FCC COMPLIANCE TEST REPORT

Technical Statement of Conformity

in accordance with 47 CFR Part 15 Subpart C

The product

Equipment Under Test	: Bluetooth Speaker Microphone
Model Number	: BTH-500
Product Series	: N/A
Report Number	: HA170462-RA
Issue Date	: 12-May-2017
Test Result	: Compliance

is produced by

Mobility Sound Technology Ltd.

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FCC Designation No.: TW1071
TAF Accreditation No.: 1163
VCCI Registration No.: R-2156, C-2329, T-219

Contents

Test Result Certification

Applicant	: Mobility Sound Technology Ltd.
Address of Applicant	: 5F, No. 100, Jian 1st Road, ZhongHe Dist., New Taipei City #235, Taiwan
Manufacturer	: Mobility Sound Technology Ltd.
Address of Manufacturer	: 5F, No. 100, Jian 1st Road, ZhongHe Dist., New Taipei City #235, Taiwan
Trade Name	: MobilitySound
Equipment Under Test	: Bluetooth Speaker Microphone
Model Number	: BTH-500
Product Series	: N/A
FCC ID	: XTS-BTH-500
Filing Type	: Certification
Sample Received Date	: 28-Apr-2017
Test Standard	:

☒ FCC Part 15 Subpart C §15.249

Deviations from standard test methods & any other specifications : NONE

Remark:

1. This report details the results of the test carried out on one sample.
2. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in both ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules Part 15.203, 15.207, 15.209, 15.249.
3. This report applies to the above sample only and shall not be reproduced in part without written approval of HongAn Technology Co., Ltd.

Documented by: 2017-05-10

Kay Wang/ ADM. Dept Staff

Tested by: 2017-05-05

Eason Hsieh / ENG. Dept. Staff

Approved by: **Date:** 2017-05-12

Peter Chin / Section Manager

Summary of Test Result

	Test Item	Applicable Standard	Test Result
1	Antenna Requirement	FCC part 15 subpart C §203	Compliance
2	Conducted Emission	FCC part 15 subpart C §207	Compliance
3	Restricted Band of Operation	FCC part 15 subpart C §205	Compliance
4	Radiated Emission	FCC part 15 subpart C §209	Compliance
5	Field Strength	FCC part 15 subpart C §249(a)	Compliance
6	Out of Band Emission	FCC part 15 subpart C §249(d)	Compliance
7	20dB Bandwidth	FCC part 15 subpart C §215(c)	Compliance

1 General Description

1.1 Description of EUT

Equipment Under Test	:	Bluetooth Speaker Microphone
Model Number of EUT	:	BTH-500
Product Series	:	N/A
Power Supply	:	Lithium Battery DC 3.7V
Frequency Range	:	2402~2480 MHz
Number of Channels	:	79 Channels
Carrier Frequency of Each Channel	:	00 2402 20 2422 40 2442 60 2462 01 2403 21 2423 41 2443 61 2463 02 2404 22 2424 42 2444 62 2464 03 2405 23 2425 43 2445 63 2465 04 2406 24 2426 44 2446 64 2466 05 2407 25 2427 45 2447 65 2467 06 2408 26 2428 46 2448 66 2468 07 2409 27 2429 47 2449 67 2469 08 2410 28 2430 48 2450 68 2470 09 2411 29 2431 49 2451 69 2471 10 2412 30 2432 50 2452 70 2472 11 2413 31 2433 51 2453 71 2473 12 2414 32 2434 52 2454 72 2474 13 2415 33 2435 53 2455 73 2475 14 2416 34 2436 54 2456 74 2476 15 2417 35 2437 55 2457 75 2477 16 2418 36 2438 56 2458 76 2478 17 2419 37 2439 57 2459 77 2479 18 2420 38 2440 58 2460 78 2480 19 2421 39 2441 59 2461 - -
Antenna Specification	:	Chip Antenna/ Gain: 1.3 dBi
Modulation Technique	:	Bluetooth 4.0 FHSS Bluetooth : GFSK, Bluetooth EDR : π/4-DQPSK, 8-DPSK
Transmit Data Rate	:	Bluetooth : 1Mbps Bluetooth EDR : 2/3 Mbps
Specification	:	**Dimensions**：55 mm (L) X 85 mm (W) X 40 mm (H) **Weight**：130g

		Function：The EUT is a Bluetooth Speaker Microphone. **※For more detail specification, please refer to the User Manual.**

1.2 Test Instruments

HA2

Instrument Name	Manufacture Mode	Model Number	Serial Number	Last Cal. Date	Next Cal. Date
RF Amplifier	Schaffner	CPA9231A	0405	01-JUN-2016	31-MAY-2017
EMI Receiver	R&S	ESCI	100931	25-JUL-2016	24-JUL-2017
Spectrum Analyzer	R&S	FSV	101629	27-JAN-2017	26-JAN-2018
Preamplifier	HD	HD17187	004	01-JUN-2016	31-MAY-2017
Bilog Antenna	TESEQ	CBL6111D	38521	04-JUN-2016	03-JUN-2017
Double-Ridged Waveguide Horn	EMCO	3115	9912-5992	01-JUN-2016	31-MAY-2017
Temp. & Humidity Chamber	MALLIER	MCT-2X-M	13490413-001	15-DEC-2016	14-DEC-2017
Horn Antenna (18-40GHz)	Com-Power	AH-840	101042	02-JUN-2016	01-JUN-2017
Microwave Preamplifier	Com-Power	PAM-840	461269	04-JUN-2016	03-JUN-2017
L.I.S.N.	Mess Tec	NNB-2/16Z	03/1006	22-FEB-2017	22-FEB-2018
L.I.S.N.	EMCIS	3810/2NM	9702-1820	16-JUL-2016	16-JUL-2017
WIDEBAND RADIO COMMUNICATION TESTER	ROHDE&SCHWARZ	CMW-500	141958	05-NOV-2016	05-NOV-2017

※ The test equipments used are calibrated and can be traced to National ITRI and International Standards.

1.3 Auxiliary Equipments

1.3.1. Provided by HongAn Technology Co., Ltd. for RF Test.

No.	Equipment	Model No.	Serial No.	EMC Approved	Brand	Description	
						Data Cable	Power Cable
1	Notebook	N61J	N61JV-021A520M	FCC DoC.	ASUS	Adapter to Notebook Unshielded*1.8 m	AC to Adapter Unshielded*1.8 m
1	Earphone	CJ323	N/A	FCC DoC.	CJ	Audio Unshielded*2m	

1.3.2. Provided by the Manufacturer

No.	Equipment	Model No.	Serial No.	EMC Approved	Brand	Description	
						Data Cable	Power Cable
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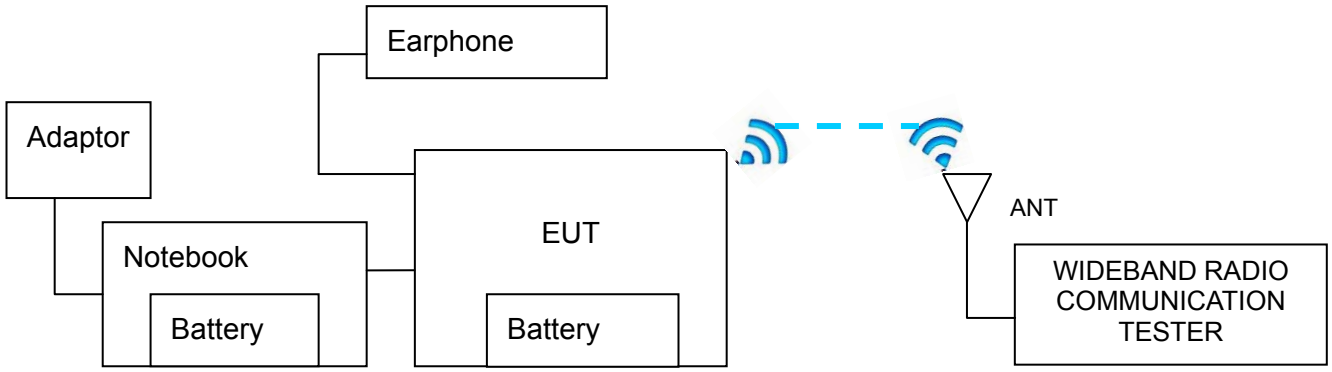
1.4 EUT SETUP



Note: Main Test Sample: BTH-500

1.5 Identifying the Final Test Mode

1. Mode 1: TX BT mode (1Mbps) CH 00.
2. Mode 2: TX BT mode (1Mbps) CH 39.
3. Mode 3: TX BT mode (1Mbps) CH 78.
4. Mode 4: TX BT mode (2Mbps) CH 00.
5. Mode 5: TX BT mode (2Mbps) CH 39.
6. Mode 6: TX BT mode (2Mbps) CH 78.
7. Mode 7: TX BT mode (3Mbps) CH 00.
8. Mode 8: TX BT mode (3Mbps) CH 39.
9. Mode 9: TX BT mode (3Mbps) CH 78.

Note :

1. After pre-test, we identified that the TX (Packet type DH5 and X axis) was most likely to cause maximum disturbance. Therefore, the Final Assessment was performed for the worst case.
2. The EUT was operated in the engineering mode to fix the TX frequency that was for the purpose of the measurements.

3. Channel Low (2402 MHz), Mid (2441 MHz) and High (2480 MHz) were chosen for full testing.
4. According to its specifications, the EUT must comply with the requirements of the Section 15.203, 15.207, 15.209 and 15.249 under the FCC Rules Part 15 Subpart C.
5. Lithium battery was fully charged before all hereafter testing.

1.6 Final Test Mode

Conducted Emission: Mode 3.
Field Strength: All Mode.
Radiated Emission (30~1000 MHz): Mode 3.
Radiated Emission (1~26.5GHz): All Mode.

1.7 Condition of Power Supply

The EUT was connected to the Laptop through a Micro USB cable. The Laptop was powered by an adaptor, and the adaptor was connected to the public power network.

1.8 EUT Configuration

1. Setup the EUT as shown in Sec.1.4 Block Diagram.
2. Turn on the power of all equipments.
3. Activate the selected Final Test Mode.

1.9 Test Methodology

The tests documented in this report were performed in accordance with ANSI C63.10 (2013) and FCC CFR 47 2.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055, 2.1057, 15.203, 15.207, 15.209 and 15.249.

1.10 General Test Procedures

Conducted Emissions

The EUT is set according to the requirements in Section 6.2 of ANSI C63.10 (2013).

Radiated Emissions

The EUT is set according to the requirements in Section 6.3 of ANSI C63.10 (2013).

1.11 Modification

N/A

1.12 FCC Part 15.205 restricted bands of operations

(a) Except as shown in paragraph (d) of this section, 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
[1]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
8.37635-8.38675	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	([2])
13.36-13.41			

[1] Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz

[2] Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

1.13 Qualification of Test Facility

BSMI Certificate No.	:	SL2-IS-E-0023, SL2-IN-E-0023, SL2-R1-E-0023, SL2-R2-E-0023, SL2-A1-E-0023, SL2-L1-E-0023.
FCC Designation No.	:	TW1071
TAF Accreditation No.	:	1163
VCCI Certificate No.	:	R-2156, C-2329, T-219

2 Power line Conducted Emission Measurement

2.1 Test Instruments

Refer to Sec. 1.2 Test Instruments.

2.2 Test Arrangement and Procedure

1. The EUT was placed on a table, which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured were complete.

2.3 Limit (§ 15.207)

For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range is listed as follows:

Frequency (MHz)	Limits (dBuV)	
	Q.P. (Quasi-Peak)	A.V. (Average)
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5.0	56	46
5.0 to 30	60	50

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

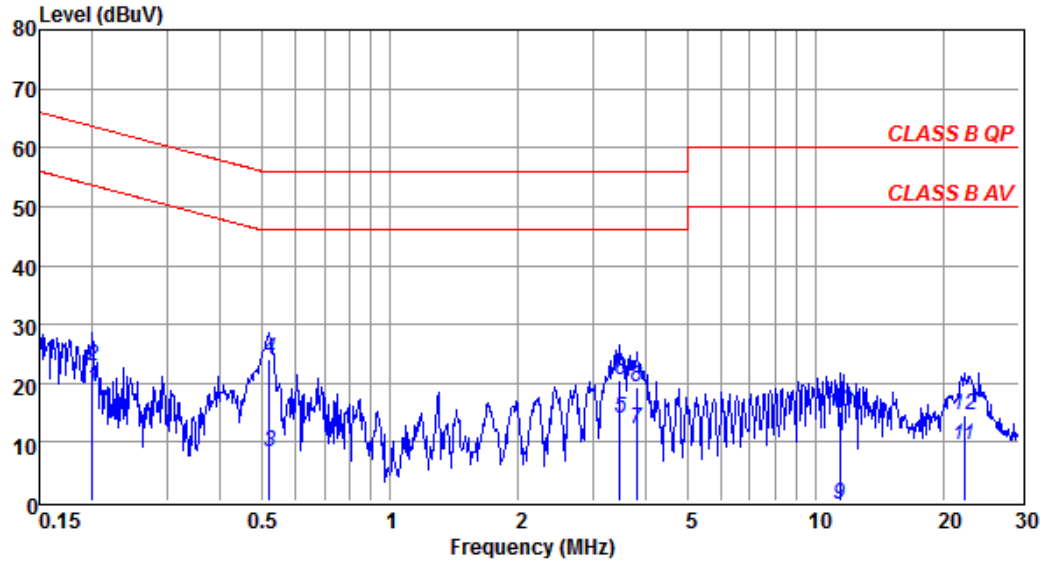
2.4 Test Result

Compliance

The final test data are shown on the following page(s).

Power Line Conducted Emission Test Data

Test Date	:	2017-05-05	Power Line	:	Line
Temperature	:	26.3℃	Humidity	:	47%



Freq	Read QP	Read AV	C.F	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
MHz	dBuV	dBuV	dB	dBuV	dBuV	dBuV	dBuV	dB	dB
0.200	22.42	18.89	0.40	22.82	19.29	63.62	53.62	-40.80	-34.33
0.521	23.55	7.99	0.43	23.98	8.42	56.00	46.00	-32.02	-37.58
3.472	19.96	13.47	0.54	20.50	14.01	56.00	46.00	-35.50	-31.99
3.799	18.83	11.65	0.55	19.38	12.20	56.00	46.00	-36.62	-33.80
11.377	14.62	-1.14	0.65	15.27	-0.49	60.00	50.00	-44.73	-50.49
22.298	14.04	8.86	0.63	14.67	9.49	60.00	50.00	-45.33	-40.51

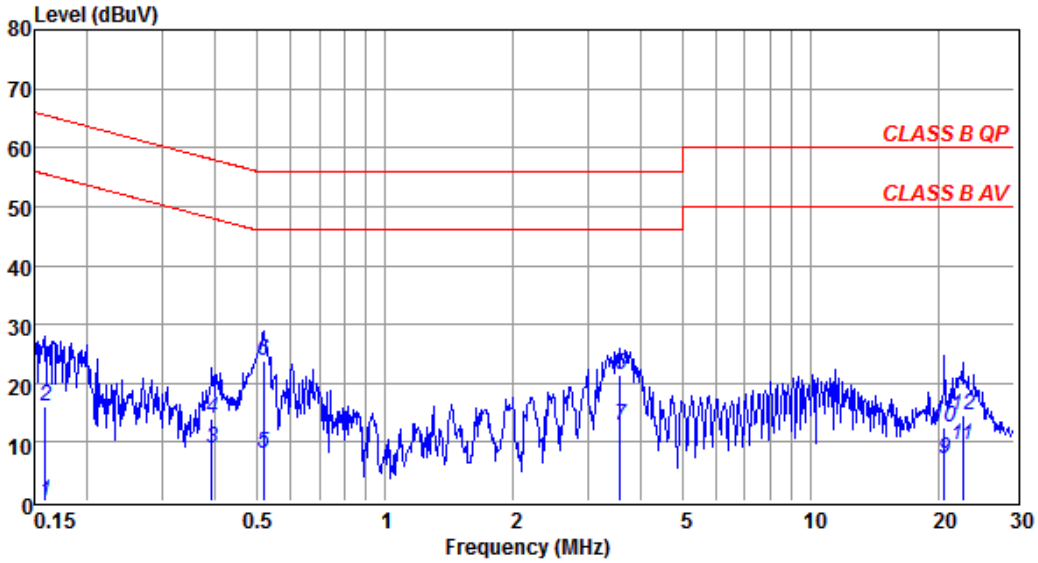
Note1: C.F (Correction Factor) = Insertion loss + Cable loss + Pulse limiter
Note2: Margin = Result - Limit

Remark：

1. Measuring frequencies from 0.15 MHz to 30 MHz.
2. The emissions measured in frequency range from 0.15 MHz to 30 MHz were made with an instrument using quasi-peak detector and average detector.
3. The IF bandwidth of SPA between 0.15 MHz to 30 MHz was 10kHz; the IF bandwidth of Test Receiver between 0.15 MHz to 30 MHz was 9kHz.

Power Line Conducted Emission Test Data

Test Date	:	2017-05-05	Power Line	:	Neutral
Temperature	:	26.3℃	Humidity	:	47%



Freq	Read QP	Read AV	C.F	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
MHz	dBuV	dBuV	dB	dBuV	dBuV	dBuV	dBuV	dB	dB
0.159	15.69	-0.47	0.44	16.13	-0.03	65.52	55.52	-49.39	-55.55
0.391	13.37	8.58	0.46	13.83	9.04	58.03	48.03	-44.20	-38.99
0.518	23.21	7.68	0.47	23.68	8.15	56.00	46.00	-32.32	-37.85
3.565	20.72	12.26	0.58	21.30	12.84	56.00	46.00	-34.70	-33.16
20.594	11.56	6.42	0.80	12.36	7.22	60.00	50.00	-47.64	-42.78
22.775	13.81	8.65	0.77	14.58	9.42	60.00	50.00	-45.42	-40.58

Note1: C.F (Correction Factor) = Insertion loss + Cable loss + Pulse limiter
Note2: Margin = Result - Limit

Remark：

1. Measuring frequencies from 0.15 MHz to 30 MHz.
2. The emissions measured in frequency range from 0.15 MHz to 30 MHz were made with an instrument using quasi-peak detector and average detector.
3. The IF bandwidth of SPA between 0.15 MHz to 30 MHz was 10kHz; the IF bandwidth of Test Receiver between 0.15 MHz to 30 MHz was 9kHz.

