Vdc
Regulations applied	: FCC 47 CFR, Part 15 Subpart C

The testing described in this report has been carried out to the best of our knowledge and ability, and our responsibility is limited to the exercise of reasonable care. This certification is not intended to believe the sellers from their legal and/or contractual obligations.

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⑤ FCC Registration Number: TW0371, TW1112

⑥ Industry Canada Site Registration Number: IC 2949A-2

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1. GENERAL INFORMATION

1.1 Product Description

a) Type of EUT : Keyless receiver
b) Model No. : 38700-LGC6-E00
c) FCC ID. : 2AOP538700-LGC6-E00
d) Working Frequency : 2402 MHz ~ 2480 MHz

1.2 Characteristics of Device:

Device consists of RF transmitter and receiver for digital data exchanging, which are equipped on motorcycles. The wireless frequency is worldwide 2.4GHz ISM Band.

1.3 Test Methodology

Radiated testing were performed according to the procedures in chapter 6 of ANSI C63.10 (2013)
The device under test was operated continuously in its normal operating mode for the purpose of the measurements. In order to secure the continuous operation of the device under test, rewiring in the circuit was done by the manufacturer so as to affect its intended operation.
The receiving antenna was varied from 1 to 4 meters and the wooden turntable was rotated through 360 degrees to obtain the highest reading on the field strength meter or on the display of the spectrum analyzer. And also, each emission was to be maximized by changing the orientation of the device under test. The hand-held or body-worn devices rotated through three orthogonal axes to determine which attitude and configuration produces the highest emission relatives to the limit.

1.4 Test Facility

The semi-anechoic chamber and conducted measurement facility used to collect the radiated and conducted data are located inside the Building at No.8, Lane 29, Wenming Rd. Guishan Dist. Taoyuan City 33383, Taiwan, R.O.C.
This site has been accreditation as a FCC filing site.

1.5 Test Summary

Requirement	FCC Paragraph #	Test Pass
Field Strength	15.249(a)	Pass
Radiated Emission	15.249, 15.209, 15.205	Pass
OUT-OF-BAND Bandedge	15.249(d),15.205	Pass
Operating Frequency Range	15.249,15.205	Pass
Conducted Emission	15.207	Not Applicable

2. DEFINITION AND LIMITS

2.1 Definition

Intentional radiator:
A device that intentionally generates and emits radio frequency energy by radiation or induction.

2.2 Restricted Bands of Operation

Only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42-16.423	399.9-410	4.5-5.15
0.495 - 0.505 **	16.69475 - 16.69525	608-614	5.35-5.46
2.1735 - 2.1905	16.80425 - 16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475 - 156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	Above 38.6
13.36-13.41			

Remark "**": Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz

2.3 Limitation

(1) Conducted Emission Limits:

According to 15.207, for an intentional radiator, which is designed to be connected to the public utility (AC) power line, the conducted limit is the following:

Frequency MHz	**Quasi Peak dB μV**	**Average dB μV**
0.15 - 0.5	66-56*	56-46*
0.5 - 5.0	56	46
5.0 - 30.0	60	50

*Decreases with the logarithm of the frequency.

(2) Radiated Emission Limits:

According to 15.249(a), except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated under this section shall not exceed the following:

Frequency Band (MHz)	Field strength of Fundamental (mV/m)	Field strength of Harmonics (uV/m)
902 – 928	50	500
2400 – 2483.5	50	500
5725 – 5875	50	500
24.0 – 24.25 GHz	250	2500

According to 15.249(c), field strength limits are at the distance of 3 meters.

According to 15.249(d), emissions radiated outside of the specified bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated limits in 15.209, whichever is the lesser attenuation.

According to 15.209(a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	**Field strength (microvolts/meter)**	**Measurement distance (meters)**
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

According to 15.249(e), as shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation. For point-to-point operation under paragraph (b) of this section, the peak field strength shall not exceed 2500 millivolts/meter at 3 meters along the antenna azimuth.

2.4 Labeling Requirement

The device shall bear the following statement in a conspicuous location on the device:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

2.5 User Information

The users manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

To comply with the FCC RF exposure compliance requirement, this device and its antenna must not be co-located or operating to conjunction with any other antenna or transmitter.

3. SYSTEM TEST CONFIGURATION

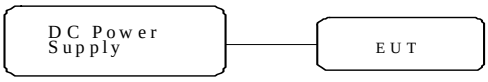
3.1 Justification

For the purposes of this test report ancillary equipment is defined as equipment which is used in conjunction with the EUT to provide operational and control features to the EUT during the test.

3.2 Devices for Tested System

Device	Manufacture	Model	Cable Description
* Keyless receiver	Fames Technology Co., Ltd	38700-LGC6-E00	----
DC Power Supply	GW	GPS-3030D	1.8m*1, Unshielded Power Line 2.0m*1 Unshielded Signal Line

Remark :"*" means equipment under test.



4. RADIATED EMISSION MEASUREMENT

4.1 Applicable Standard

For periodic operation intentional radiator, the radiated emission shall comply with § 15.249 and 15.209.

4.2 Measurement Procedure

1. Setup the configuration per figure 1 and 2 for frequencies measured below and above 1 GHz respectively. Turn on EUT and make sure that it is in normal function.

2. For emission frequencies measured below 1 GHz, a pre-scan is performed in a semi-anechoic chamber to determine the accurate frequencies of higher emissions and then each selected frequency is precisely measured. As the same purpose, for emission measured above 1 GHz, a pre-scan also be performed with a 1 meter measuring distance before final test.

3. For emission measured below and above 1 GHz, set the spectrum analyzer on a 120 kHz and 1 MHz resolution bandwidth respectively for each frequency measured in step 2.

4. The search antenna is to be raised and lowered over a range from 1 to 4 meters in horizontally polarized orientation. Position the highness when the highest value is indicated on spectrum analyzer, then change the orientation of EUT on test table over a range from 0 ° to 360 ° with a speed as slow as possible, and keep the azimuth that highest emission is indicated on the spectrum analyzer. Vary the antenna position again and record the highest value as a final reading. A RF test receiver is also used to confirm emissions measured.

5. Repeat step 4 until all frequencies that need to be measured were complete.

6. Repeat step 5 with search antenna in vertical polarized orientations.

7. Check the frequencies of highest emission with varying the placement of cables (if any) associated with EUT to obtain the worse case and record the result.

Figure 1: Frequencies measured below 1 GHz configuration

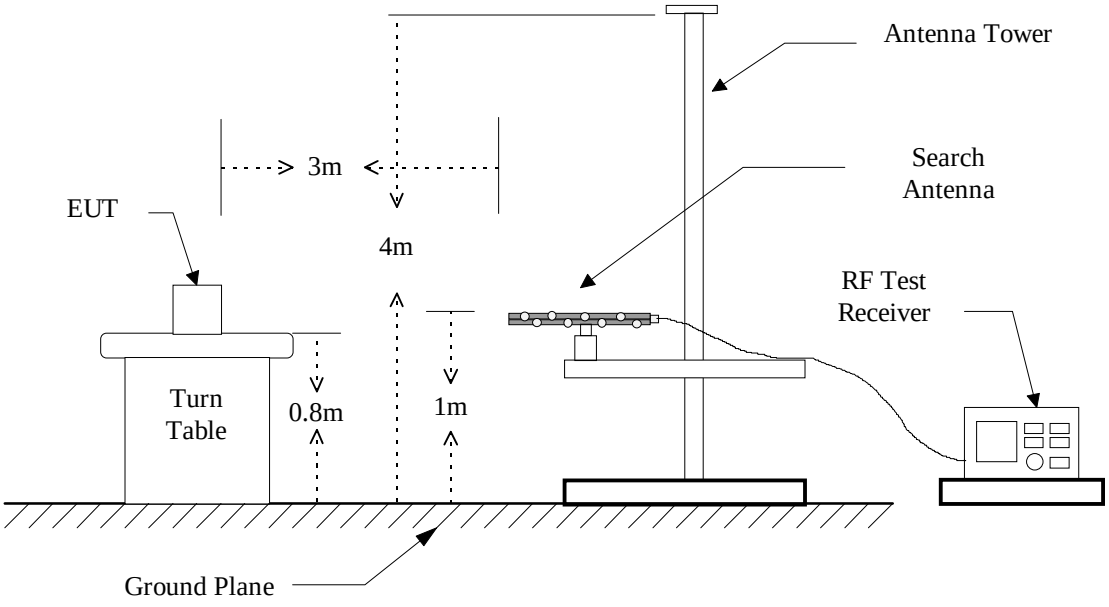
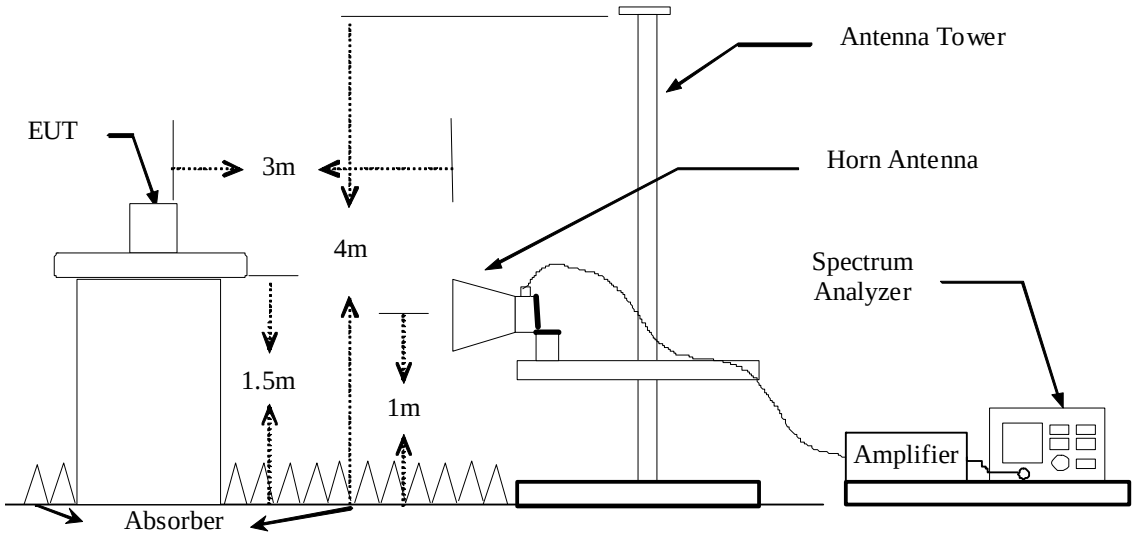


Figure 2: Frequencies measured above 1 GHz configuration



4.3 Test Data

4.3.1 Fundamental and Harmonic Emissions

4.3.1.1 Operated mode: Transmitting (CH Low)

Test Date : Dec. 12, 2017 Temperature : 21℃ Humidity : 63%

Frequency	Ant Pol	Reading (dBuV/m) @3m		Correct Factor	Result (dBuV/m) @3m		Limit (dBuV/m) @3m		Margin (worse)
(MHz)	H/V	Peak	AVG	(dB)	Peak	AVG	Peak	AVG	(dB)
Fundamental									
2402.0000	H	51.0	48.5	30.9	81.9	79.4	114.0	94.0	-14.6
2402.0000	V	46.1	43.3	30.9	77.0	74.2	114.0	94.0	-19.8
Harmonic									
4804.0000	H	56.1	51.9	0.0	56.1	51.9	74.0	54.0	-2.1
4804.0000	V	52.5	44.9	0.0	52.5	44.9	74.0	54.0	-9.1
7206.0000	H	51.9	42.4	3.3	55.2	45.7	74.0	54.0	-8.3
7206.0000	V	51.0	41.5	3.3	54.3	44.8	74.0	54.0	-9.2
9608.0000	H	---	---	5.4	---	---	74.0	54.0	---
9608.0000	V	---	---	5.4	---	---	74.0	54.0	---
12010.0000	H	---	---	8.1	---	---	74.0	54.0	---
12010.0000	V	---	---	8.1	---	---	74.0	54.0	---
14412.0000	H	---	---	13.0	---	---	74.0	54.0	---
14412.0000	V	---	---	13.0	---	---	74.0	54.0	---
16814.0000	H	---	---	10.9	---	---	74.0	54.0	---
16814.0000	V	---	---	10.9	---	---	74.0	54.0	---
19216.0000	H	---	---	19.5	---	---	74.0	54.0	---
19216.0000	V	---	---	19.5	---	---	74.0	54.0	---
21618.0000	H	---	---	19.2	---	---	74.0	54.0	---
21618.0000	V	---	---	19.2	---	---	74.0	54.0	---
24020.0000	H	---	---	19.4	---	---	74.0	54.0	---
24020.0000	V	---	---	19.4	---	---	74.0	54.0	---

Note:

1. Result = Reading + Correct Factor

2. If the peak result is under the AVG limit, that is deemed to meet the AVG limit.

3. Remark "---" means that the emissions level is too low to be measured.

4. The estimated measurement uncertainty of the result measurement is:

±4.1dB (1GHz≦f≦18GHz).

±4.4dB (18GHz<f≦40GHz).

5. Please refer to page 17 to page 34 for chart

4.3.1.2 Operated mode: Transmitting (CH Mid)

Test Date: Dec. 12, 2017 Temperature : 21℃ Humidity : 63%

Frequency (MHz)	Ant Pol H/V	Reading (dBuV/m) @3m Peak	Reading (dBuV/m) @3m AVG	Correct Factor (dB)	Result (dBuV/m) @3m Peak	Result (dBuV/m) @3m AVG	Limit (dBuV/m) @3m Peak	Limit (dBuV/m) @3m AVG	Margin (worse) (dB)
Fundamental									
2440.0000	H	51.4	48.9	30.9	82.3	79.8	114.0	94.0	-14.2
2440.0000	V	48.0	45.4	30.9	78.9	76.3	114.0	94.0	-17.7
Harmonic									
4880.0000	H	53.8	47.7	0.2	54.0	47.9	74.0	54.0	-6.1
4880.0000	V	55.0	49.9	0.2	55.2	50.1	74.0	54.0	-3.9
7320.0000	H	52.4	43.4	3.6	56.0	47.0	74.0	54.0	-7.0
7320.0000	V	53.0	45.3	3.6	56.6	48.9	74.0	54.0	-5.1
9760.0000	H	---	---	5.5	---	---	74.0	54.0	---
9760.0000	V	---	---	5.5	---	---	74.0	54.0	---
12200.0000	H	---	---	8.3	---	---	74.0	54.0	---
12200.0000	V	---	---	8.3	---	---	74.0	54.0	---
14640.0000	H	---	---	12.2	---	---	74.0	54.0	---
14640.0000	V	---	---	12.2	---	---	74.0	54.0	---
17080.0000	H	---	---	12.5	---	---	74.0	54.0	---
17080.0000	V	---	---	12.5	---	---	74.0	54.0	---
19520.0000	H	---	---	19.4	---	---	74.0	54.0	---
19520.0000	V	---	---	19.4	---	---	74.0	54.0	---
21960.0000	H	---	---	19.2	---	---	74.0	54.0	---
21960.0000	V	---	---	19.2	---	---	74.0	54.0	---
24400.0000	H	---	---	19.7	---	---	74.0	54.0	---
24400.0000	V	---	---	19.7	---	---	74.0	54.0	---

Note:

1. Result = Reading + Correct Factor

2. If the peak result is under the AVG limit, that is deemed to meet the AVG limit.

3. Remark "---" means that the emissions level is too low to be measured.

4. The estimated measurement uncertainty of the result measurement is:

±4.1dB (1GHz≦f≦18GHz).

