



CCSRF



FCC ID: 2AAOV-GGI16  
Report No.: T190503D05-B-RP3

ISED: 5534A-GGI16

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# RADIO TEST REPORT

## FCC 47 CFR PART 15 SUBPART C

## INDUSTRY CANADA RSS-247

<b>Test Standard</b>	<b>FCC Part 15.247 + IC RSS-247 issue 2 and IC RSS-GEN issue 5</b>
<b>Brand name</b>	<b>Tobii Dynavox</b>
<b>Product name</b>	<b>Speech Generating Device</b>
<b>Model No.</b>	<b>FCC: I-16XXXXXXXXXXXXXX (where "X" may be any alphanumeric character , "-" or blank) ISED: I-16</b>
<b>Test Result</b>	<b>Pass</b>
<b>Statements of Conformity</b>	<b>Determination of compliance is based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.</b>

The test Result was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were given in ANSI C63.10: 2013 and compliance standards.

The test results of this report relate only to the tested sample (EUT) identified in this report.

The test Report of full or partial shall not copy. Without written approval of Compliance Certification Services Inc. (Wugu Laboratory).

Approved by:

Kevin Tsai  
Deputy Manager

Tested by:

Dally Hong  
Engineer

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.  
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部分複製。

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## Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	August 26, 2019	Initial Issue	ALL	May Lin
01	September 02, 2019	See the following note Rev. (01)	P.9	May Lin

***Rev. (01)***

1. *Removed the support equipment.*

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## 1. GENERAL INFORMATION

### 1.1 EUT INFORMATION

Applicant	Tobii Dynavox LLC 2100 Wharton Street, Suite 400, Pittsburgh PA 15203
Manufacturer	Tobii Dynavox LLC 2100 Wharton Street, Suite 400, Pittsburgh PA 15203
Equipment	Speech Generating Device
Model Name	<b>FCC:</b> I-16XXXXXXXXXXXXXX (where "X" may be any alphanumeric character , "-" or blank) <b>ISED:</b> I-16
Model Discrepancy	<b>FCC:</b> All the above models are identical except for the designation of model numbers. The suffix of (where "X" may be any alphanumeric character, "-" or blank) on model number is just for marketing purpose only.
Received Date	May 03, 2019
Date of Test	May 23 ~ June 17, 2019
Output Power(W)	IEEE 802.11b mode: 0.164 (EIRP: 0.1954) IEEE 802.11g mode: 0.3446 (EIRP: 0.4172) IEEE 802.11n HT 20 MHz mode: 0.3296 (EIRP:0.3991)
Power Supply	1. VDC from Power Adapter Brand: FSP GROUP INC. Model name: FSP065-DBCM1 Input: 100-240Vac, 2.0-1.0A, 50-60Hz Output: 19.0Vdc, 3.43A MAX 2. Power from Lithium-ion battery Model name: TDGG1 Rating: 14.4Vdc, 95.04 W
HW Version	AP6356SDPB
SW Version	1.558.53.29

## 1.2 EUT CHANNEL INFORMATION

Frequency Range	802.11b/g/n HT 20: 2412MHz ~ 2462MHz
Modulation Type	1. IEEE 802.11b mode: CCK 2. IEEE 802.11g mode: OFDM 3. IEEE 802.11n HT 20 MHz mode : OFDM
Number of channel	1. IEEE 802.11b mode: 11 Channels 2. IEEE 802.11g mode: 11 Channels 3. IEEE 802.11n HT 20 MHz mode : 11 Channels

**Remark:**

Refer as ANSI C63.10: 2013 clause 5.6.1 Table 4 and RSS-GEN Table 1 for test channels

Number of frequencies to be tested			
Frequency range in which device operates	Number of frequencies	Location in frequency range of operation	
<input type="checkbox"/> 1 MHz or less	1	Middle	
<input type="checkbox"/> 1 MHz to 10 MHz	2	1 near top and 1 near bottom	
<input checked="" type="checkbox"/> More than 10 MHz	3	1 near top, 1 near middle, and 1 near bottom	

## 1.3 ANTENNA INFORMATION

Antenna Type	<input checked="" type="checkbox"/> PIFA <input type="checkbox"/> PCB <input type="checkbox"/> Dipole <input type="checkbox"/> Coils			
Antenna Gain	Brand	P/N	Type	Peak Gain
	JiangyinSINBON Electronics Co., Ltd.	1750008906-01	PIFA	2.1dBi
	JiangyinSINBON Electronics Co., Ltd.	1750008907-01	PIFA	-0.97dBi
Power Directional Gain: 0.83 dBi				

**Notes:**

1. Power Directional Gain:  $10\log(((10^{(Ant1/10)}+10^{(Ant2/10)})/2))$

## 1.4 MEASUREMENT UNCERTAINTY

2 PARAMETER	UNCERTAINTY
AC Powerline Conducted Emission	+/- 1.2575
Emission bandwidth, 20dB bandwidth	+/- 1.4003
RF output power, conducted	+/- 1.1372
Power density, conducted	+/- 1.4003
3M Semi Anechoic Chamber / 30M~200M	+/- 4.0138
3M Semi Anechoic Chamber / 200M~1000M	+/- 3.9483
3M Semi Anechoic Chamber / 1G~8G	+/- 2.5975
3M Semi Anechoic Chamber / 8G~18G	+/- 2.6112
3M Semi Anechoic Chamber / 18G~26G	+/- 2.7389

**Remark:**

1. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of  $k=2$
2. ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report.

## 1.5 FACILITIES AND TEST LOCATION

All measurement facilities used to collect the measurement data are located at  
*No.11, Wugong 6th Rd., Wugu Dist., New Taipei City 24891, Taiwan. (R.O.C.)*

Test site	Test Engineer	Remark
AC Conduction Room	Dally Hong	-
Radiation	Dally Hong	-
RF Conducted	Dally Hong	-

**Remark:** The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

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## 1.6 INSTRUMENT CALIBRATION

RF Conducted Test Site					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Coaxial Cable	Woken	WC12	CC002	06/29/2018	06/28/2019
Coaxial Cable	Woken	WC12	CC003	06/29/2018	06/28/2019
Power Meter	Anritsu	ML2495A	1149001	02/12/2019	02/11/2020
Power Seneor	Anritsu	MA2491A	030982	02/12/2019	02/11/2020
Signal Analyzer	R&S	FSV 40	101073	09/27/2018	09/26/2019
Software			N/A		

Wugu 966 Chamber A					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Band Reject Filters	MICRO TRONICS	BRM 50702	120	02/26/2019	02/25/2020
Bilog Antenna	Sunol Sciences	JB3	A030105	07/13/2018	07/12/2019
Cable	HUBER SUHNER	SUCOFLEX 104PEA	25157	02/26/2019	02/25/2020
Cable	HUBER SUHNER	SUCOFLEX 104PEA	20995	02/26/2019	02/25/2020
Digital Thermo-Hygro Meter	WISEWIND	1206	D07	01/30/2019	01/29/2020
double Ridged Guide Horn Antenna	ETC	MCTD 1209	DRH13M02003	08/20/2018	08/19/2019
Loop Ant	COM-POWER	AL-130	121051	03/22/2019	03/21/2020
Pre-Amplifier	EMEC	EM330	060609	02/26/2019	02/25/2020
Pre-Amplifier	HP	8449B	3008A00965	02/26/2019	02/25/2020
PSA Series Spectrum Analyzer	Agilent	E4446A	MY46180323	05/29/2019	05/28/2020
Antenna Tower	CCS	CC-A-1F	N/A	N.C.R	N.C.R
Controller	CCS	CC-C-1F	N/A	N.C.R	N.C.R
Turn Table	CCS	CC-T-1F	N/A	N.C.R	N.C.R
Software			e3 6.11-20180413		

Conducted Emission Room # B					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
CABLE	EMCI	CFD300-NL	CERF	06/29/2018	06/28/2019
EMI Test Receiver	R&S	ESCI	100064	07/24/2018	07/23/2019
LISN	SCHWARZBECK	NSLK 8127	8127-541	01/31/2019	01/30/2020
LISN	R&S	ENV216	101054	05/02/2019	05/01/2020
Software			EZ-EMC(CCS-3A1-CE)		

**Remark:** Each piece of equipment is scheduled for calibration once a year.

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## 1.7 SUPPORT AND EUT ACCESSORIES EQUIPMENT

EUT Accessories Equipment					
No.	Equipment	Brand	Model	Series No.	FCC ID
	N/A				

Support Equipment					
No.	Equipment	Brand	Model	Series No.	FCC ID
	N/A				

## 1.8 TEST METHODOLOGY AND APPLIED STANDARDS

The test methodology, setups and results comply with all requirements in accordance with ANSI C63.10:2013, FCC Part 2, FCC Part 15.247, KDB 662911 D01, KDB 558074 D01, RSS-247 Issue 2 and RSS-GEN Issue 5.