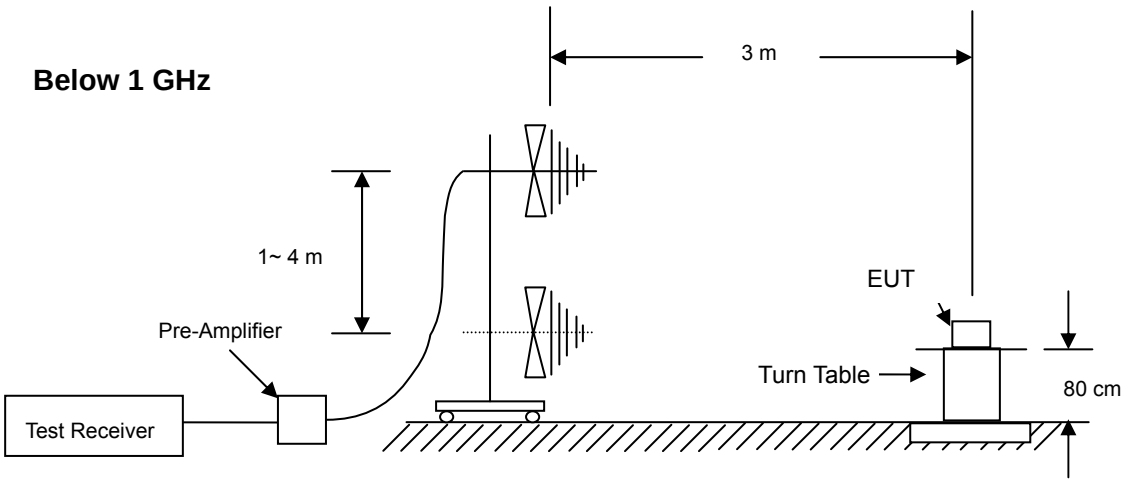
3 Radiated Emission Test

3.1 Test Instruments

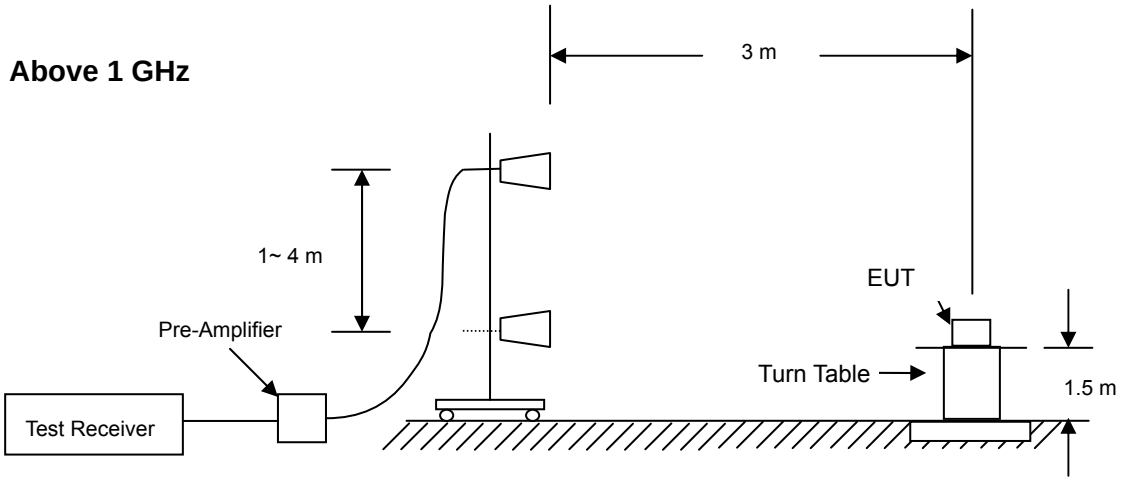
Refer to Sec. 1.2 Test Instruments.

3.2 Test Arrangement and Procedure

Below 1 GHz



Above 1 GHz



1. The EUT is placed on a turntable, which is 0.8 m (below 1GHz) and 1.5m (above 1GHz) above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3 m away from the receiving antenna, which is varied from 1 m to 4 m to find out the highest emissions.
4. Maxium procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Set the spectrum analyzer in the following setting as:
   (a) Below 1 GHz: RBW =100 kHz/ VBW = 1 MHz/ Sweep = AUTO.

(b) Above 1 GHz: Peak: RBW = VBW = 1MHz/ Sweep = AUTO; Average: RBW = 1MHz/ VBW = 10Hz/ Sweep = AUTO.

7. Repeat above procedures until the meausreemnts for all frequencies are complete.

3.3 Limit (§ 15.205 & § 15.209)

3.3.1. Limit of Restricted Band of Operation (§ 15.205)

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

Frequency Band			
MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
[1] 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	
13.36-13.41			

3.3.2. Limit of Spurious Emission (§ 15.209)

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in § 15.209, whichever is lesser attenuation.

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
1.705-30.0	30	30
30-88	100**	3
88-216	150**	3
216-960	200**	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g.§§ 15.231 and 15.241.

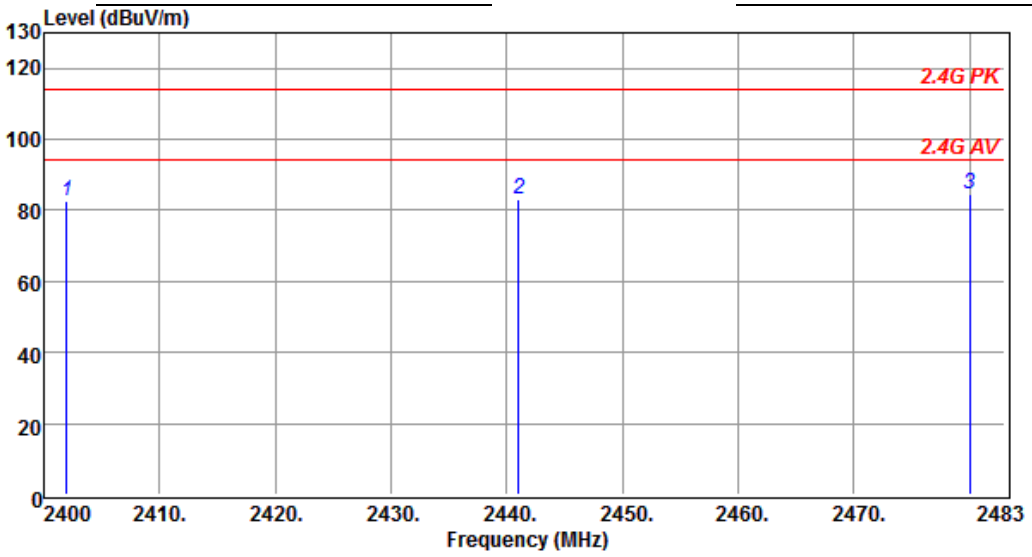
3.4 Test Result

Compliance

The final test data are shown on the following page(s).

Radiated Emission Test Data (Field Strength of Fundamental)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Vertical	Channel	:	CH00, 39, 78 (1Mbps)
EUT Position	:	X axis			



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
2402.000	90.18	-7.63	82.55	94.00	-11.45			VERTICAL	Peak
2441.000	90.56	-7.49	83.07	94.00	-10.93			VERTICAL	Peak
2480.000	91.83	-7.39	84.44	94.00	-9.56			VERTICAL	Peak

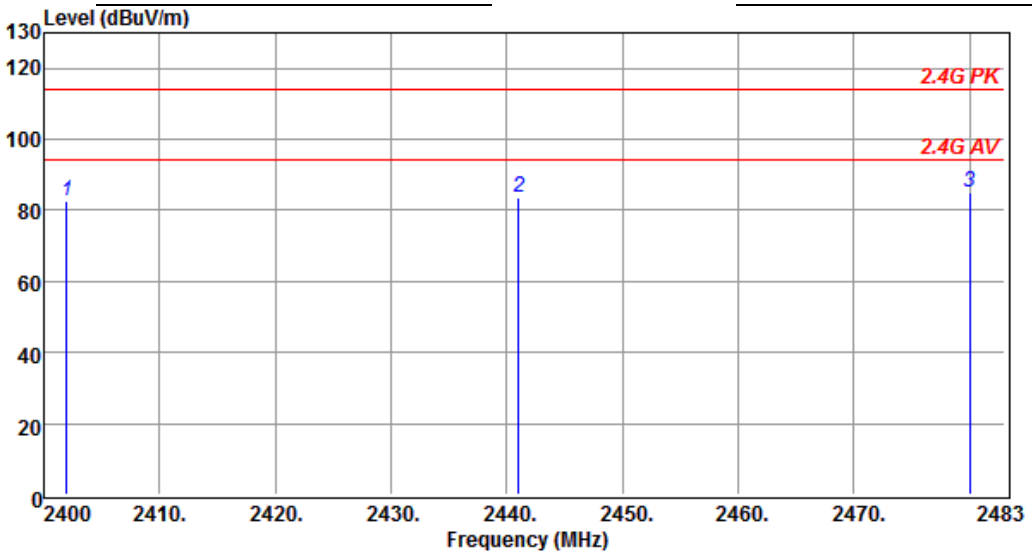
Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
   Peak Setting 1GHz to 10th harmonics of fundamental, RBW = 3MHz, VBW =10MHz, Sweep = AUTO.
   Note: Because the 20 dB Bandwidth is over 1MHz, the RBW setting of measuring Field strength of Fundamental should be 3MHz, and VBW should be at 10 MHz.

Radiated Emission Test Data (Field Strength of Fundamental)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Horizontal	Channel	:	CH00, 39, 78 (1Mbps)
EUT Position	:	X axis			



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
2402.000	90.33	-7.63	82.70	94.00	-11.30			HORIZONTAL	Peak
2441.000	91.24	-7.49	83.75	94.00	-10.25			HORIZONTAL	Peak
2480.000	92.24	-7.39	84.85	94.00	-9.15			HORIZONTAL	Peak

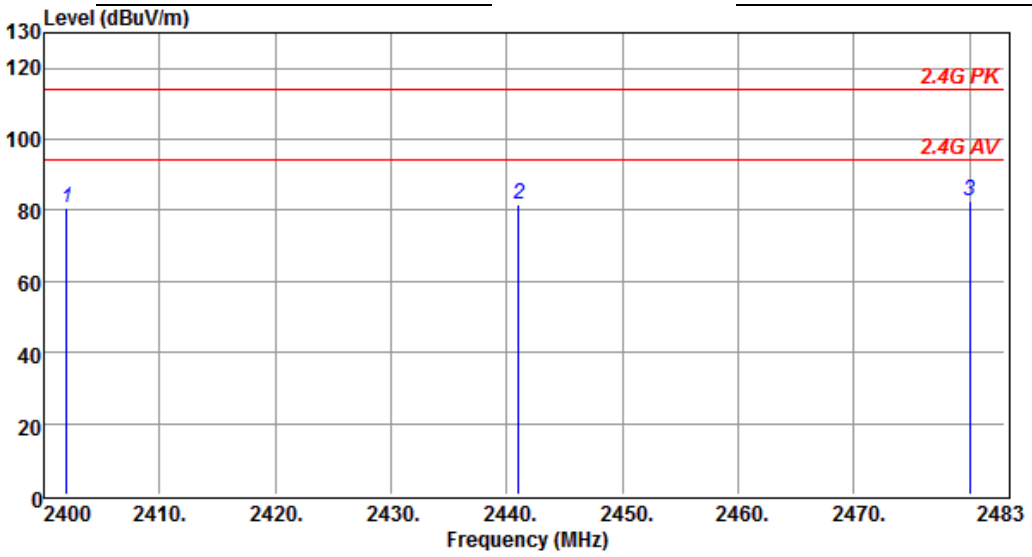
Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
   Peak Setting 1GHz to 10th harmonics of fundamental, RBW = 3MHz, VBW =10MHz, Sweep = AUTO.
   Note: Because the 20 dB Bandwidth is over 1MHz, the RBW setting of measuring Field strength of Fundamental should be 3MHz, and VBW should be at 10 MHz.

Radiated Emission Test Data (Field Strength of Fundamental)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Vertical	Channel	:	CH00, 39, 78 (2Mbps)
EUT Position	:	X axis			



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
2402.000	88.13	-7.63	80.50	94.00	-13.50			VERTICAL	Peak
2441.000	89.38	-7.49	81.89	94.00	-12.11			VERTICAL	Peak
2480.000	90.17	-7.39	82.78	94.00	-11.22			VERTICAL	Peak

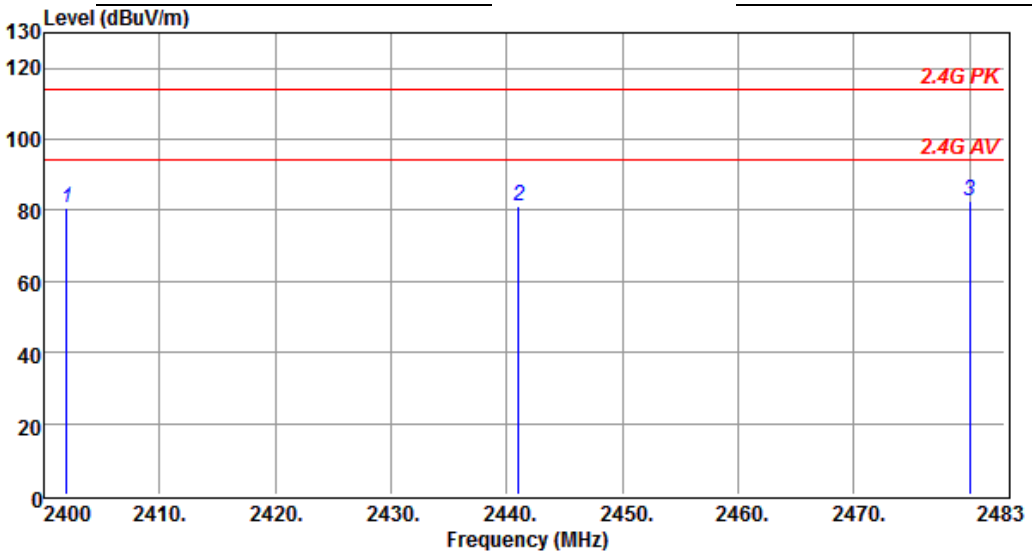
Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
   Peak Setting 1GHz to 10th harmonics of fundamental, RBW = 3MHz, VBW =10MHz, Sweep = AUTO.
   Note: Because the 20 dB Bandwidth is over 1MHz, the RBW setting of measuring Field strength of Fundamental should be 3MHz, and VBW should be at 10 MHz.

Radiated Emission Test Data (Field Strength of Fundamental)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Horizontal	Channel	:	CH00, 39, 78 (2Mbps)
EUT Position	:	X axis			



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
2402.000	88.34	-7.63	80.71	94.00	-13.29			HORIZONTAL	Peak
2441.000	88.70	-7.49	81.21	94.00	-12.79			HORIZONTAL	Peak
2480.000	90.03	-7.39	82.64	94.00	-11.36			HORIZONTAL	Peak

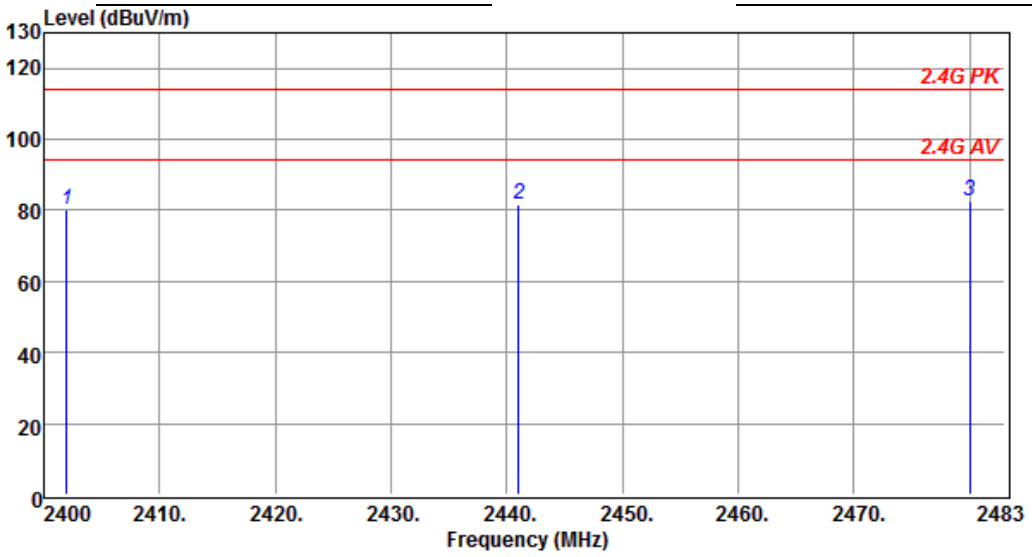
Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
   Peak Setting 1GHz to 10th harmonics of fundamental, RBW = 3MHz, VBW =10MHz, Sweep = AUTO.
   Note: Because the 20 dB Bandwidth is over 1MHz, the RBW setting of measuring Field strength of Fundamental should be 3MHz, and VBW should be at 10 MHz.

Radiated Emission Test Data (Field Strength of Fundamental)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Vertical	Channel	:	CH00, 39, 78 (3Mbps)
EUT Position	:	X axis			



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
2402.000	87.86	-7.63	80.23	94.00	-13.77			VERTICAL	Peak
2441.000	89.40	-7.49	81.91	94.00	-12.09			VERTICAL	Peak
2480.000	90.12	-7.39	82.73	94.00	-11.27			VERTICAL	Peak

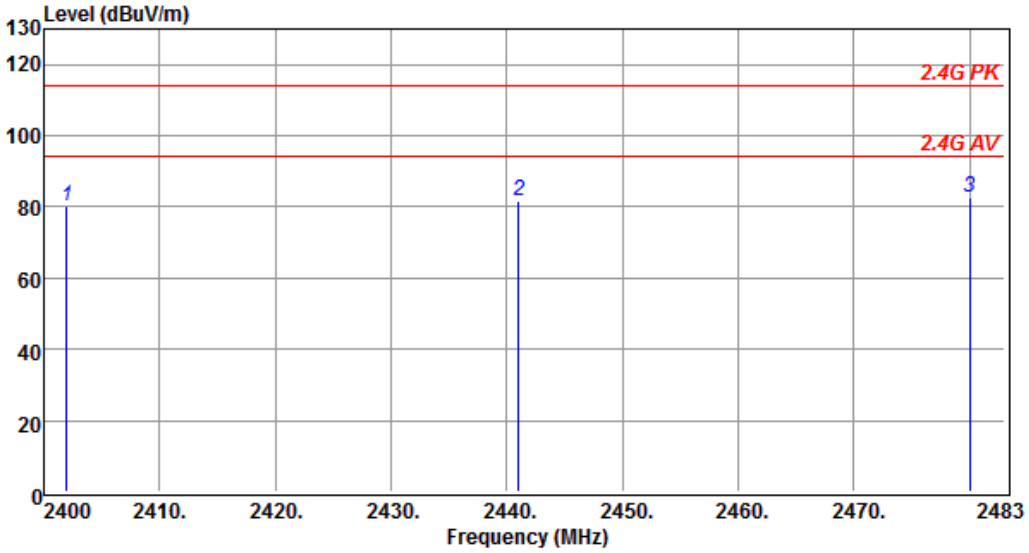
Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
   Peak Setting 1GHz to 10th harmonics of fundamental, RBW = 3MHz, VBW =10MHz, Sweep = AUTO.
   Note: Because the 20 dB Bandwidth is over 1MHz, the RBW setting of measuring Field strength of Fundamental should be 3MHz, and VBW should be at 10 MHz.