±4.4dB (18GHz<f≦40GHz).

5. Please refer to page 17 to page 34 for chart

4.3.1.3 Operated mode : Transmitting (CH High)

Test Date: Dec. 12, 2017 Temperature : 21℃ Humidity : 63%

Frequency	Ant Pol	Reading (dBuV/m) @3m		Correct Factor	Result (dBuV/m) @3m		Limit (dBuV/m) @3m		Margin (worse)
(MHz)	H/V	Peak	AVG	(dB)	Peak	AVG	Peak	AVG	(dB)
Fundamental									
2480.0000	H	54.0	51.3	31.0	85.0	82.3	114.0	94.0	-11.7
2480.0000	V	49.9	47.2	31.0	80.9	78.2	114.0	94.0	-15.8
Harmonic									
4960.0000	H	53.4	47.8	0.4	53.8	48.2	74.0	54.0	-5.8
4960.0000	V	53.5	47.3	0.4	53.9	47.7	74.0	54.0	-6.3
7440.0000	H	51.3	41.3	4.0	55.3	45.3	74.0	54.0	-8.7
7440.0000	V	52.7	44.9	4.0	56.7	48.9	74.0	54.0	-5.1
9920.0000	H	---	---	5.6	---	---	74.0	54.0	---
9920.0000	V	---	---	5.6	---	---	74.0	54.0	---
12400.0000	H	---	---	8.4	---	---	74.0	54.0	---
12400.0000	V	---	---	8.4	---	---	74.0	54.0	---
14880.0000	H	---	---	11.2	---	---	74.0	54.0	---
14880.0000	V	---	---	11.2	---	---	74.0	54.0	---
17360.0000	H	---	---	14.4	---	---	74.0	54.0	---
17360.0000	V	---	---	14.4	---	---	74.0	54.0	---
19840.0000	H	---	---	19.4	---	---	74.0	54.0	---
19840.0000	V	---	---	19.4	---	---	74.0	54.0	---
22320.0000	H	---	---	19.3	---	---	74.0	54.0	---
22320.0000	V	---	---	19.3	---	---	74.0	54.0	---
24800.0000	H	---	---	19.8	---	---	74.0	54.0	---
24800.0000	V	---	---	19.8	---	---	74.0	54.0	---

Note:

1. Result = Reading + Correct Factor

2. If the peak result is under the AVG limit, that is deemed to meet the AVG limit.

3. Remark "---" means that the emissions level is too low to be measured.

4. The estimated measurement uncertainty of the result measurement is:

±4.1dB (1GHz≦f≦18GHz).

±4.4dB (18GHz<f≦40GHz).

5. Please refer to page 17 to page 34 for chart

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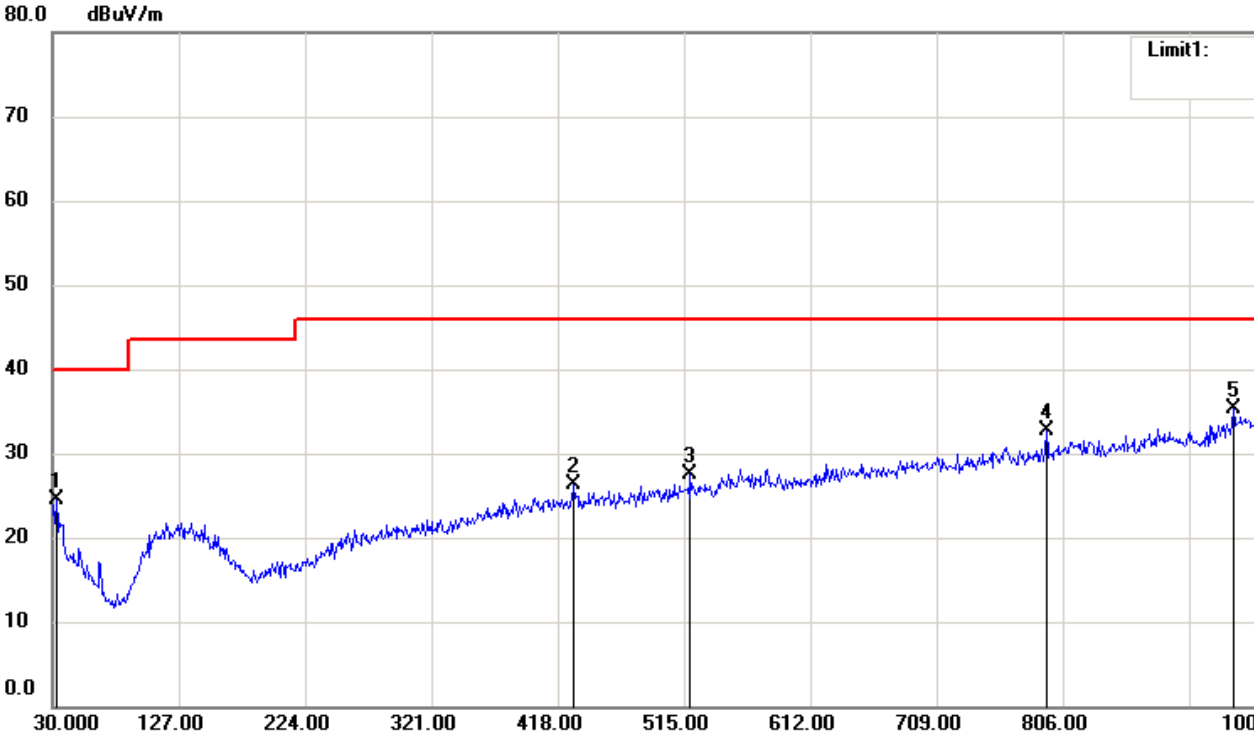
4.3.2 Other emissions

4.3.2.1 below 1GHz

File: 17-11-MAS-079_OK **Data:** #1 **Date:** 2017/12/12 **Temperature:** 21 ℃
Time: PM 01:27:14 **Humidity:** 63 %

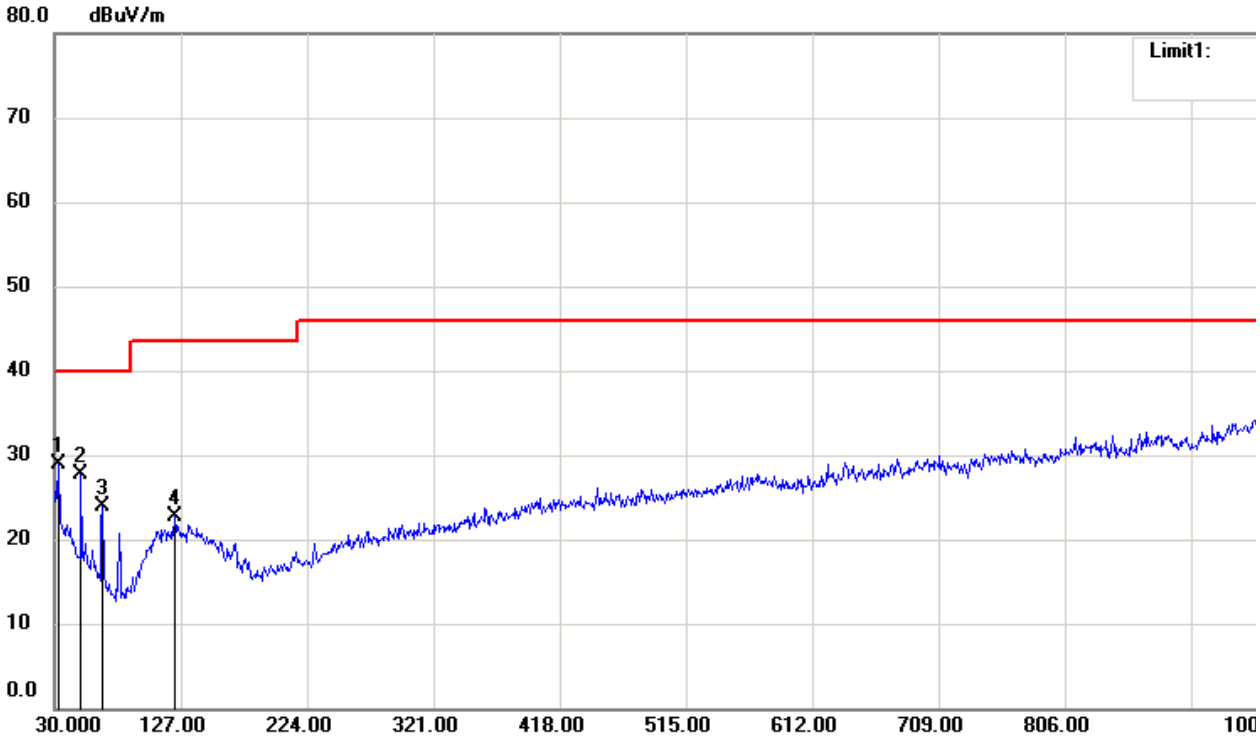


Condition: FCC_30-1000MHz **Polarization:** Horizontal
EUT: **Distance:** 3m
Model:
Test Mode:
Note:

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	32.9100	31.91	peak	-7.41	24.50	40.00	-15.50
2	430.6100	28.20	peak	-1.89	26.31	46.00	-19.69
3	519.8500	28.42	peak	-0.82	27.60	46.00	-18.40
4	793.3900	28.70	peak	3.93	32.63	46.00	-13.37
5	936.9500	28.07	peak	7.21	35.28	46.00	-10.72
6	973.8100	26.98	peak	8.21	35.19	54.00	-18.81

File: 17-11-MAS-079_OK **Data:** #2 **Date:** 2017/12/12 **Temperature:** 21 ℃

Time: PM 01:31:51 **Humidity:** 63 %



Condition: FCC_30-1000MHz **Polarization:** Vertical
EUT: **Distance:** 3m
Model:
Test Mode:
Note:

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	32.9100	36.36	peak	-7.41	28.95	40.00	-11.05
2	50.3700	36.97	peak	-9.26	27.71	40.00	-12.29
3	66.8600	36.35	peak	-12.53	23.82	40.00	-16.18
4	122.1500	27.80	peak	-5.10	22.70	43.50	-20.80
5	963.1400	26.54	peak	8.00	34.54	54.00	-19.46
6	995.1500	26.14	peak	8.63	34.77	54.00	-19.23

Note: *1. Remark "---" means that the emissions level is too low to be measured.*
2. If the peak result is under the quasi-peak limit, that is deemed to meet the quasi-peak limit.
3. The estimated measurement uncertainty of the result measurement is:
±4.6dB (30MHz ≦f<300MHz)
±4.2dB (300MHz ≦f<1GHz)

4.3.2.2 above 1GHz

4.3.2.2.1 Fundamental Frequency: 2402 MHz

Frequency	Ant Pol	Reading (dBuV/m)@3m		Correct Factor	Result (dBuV/m)@3m		Limit (dBuV/m)@3m		Margin (worse)
(MHz)	H/V	Peak	AVG	(dB)	Peak	AVG	Peak	AVG	(dB)
1226.6025	V	50.0	---	-12.1	37.9	---	74.0	54.0	-16.1
2211.5385	H	49.7	---	-7.0	42.7	---	74.0	54.0	-11.3
2757.0280	H	49.0	---	-5.3	43.7	---	74.0	54.0	-10.3
2757.0280	V	49.5	---	-5.3	44.2	---	74.0	54.0	-9.8

4.3.2.2.2 Fundamental Frequency: 2441 MHz

Frequency	Ant Pol	Reading (dBuV/m)@3m		Correct Factor	Result (dBuV/m)@3m		Limit (dBuV/m)@3m		Margin (worse)
(MHz)	H/V	Peak	AVG	(dB)	Peak	AVG	Peak	AVG	(dB)
1145.8333	H	49.5	---	-12.50	37.0	---	74	54	-17.0
1195.1921	V	49.5	---	-12.30	37.2	---	74	54	-16.8
2707.2957	H	48.9	---	-5.50	43.4	---	74	54	-10.6
2757.0280	V	49.3	---	-5.30	44.0	---	74	54	-10.0
3279.2180	H	47.8	---	-3.60	44.2	---	74	54	-9.8
3378.6826	V	49.9	---	-3.30	46.6	---	74	54	-7.4
5716.1041	H	47.6	---	1.60	49.2	---	74	54	-4.8

4.3.2.2.3 Fundamental Frequency: 2480 MHz

Frequency	Ant Pol	Reading (dBuV/m)@3m		Correct Factor	Result (dBuV/m)@3m		Limit (dBuV/m)@3m		Margin (worse)
(MHz)	H/V	Peak	AVG	(dB)	Peak	AVG	Peak	AVG	(dB)
1067.3077	H	49.4	---	-12.90	36.5	---	74	54	-17.5
1231.0896	V	49.7	---	-12.10	37.6	---	74	54	-16.4
2732.1620	H	48.8	---	-5.40	43.4	---	74	54	-10.6
2732.1620	V	48.8	---	-5.40	43.4	---	74	54	-10.6
3204.6194	V	50.1	---	-3.80	46.3	---	74	54	-7.7

Note:

1. Result = Reading + Correct Factor
2. If the peak result is under the AVG limit, that is deemed to meet the AVG limit.
3. Remark "---" means that the emissions level is too low to be measured.
4. The estimated measurement uncertainty of the result measurement is:
$\pm$4.1dB (1GHz$\leq f \leq$18GHz).
$\pm$4.4dB (18GHz$< f \leq$40GHz).
5. Please refer to page 18 to page 35 for chart