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## 2. TEST SUMMARY

FCC Standard Section	IC Standard Section	Report Section	Test Item	Result
15.203	-	1.3	Antenna Requirement	Pass
15.207(a)	RSS-GEN 8.8	4.1	AC Conducted Emission	Pass
15.247(a)(2)	RSS-247(5.2)(a)	4.2	6 dB Bandwidth	Pass
-	RSS-GEN 6.6	4.2	Occupied Bandwidth (99%)	Pass
15.247(b)	RSS-247(5.4)(d)	4.3	Output Power Measurement	Pass
15.247(e)	RSS-247(5.2)(b)	4.4	Power Spectral Density	Pass
15.247(d)	RSS-247(5.5)	4.5	Conducted Band Edge	Pass
15.247(d)	RSS-247(5.5)	4.5	Conducted Spurious Emission	Pass
15.247(d)	RSS-GEN 8.9, 8.10	4.6	Radiation Band Edge	Pass
15.247(d)	RSS-GEN 8.9, 8.10	4.6	Radiation Spurious Emission	Pass

### 3. DESCRIPTION OF TEST MODES

#### 3.1 THE WORST MODE OF OPERATING CONDITION

Operation mode	IEEE 802.11b mode :1Mbps IEEE 802.11g mode :6Mbps IEEE 802.11n HT20 mode :MCS8
Test Channel Frequencies	<b>IEEE 802.11b mode :</b> 1. Lowest Channel : 2412MHz 2. Middle Channel : 2437MHz 3. Highest Channel : 2462MHz <b>IEEE 802.11g mode :</b> 1. Lowest Channel : 2412MHz 2. Middle Channel : 2437MHz 3. Highest Channel : 2462MHz <b>IEEE 802.11n HT20 mode :</b> 1. Lowest Channel : 2412MHz 2. Middle Channel : 2437MHz 3. Highest Channel : 2462MHz
Operation Transmitter	IEEE 802.11b mode :2T2R IEEE 802.11g mode :2T2R IEEE 802.11n HT20 mode : 2T2R

**Remark:**

1. EUT pre-scanned data rate of output power for each mode, the worst data rate were recorded in this report.

### 3.2 THE WORST MODE OF MEASUREMENT

AC Power Line Conducted Emission	
Test Condition	AC Power line conducted emission for line and neutral
Power supply Mode	Mode 1: EUT power by Adapter AC 110 V to DC 19 V Mode 2: EUT power by battery
Worst Mode	<input checked="" type="checkbox"/> Mode 1 <input type="checkbox"/> Mode 2 <input type="checkbox"/> Mode 3 <input type="checkbox"/> Mode 4

Radiated Emission Measurement Above 1G	
Test Condition	Band edge, Emission for Unwanted and Fundamental
Power supply Mode	Mode 1: EUT power by Adapter AC 110 V to DC 19 V Mode 2: EUT power by battery
Worst Mode	<input checked="" type="checkbox"/> Mode 1 <input type="checkbox"/> Mode 2 <input type="checkbox"/> Mode 3 <input type="checkbox"/> Mode 4
Worst Position	<input type="checkbox"/> Placed in fixed position. <input type="checkbox"/> Placed in fixed position at X-Plane (E2-Plane) <input type="checkbox"/> Placed in fixed position at Y-Plane (E1-Plane) <input checked="" type="checkbox"/> Placed in fixed position at Z-Plane (H-Plane)
Worst Polarity	<input type="checkbox"/> Horizontal <input checked="" type="checkbox"/> Vertical

Radiated Emission Measurement Below 1G	
Test Condition	Radiated Emission Below 1G
Power supply Mode	Mode 1: EUT power by Adapter AC 110 V to DC 19 V Mode 2: EUT power by battery
Worst Mode	<input checked="" type="checkbox"/> Mode 1 <input type="checkbox"/> Mode 2 <input type="checkbox"/> Mode 3 <input type="checkbox"/> Mode 4

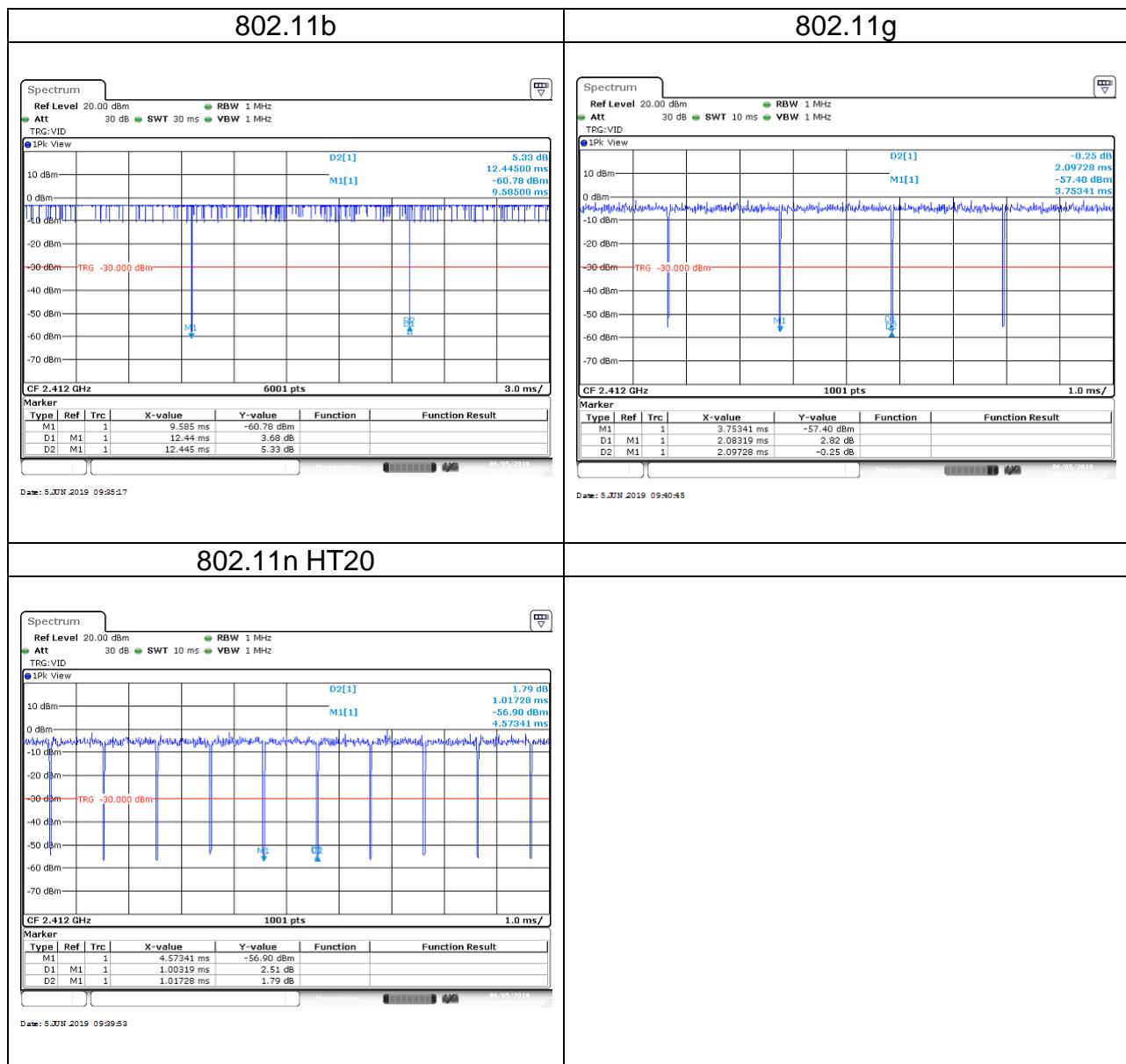
*Remark:*

1. The worst mode was record in this test report.
2. EUT pre-scanned in three axis ,X,Y, Z and two polarity, Horizontal and Vertical for radiated measurement. The worst case(Z-Plane and Vertical) were recorded in this report
3. AC power line conducted emission and for below 1G radiation emission were performed the EUT transmit at the highest output power channel as worse case.

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### 3.3 EUT DUTY CYCLE

Duty Cycle			
Configuration	TX ON (ms)	TX ALL (ms)	Duty Cycle (%)
802.11b	12.4400	12.4450	99.96%
802.11g	2.0832	2.0973	99.33%
802.11n HT20	1.0032	1.0173	98.61%



## 4. TEST RESULT

### 4.1 AC POWER LINE CONDUCTED EMISSION

#### 4.1.1 Test Limit

According to §15.207(a)(2) and RSS-GEN section 8.8,

Frequency Range (MHz)	Limits(dB $\mu$ V)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56*	56 to 46*
0.50 to 5	56	46
5 to 30	60	50

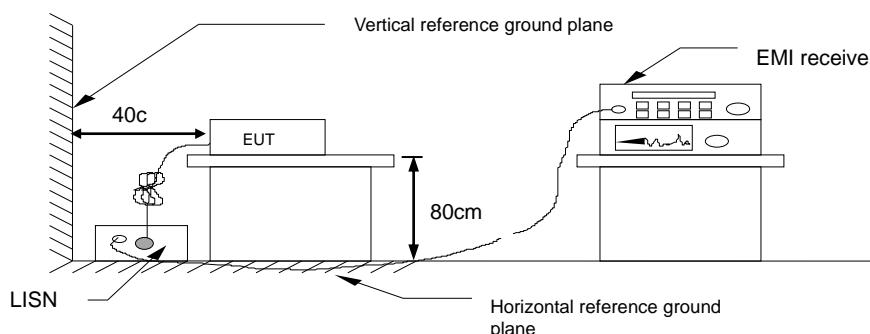
\* Decreases with the logarithm of the frequency.

#### 4.1.2 Test Procedure

Test method Refer as ANSI C63.10: 2013 clause 6.2,

1. The EUT was placed on a non-conducted table, which is 0.8m above horizontal ground plane and 0.4m above vertical ground plane.
2. EUT connected to the line impedance stabilization network (LISN)
3. Receiver set RBW of 9kHz and Detector Peak, and note as quasi-peak and average.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. Recorded Line for Neutral and Line.