Radiated Emission Test Data (Field Strength of Fundamental)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Horizontal	Channel	:	CH00, 39, 78 (3Mbps)
EUT Position	:	X axis			



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
2402.000	88.08	-7.63	80.45	94.00	-13.55			HORIZONTAL	Peak
2441.000	89.18	-7.49	81.69	94.00	-12.31			HORIZONTAL	Peak
2480.000	90.06	-7.39	82.67	94.00	-11.33			HORIZONTAL	Peak

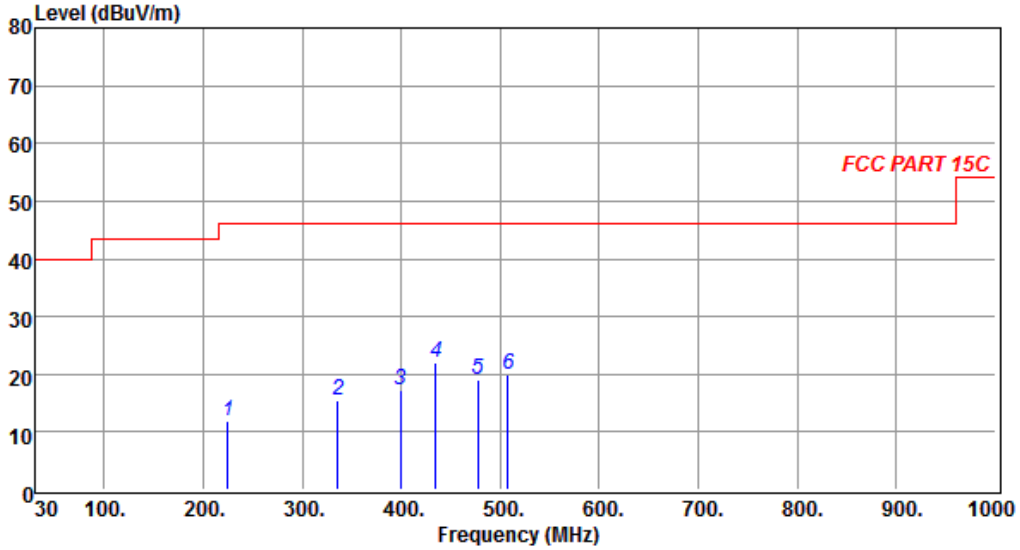
Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
   Peak Setting 1GHz to 10th harmonics of fundamental, RBW = 3MHz, VBW =10MHz, Sweep = AUTO.
   Note: Because the 20 dB Bandwidth is over 1MHz, the RBW setting of measuring Field strength of Fundamental should be 3MHz, and VBW should be at 10 MHz.

Radiated Emission Test Data (Below 1 GHz)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Vertical	Channel	:	CH78 (2480MHz) (1Mbps)
EUT Position	:	Vertical			



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
224.970	33.05	-21.01	12.04	46.00	-33.96			VERTICAL	Peak
335.550	33.84	-18.51	15.33	46.00	-30.67			VERTICAL	Peak
399.570	34.54	-17.26	17.28	46.00	-28.72			VERTICAL	Peak
434.490	40.93	-18.93	22.00	46.00	-24.00			VERTICAL	Peak
477.170	35.45	-16.47	18.98	46.00	-27.02			VERTICAL	Peak
507.240	34.96	-14.96	20.00	46.00	-26.00			VERTICAL	Peak

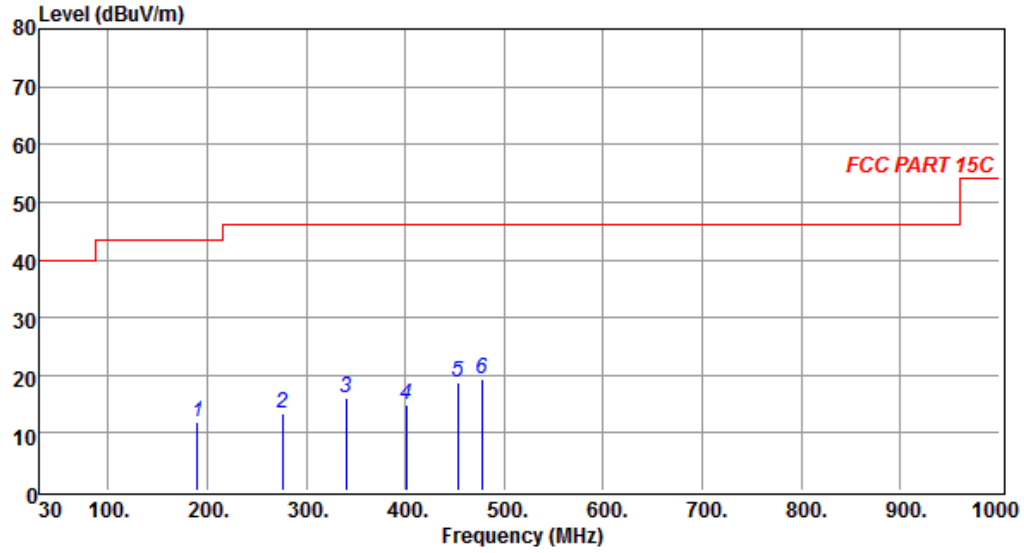
Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

Remark：

1. Measuring frequencies from 30 MHz to 1 GHz.
2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Peak detector mode.
3. Data of measurement within this frequency range shown “---” in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
4. All readings are Peak values. None of the peak value reading exceeds the Q.P. limit. Hence, Q.P. reading was not measured.
5. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

Radiated Emission Test Data (Below 1 GHz)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Horizontal	Channel	:	CH78 (2480MHz) (1Mbps)
EUT Position	:	Vertical			



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
190.050	31.92	-20.15	11.77	43.50	-31.73			HORIZONTAL	Peak
276.380	34.89	-21.42	13.47	46.00	-32.53			HORIZONTAL	Peak
340.400	34.19	-18.19	16.00	46.00	-30.00			HORIZONTAL	Peak
400.540	32.38	-17.37	15.01	46.00	-30.99			HORIZONTAL	Peak
452.920	35.41	-16.78	18.63	46.00	-27.37			HORIZONTAL	Peak
477.170	35.87	-16.47	19.40	46.00	-26.60			HORIZONTAL	Peak

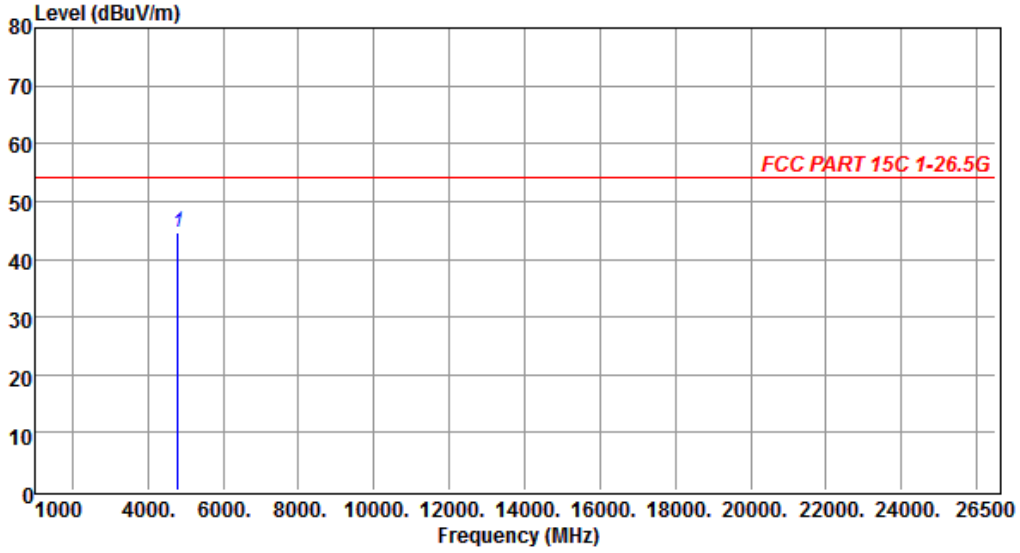
Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

Remark：

1. Measuring frequencies from 30 MHz to 1 GHz.
2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Peak detector mode.
3. Data of measurement within this frequency range shown “---” in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
4. All readings are Peak values. None of the peak value reading exceeds the Q.P. limit. Hence, Q.P. reading was not measured.
5. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

Radiated Emission Test Data (Above 1G and Field Strength to 10th Harmonic)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Vertical	Channel	:	CH00 (2402MHz) (1Mbps)
EUT Position	:	Vertical			



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
4804.000	44.23	0.49	44.72	54.00	-9.28			VERTICAL	Peak

Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

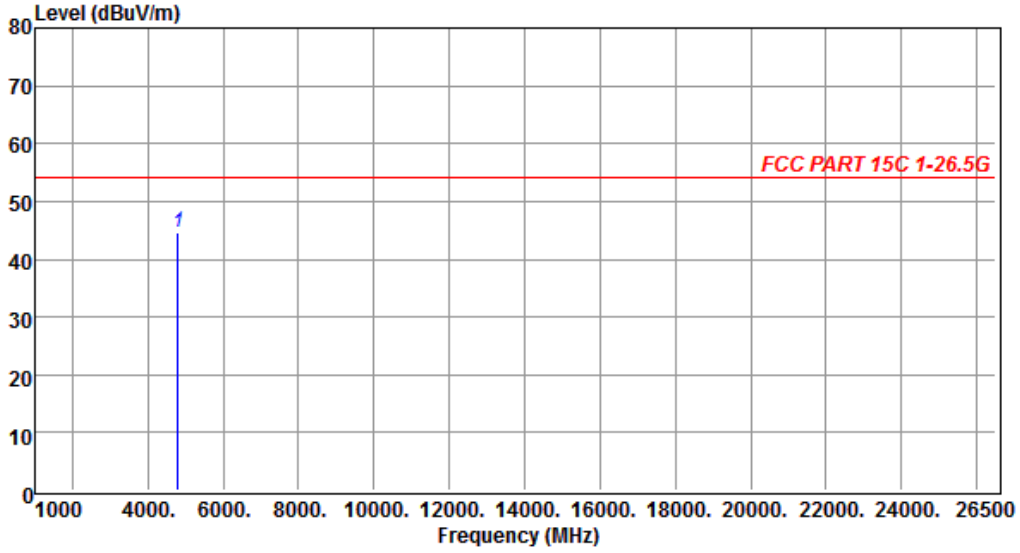
Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:

   (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Radiated Emission Test Data (Above 1G and Field Strength to 10th Harmonic)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Horizontal	Channel	:	CH00 (2402MHz) (1Mbps)
EUT Position	:	Vertical			



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
4804.000	44.19	0.49	44.68	54.00	-9.32			HORIZONTAL	Peak

Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

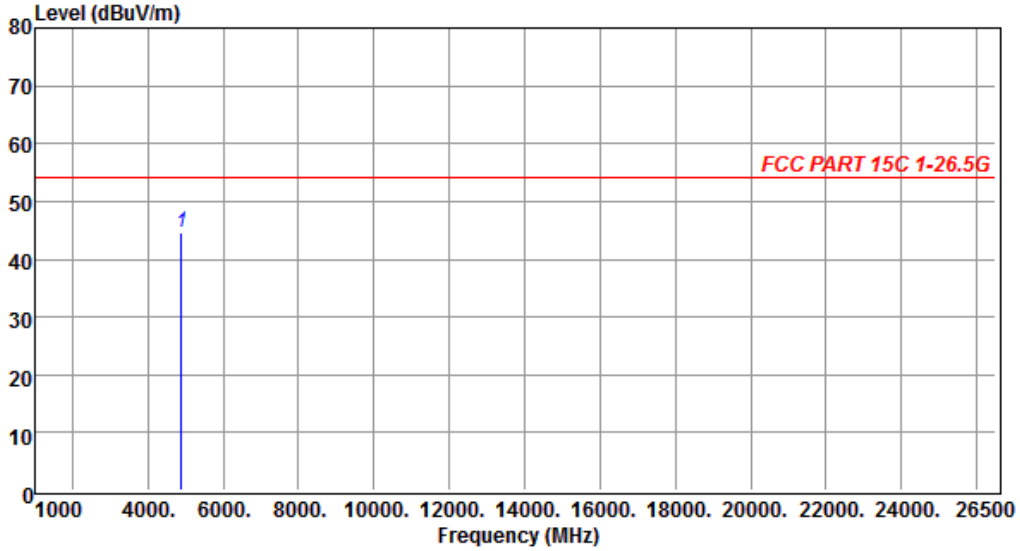
Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:

   (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Radiated Emission Test Data (Above 1G and Field Strength to 10th Harmonic)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Vertical	Channel	:	CH39 (2441MHz) (1Mbps)
EUT Position	:	Vertical			



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
4882.000	43.70	0.80	44.50	54.00	-9.50			VERTICAL	Peak

Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

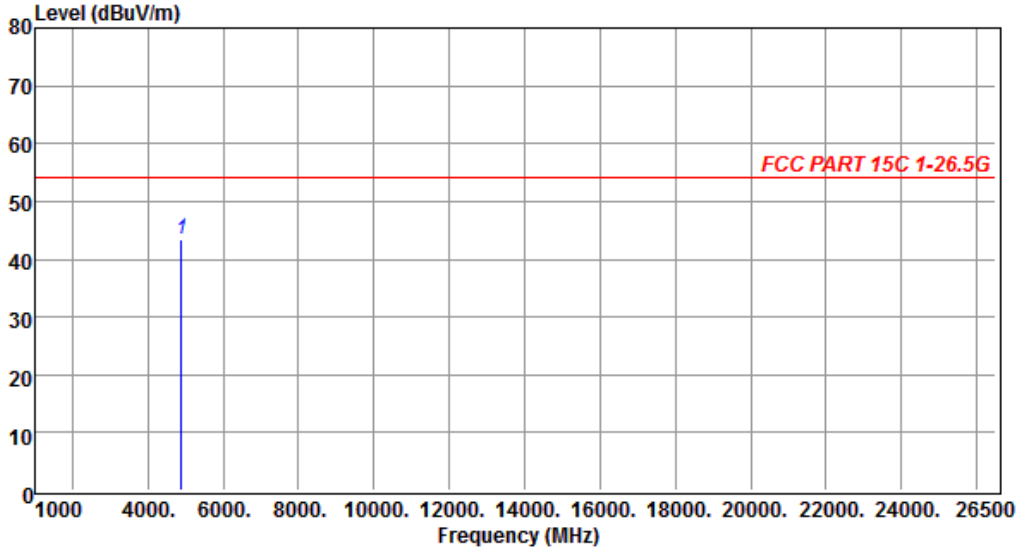
Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:

   (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Radiated Emission Test Data (Above 1G and Field Strength to 10th Harmonic)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Horizontal	Channel	:	CH39 (2441MHz) (1Mbps)
EUT Position	:	Vertical			



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
4882.000	42.56	0.80	43.36	54.00	-10.64			HORIZONTAL	Peak

Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

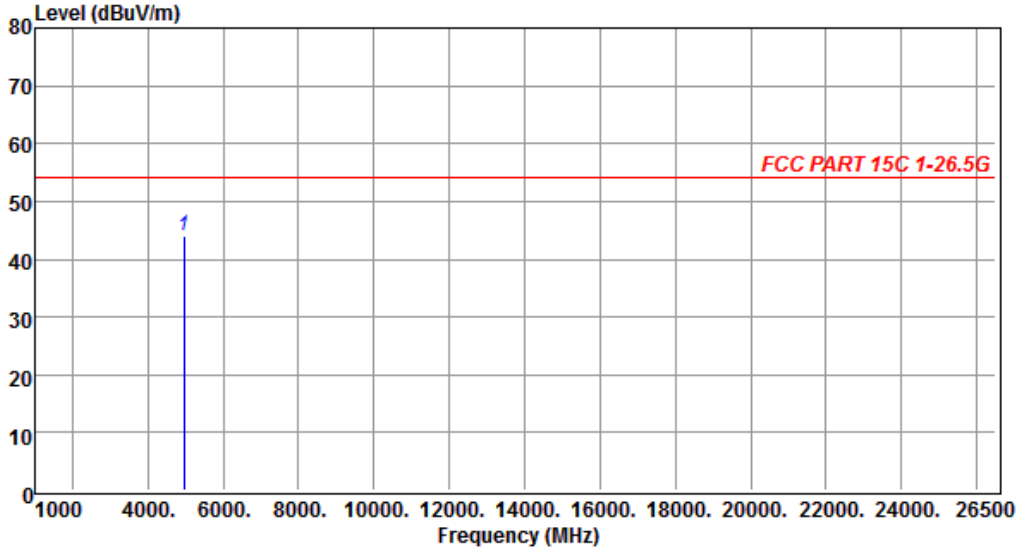
Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:

   (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Radiated Emission Test Data (Above 1G and Field Strength to 10th Harmonic)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Vertical	Channel	:	CH78 (2480MHz) (1Mbps)
EUT Position	:	Vertical			



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
4960.000	42.88	1.15	44.03	54.00	-9.97			VERTICAL	Peak

Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

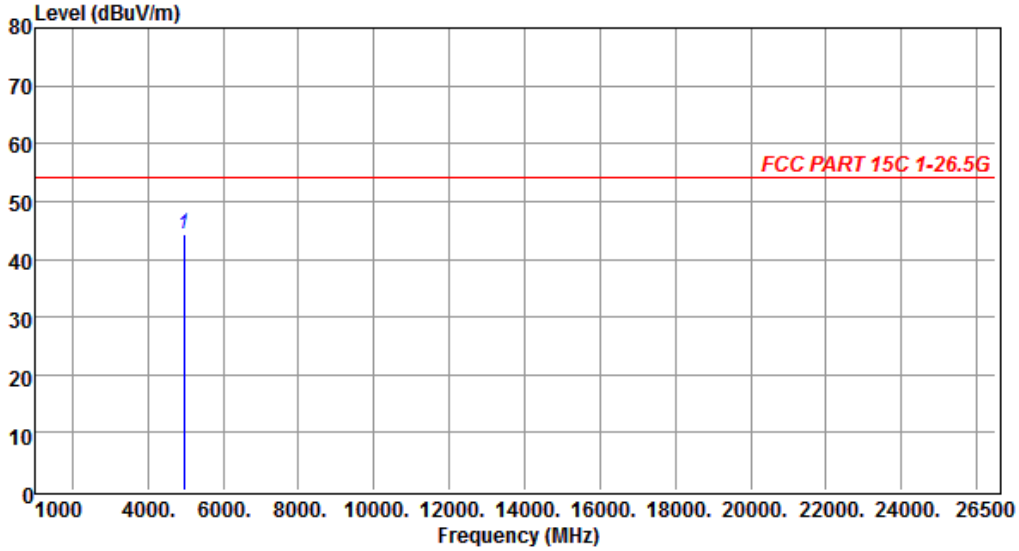
Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:

   (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Radiated Emission Test Data (Above 1G and Field Strength to 10th Harmonic)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Horizontal	Channel	:	CH78 (2480MHz) (1Mbps)
EUT Position	:	Vertical			



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
4960.000	43.06	1.15	44.21	54.00	-9.79			HORIZONTAL	Peak

Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

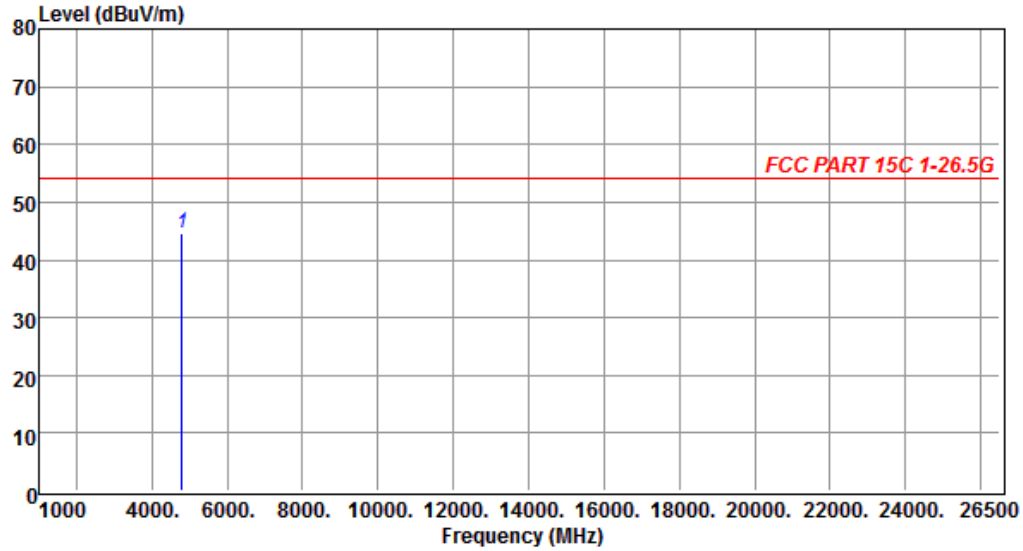
Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:

   (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Radiated Emission Test Data (Above 1G and Field Strength to 10th Harmonic)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Vertical	Channel	:	CH00 (2402MHz) (2Mbps)
EUT Position	:	Vertical			



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
4804.000	44.12	0.49	44.61	54.00	-9.39			VERTICAL	Peak

Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

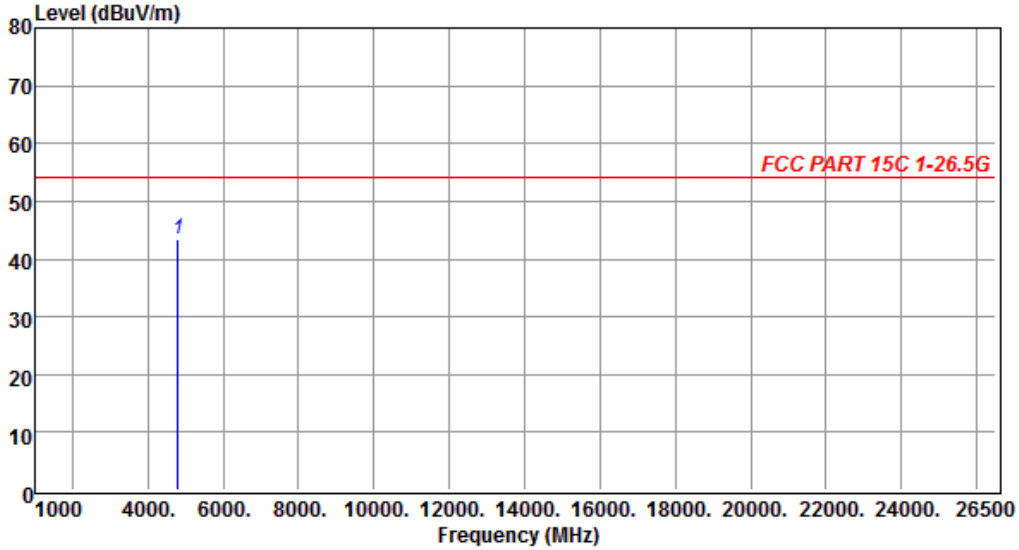
Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:

   (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Radiated Emission Test Data (Above 1G and Field Strength to 10th Harmonic)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Horizontal	Channel	:	CH00 (2402MHz) (2Mbps)
EUT Position	:	Vertical			



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
4804.000	43.01	0.49	43.50	54.00	-10.50			HORIZONTAL	Peak

Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

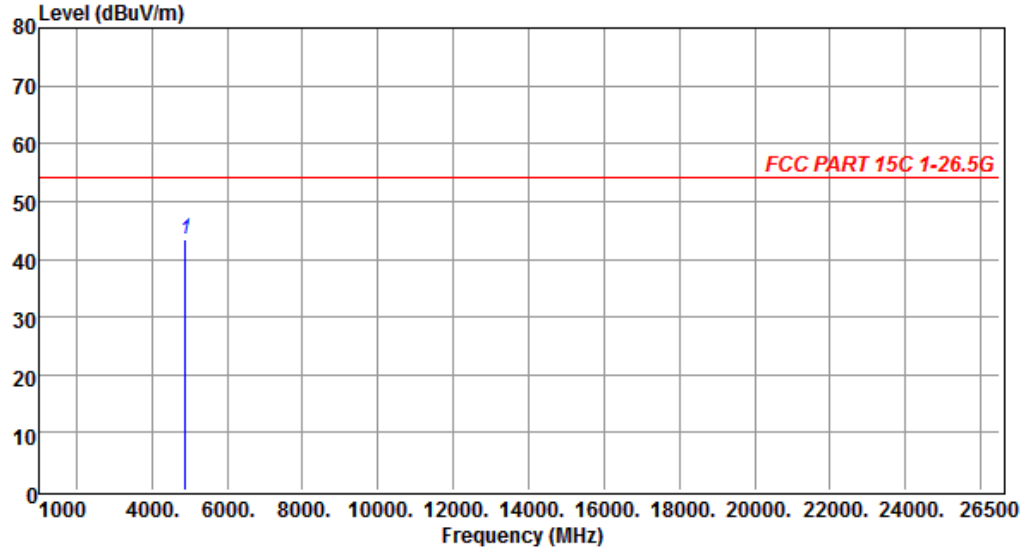
Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:

   (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Radiated Emission Test Data (Above 1G and Field Strength to 10th Harmonic)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Vertical	Channel	:	CH39 (2441MHz) (2Mbps)
EUT Position	:	Vertical			



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
4882.000	42.56	0.80	43.36	54.00	-10.64			VERTICAL	Peak

Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

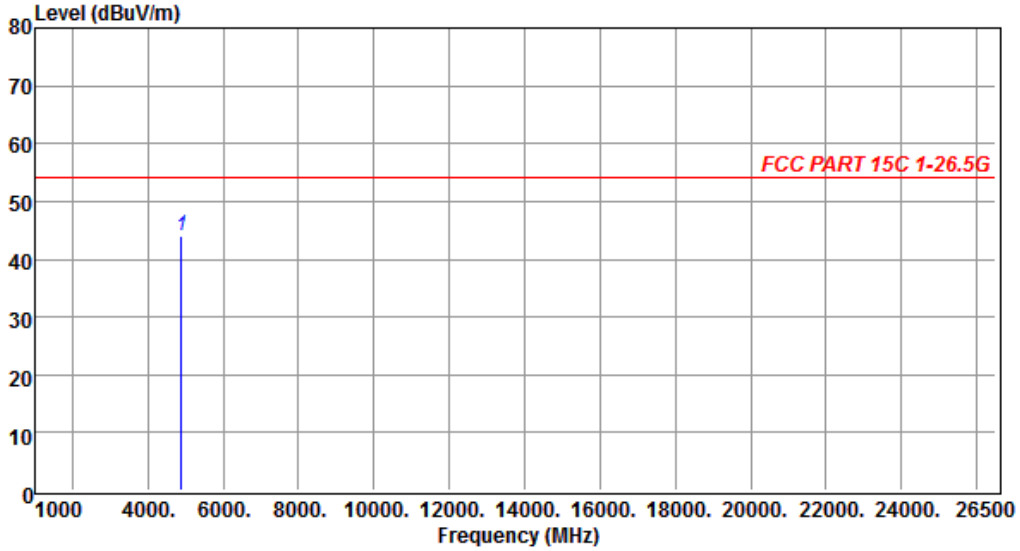
Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:

   (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Radiated Emission Test Data (Above 1G and Field Strength to 10th Harmonic)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Horizontal	Channel	:	CH39 (2441MHz) (2Mbps)
EUT Position	:	Vertical			



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
4882.000	43.17	0.80	43.97	54.00	-10.03			HORIZONTAL	Peak

Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

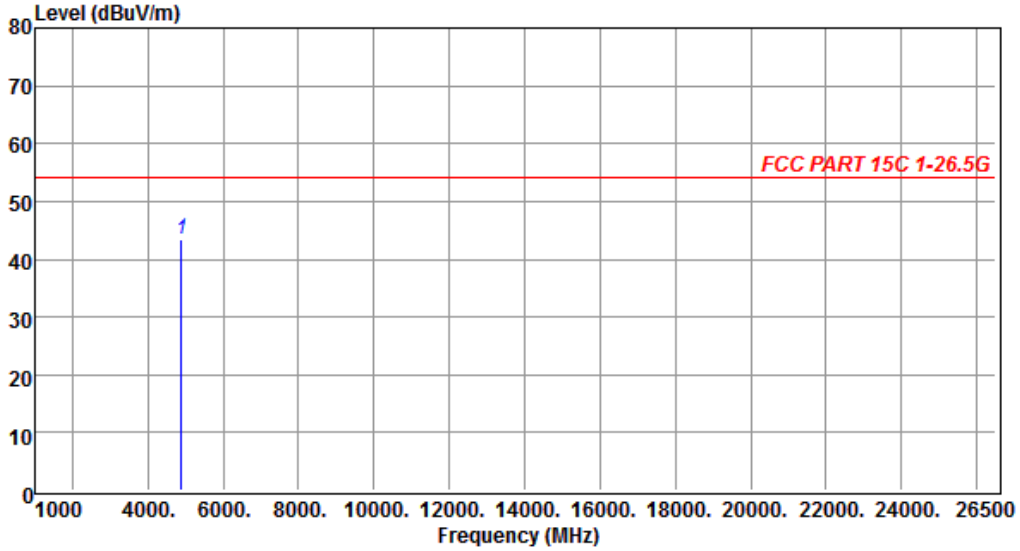
Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:

   (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Radiated Emission Test Data (Above 1G and Field Strength to 10th Harmonic)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Vertical	Channel	:	CH78 (2480MHz) (2Mbps)
EUT Position	:	Vertical			



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
4882.000	42.56	0.80	43.36	54.00	-10.64			VERTICAL	Peak

Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

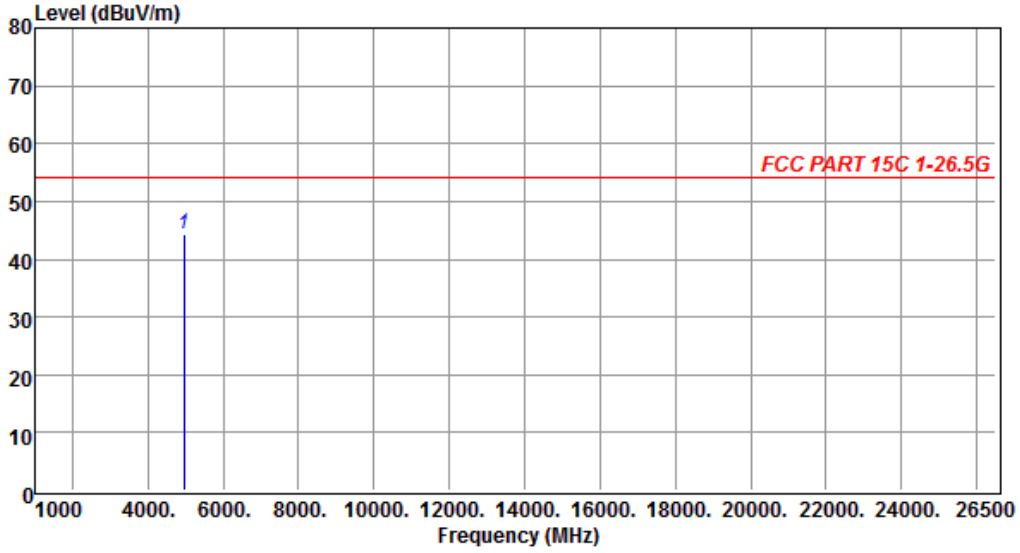
Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:

   (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Radiated Emission Test Data (Above 1G and Field Strength to 10th Harmonic)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Horizontal	Channel	:	CH78 (2480MHz) (2Mbps)
EUT Position	:	Vertical			



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
4960.000	43.09	1.15	44.24	54.00	-9.76			HORIZONTAL	Peak

Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

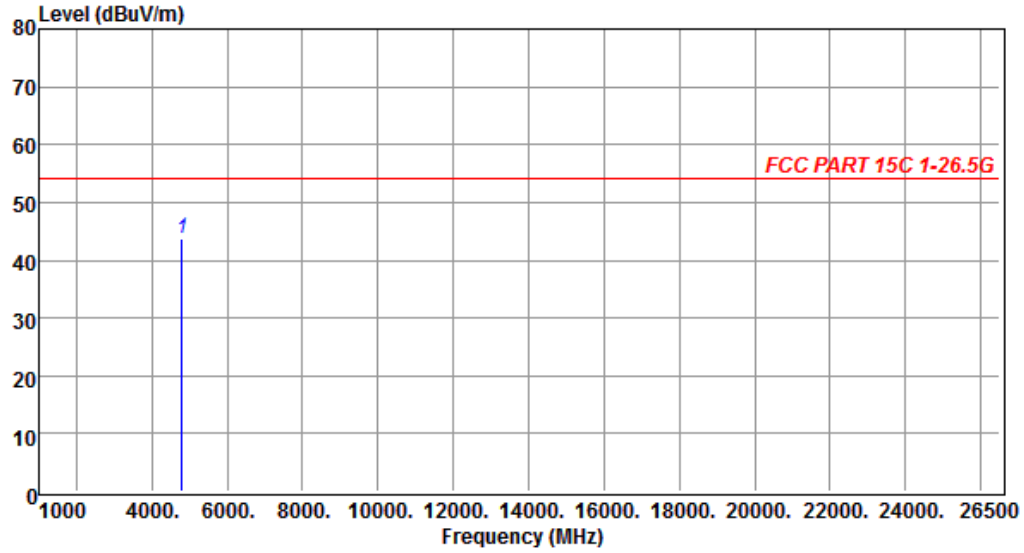
Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:

   (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Radiated Emission Test Data (Above 1G and Field Strength to 10th Harmonic)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Vertical	Channel	:	CH00 (2402MHz) (3Mbps)
EUT Position	:	Vertical			



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
4804.000	43.22	0.49	43.71	54.00	-10.29			VERTICAL	Peak

Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

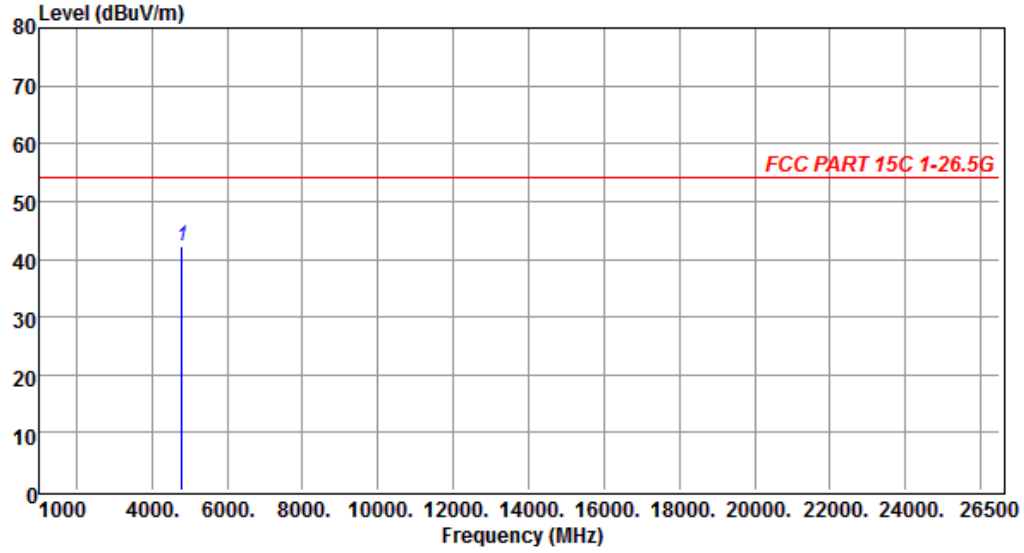
Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:

   (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Radiated Emission Test Data (Above 1G and Field Strength to 10th Harmonic)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Horizontal	Channel	:	CH00 (2402MHz) (3Mbps)
EUT Position	:	Vertical			



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
4804.000	41.67	0.49	42.16	54.00	-11.84			HORIZONTAL	Peak

Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

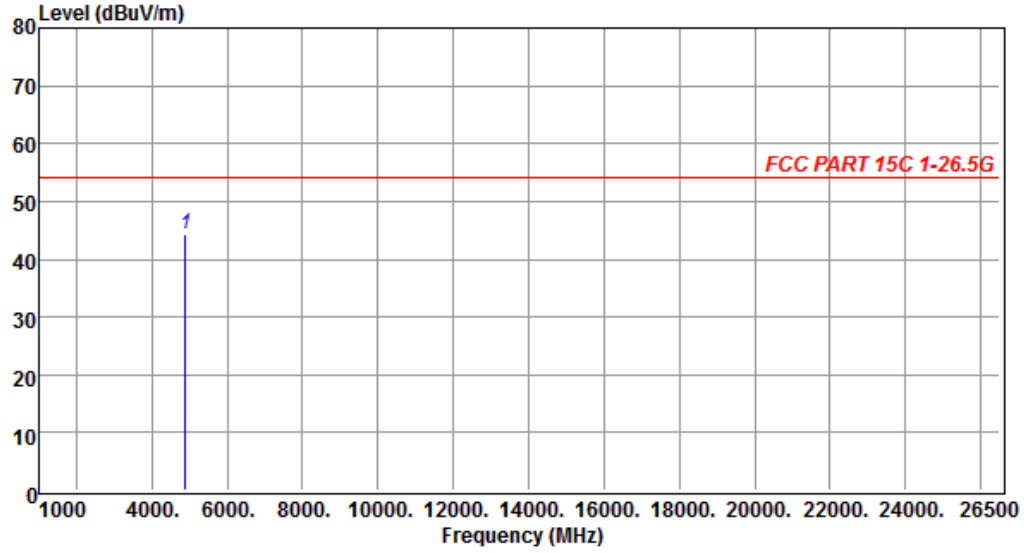
Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:

   (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Radiated Emission Test Data (Above 1G and Field Strength to 10th Harmonic)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Vertical	Channel	:	CH39 (2441MHz) (3Mbps)
EUT Position	:	Vertical			



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
4882.000	43.52	0.80	44.32	54.00	-9.68			VERTICAL	Peak

Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

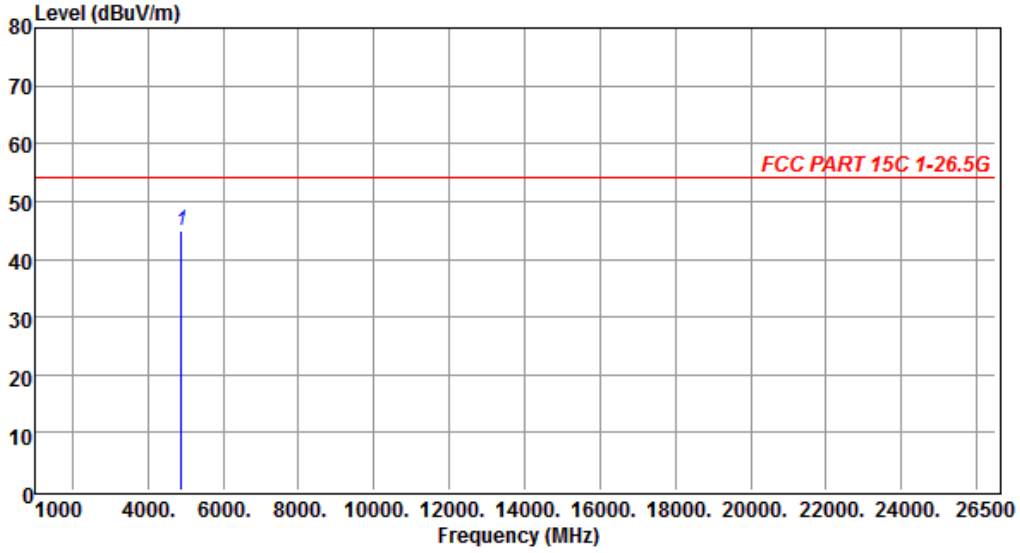
Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:

   (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Radiated Emission Test Data (Above 1G and Field Strength to 10th Harmonic)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Horizontal	Channel	:	CH39 (2441MHz) (3Mbps)
EUT Position	:	Vertical			



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
4882.000	44.02	0.80	44.82	54.00	-9.18			HORIZONTAL	Peak

Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

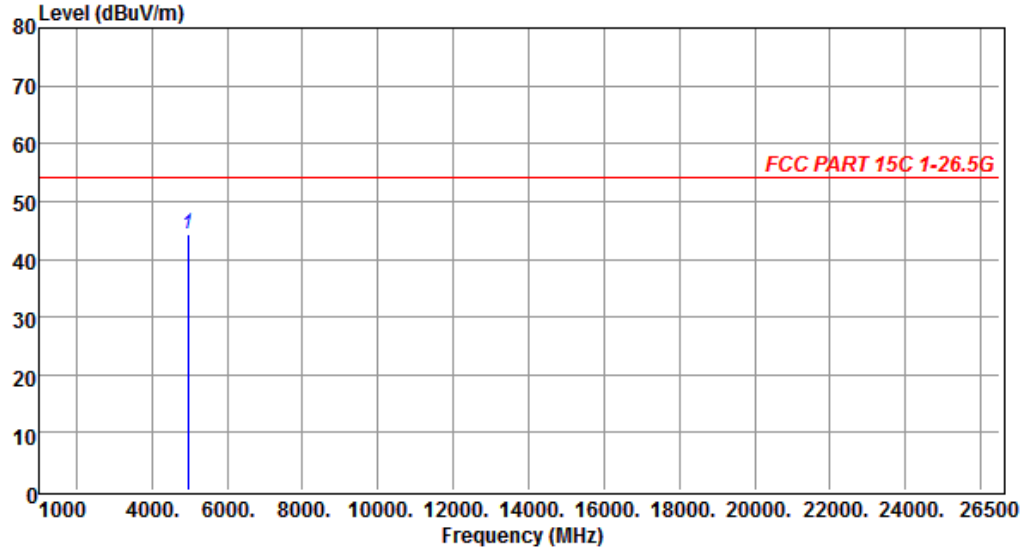
Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:

   (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Radiated Emission Test Data (Above 1G and Field Strength to 10th Harmonic)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Vertical	Channel	:	CH78 (2480MHz) (3Mbps)
EUT Position	:	Vertical			



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
4960.000	43.06	1.15	44.21	54.00	-9.79			VERTICAL	Peak

Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

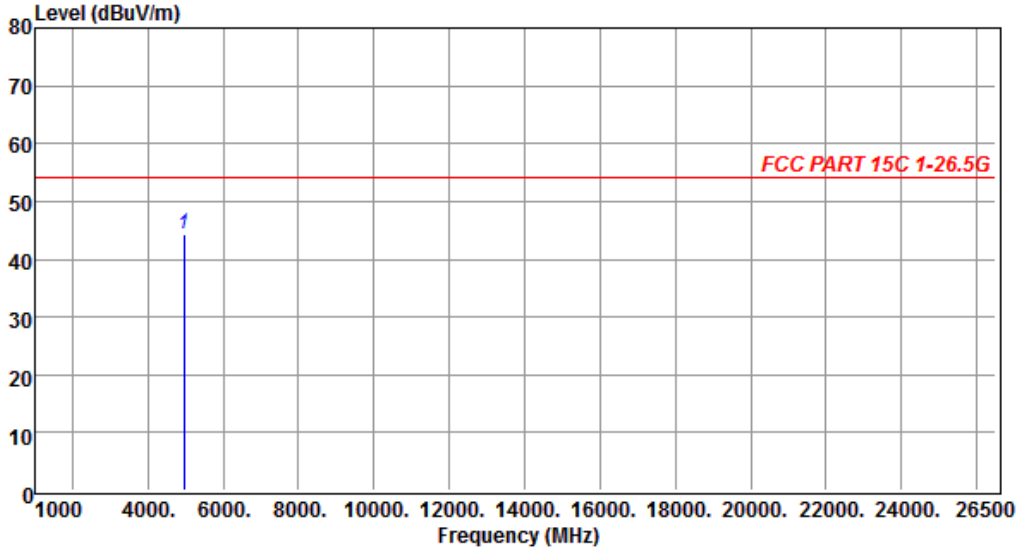
Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:

   (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

Radiated Emission Test Data (Above 1G and Field Strength to 10th Harmonic)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Horizontal	Channel	:	CH78 (2480MHz) (3Mbps)
EUT Position	:	Vertical			



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
4960.000	43.20	1.15	44.35	54.00	-9.65			HORIZONTAL	Peak

Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:

   (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.

4 Out of Band Emission Test

4.1 Test Instruments

Refer to Sec. 1.2 Test Instruments.

4.2 Test Arrangement and Procedure

Refer to Sec. 3.2.

4.3 Limit of Field Strength of Fundamental (§ 15.249(d))

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in § 15.209, whichever is the lesser attenuation.

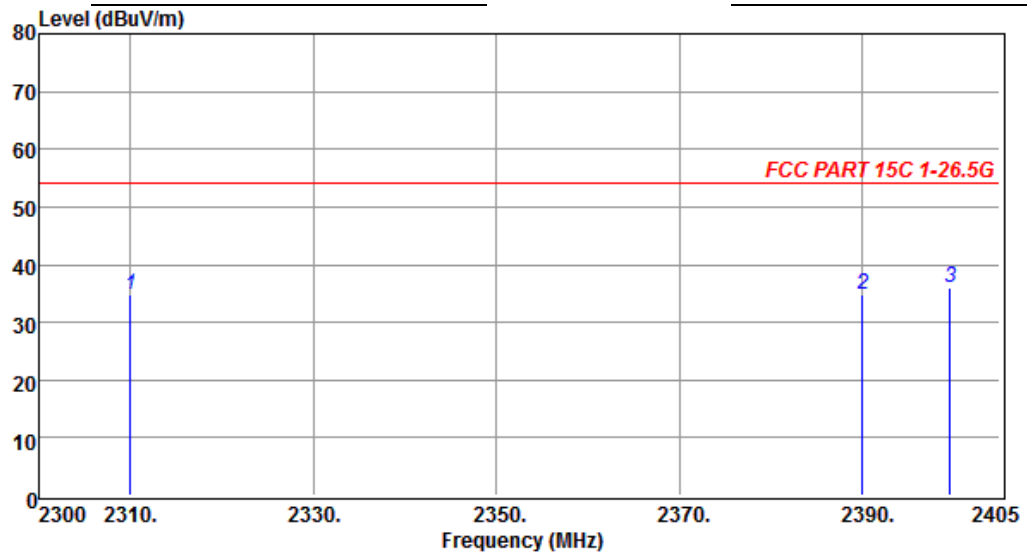
4.4 Test Result

Compliance

The final test data are shown on the following page(s).

Band-Edge Test Data (Lower Edge)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Vertical	Channel	:	CH00
EUT Position	:	X axis			1Mbps



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
2310.000	42.56	-7.88	34.68	54.00	-19.32			VERTICAL	Peak
2390.000	42.36	-7.63	34.73	54.00	-19.27			VERTICAL	Peak
2399.645	43.50	-7.63	35.87	54.00	-18.13			VERTICAL	Peak

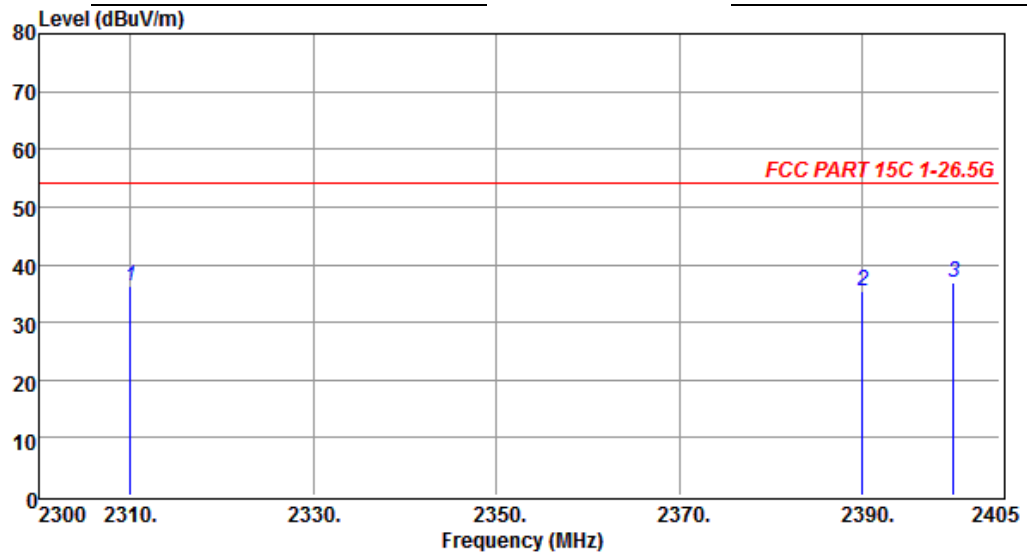
Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
   (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
   (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

Band-Edge Test Data (Lower Edge)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Horizontal	Channel	:	CH00
EUT Position	:	X axis			1Mbps



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
2310.000	44.26	-7.88	36.38	54.00	-17.62			HORIZONTAL	Peak
2390.000	42.97	-7.63	35.34	54.00	-18.66			HORIZONTAL	Peak
2400.000	44.55	-7.63	36.92	54.00	-17.08			HORIZONTAL	Peak

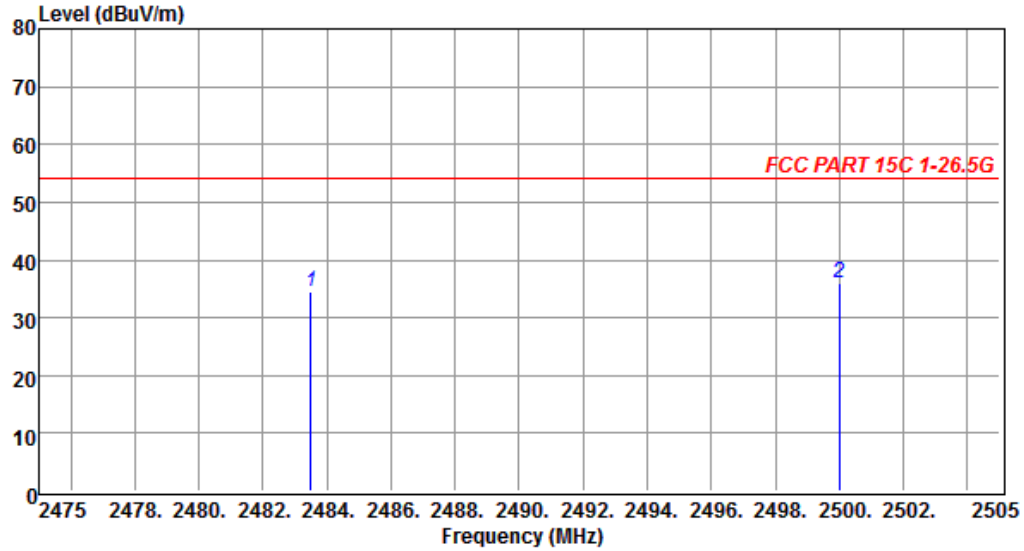
Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
   (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
   (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

Band-Edge Test Data (Upper Edge)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Vertical	Channel	:	CH78
EUT Position	:	X axis			1Mbps



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
2483.490	42.01	-7.39	34.62	54.00	-19.38			VERTICAL	Peak
2500.000	43.20	-7.33	35.87	54.00	-18.13			VERTICAL	Peak

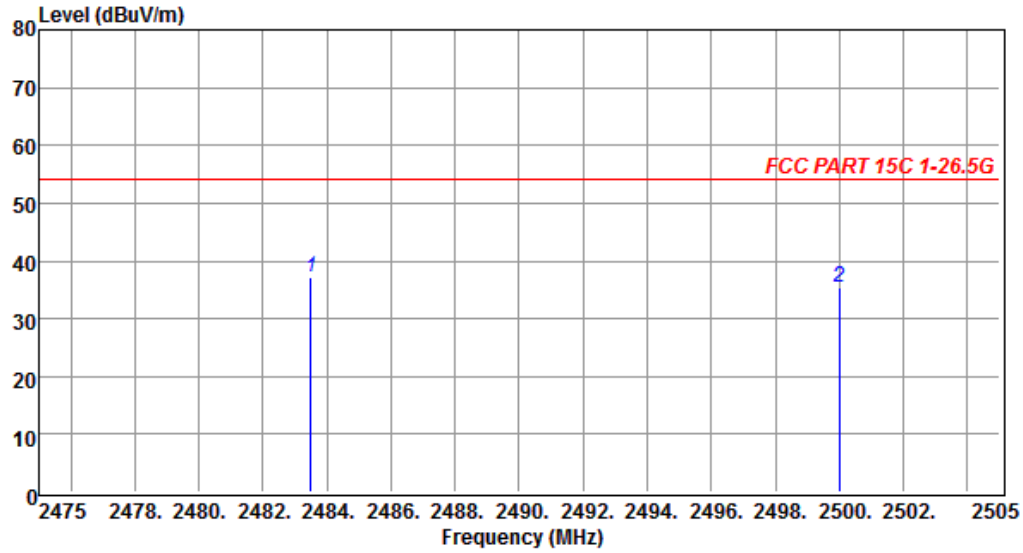
Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
   (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
   (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

Band-Edge Test Data (Upper Edge)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Horizontal	Channel	:	CH78
EUT Position	:	X axis			1Mbps



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
2483.500	44.49	-7.39	37.10	54.00	-16.90			HORIZONTAL	Peak
2500.000	42.86	-7.33	35.53	54.00	-18.47			HORIZONTAL	Peak

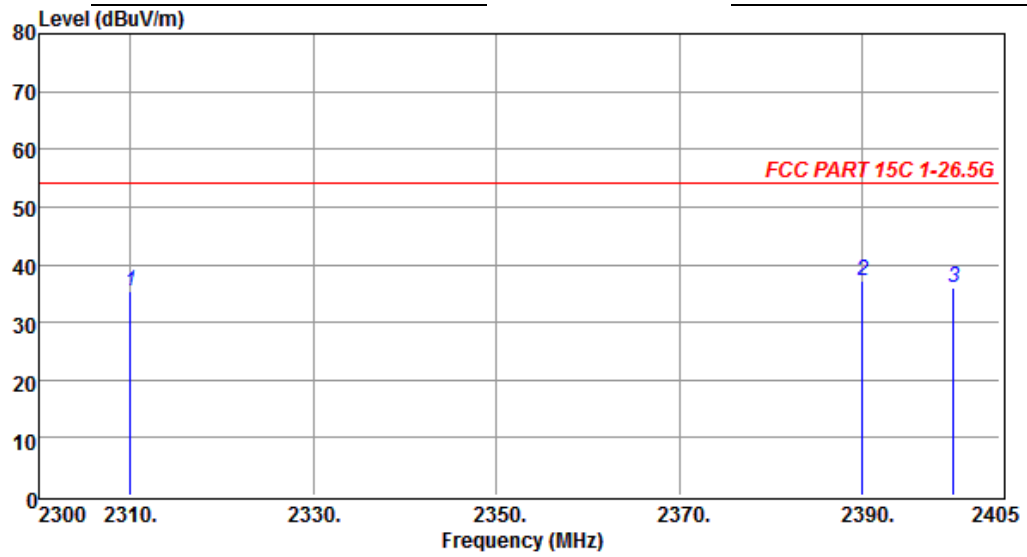
Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
   (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
   (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

Band-Edge Test Data (Lower Edge)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Vertical	Channel	:	CH00
EUT Position	:	X axis			2Mbps



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
2309.975	43.27	-7.88	35.39	54.00	-18.61			VERTICAL	Peak
2390.000	44.75	-7.63	37.12	54.00	-16.88			VERTICAL	Peak
2400.000	43.68	-7.63	36.05	54.00	-17.95			VERTICAL	Peak