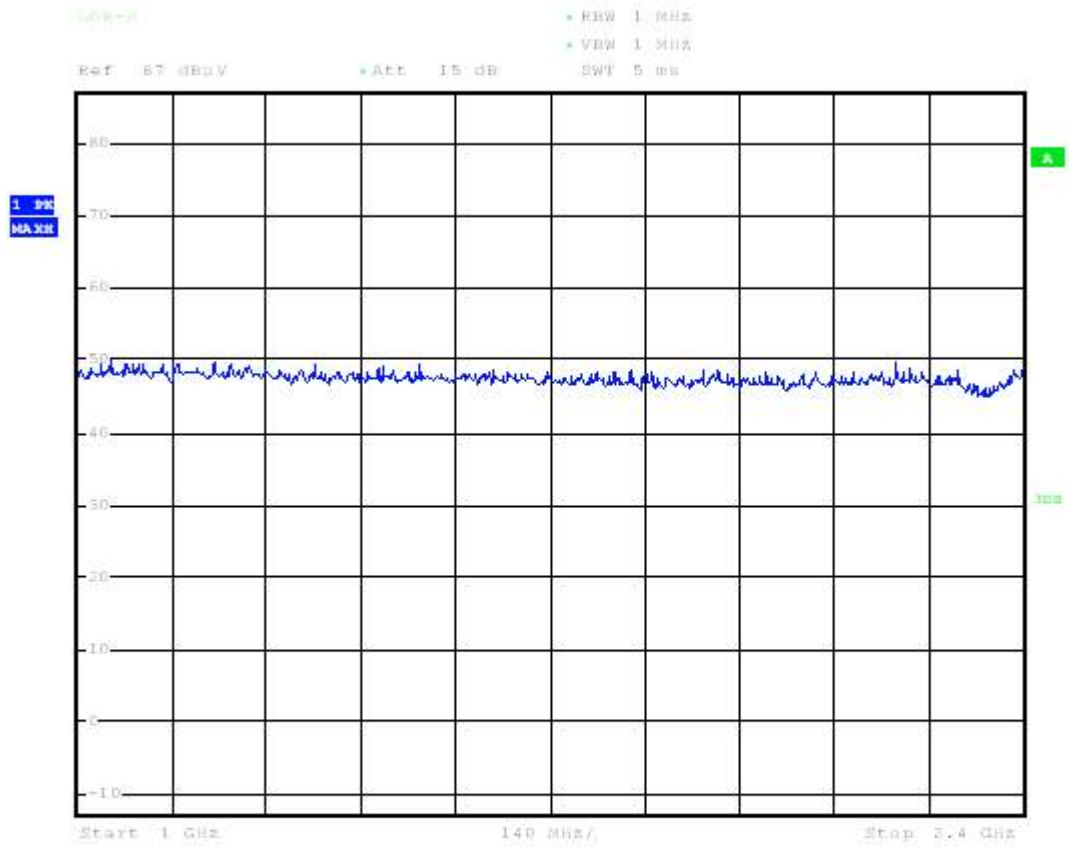
4.3.2.3 below 30MHz

Frequency (MHz)	Reading (dBuV/m) Peak	Duty (dB)	Factor (dB)	Result @3m (dBuV/m) Peak	QP	AVG	Limit @3m (dBuV/m) Peak	AVG
Radiated emission frequencies from 9 kHz to 30 MHz were too low to be measured.								

Note:

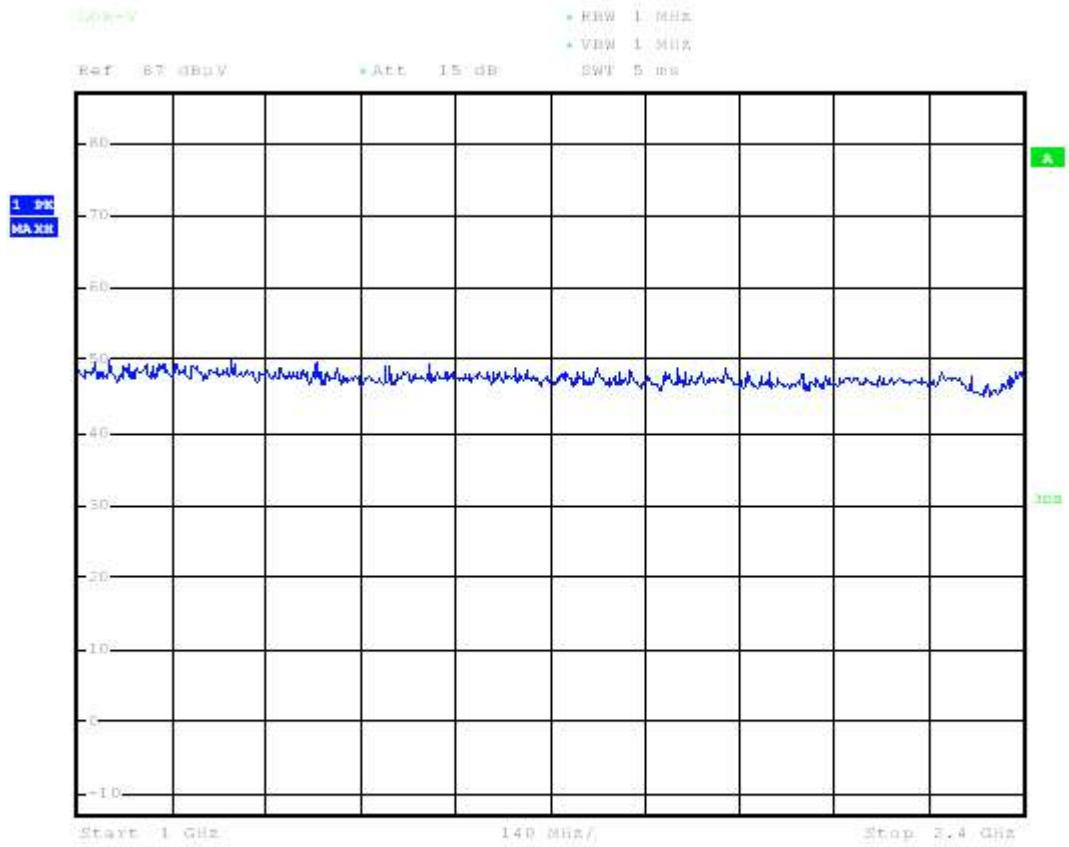
1. *Place of Measurement: Measuring site of the ETC.*
2. *If the data table appeared symbol of "---" means the value was too low to be measured.*
3. *The estimated measurement uncertainty of the result measurement is ±4.2dB (9kHz≦f≦30MHz)*

CH Low (Horizontal)



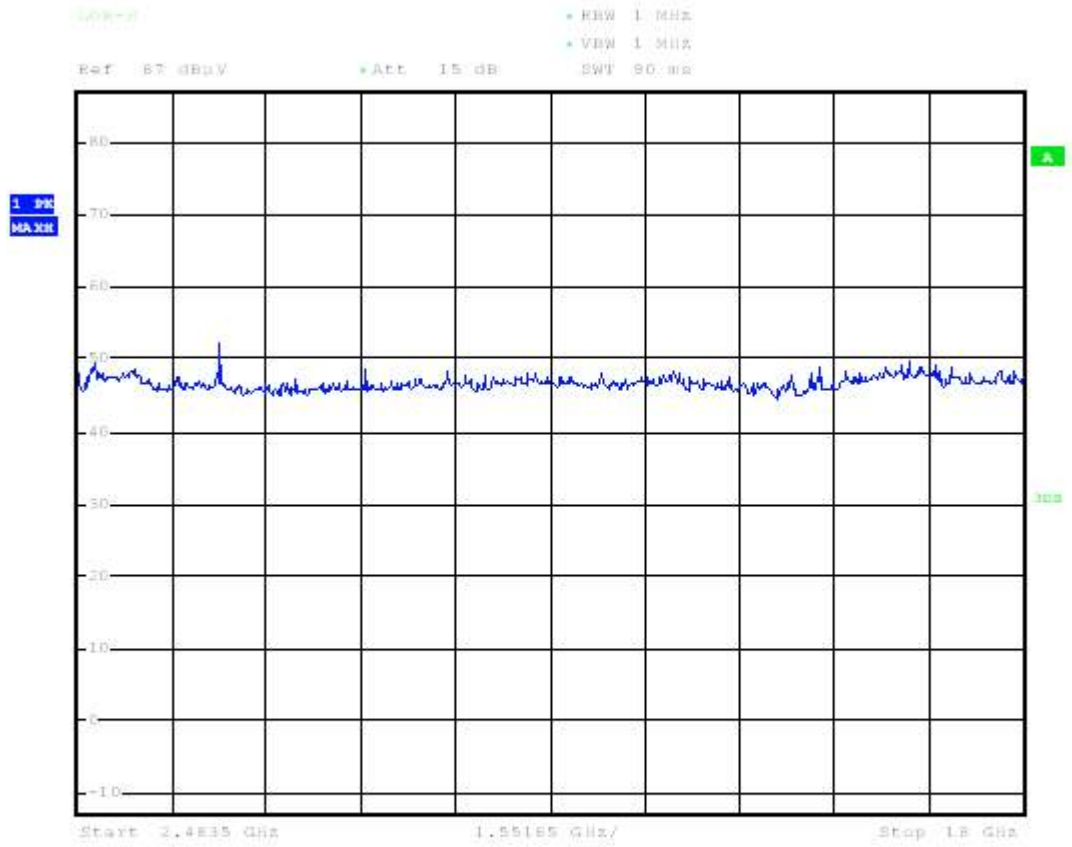
Date: 12.DEC.2017 10:57:28

CH Low (Vertical)



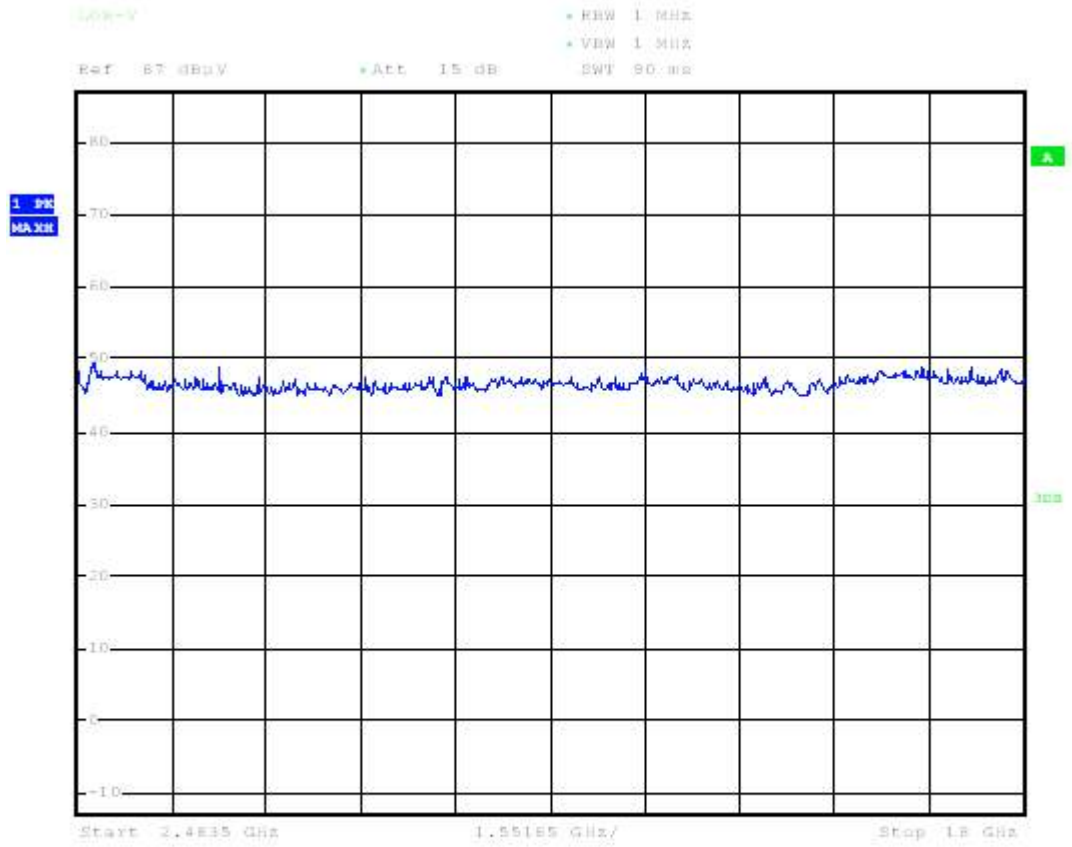
Date: 12.DEC.2017 11:00:11

CH Low (Horizontal)



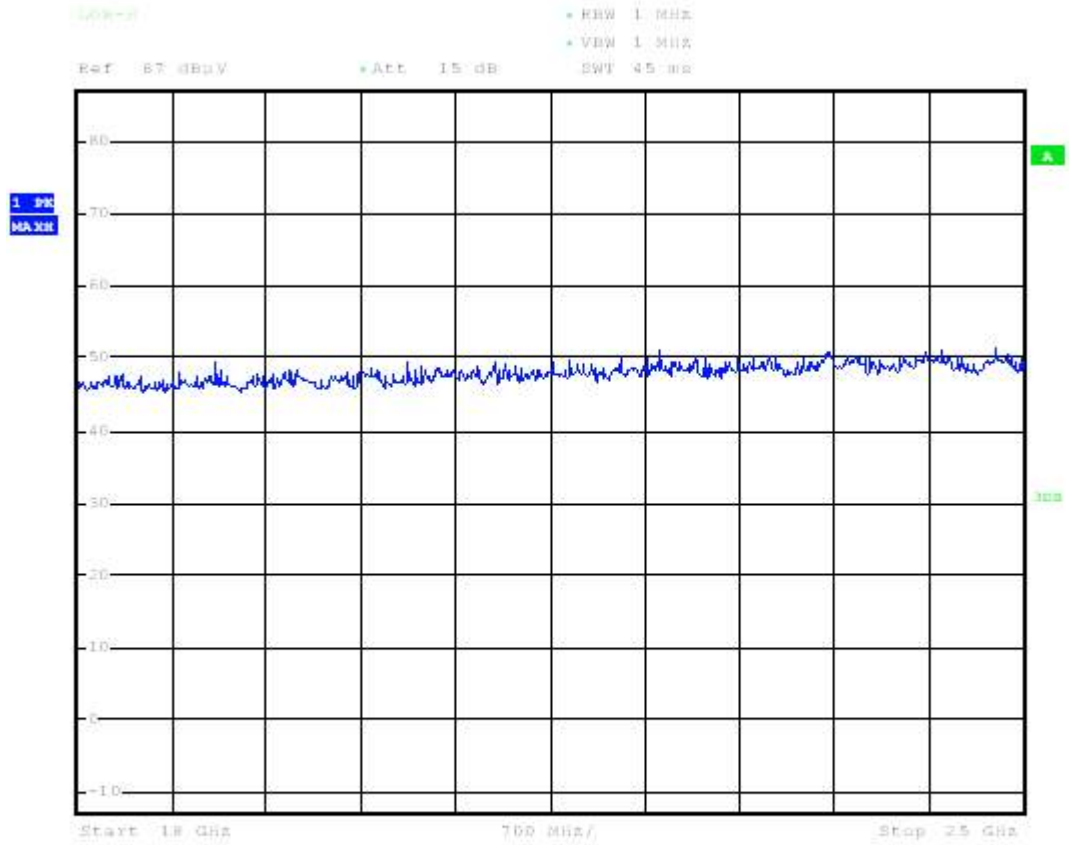
Date: 12.DEC.2017 10:58:40

CH Low (Vertical)