#### 4.1.3 Test Setup

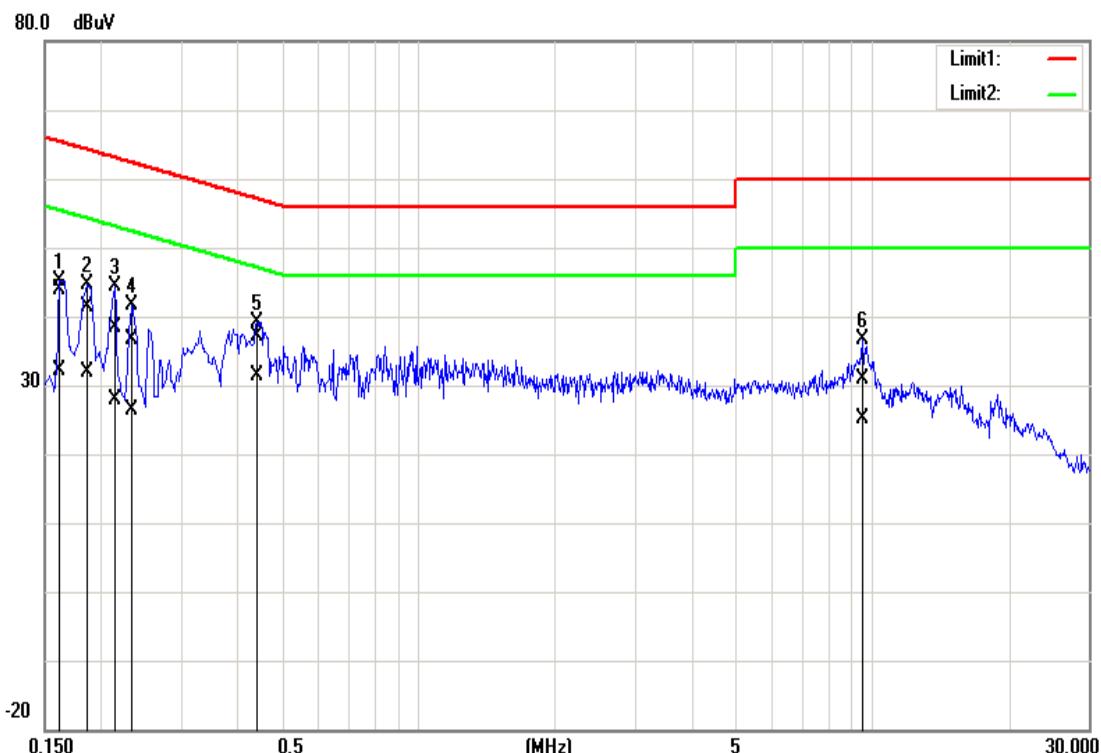


#### 4.1.4 Test Result

Pass.

**Test Data**

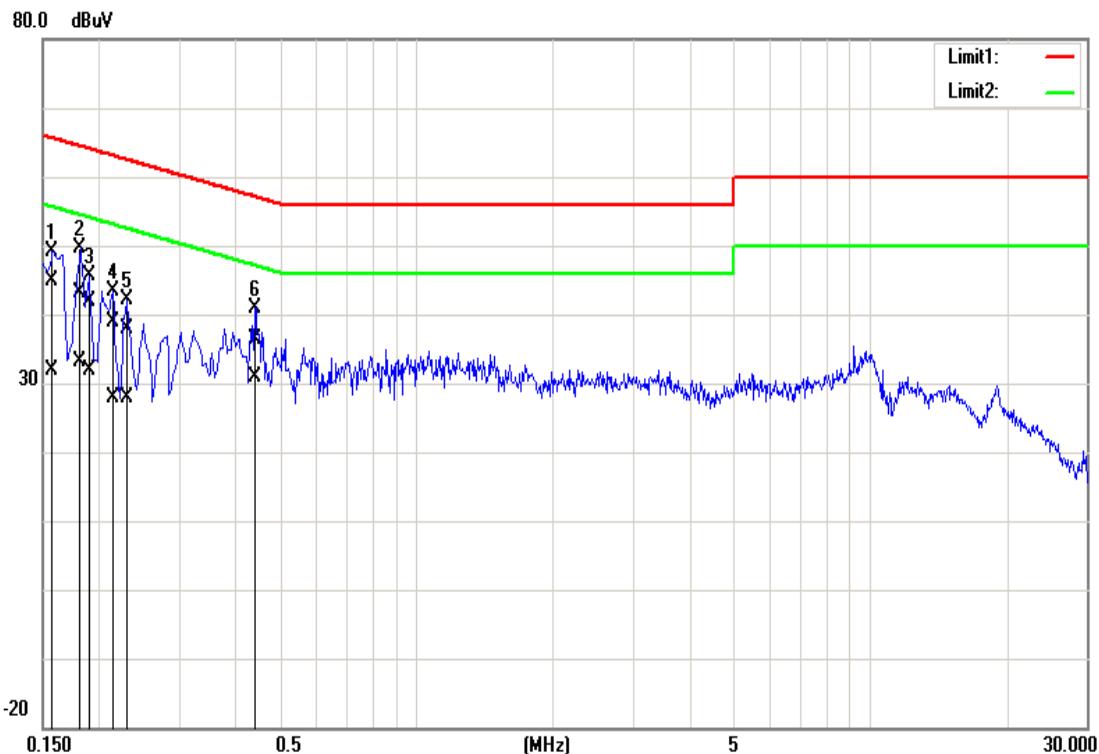
Test Mode:	Mode 1	Temp/Hum	24(°C)/ 50%RH
Phase:	Line	Test Date	2019/05/23
		Test Engineer	Dally Hong



No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.1620	43.81	32.03	0.16	43.97	32.19	65.36	55.36	-21.39	-23.17	Pass
2	0.1860	41.27	31.78	0.15	41.42	31.93	64.21	54.21	-22.79	-22.28	Pass
3	0.2140	38.19	27.81	0.15	38.34	27.96	63.05	53.05	-24.71	-25.09	Pass
4	0.2340	36.52	26.34	0.15	36.67	26.49	62.31	52.31	-25.64	-25.82	Pass
5	0.4420	36.92	31.15	0.16	37.08	31.31	57.02	47.02	-19.94	-15.71	Pass
6	9.5020	30.36	24.66	0.45	30.81	25.11	60.00	50.00	-29.19	-24.89	Pass

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Test Mode:	Mode 1	Temp/Hum	24(°C)/ 50%RH
Phase:	Neutral	Test Date	2019/05/23
		Test Engineer	Dally Hong



No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.1580	44.87	31.90	0.10	44.97	32.00	65.57	55.57	-20.60	-23.57	Pass
2	0.1820	42.92	32.98	0.10	43.02	33.08	64.39	54.39	-21.37	-21.31	Pass
3	0.1900	41.74	31.80	0.10	41.84	31.90	64.04	54.04	-22.20	-22.14	Pass
4	0.2140	38.75	27.83	0.10	38.85	27.93	63.05	53.05	-24.20	-25.12	Pass
5	0.2300	37.67	27.80	0.10	37.77	27.90	62.45	52.45	-24.68	-24.55	Pass
6	0.4420	36.33	30.69	0.11	36.44	30.80	57.02	47.02	-20.58	-16.22	Pass

## 4.2 6dB BANDWIDTH AND OCCUPIED BANDWIDTH(99%)

### 4.2.1 Test Limit

According to §15.247(a)(2) and RSS-247 section 5.2(a),

#### 6 dB Bandwidth :

Limit	Shall be at least 500kHz
-------	--------------------------

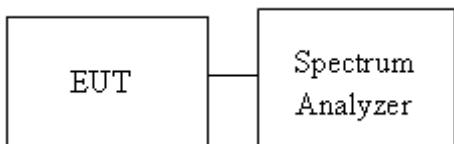
Occupied Bandwidth(99%) : For reporting purposes only.

### 4.2.2 Test Procedure

Test method Refer as KDB 558074 D01 and ANSI C63.10: 2013 clause 6.9.2,

1. The EUT RF output connected to the spectrum analyzer by RF cable.
2. Setting maximum power transmit of EUT
3. SA set RBW = 100kHz, VBW = 300kHz and Detector = Peak, to measurement 6 dB Bandwidth and 99% Bandwidth.
4. Measure and record the result of 6 dB Bandwidth and 99% Bandwidth. in the test report.

### 4.2.3 Test Setup



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#### 4.2.4 Test Result

Test mode: IEEE 802.11b mode / 2412-2462 MHz						
Channel	Frequency (MHz)	Chain 0 OBW(99%) (MHz)	Chain 1 OBW(99%) (MHz)	Chain 0 6dB BW (MHz)	Chain 1 6dB BW (MHz)	6dB limit (kHz)
Low	2412	11.5918	11.5050	0.8553	0.8565	$\geq 500$
Mid	2437	11.5484	11.7221	0.8075	0.9043	
High	2462	11.5484	11.7655	0.8509	0.9043	