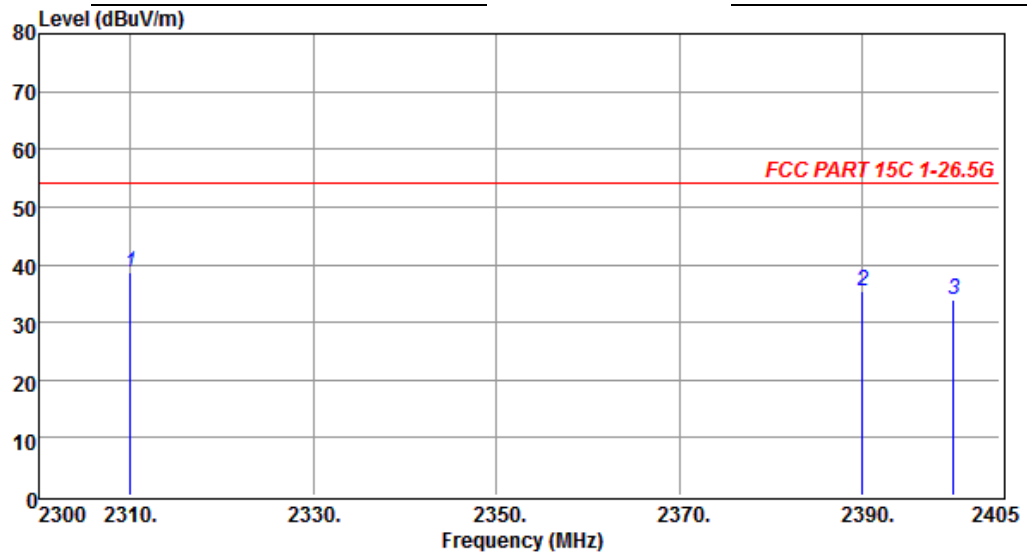
Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
   (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
   (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

Band-Edge Test Data (Lower Edge)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Horizontal	Channel	:	CH00
EUT Position	:	X axis			2Mbps



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
2310.000	46.51	-7.88	38.63	54.00	-15.37			HORIZONTAL	Peak
2390.000	43.04	-7.63	35.41	54.00	-18.59			HORIZONTAL	Peak
2399.960	41.63	-7.63	34.00	54.00	-20.00			HORIZONTAL	Peak

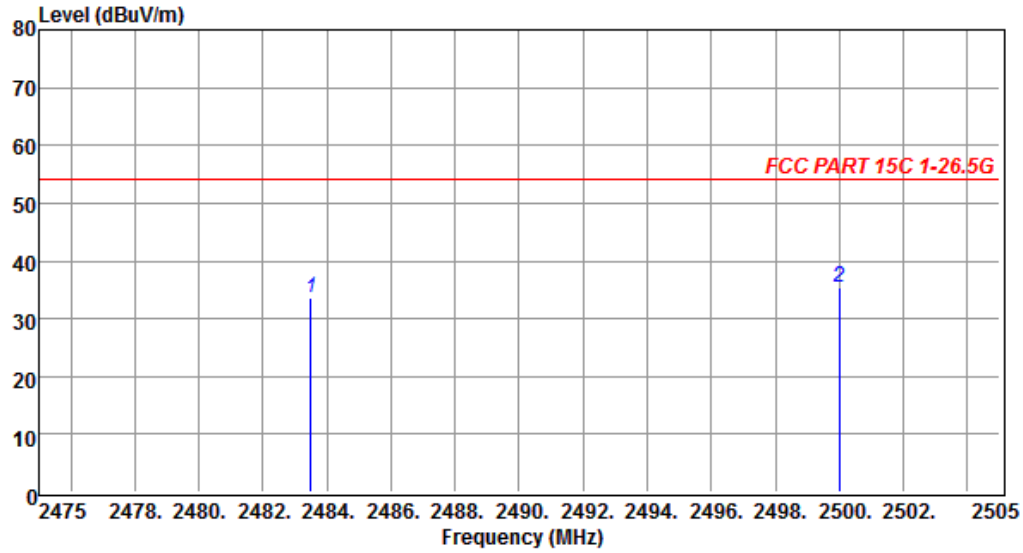
Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
   (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
   (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

Band-Edge Test Data (Upper Edge)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Vertical	Channel	:	CH78
EUT Position	:	X axis			2Mbps



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
2483.500	40.86	-7.39	33.47	54.00	-20.53			VERTICAL	Peak
2499.990	42.87	-7.33	35.54	54.00	-18.46			VERTICAL	Peak

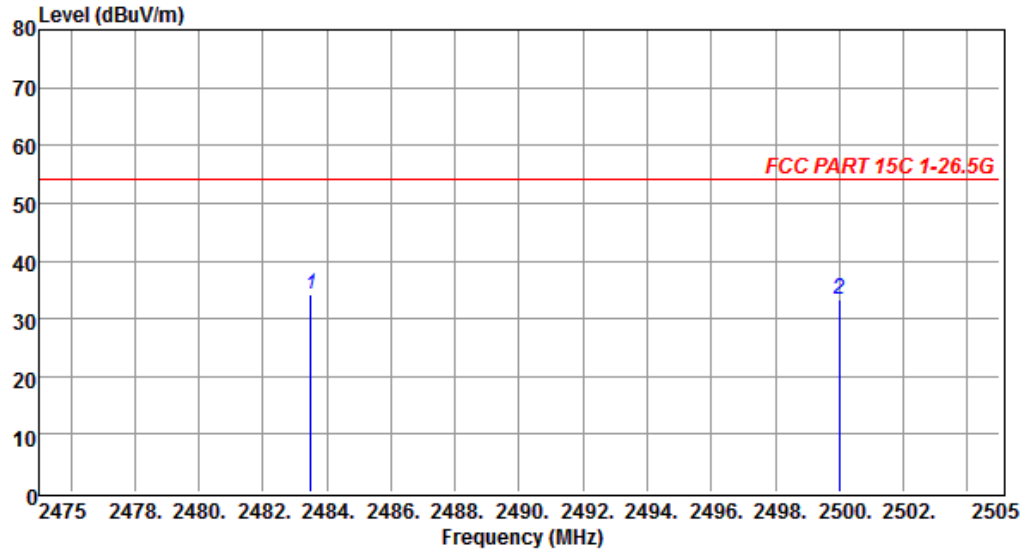
Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
   (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
   (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

Band-Edge Test Data (Upper Edge)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Horizontal	Channel	:	CH78
EUT Position	:	X axis			2Mbps



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
2483.490	41.59	-7.39	34.20	54.00	-19.80			HORIZONTAL	Peak
2500.000	40.72	-7.33	33.39	54.00	-20.61			HORIZONTAL	Peak

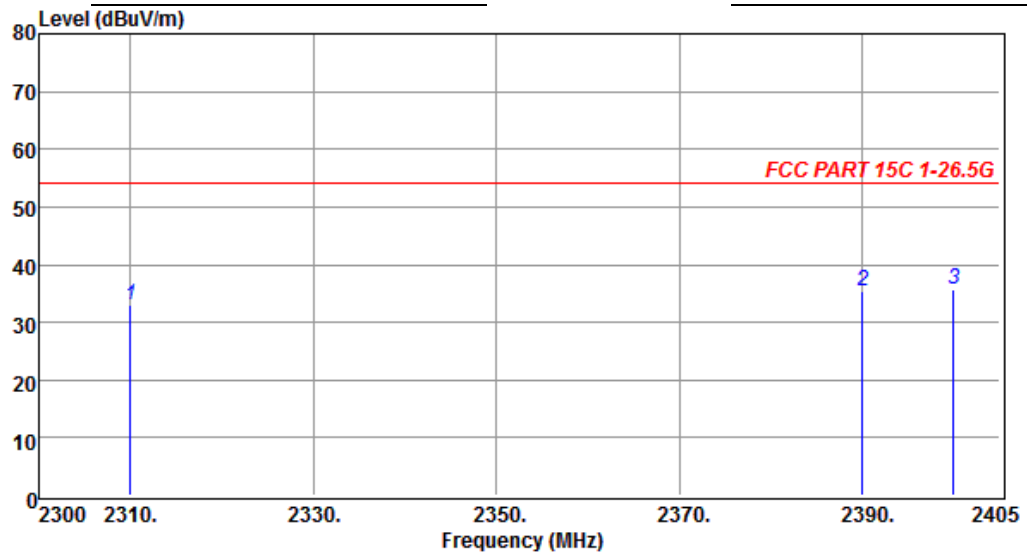
Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
   (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
   (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

Band-Edge Test Data (Lower Edge)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Vertical	Channel	:	CH00
EUT Position	:	X axis			3Mbps



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
2310.000	40.94	-7.88	33.06	54.00	-20.94			VERTICAL	Peak
2390.000	42.87	-7.63	35.24	54.00	-18.76			VERTICAL	Peak
2399.960	43.42	-7.63	35.79	54.00	-18.21			VERTICAL	Peak

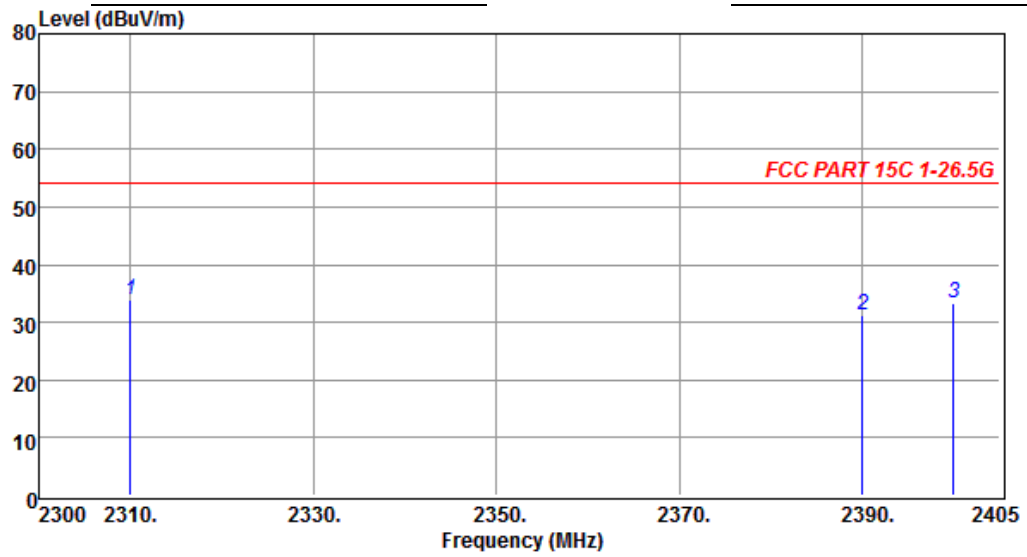
Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
   (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
   (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

Band-Edge Test Data (Lower Edge)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Horizontal	Channel	:	CH00
EUT Position	:	X axis			3Mbps



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
2309.975	41.92	-7.88	34.04	54.00	-19.96			HORIZONTAL	Peak
2390.000	38.96	-7.63	31.33	54.00	-22.67			HORIZONTAL	Peak
2400.000	40.93	-7.63	33.30	54.00	-20.70			HORIZONTAL	Peak

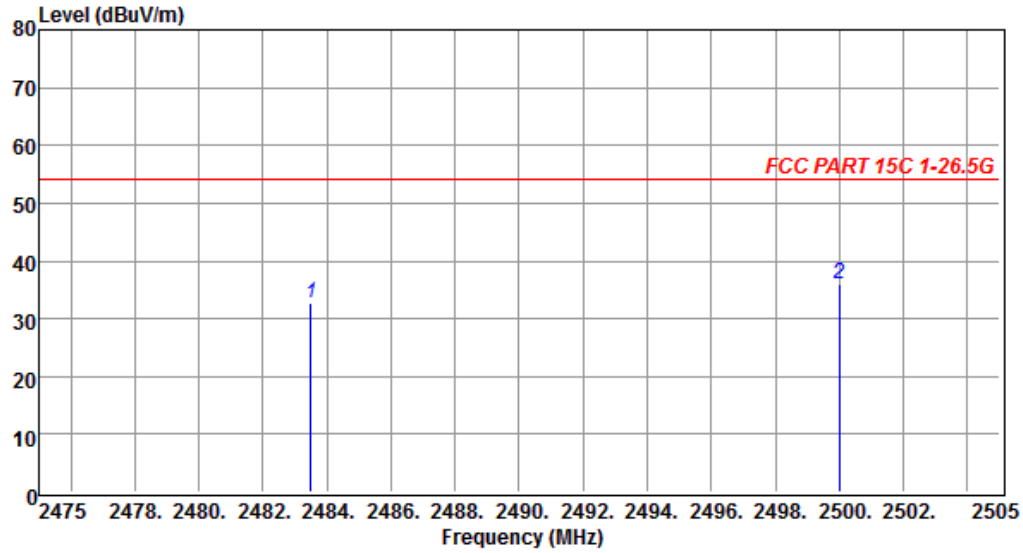
Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
   (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
   (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

Band-Edge Test Data (Upper Edge)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Vertical	Channel	:	CH78
EUT Position	:	X axis			3Mbps



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
2483.490	40.22	-7.39	32.83	54.00	-21.17			VERTICAL	Peak
2500.000	43.34	-7.33	36.01	54.00	-17.99			VERTICAL	Peak

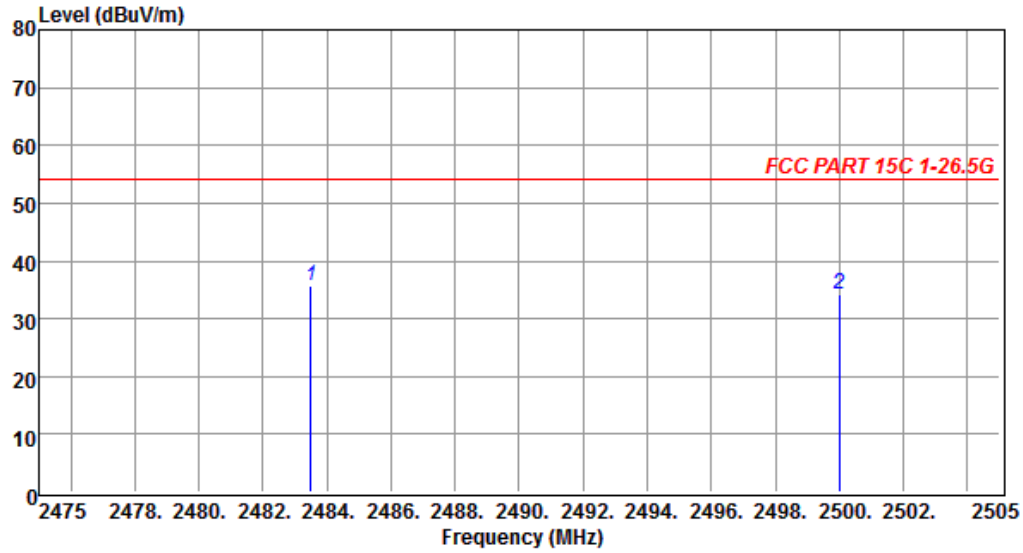
Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

Remark：

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
   (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
   (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

Band-Edge Test Data (Upper Edge)

Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Polarization	:	Horizontal	Channel	:	CH78
EUT Position	:	X axis			3Mbps



Freq	Reading	C.F	Result	Limit	Margin	A/H	T/P	Polarity	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	deg		
2483.500	43.02	-7.39	35.63	54.00	-18.37			HORIZONTAL	Peak
2499.990	41.53	-7.33	34.20	54.00	-19.80			HORIZONTAL	Peak

Note1: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain
Note2: Margin = Result - Limit

Remark：

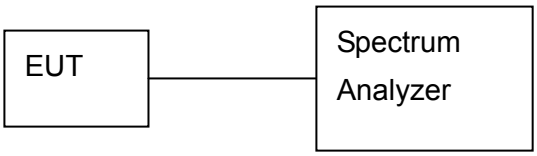
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
5. Spectrum setting:
   (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
   (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

5 20 dB Bandwidth

5.1 Test Instruments

Refer to Sec. 1.2 Test Instruments.

5.2 Test Arrangement and Procedure



1. The transmitter output was connected to a spectrum analyzer (through an attenuator, if it's necessary).
2. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 30kHz RBW and 100kHz VBW. Measured the -20 dB bandwidth and plotted the graph.

5.3 Limit

None; For report purpose only.

5.4 Test Result

No non-compliance noted.

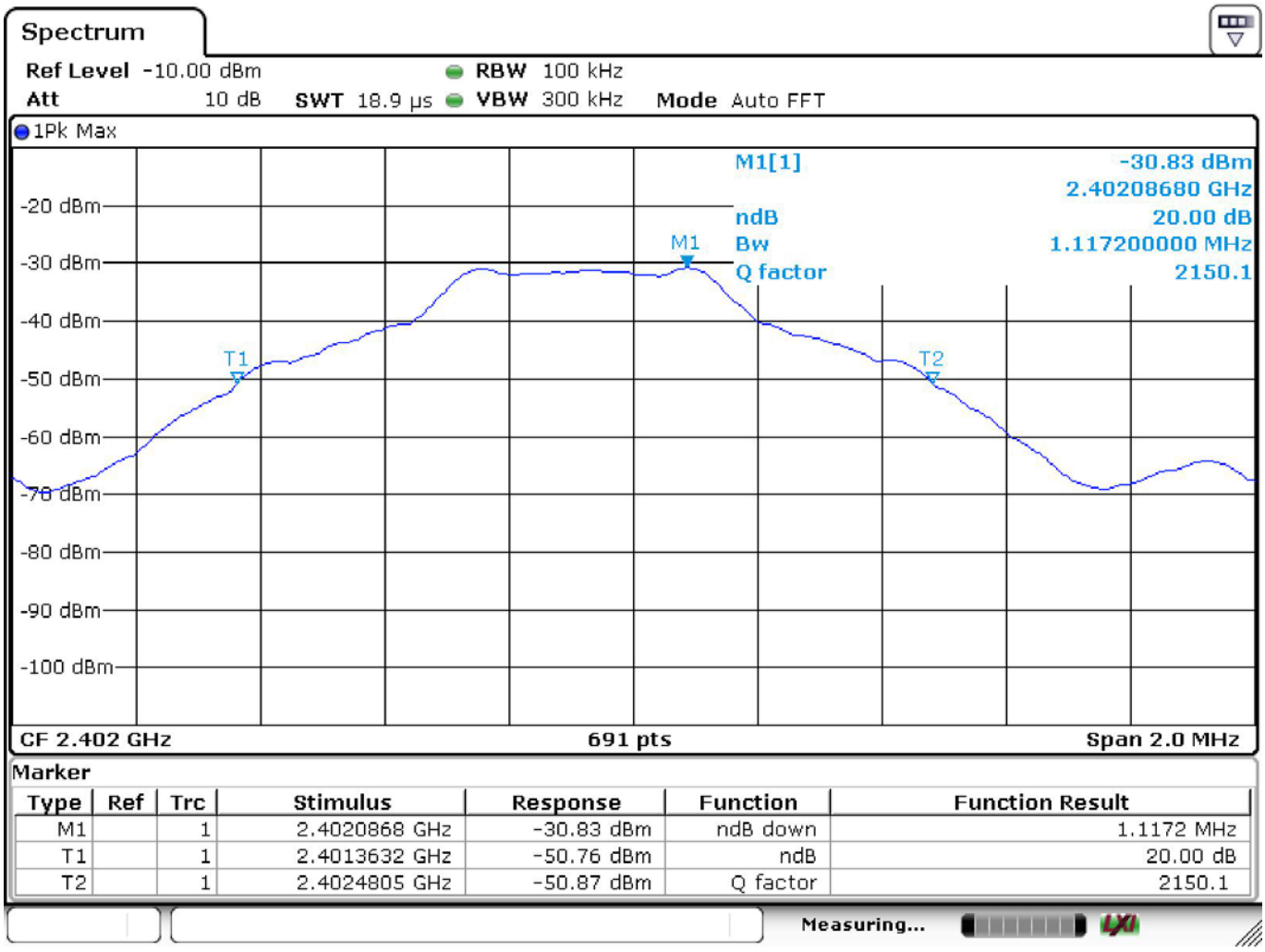
The final test data are shown on the following page(s).