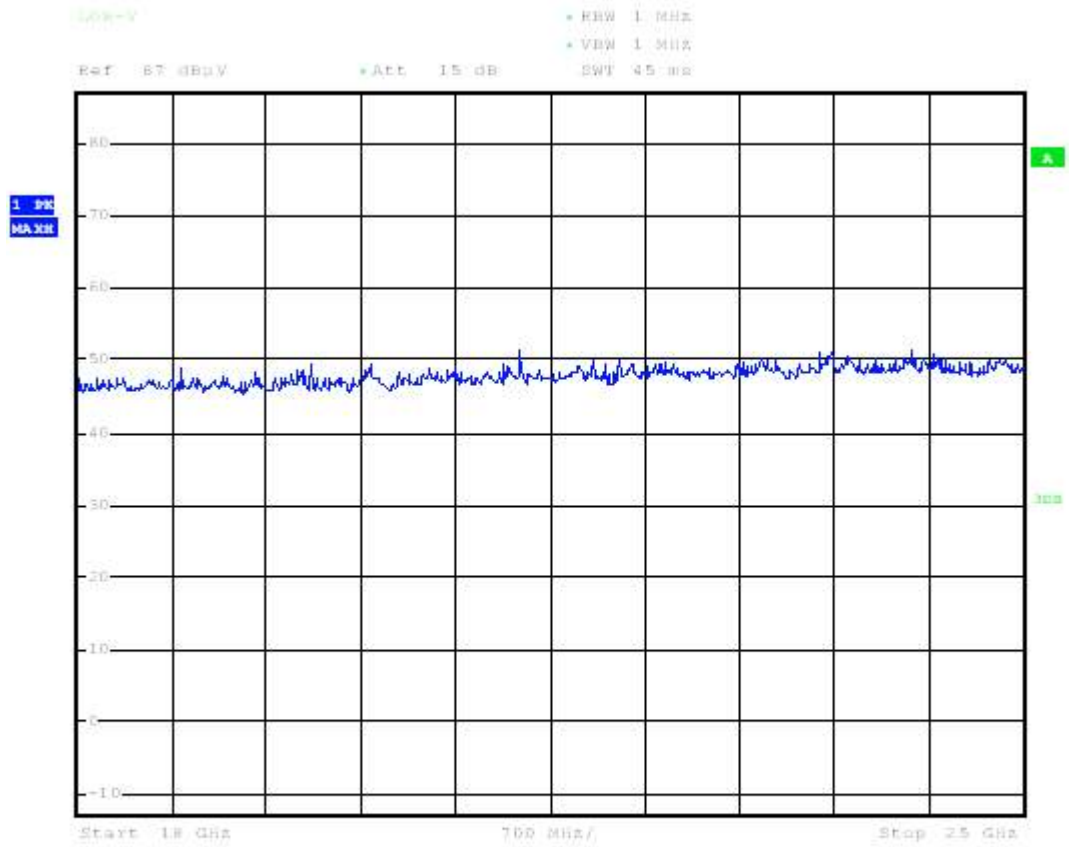
Date: 12.DEC.2017 11:01:22

CH Low (Horizontal)



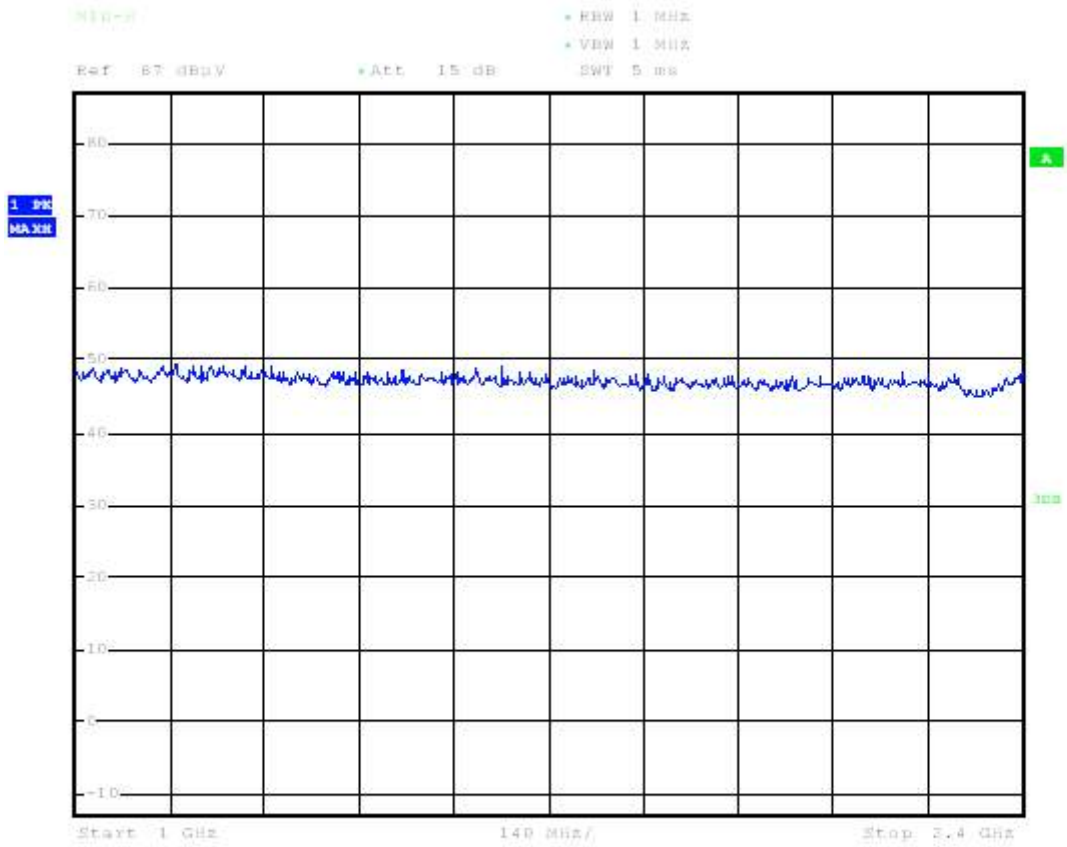
Date: 12.DEC.2017 10:59:00

CH Low (Vertical)



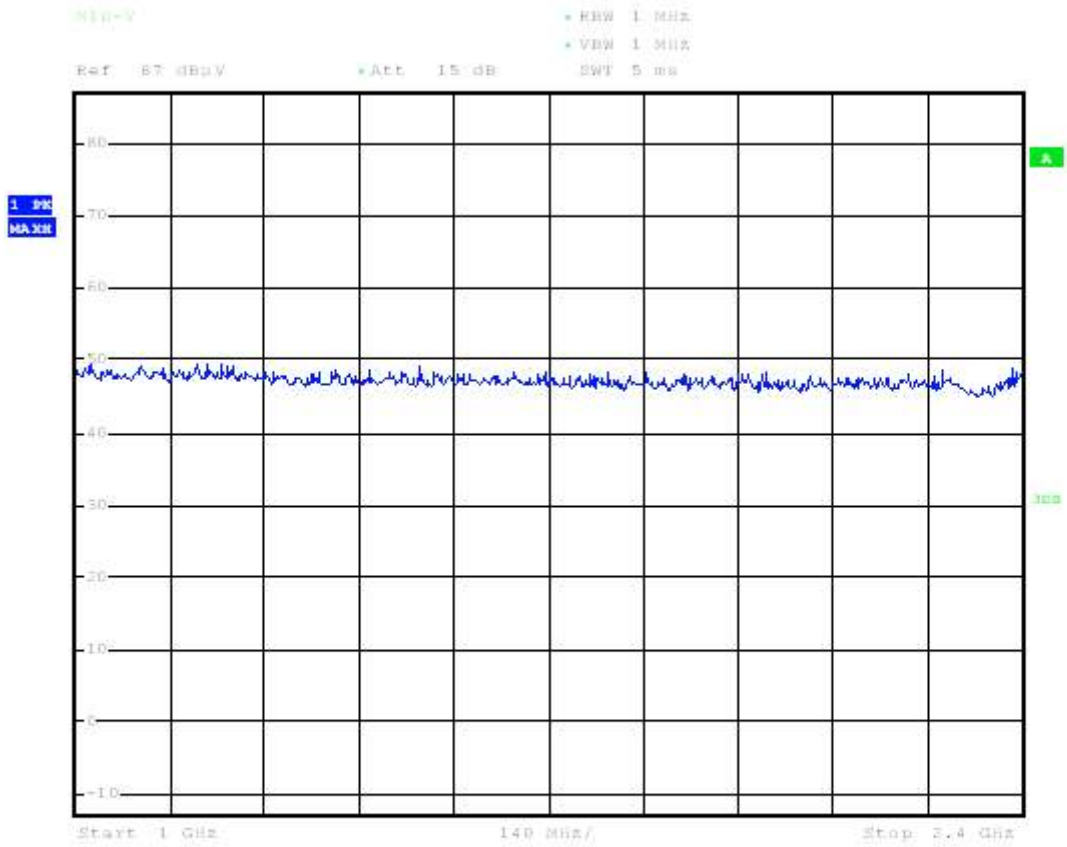
Date: 12.DEC.2017 11:01:42

CH Mid (Horizontal)



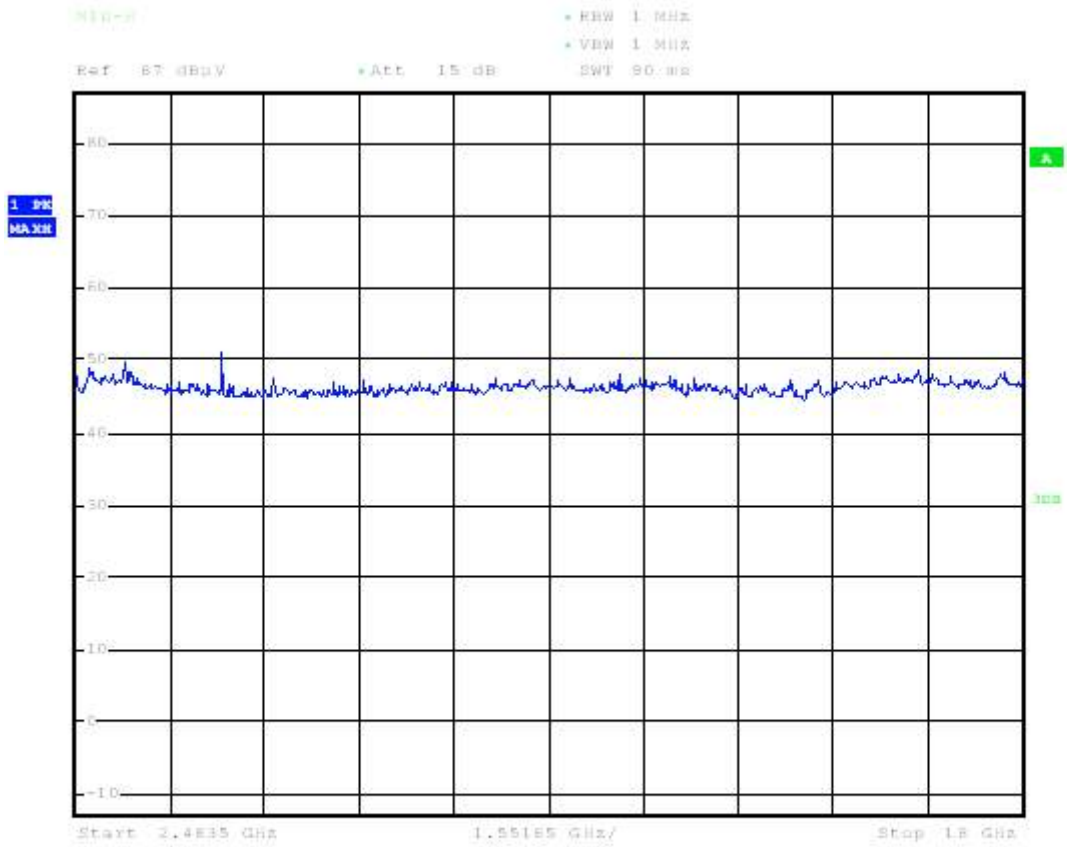
Date: 12.DEC.2017 12:19:43

CH Mid (Vertical)



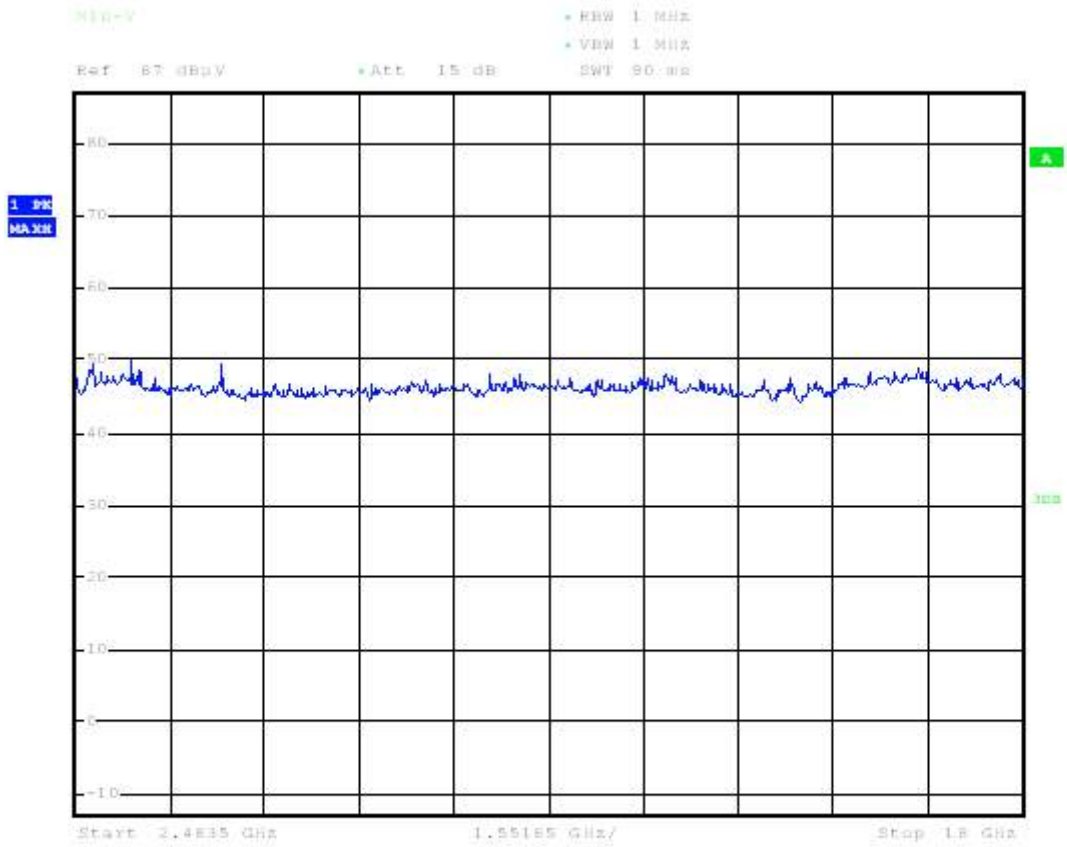
Date: 12.DEC.2017 12:22:26

CH Mid (Horizontal)