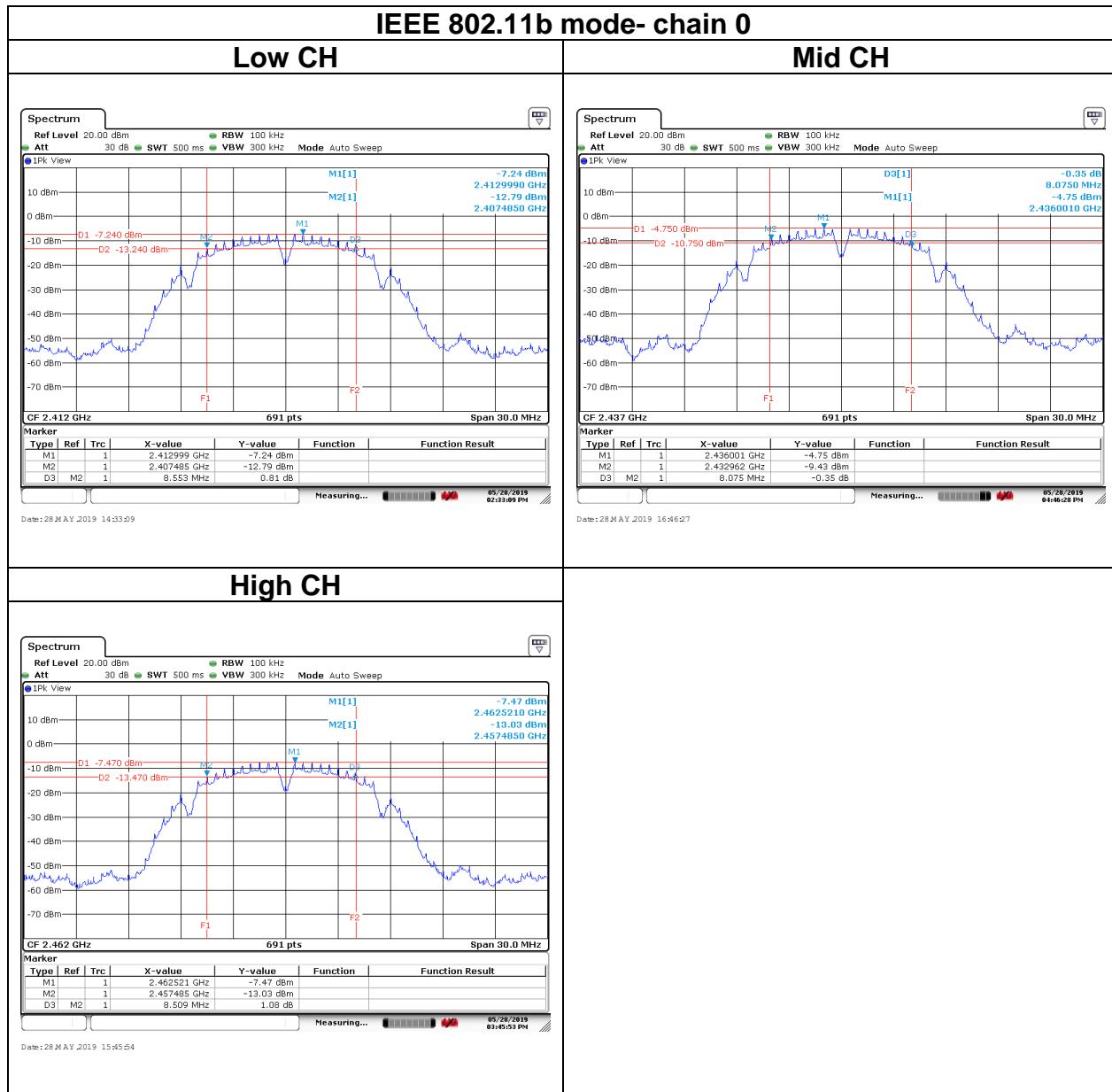
Test mode: IEEE 802.11g mode / 2412-2462 MHz						
Channel	Frequency (MHz)	Chain 0 OBW(99%) (MHz)	Chain 1 OBW(99%) (MHz)	Chain 0 6dB BW (MHz)	Chain 1 6dB BW (MHz)	6dB limit (kHz)
Low	2412	16.8885	16.8885	16.281	16.3043	$\geq 500$
Mid	2437	16.9319	16.8451	16.281	16.3043	
High	2462	16.9319	16.8451	16.411	16.3478	

Test mode: IEEE 802.11n HT 20 MHz mode / 2412-2462 MHz						
Channel	Frequency (MHz)	Chain 0 OBW(99%) (MHz)	Chain 1 OBW(99%) (MHz)	Chain 0 6dB BW (MHz)	Chain 1 6dB BW (MHz)	6dB limit (kHz)
Low	2412	17.9739	17.9305	17.54	17.5652	$\geq 500$
Mid	2437	18.0173	17.8871	17.583	17.6087	
High	2462	17.9739	17.9305	17.583	17.6087	

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## Test Data

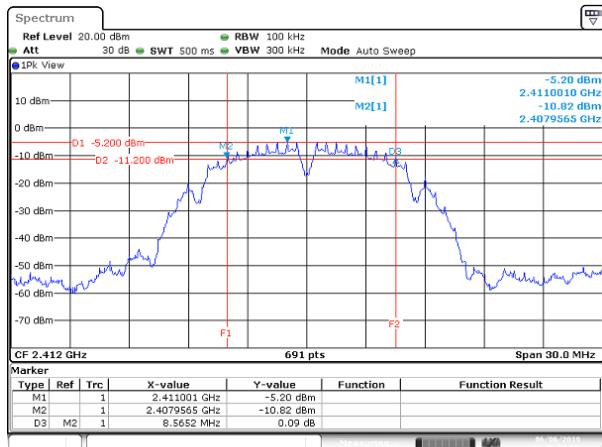
### 6dB BANDWIDTH



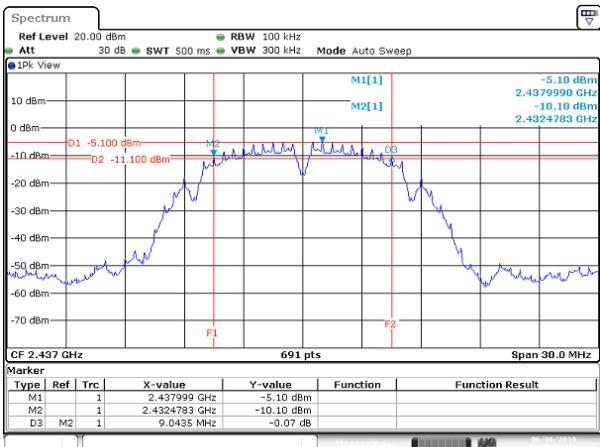
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## IEEE 802.11b mode- chain 1