Bluetooth 1 Mbps (DH5)		
Channel	**Frequency (MHz)**	**20dB Bandwidth (MHz)**
Low	2402	1.1172
Middle	2441	1.1114
High	2480	1.0999

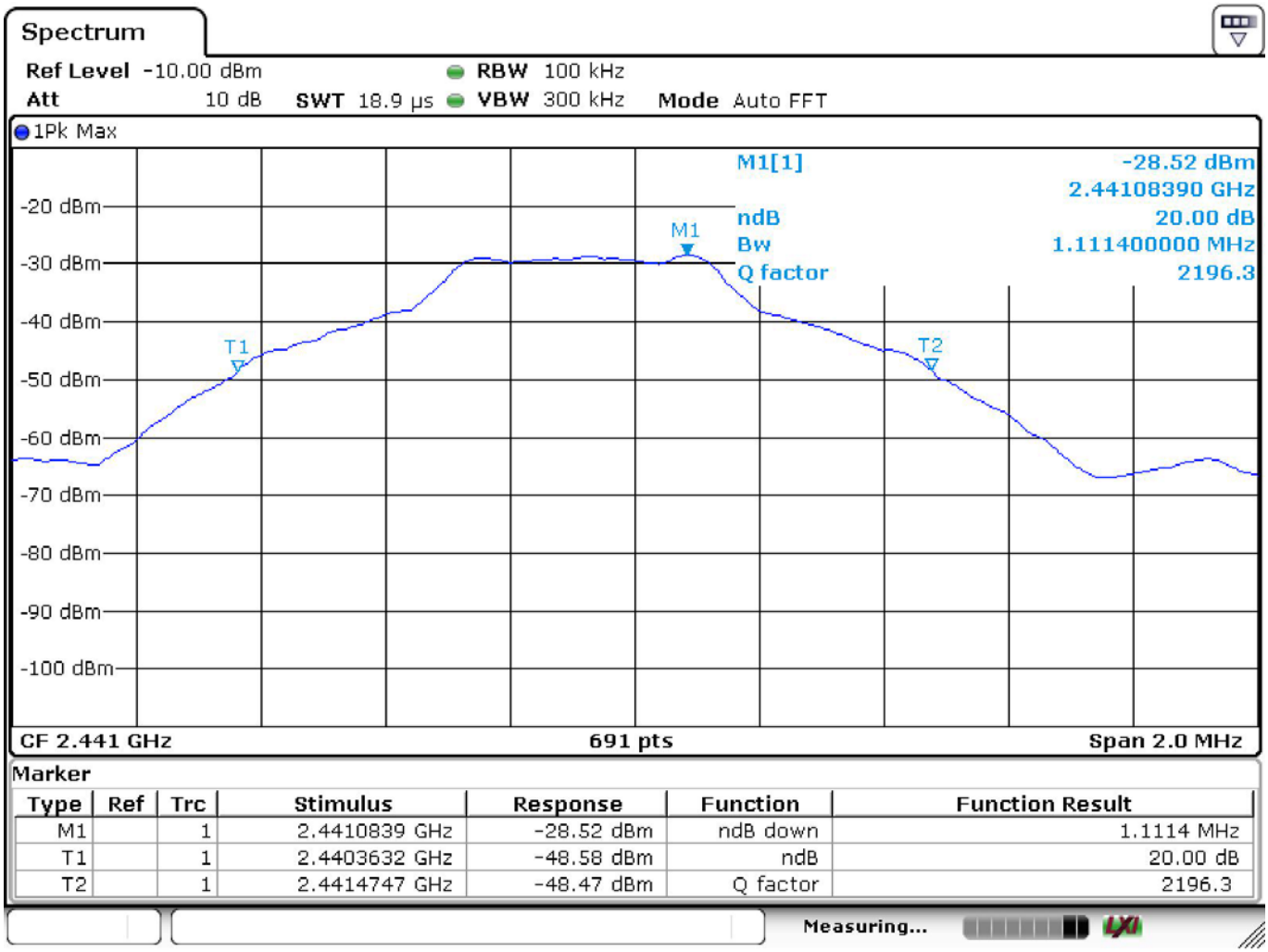
Bluetooth 2 Mbps (DH5)		
Channel	**Frequency (MHz)**	**20dB Bandwidth (MHz)**
Low	2402	1.4197
Middle	2441	1.4674
High	2480	1.4544

Bluetooth 3 Mbps (DH5)		
Channel	**Frequency (MHz)**	**20dB Bandwidth (MHz)**
Low	2402	1.4110
Middle	2441	1.4457
High	2480	1.4370

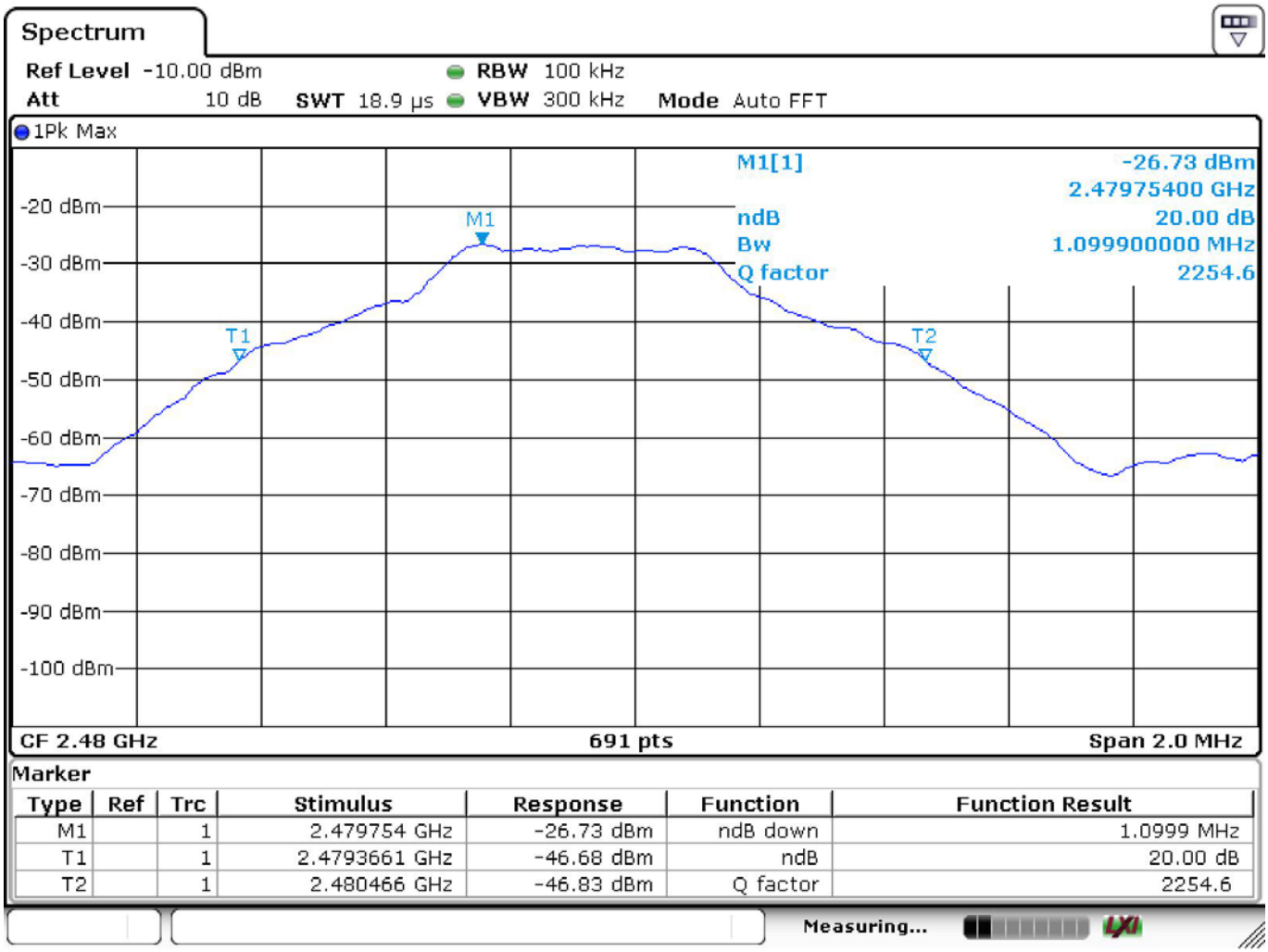
Temperature	:	26.3℃	Humidity	:	47%
Test Date	:	05-May-2017	Tested by	:	Eason Hsieh
Test Mode	:	BT (1 Mbps) DH5	Channel	:	00



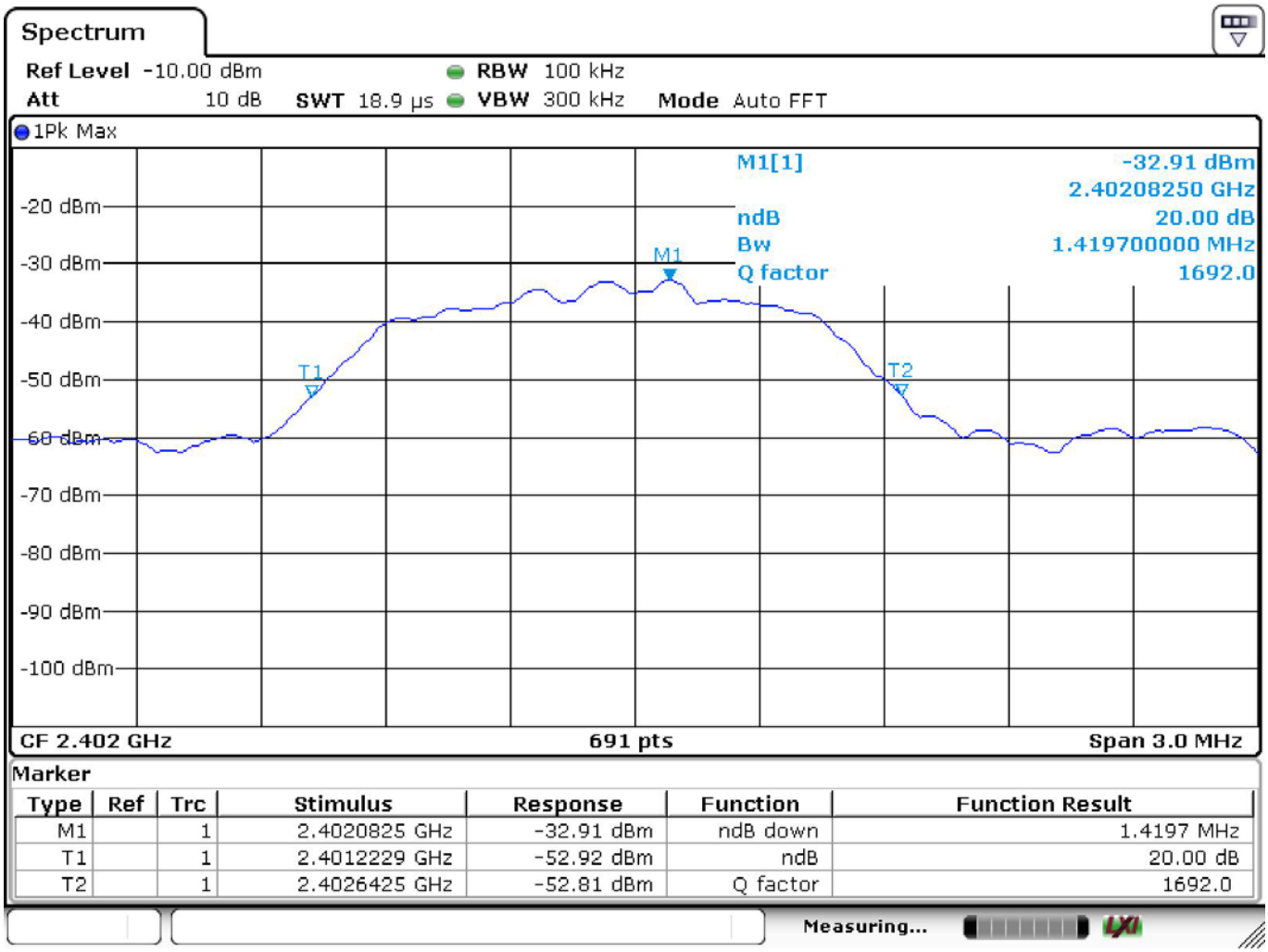
Test Mode	:	BT (1 Mbps) DH5	Channel	:	39


Spectrum
Ref Level -10.00 dBm
RBW 100 kHz
Att 10 dB
SWT 18.9 µs
VBW 300 kHz
Mode Auto FFT
1Pk Max
M1[1]
-28.52 dBm
2.44108390 GHz
ndB 20.00 dB
Bw 1.111400000 MHz
Q factor 2196.3
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
-90 dBm
-100 dBm
M1
T1
T2
CF 2.441 GHz
691 pts
Span 2.0 MHz
Marker
Type Ref Trc Stimulus Response Function Function Result
M1 1 2.4410839 GHz -28.52 dBm ndB down 1.1114 MHz
T1 1 2.4403632 GHz -48.58 dBm ndB 20.00 dB
T2 1 2.4414747 GHz -48.47 dBm Q factor 2196.3
Measuring...

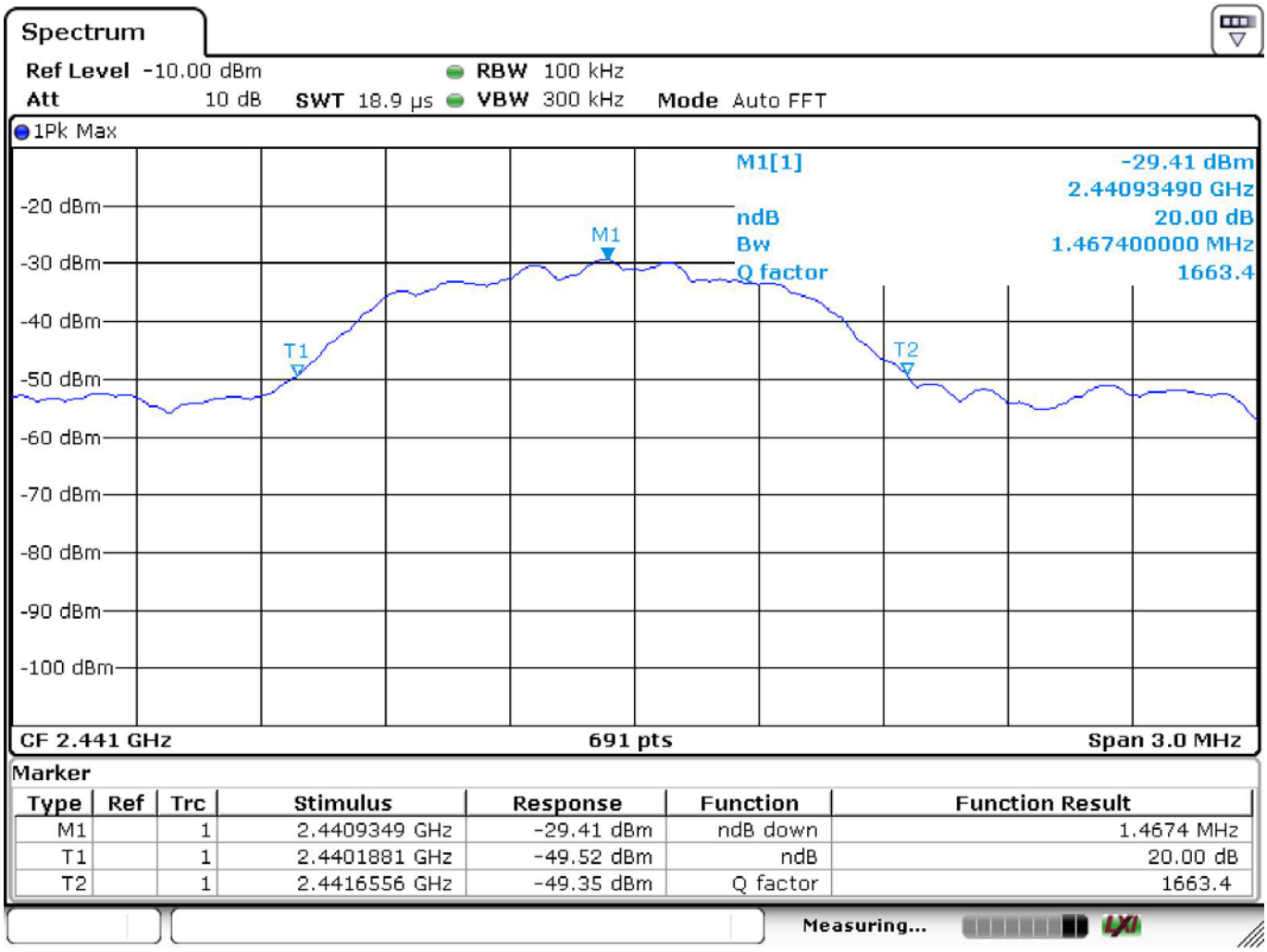
Test Mode : BT (1 Mbps) DH5 Channel : 78