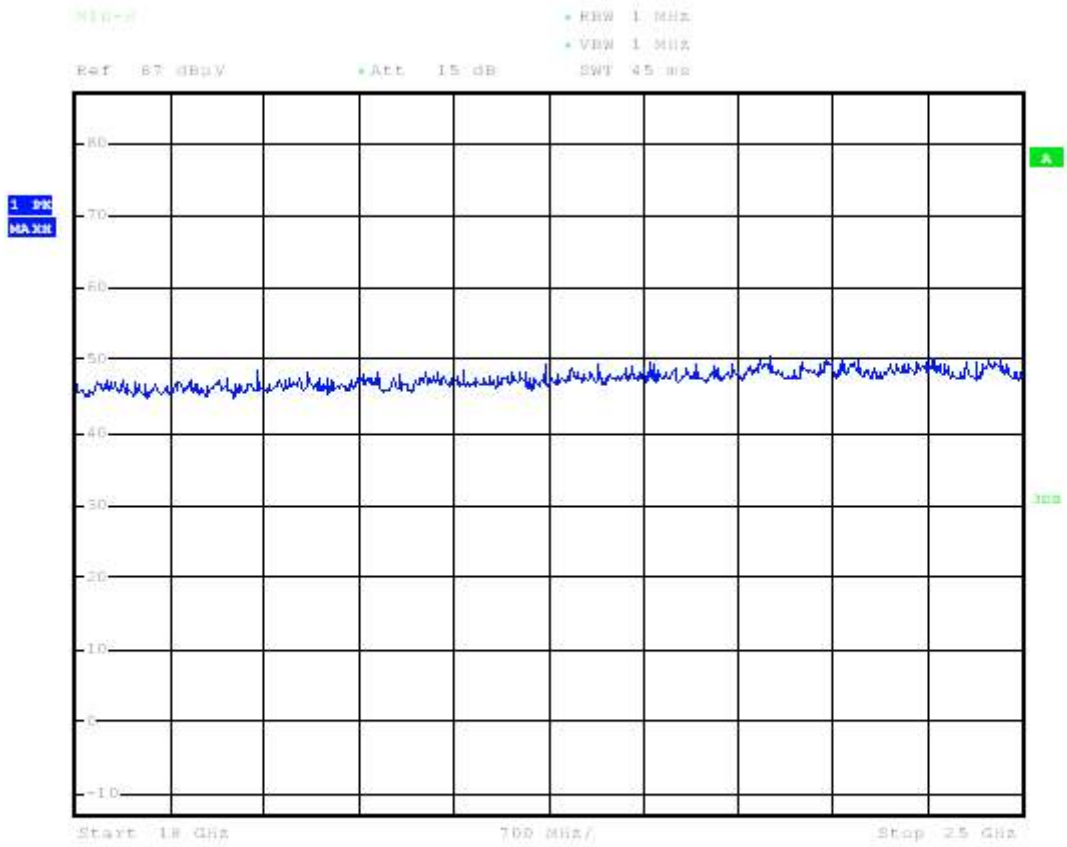
Date: 12.DEC.2017 12:20:54

CH Mid (Vertical)



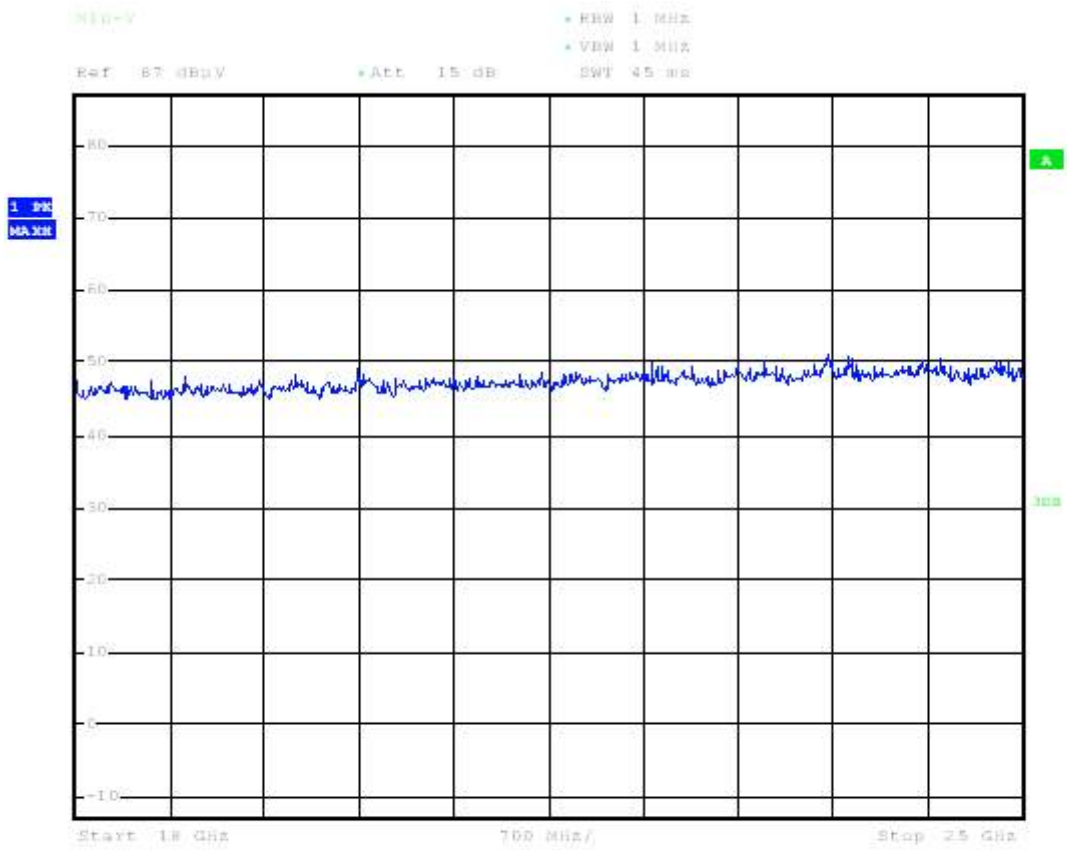
Date: 12.DEC.2017 12:23:38

CH Mid (Horizontal)



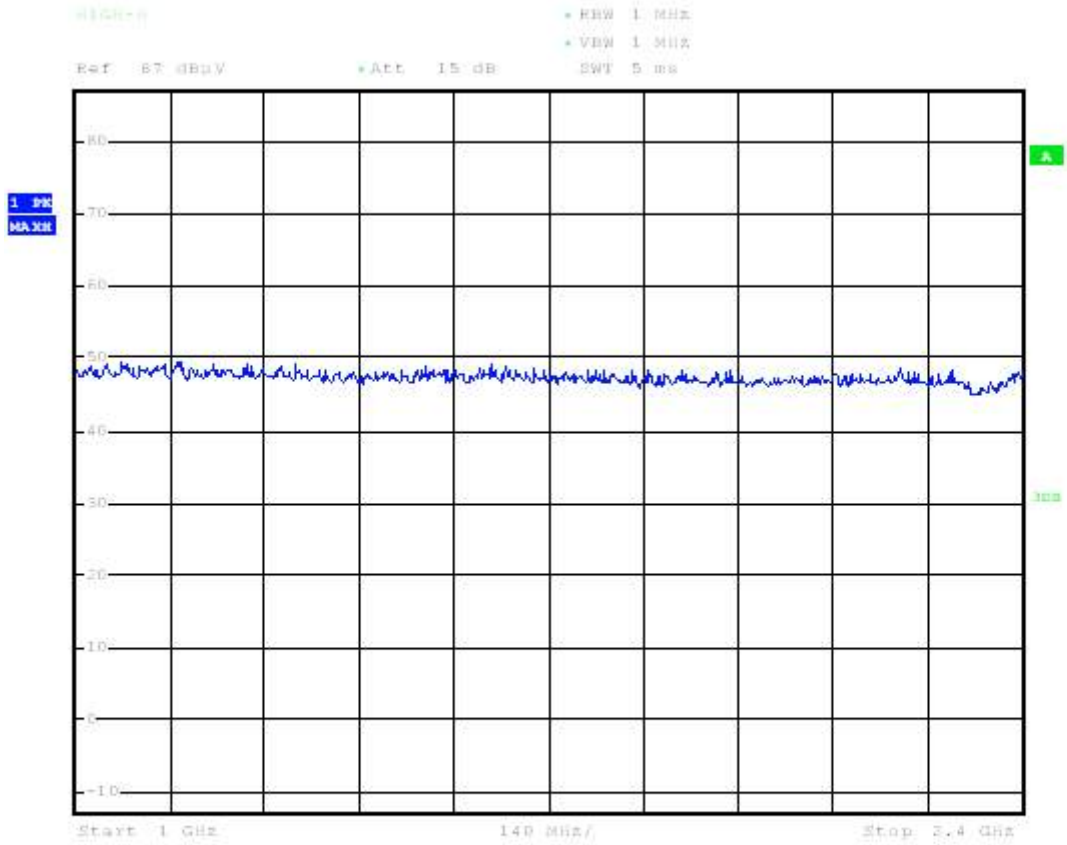
Date: 12.DEC.2017 12:21:15

CH Mid (Vertical)



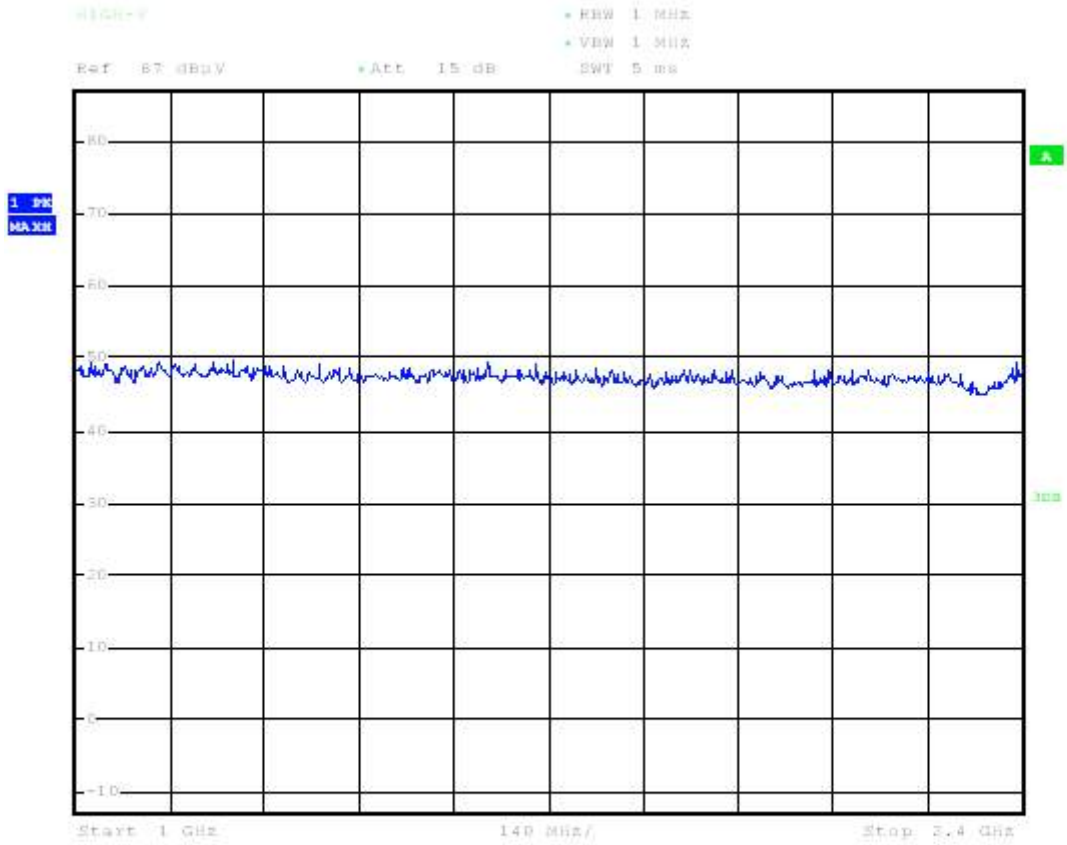
Date: 12.DEC.2017 12:23:58

CH High (Horizontal)



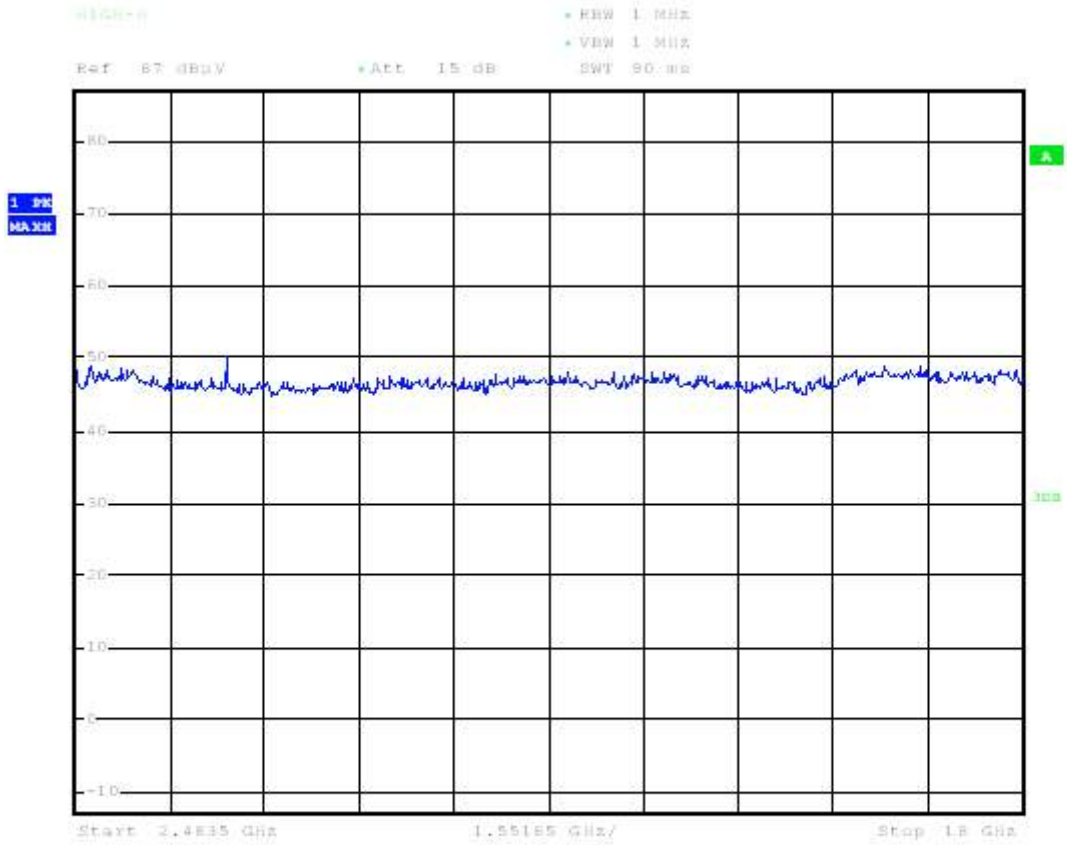
Date: 13.DEC.2017 03:27:04

CH High (Vertical)