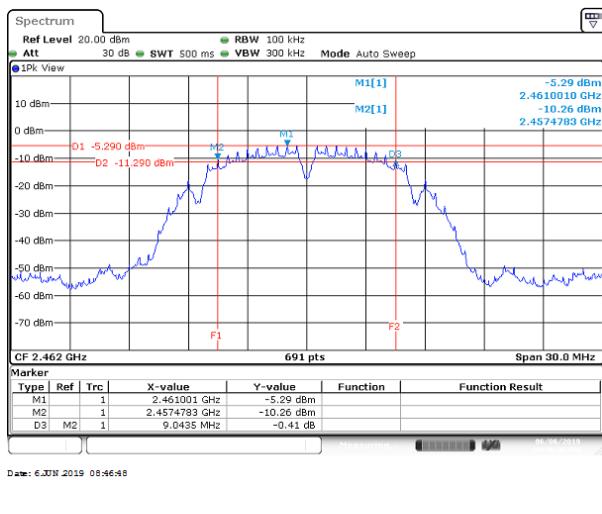
## Low CH



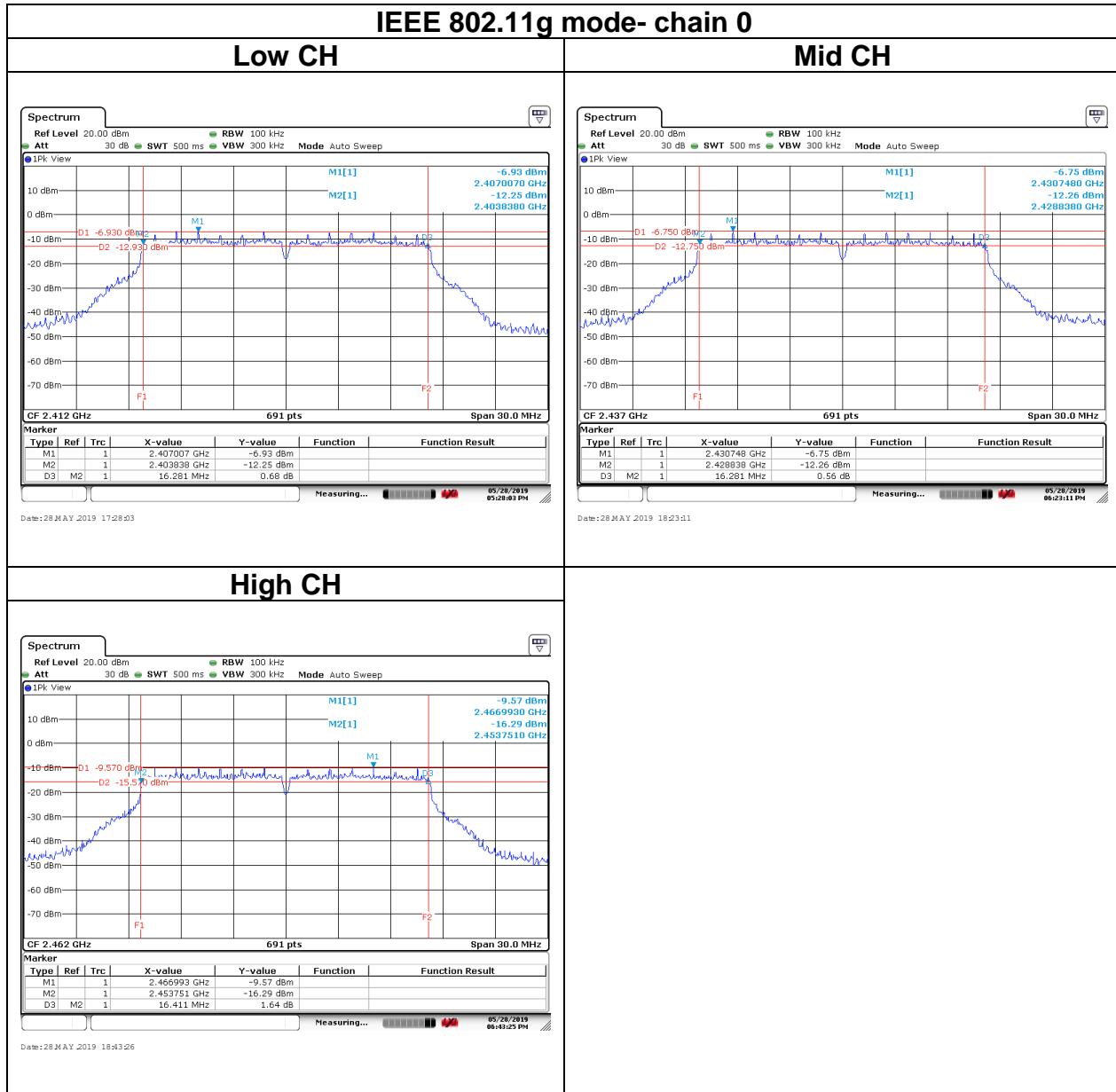
## Mid CH

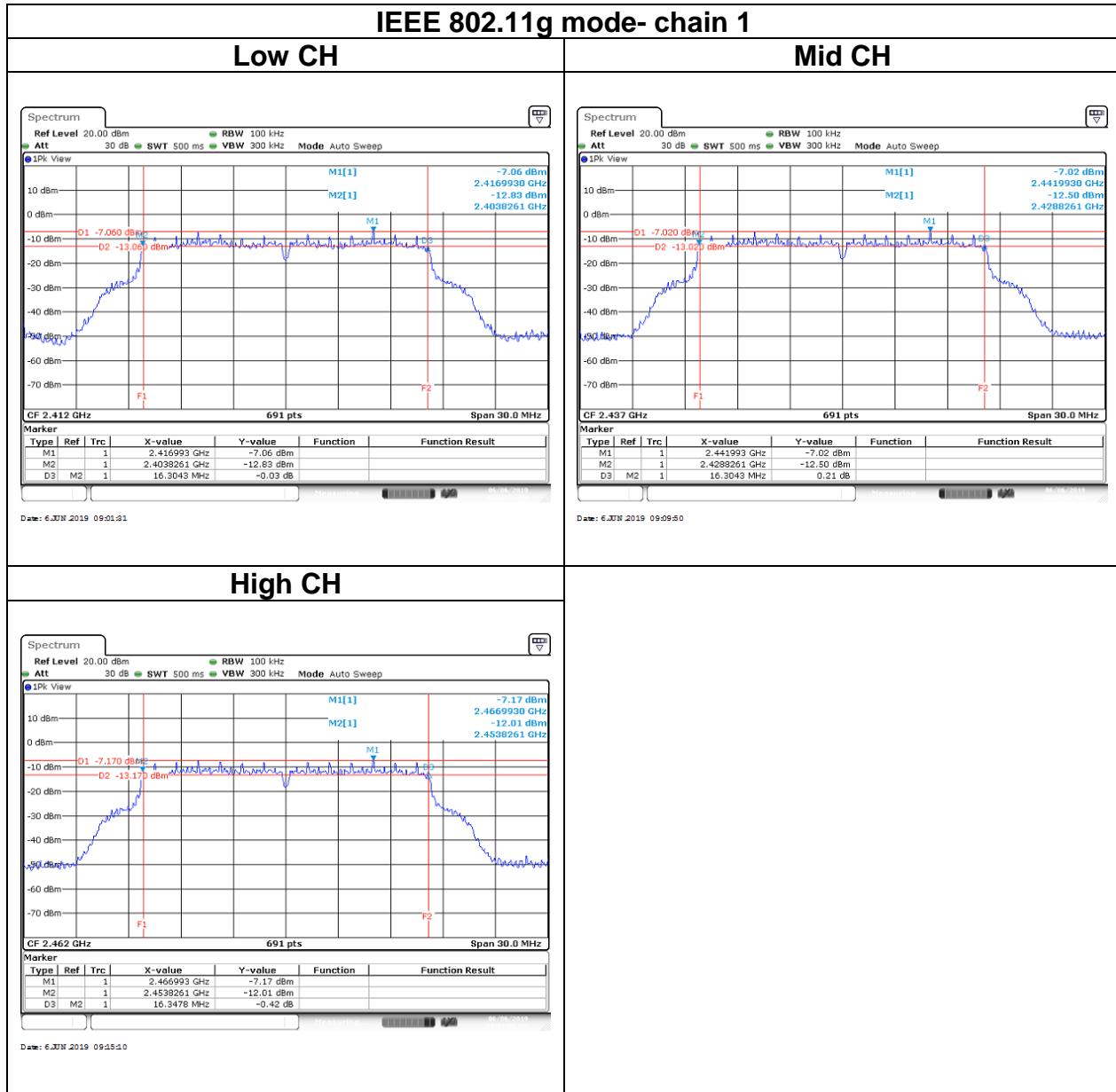


## High CH

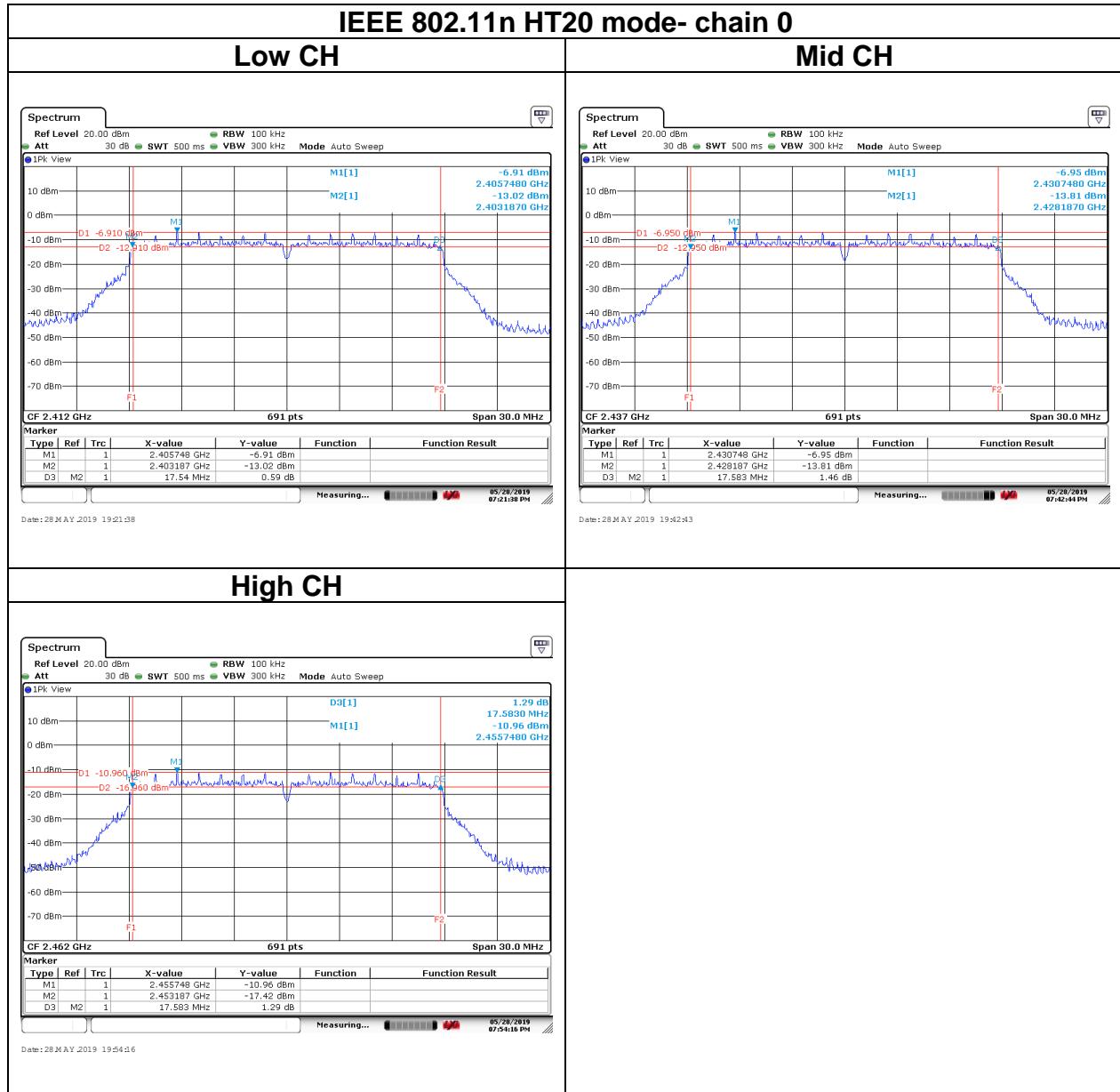


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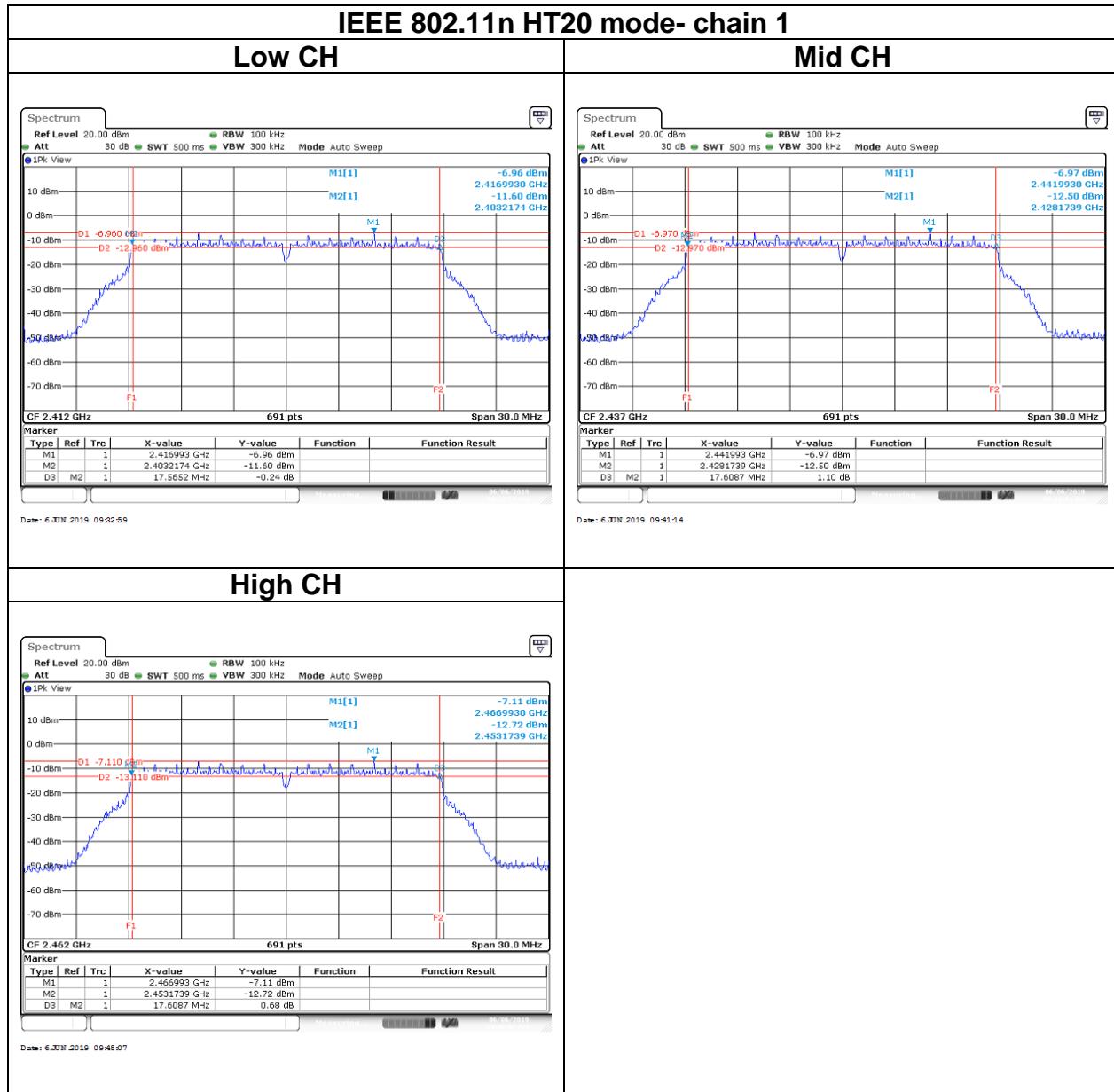