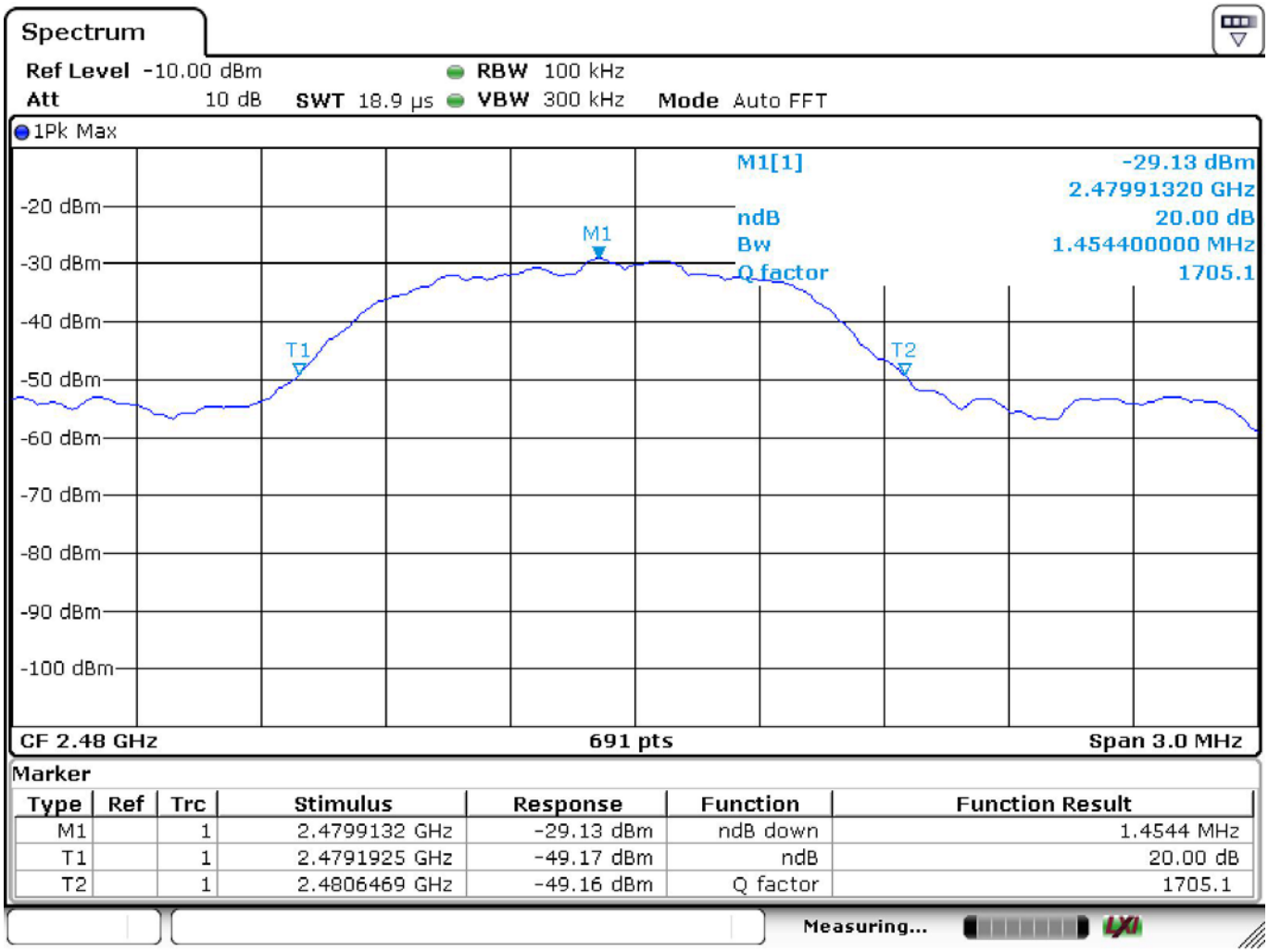
Test Mode : BT (2 Mbps) DH5 Channel : 00


Spectrum
Ref Level -10.00 dBm
RBW 100 kHz
Att 10 dB
SWT 18.9 µs
VBW 300 kHz
Mode Auto FFT
1Pk Max
M1[1]
-32.91 dBm
2.40208250 GHz
ndB 20.00 dB
Bw 1.419700000 MHz
Q factor 1692.0
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
-90 dBm
-100 dBm
M1
T1
T2
CF 2.402 GHz
691 pts
Span 3.0 MHz
Marker
Type Ref Trc Stimulus Response Function Function Result
M1 1 2.4020825 GHz -32.91 dBm ndB down 1.4197 MHz
T1 1 2.4012229 GHz -52.92 dBm ndB 20.00 dB
T2 1 2.4026425 GHz -52.81 dBm Q factor 1692.0
Measuring...

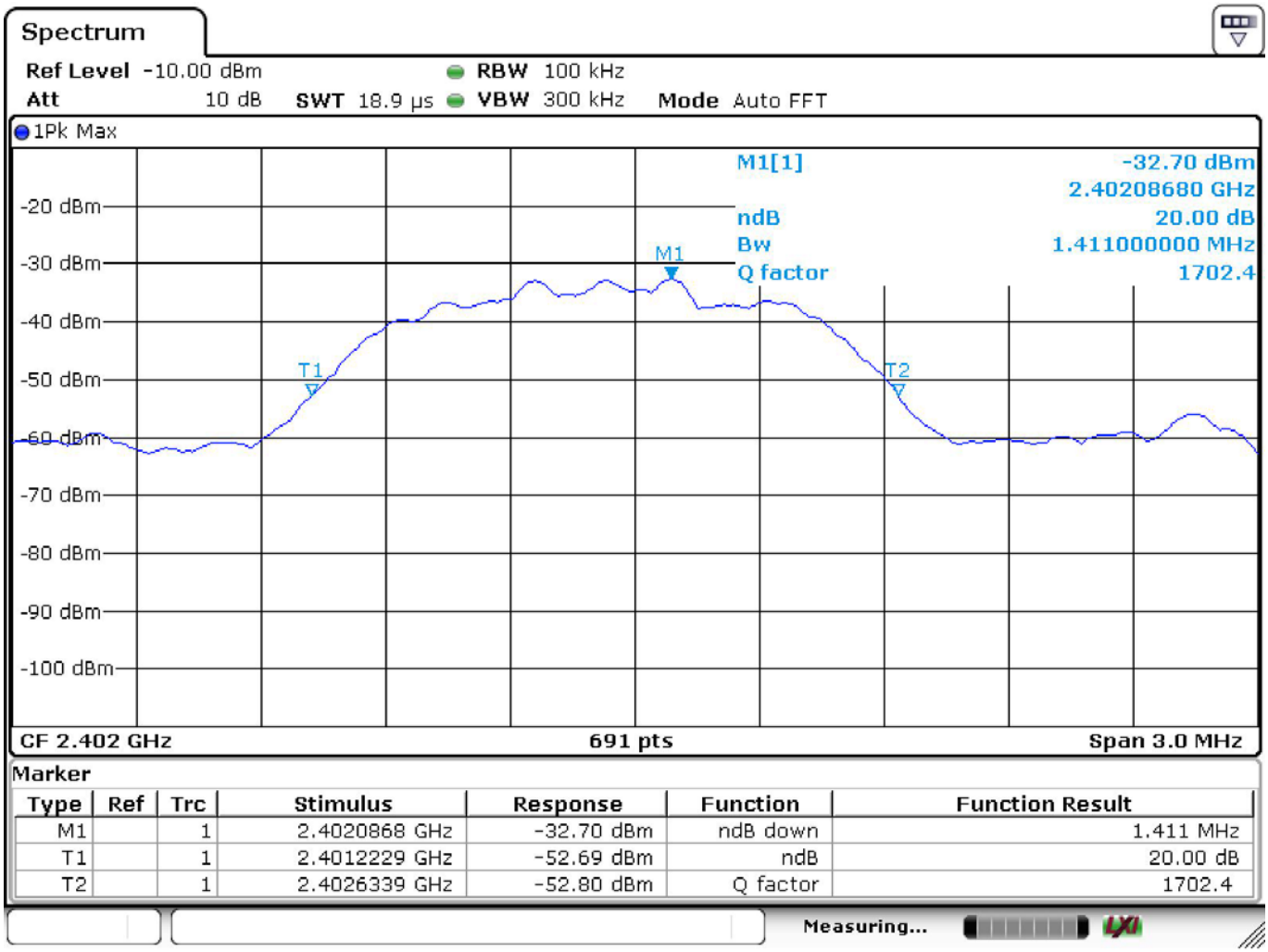
Test Mode : BT (2 Mbps) DH5 Channel : 39



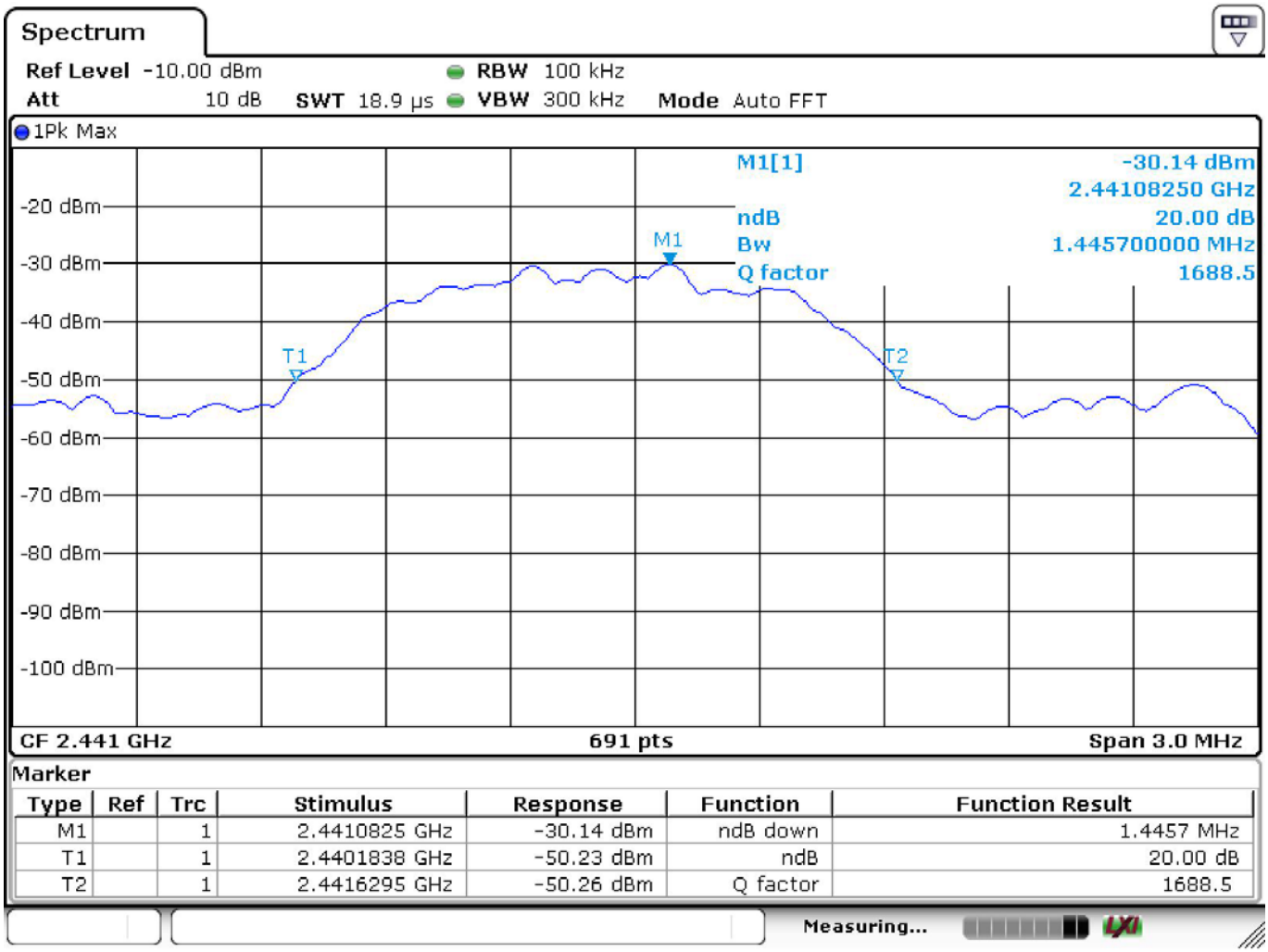
Test Mode : BT (2 Mbps) DH5 Channel : 78


Spectrum
Ref Level -10.00 dBm
RBW 100 kHz
Att 10 dB
SWT 18.9 µs
VBW 300 kHz
Mode Auto FFT
1Pk Max
M1[1]
-29.13 dBm
2.47991320 GHz
ndB 20.00 dB
Bw 1.454400000 MHz
Q factor 1705.1
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
-90 dBm
-100 dBm
M1
T1
T2
CF 2.48 GHz
691 pts
Span 3.0 MHz
Marker
Type Ref Trc Stimulus Response Function Function Result
M1 1 2.4799132 GHz -29.13 dBm ndB down 1.4544 MHz
T1 1 2.4791925 GHz -49.17 dBm ndB 20.00 dB
T2 1 2.4806469 GHz -49.16 dBm Q factor 1705.1
Measuring...

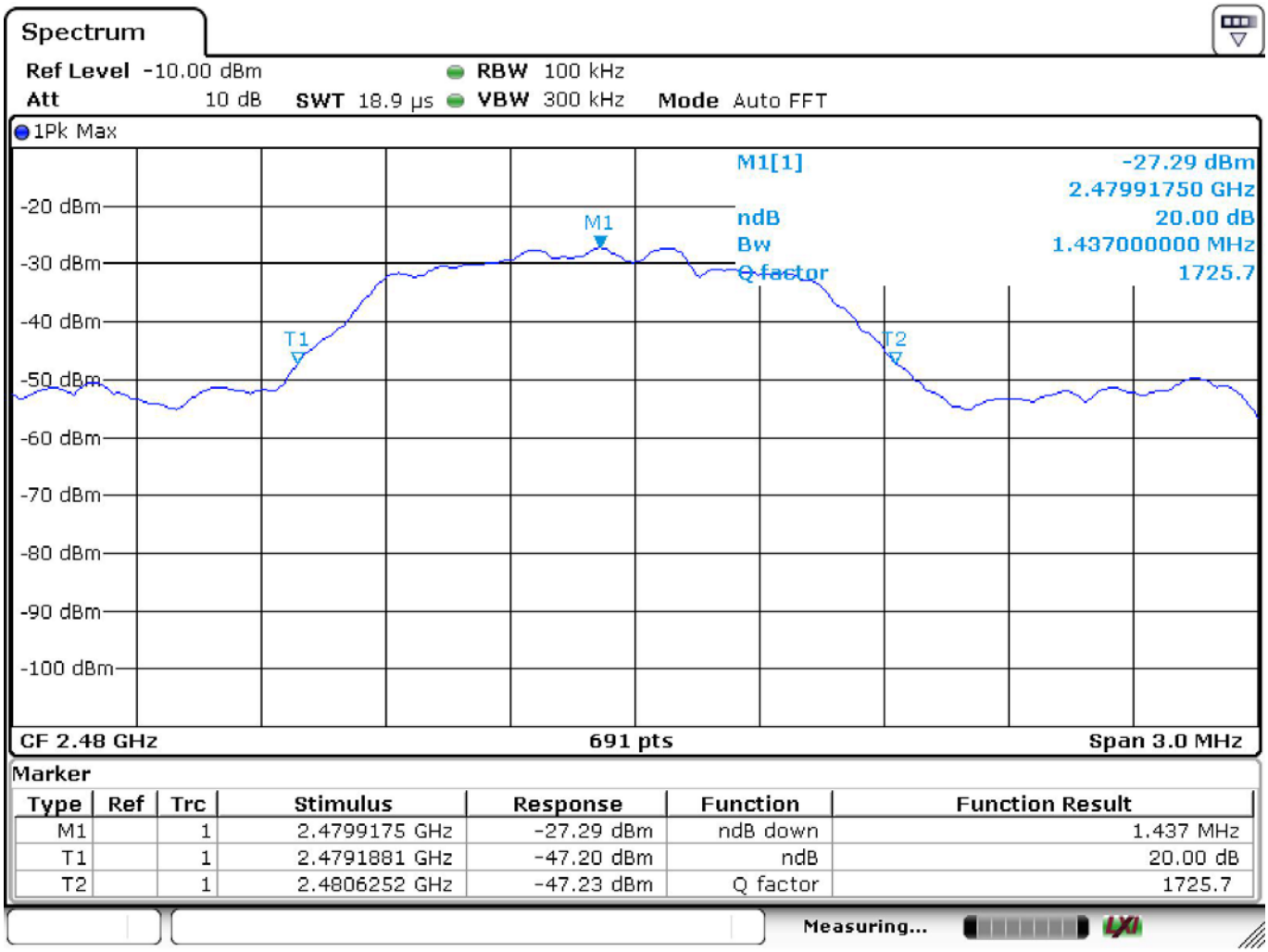
Test Mode : BT (3 Mbps) DH5 Channel : 00



Test Mode : BT (3 Mbps) DH5 Channel : 39


Spectrum
Ref Level -10.00 dBm
RBW 100 kHz
Att 10 dB
SWT 18.9 µs
VBW 300 kHz
Mode Auto FFT
1Pk Max
M1[1]
-30.14 dBm
2.44108250 GHz
ndB 20.00 dB
Bw 1.445700000 MHz
Q factor 1688.5
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
-90 dBm
-100 dBm
M1
T1
T2
CF 2.441 GHz
691 pts
Span 3.0 MHz
Marker
Type Ref Trc Stimulus Response Function Function Result
M1 1 2.4410825 GHz -30.14 dBm ndB down 1.4457 MHz
T1 1 2.4401838 GHz -50.23 dBm ndB 20.00 dB
T2 1 2.4416295 GHz -50.26 dBm Q factor 1688.5
Measuring...

Test Mode : BT (3 Mbps) DH5 Channel : 78



6 Antenna requirement

6.1 Limit (§ 15.203)

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a uniue coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of § 15.211, § 15.213, § 15.217, § 15.219, or § 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with § 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

6.2 Test Result

Compliance.

The EUT applies a Chip antenna.

7 Information about the FHSS characteristics

7.1 Pseudorandom Frequency Hopping Sequence

The channel is represented by a pseudo-random hopping sequence hopping through the 79 RF channels.

The hopping sequence is unique for the piconet and is determined by the Bluetooth device address of the master; the phase in the hopping sequence is determined by the Bluetooth clock of the master.

The channel is divided into time slots where each slot corresponds to an RF hop frequency. Consecutive hops correspond to different RF hop frequencies. The nominal hop rate is 1600 hops/s.

7.2 Example of a 79 hopping sequence in data mode:

02, 05, 31 , 24, 20, 10,43, 36, 30, 23, 40, 06, 21, 50, 44, 09, 71 , 78, 01, 13, 73, 07, 70, 72, 35, 62, 42, 11, 41, 08, 16, 29, 60, 15, 34, 61, 58, 04, 67, 12, 22, 53, 57, 18, 27, 76, 39, 32, 17, 77, 52, 33, 56, 46, 37, 47, 64, 49, 45, 38, 69, 14, 51, 26, 79, 19, 28, 65, 75, 54, 48, 03, 25, 66, 05, 16, 68, 74, 59, 63, 55

7.3 Equal Hopping Frequency Use

Due to each the GFSK, π/4-DQPSK and 8-DPSK modulation of hopping frequency will be transmitted in accordance to the frequency tables described above, there is no any frequency will be able to hop more times than other. Therefore each frequency will be used equally.

— End of Test Report —