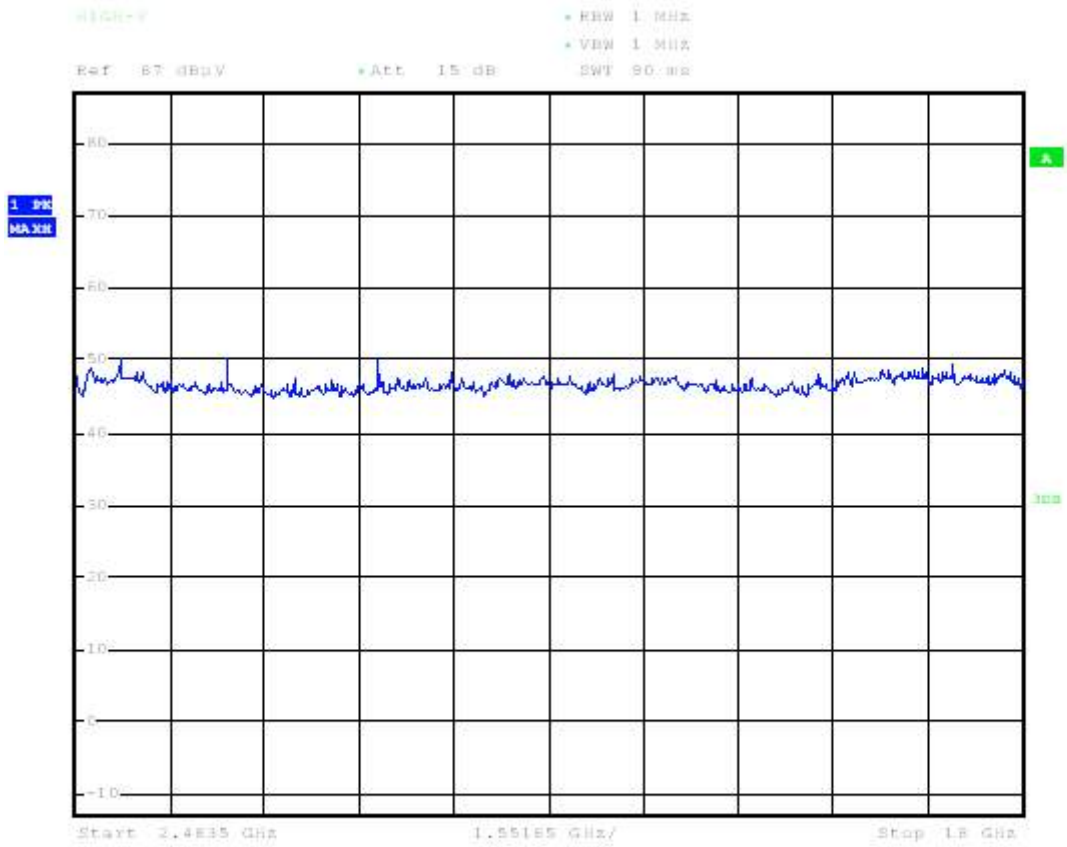
Date: 13.DEC.2017 03:29:49

CH High (Horizontal)



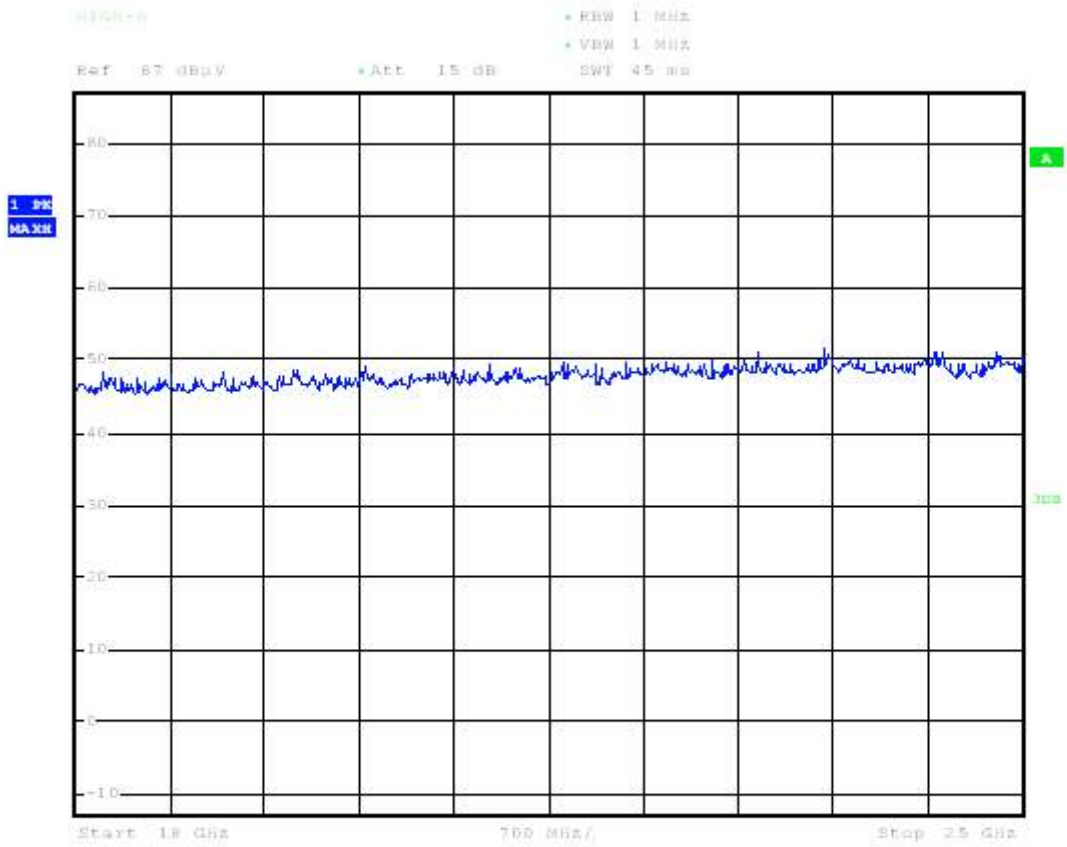
Date: 13.DEC.2017 03:28:16

CH High (Vertical)



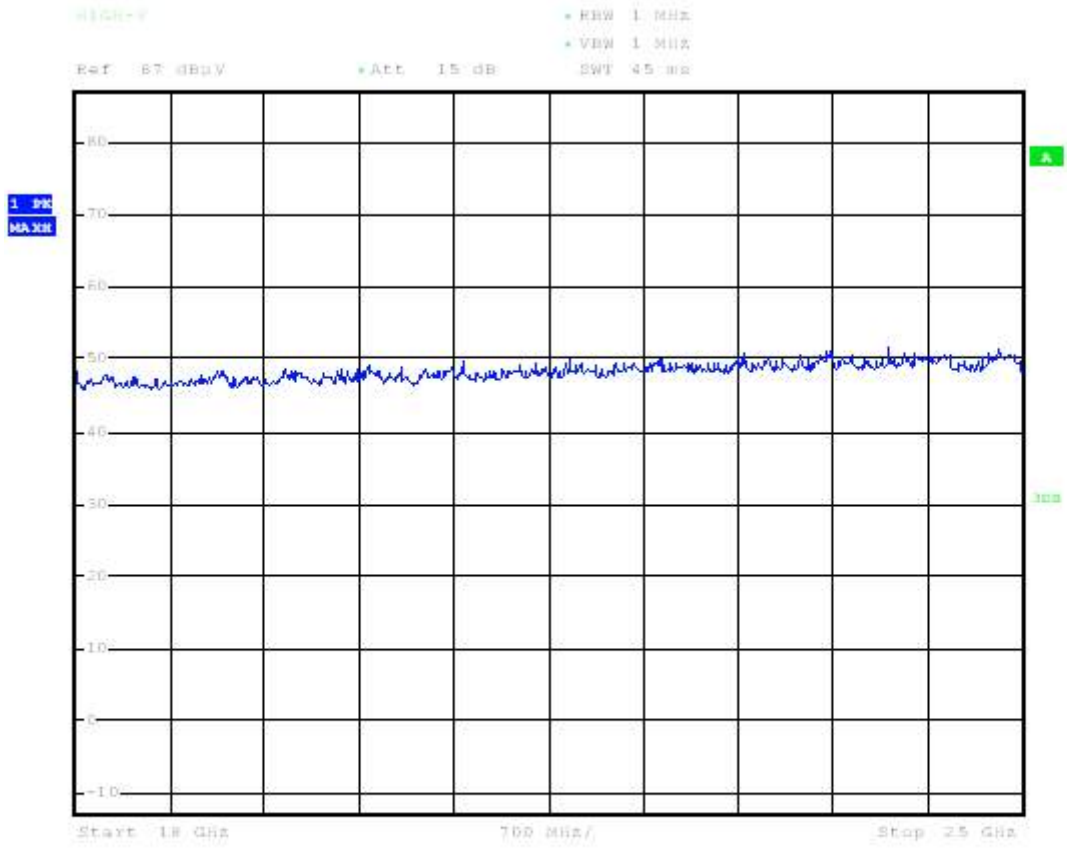
Date: 13.DEC.2017 03:31:00

CH High (Horizontal)



Date: 13.DEC.2017 03:28:36

CH High (Vertical)



Date: 13.DEC.2017 03:31:28

4.3.2.4 Radiated Measurement at Bandedge with Fundamental Frequencies

Test Date : Dec. 12, 2017 Temperature : 21℃ Humidity : 63%

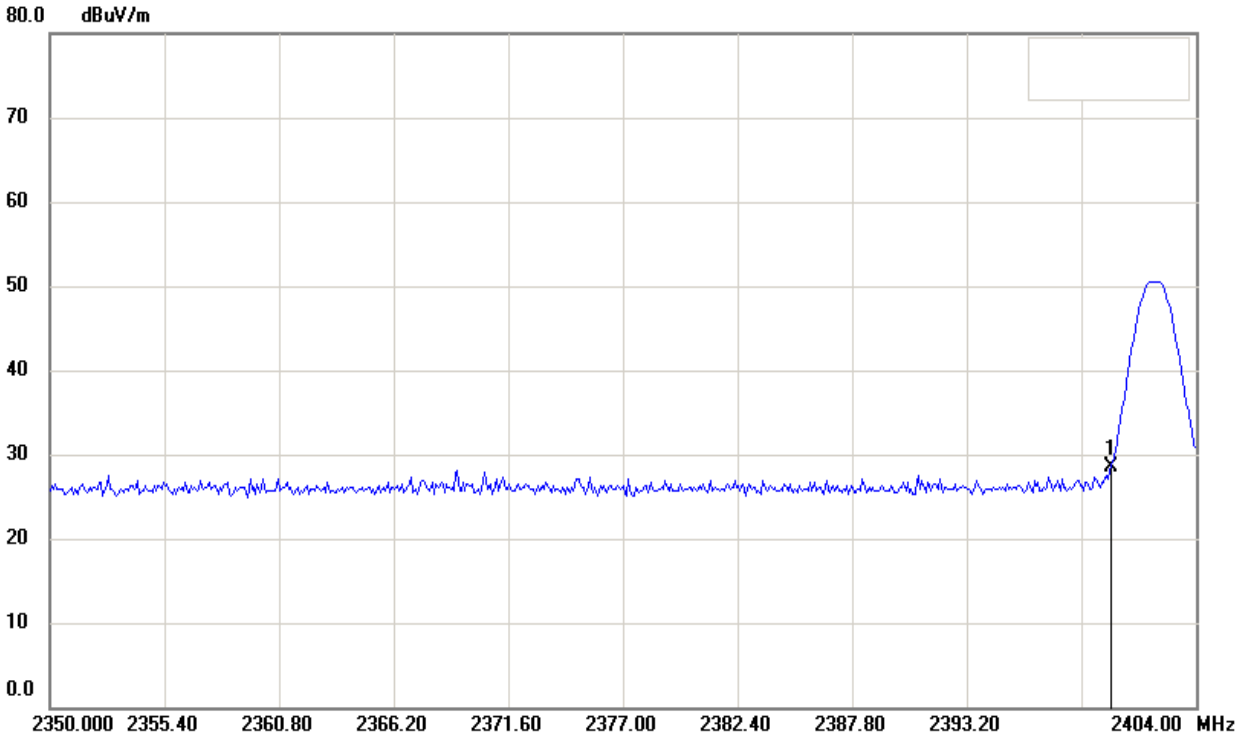
Channel	Frequency	Reading @3m (dBuV/m)				Factor	Result		Limit @3m		Margin (worse)	
		H		V			(dBuV/m)		(dBuV/m)		(dB)	
	(MHz)	Peak	Ave	Peak	Ave	(dB)	Peak	Ave	Peak	Ave	Peak	Ave
CH Low	2400.000	28.6	20.9	26.9	18.0	30.8	59.4	51.7	74.0	54.0	-14.6	-2.3
CH High	2483.500	28.1	14.3	27.4	14.0	31.02	59.1	45.4	74.0	54.0	-14.9	-8.7

Note: *1. The result is the highest value of radiated emission from restrict band of 2350~2500 MHz.*
2. Please refer to page 36 to page 43 for chart.