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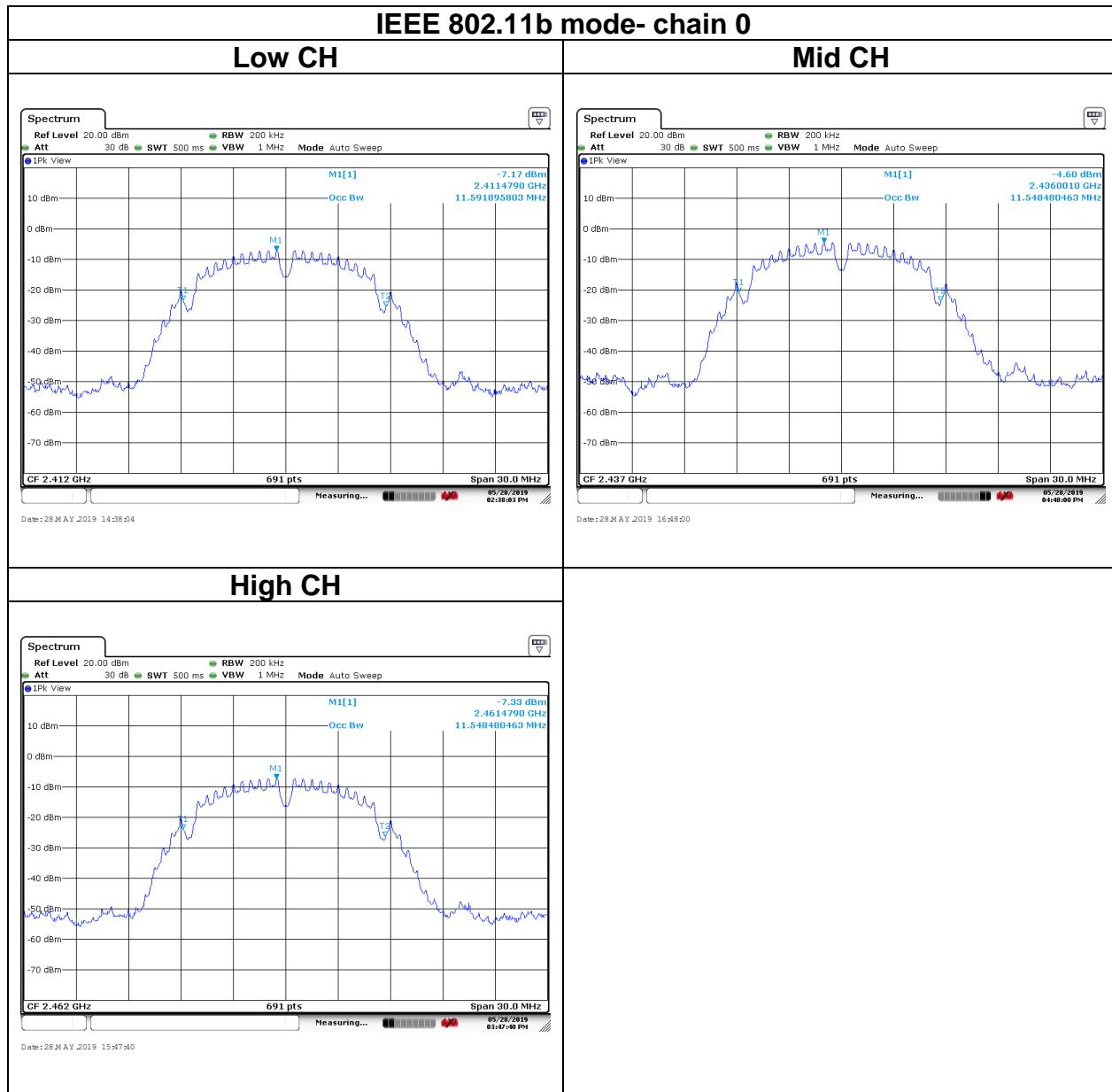
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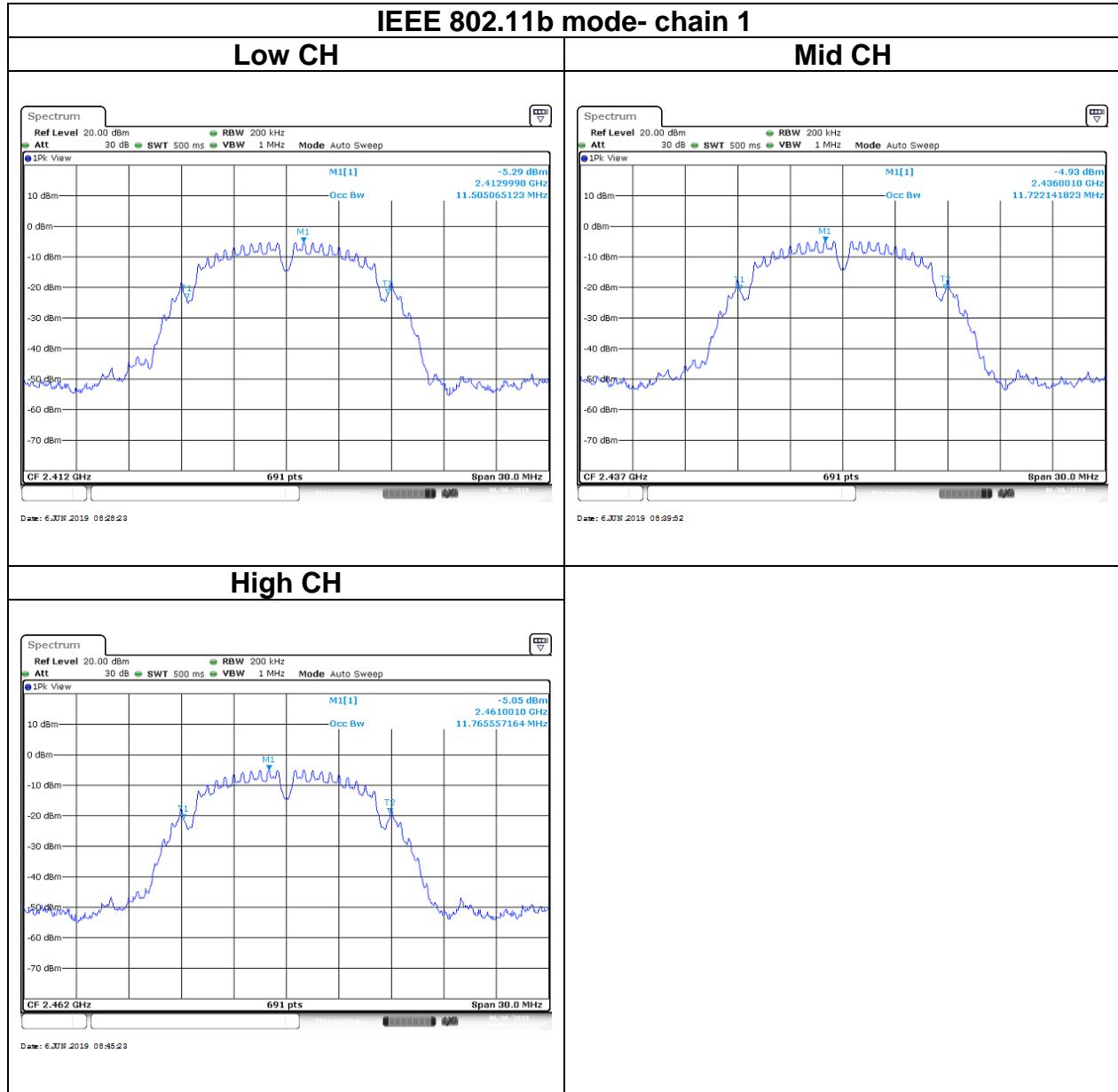


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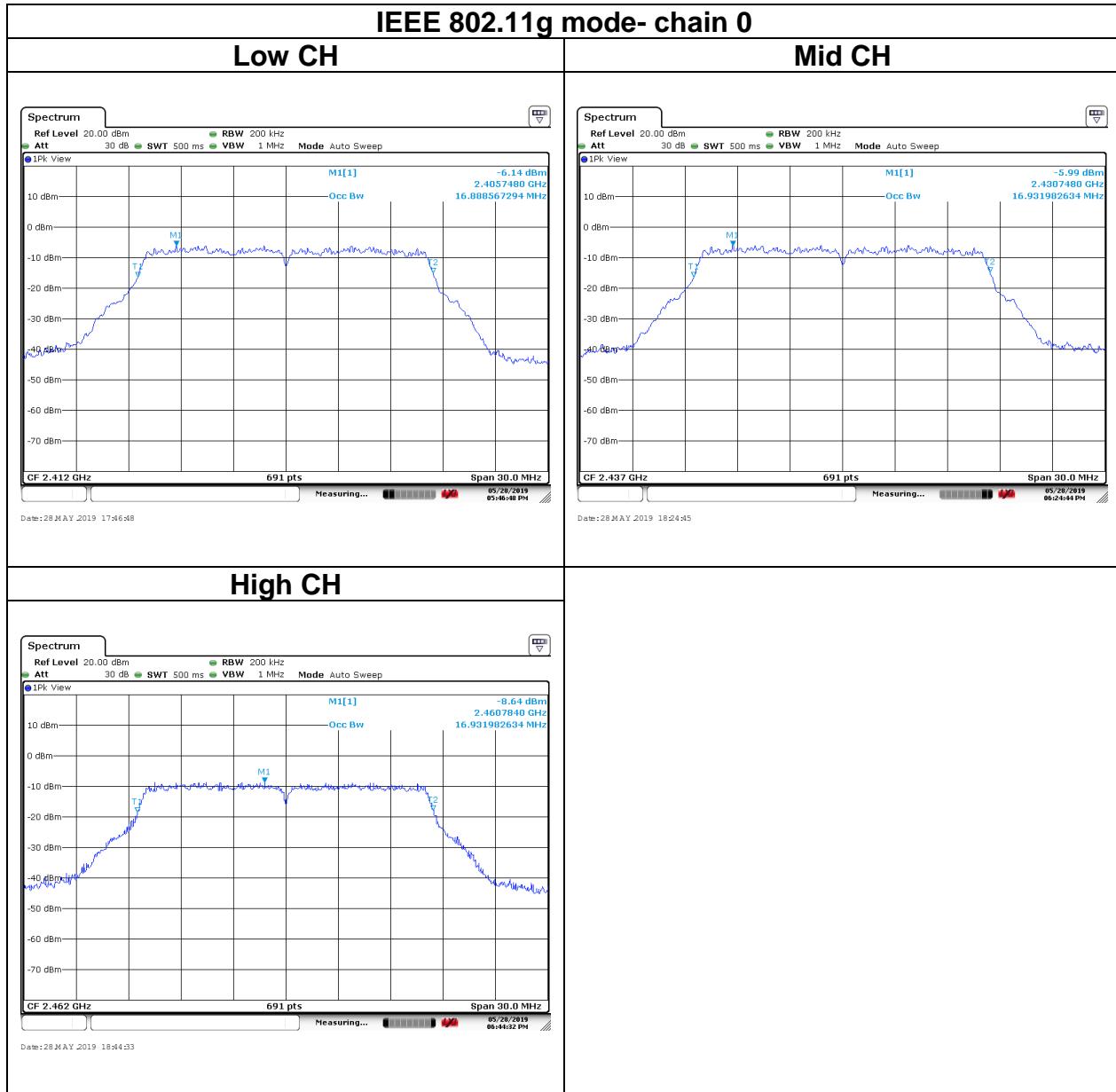
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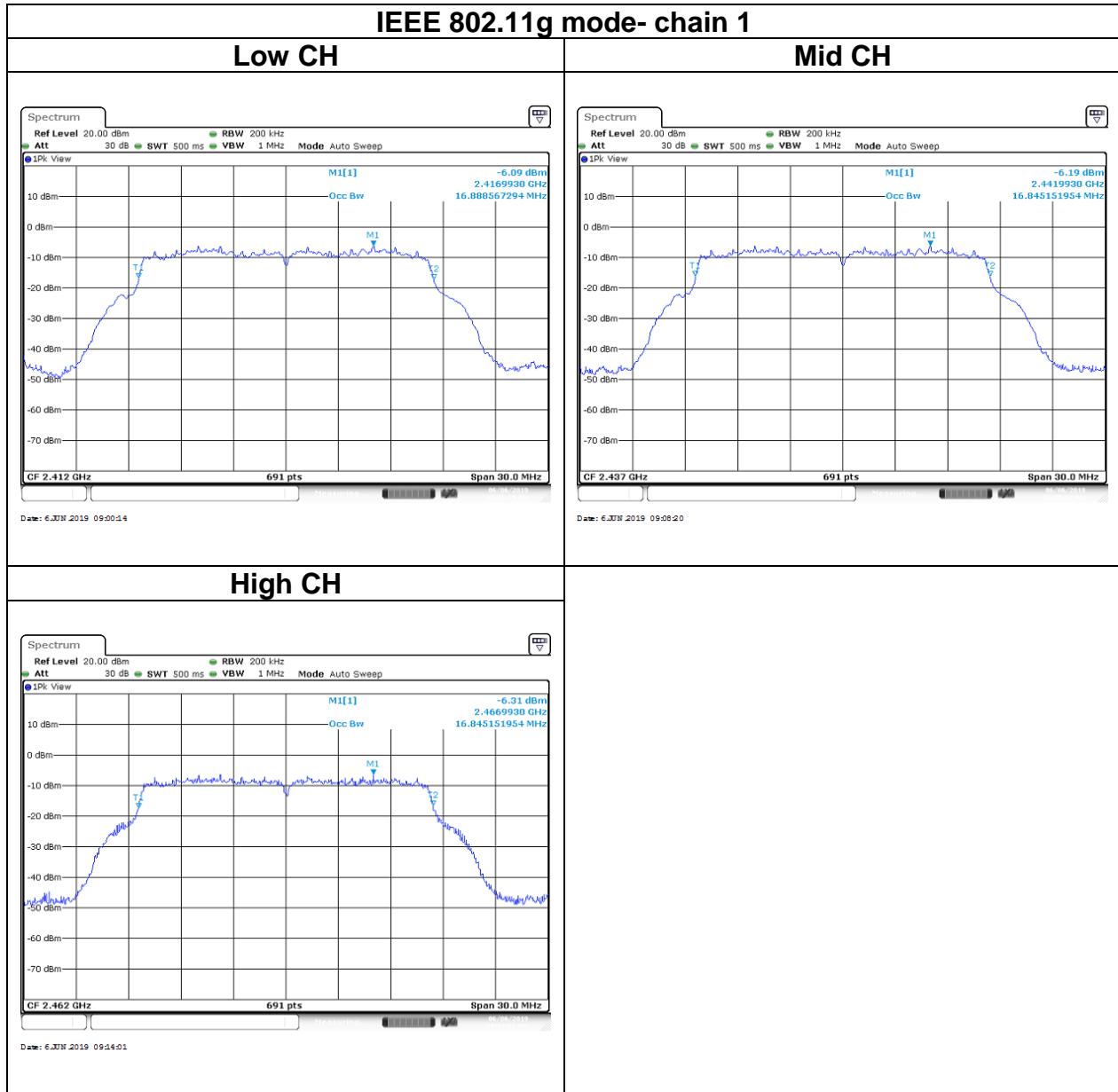
### BANDWIDTH 99%