Low bandedge-Peak-H

File: 17-11-MAS-079_OK **Data:** #25 **Date:** 2017/12/12 **Temperature:** 21 ℃

Time: PM 05:23:06 **Humidity:** 63 %



Condition:
EUT:
Model:
Test Mode:
Note: **CHL**

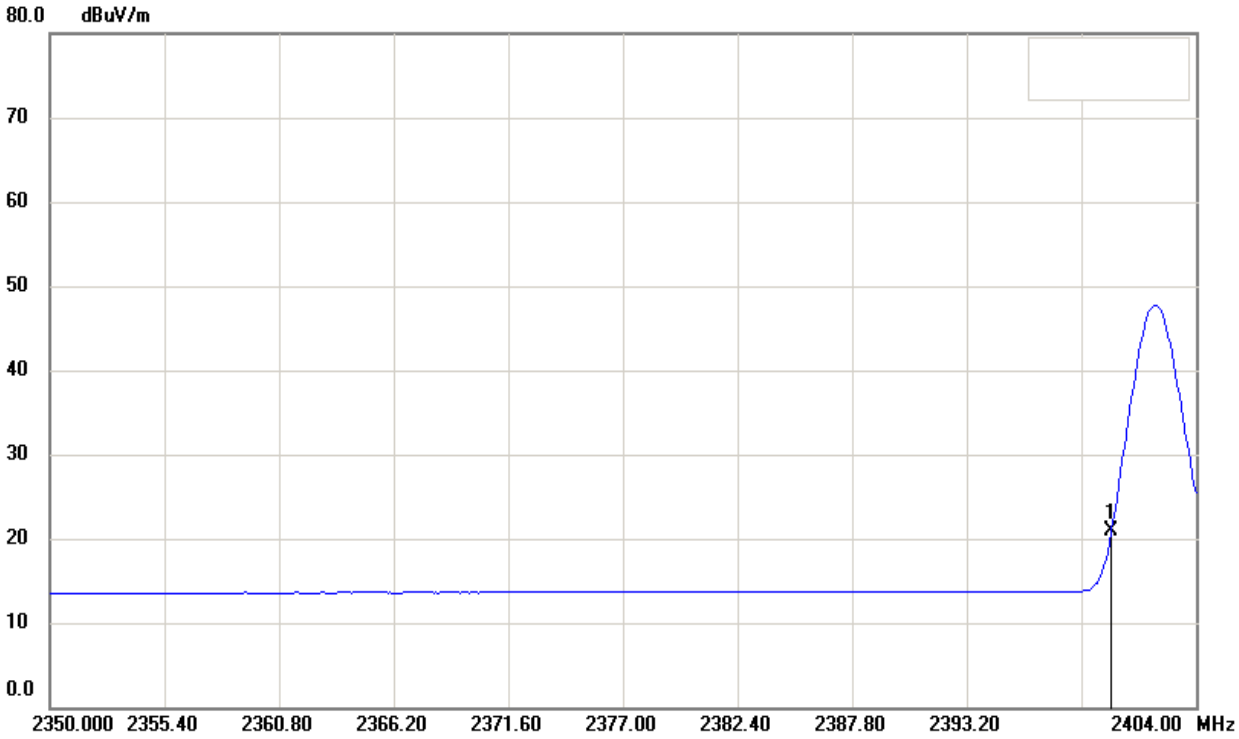
Polarization: **Horizontal**
Distance: **3m**

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected Factor(dB)	Result (dBuV/m)
1	2400.0000	28.60	peak	0.00	28.60

Low bandedge-AVG-H

File: 17-11-MAS-079_OK **Data:** #28 **Date:** 2017/12/12 **Temperature:** 21 ℃

Time: PM 05:27:16 **Humidity:** 63 %



Condition:
EUT:
Model:
Test Mode:
Note: CHL

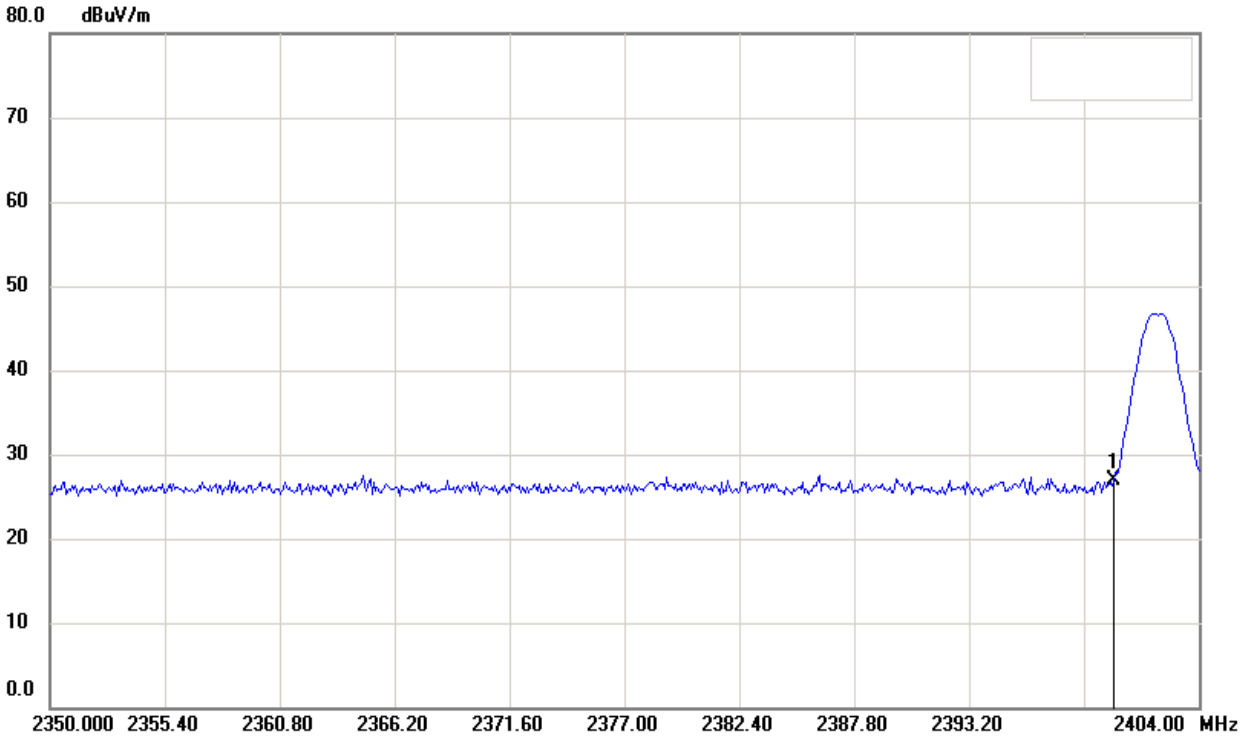
Polarization: Horizontal
Distance: 3m

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected Factor(dB)	Result (dBuV/m)
1	2400.0000	20.90	AVG	0.00	20.90

Low bandedge-Peak-V

File: 17-11-MAS-079_OK **Data:** #29 **Date:** 2017/12/12 **Temperature:** 21 ℃

Time: PM 05:37:07 **Humidity:** 63 %



Condition:
EUT:
Model:
Test Mode:
Note: **CHL**

Polarization: **Vertical**
Distance: **3m**

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected Factor(dB)	Result (dBuV/m)
1	2400.0000	26.86	peak	0.00	26.86

Low bandedge_AVG-V

File: 17-11-MAS-079_OK **Data:** #32 **Date:** 2017/12/12 **Temperature:** 21 ℃

Time: PM 05:40:39 **Humidity:** 63 %

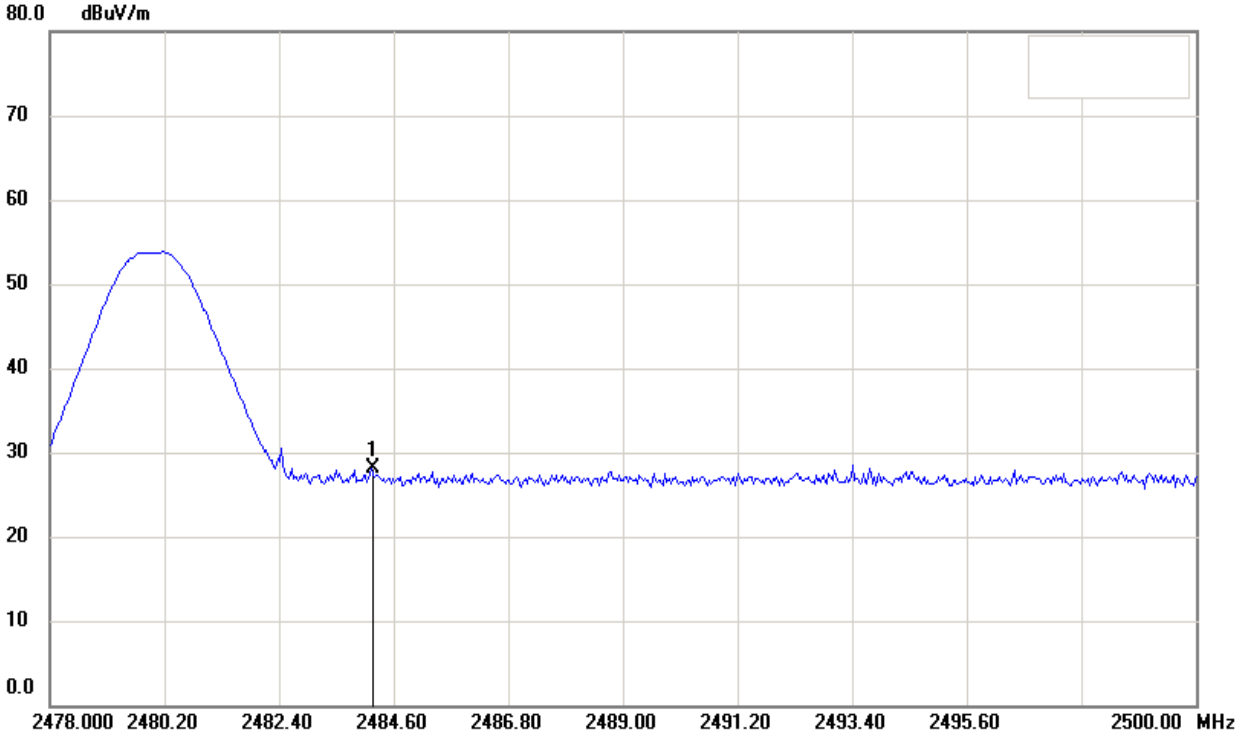
Condition:
EUT:
Model:
Test Mode:
Note: **CHL**

Polarization: **Vertical**
Distance: **3m**

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected Factor(dB)	Result (dBuV/m)
1	2400.0000	17.97	AVG	0.00	17.97

High bandedge-Peak-H

File: 17-11-MAS-079_OK **Data:** #23 **Date:** 2017/12/12 **Temperature:** 21 ℃
Time: PM 05:09:57 **Humidity:** 63 %



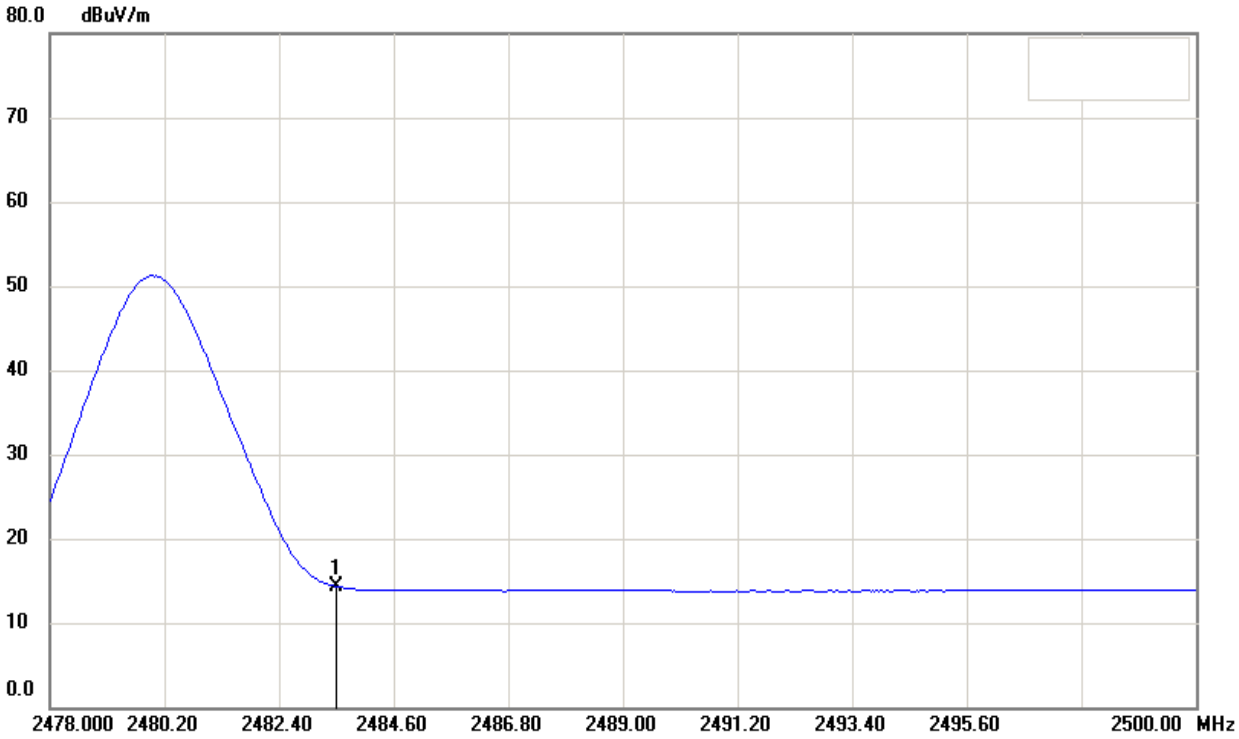
Condition:
EUT:
Model:
Test Mode:
Note: **CHH**

Polarization: **Horizontal**
Distance: **3m**

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected Factor(dB)	Result (dBuV/m)
1	2484.1700	28.12	peak	0.00	28.12

High bandedge-AVG-H

File: 17-11-MAS-079_OK **Data:** #24 **Date:** 2017/12/12 **Temperature:** 21 ℃
Time: PM 05:11:12 **Humidity:** 63 %



Condition:
EUT:
Model:
Test Mode:
Note: **CHH**

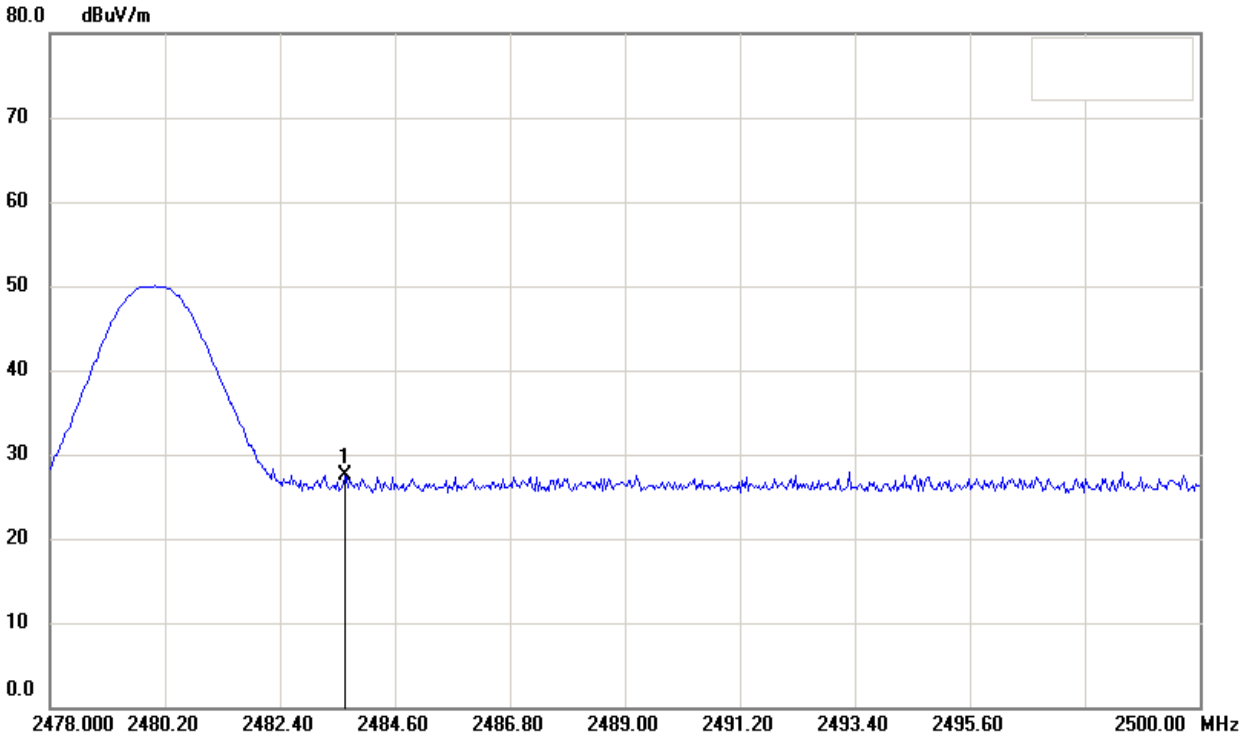
Polarization: **Horizontal**
Distance: **3m**

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected Factor(dB)	Result (dBuV/m)
1	2483.5000	14.33	AVG	0.00	14.33

High bandedge-Peak-V

File: 17-11-MAS-079_OK **Data:** #21 **Date:** 2017/12/12 **Temperature:** 21 ℃

Time: PM 04:58:00 **Humidity:** 63 %



Condition:
EUT:
Model:
Test Mode:
Note: **CHH**

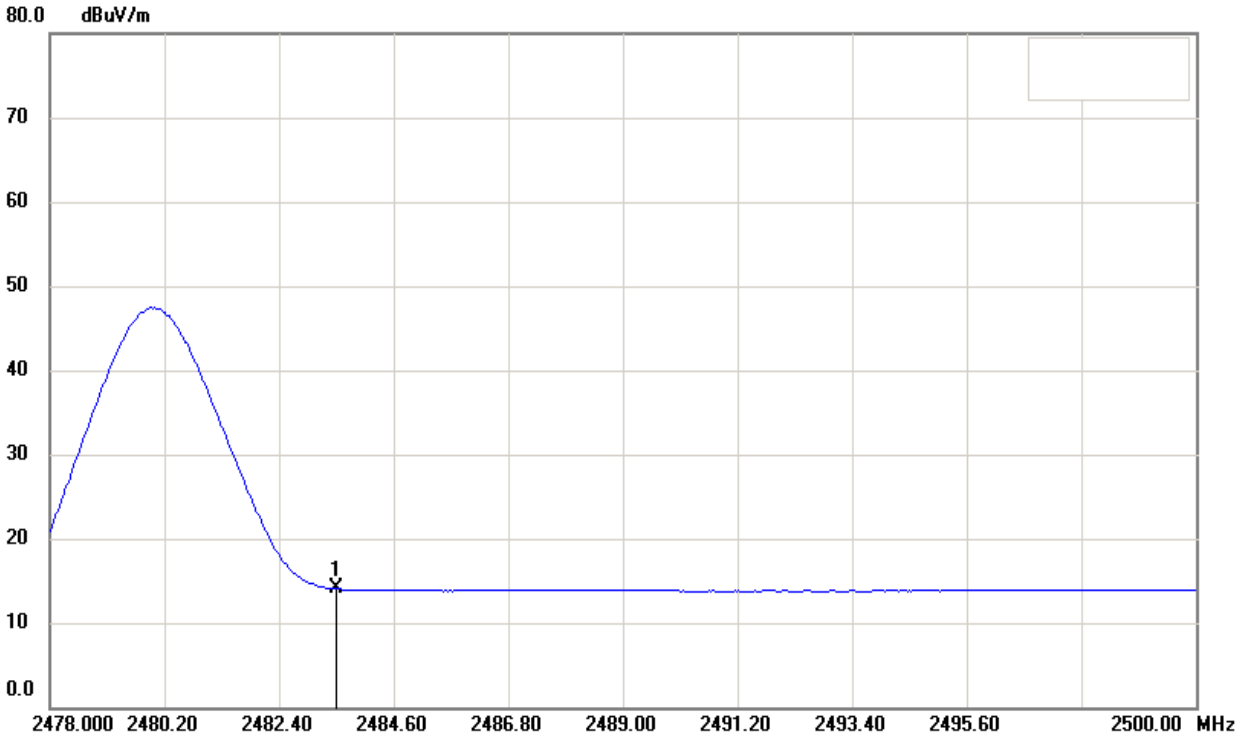
Polarization: **Vertical**
Distance: **3m**

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected Factor(dB)	Result (dBuV/m)
1	2483.6410	27.42	peak	0.00	27.42

High bandedge-AVG-V

File: 17-11-MAS-079_OK **Data:** #22 **Date:** 2017/12/12 **Temperature:** 21 ℃

Time: PM 05:01:26 **Humidity:** 63 %



Condition:
EUT:
Model:
Test Mode:
Note: **CHH**

Polarization: **Vertical**
Distance: **3m**

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected Factor(dB)	Result (dBuV/m)
1	2483.5000	14.01	AVG	0.00	14.01

4.4 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation with a sample calculation is as follows:

RESULT = READING + CORR. FACTOR

where CORR. FACTOR= Antenna FACTOR + Cable FACTOR - Amplifier Gain (if any)

4.5 Radiated Test Equipment

The following instrument are used for radiated emissions measurement:

Equipment	Manufacturer	Model No.
EMI Receiver	R&S	ESCI
BiLog Antenna	ETC	MCTD 2786B
Loop Antenna	EMCO	6512
PRE-Amplifier	Agilent	8449B
PRE-Amplifier	Agilent	8447D
Spectrum Analyzer	Rohde & Schwarz	FSU46

Note: The standards used to perform this calibration are traceable to NML/ROC, NIST/USA and NPL.

5. MEASUREMENT OF OPERATING FREQUENCY RANGE

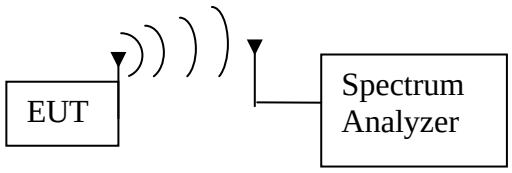
5.1 Applicable Standard

According to §15.205,Only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42-16.423	399.9-410	4.5-5.25
0.495 - 0.505 **	16.69475 - 16.69525	608-614	5.35-5.46
2.1735 - 2.1905	16.80425 - 16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475 - 156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2655-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	Above 38.6
13.36-13.41			

** : Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz

5.2 Operating frequency range measurement configuration



5.3 Operating frequency range Test Equipment

Equipment	Manufacturer	Model No.
Spectrum Analyzer	Agilent	E4446A

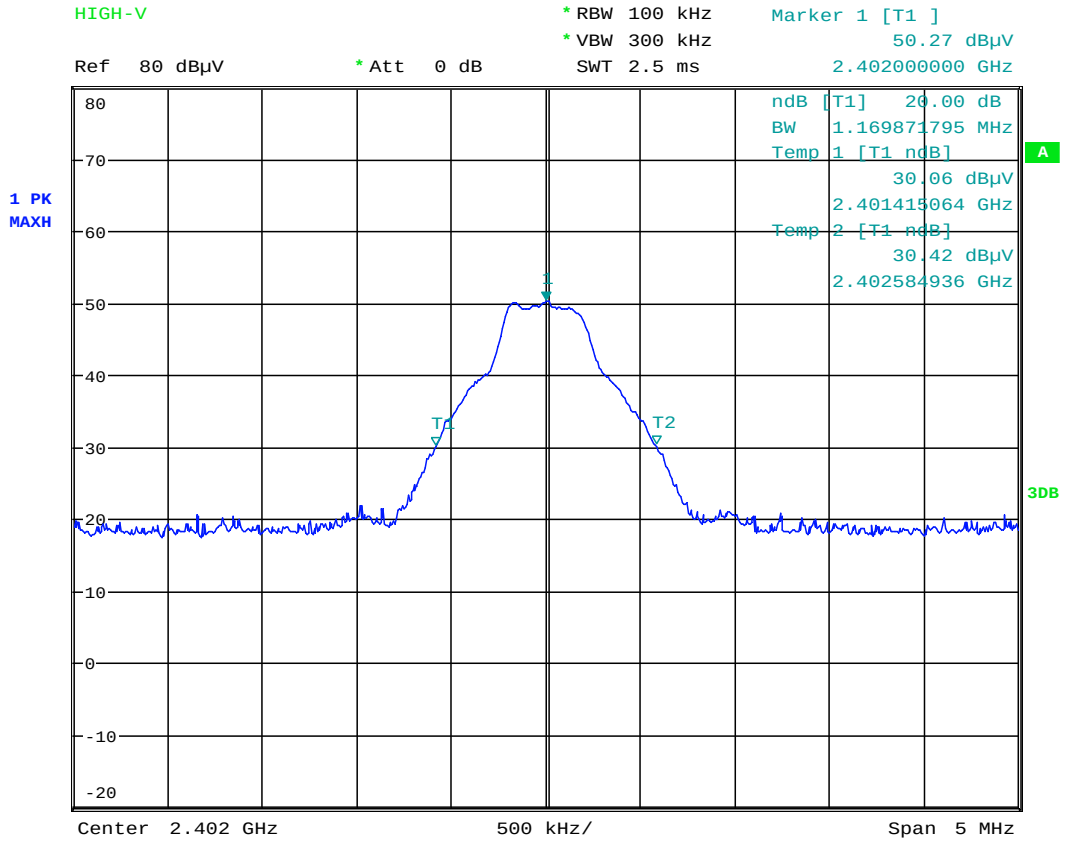
5.4 Test Result

Operated mode : Transmitting
Test Date : Dec. 11, 2017 Temperature : 21℃ Humidity : 63 %

The operating frequency range is not within the restricted bands and meets the requirements of §15.205.

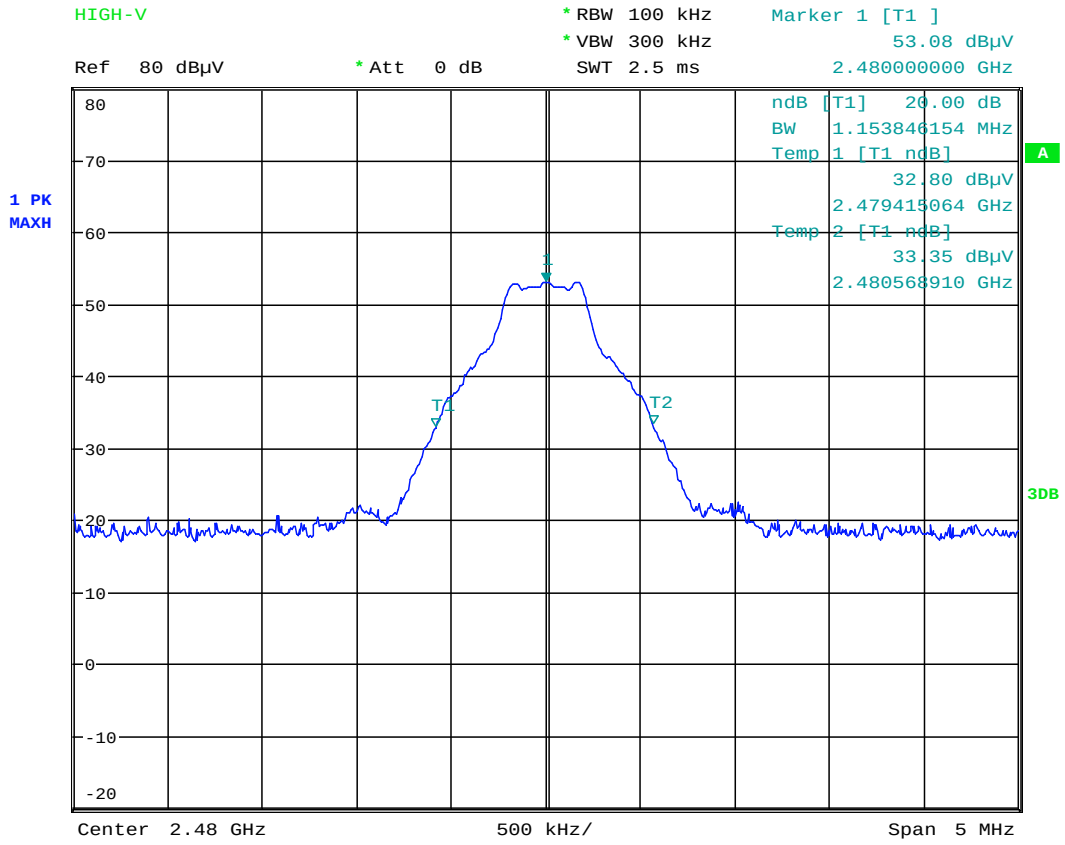
Note: *Please refer to page 48 and page 49 for chart.*

CH Low



Date: 13.DEC.2017 06:46:43

CH High



Date: 13.DEC.2017 06:59:35

6. CONDUCTED EMISSION MEASUREMENT

This EUT is excused from investigation of conducted emission, for it is powered by battery only. According to 15.107(d), measurements to demonstrate compliance with the conducted limits are not required for devices which only employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines.

7. EQUIPMENTS LIST FOR TESTING

Equipment	Manufacturer	Model No.	S/N	Calibration Date	Next Cal. Due
EMI Receiver	R&S	ESCI	13054423-001	01/13/2017	01/12/2018
Horn Antenna	EMCO	3115	13059201-001	11/29/2017	11/28/2018
BiLog Antenna	ETC	MCTD2786B	BLB17F04016	02/15/2017	02/14/2018
Horn Antenna	EMCO	3116	13059202-001	11/04/2017	11/03/2018
PRE-Amplifier	Agilent	8449B	13040709-001	01/10/2017	01/09/2018
PRE-Amplifier	Agilent	8447D	13040715-002	04/25/2017	04/24/2018
Spectrum Analyzer	R&S	FSU46	13040904-001	01/10/2017	01/09/2018