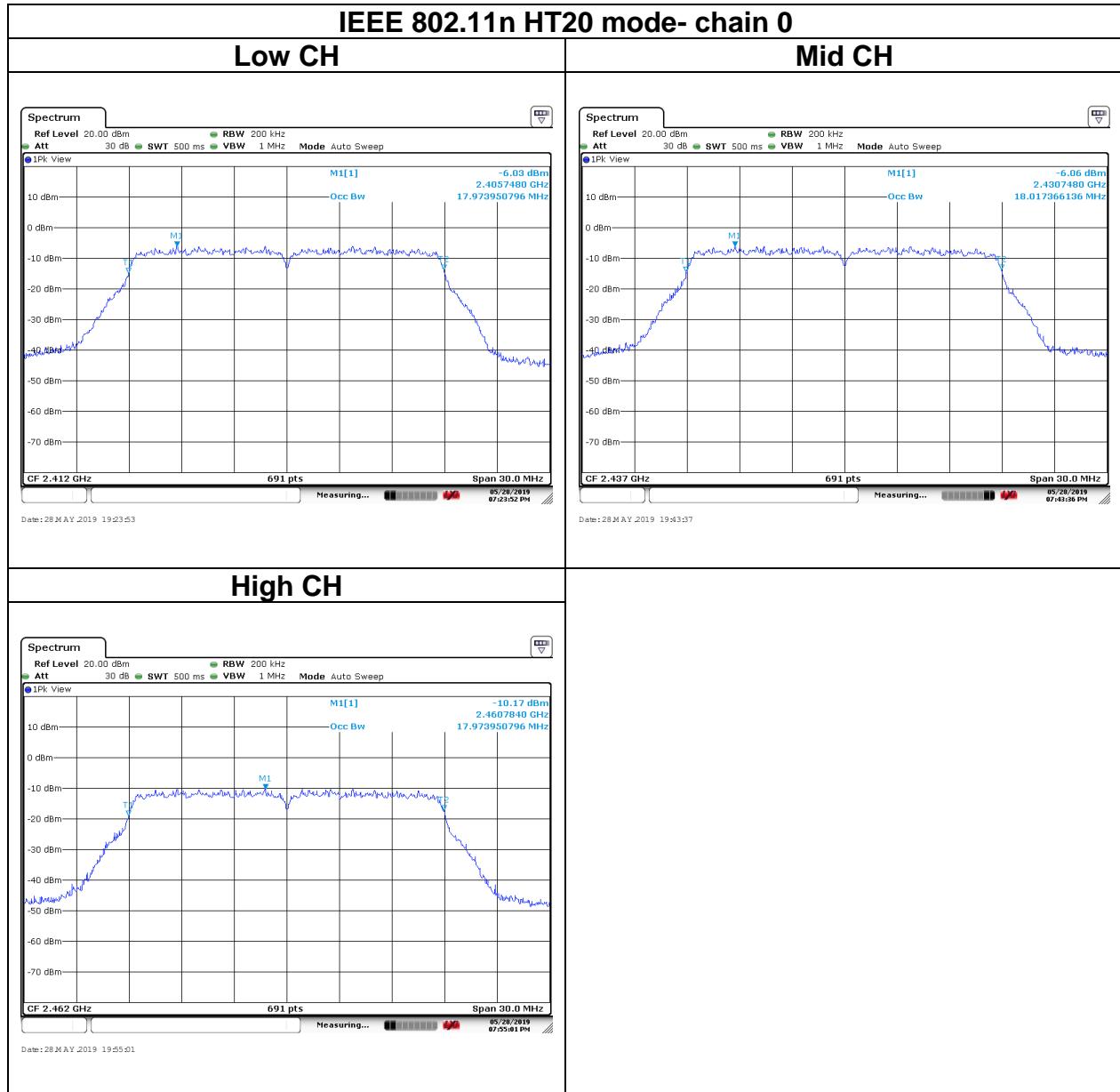


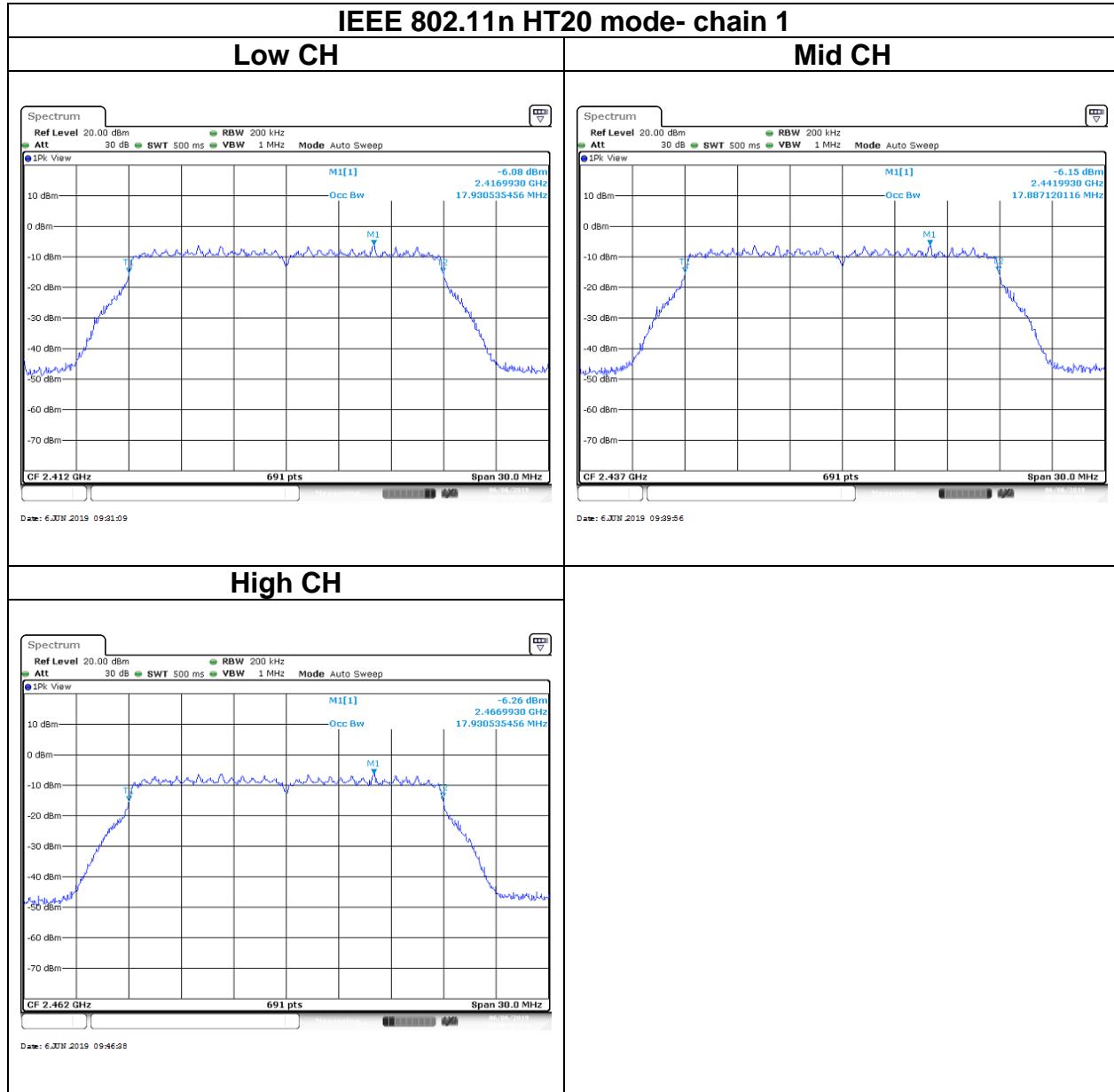
Report No.: T190503D05-B-RP3





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## 4.3 OUTPUT POWER MEASUREMENT

### 4.3.1 Test Limit

According to §15.247(b) and RSS-247 section 5.4(d),

#### Peak output power :

For systems using digital modulation in the 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt(30 dBm) and the e.i.r.p. shall not exceed 4Watt(36 dBm), base on the use of antennas with directional gain not exceed 6 dBi If transmitting antennas of directional gain greater than 6dBi are used the peak output power the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

Limit	<input checked="" type="checkbox"/> Antenna not exceed 6 dBi : 30dBm <input type="checkbox"/> Antenna with DG greater than 6 dBi : [Limit = 30 – (DG – 6)] <input type="checkbox"/> Point-to-point operation :
-------	---

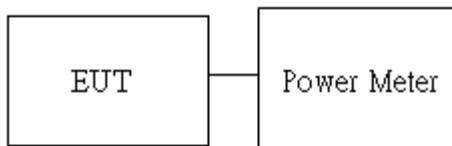
Average output power : For reporting purposes only.

### 4.3.2 Test Procedure

Test method Refer as KDB 558074 D01, Section 9.1.2.

1. The EUT RF output connected to the power meter by RF cable.
2. Setting maximum power transmit of EUT.
3. The path loss was compensated to the results for each measurement.
4. Measure and record the result of Peak output power and Average output power. in the test report.

### 4.3.3 Test Setup



#### 4.3.4 Test Result

##### Peak output power :

Wifi 2.4G													
Config	CH	Freq. (MHz)	power set		PK Power(dBm)		PK Total Power (dBm)	PK Total Power (W)	EIRP PK Total Power (dBm)	EIRP PK Total Power (W)	DG (dBi)	Limit (dBm)	EIRP Limit (dBm)
			chain0	chain1	chain0	chain1							
IEEE 802.11b Data rate: 1Mbps	Low	2412	13	13	14.60	15.35	18.00	0.0631	18.83	0.0764	0.83	30	36
	Mid	2437	16	16	18.33	19.70	22.08	0.1614	22.91	0.1954			
	High	2462	13	13	15.34	15.19	18.28	0.0672	19.11	0.0814			
IEEE 802.11g Data rate: 6Mbps	Low	2412	15	15	21.25	20.96	24.12	0.2581	24.95	0.3124	0.83	30	36
	Mid	2437	16	16	22.20	22.52	25.37	0.3446	26.20	0.4172			
	High	2462	13	13	20.26	19.89	23.09	0.2037	23.92	0.2466			
IEEE 802.11n HT20 Data rate: MCS8	Low	2412	13	13	21.29	21.14	24.23	0.2646	25.06	0.3203	0.83	30	36
	Mid	2437	16	16	22.21	22.13	25.18	0.3296	26.01	0.3991			
	High	2462	11	11	18.07	17.87	20.98	0.1254	21.81	0.1518			

##### Average output power :

Wifi 2.4G					
Config	CH	Freq. (MHz)	AV Power(dBm)		AV Total Power (dBm)
			chain0	chain1	
IEEE 802.11b Data rate: 1Mbps	Low	2412	11.09	12.02	14.59
	Mid	2437	15.01	15.98	18.53
	High	2462	11.62	12.02	14.84
IEEE 802.11g Data rate: 6Mbps	Low	2412	14.70	14.44	17.59
	Mid	2437	16.29	16.16	19.24
	High	2462	13.10	12.53	15.84
IEEE 802.11n HT20 Data rate: MCS8	Low	2412	14.64	14.56	17.61
	Mid	2437	16.33	15.91	19.13
	High	2462	10.81	10.66	13.74

## 4.4 POWER SPECTRAL DENSITY

### 4.4.1 Test Limit

According to §15.247(e) and RSS-247 section 5.2(b),

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

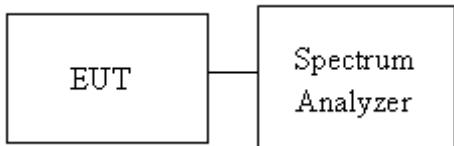
Limit	<input checked="" type="checkbox"/> Antenna not exceed 6 dBi : 8dBm <input type="checkbox"/> Antenna with DG greater than 6 dBi : [ Limit = 8 – (DG – 6) ] <input type="checkbox"/> Point-to-point operation :
-------	---

### 4.4.2 Test Procedure

Test method Refer as KDB 558074 D01, Section 10.2

1. The EUT RF output connected to the spectrum analyzer by RF cable.
2. Setting maximum power transmit of EUT
3. SA set RBW = 3kHz, VBW = 30kHz, Span = 1.5 times DTS Bandwidth (6 dB BW), Detector = Peak, Sweep Time = Auto and Trace = Max hold.
4. The path loss and Duty Factor were compensated to the results for each measurement by SA.
5. Mark the maximum level.
6. Measure and record the result of power spectral density. in the test report.

### 4.4.3 Test Setup



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#### 4.4.4 Test Result

Test mode: IEEE 802.11b mode / 2412-2462 MHz					
Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	Total PSSD (dBm)	Limit (dBm)
Low	2412	-8.58	-8.81	-5.68	8
Mid	2437	-8.77	-8.99	-5.87	
High	2462	-8	-9.25	-5.57	

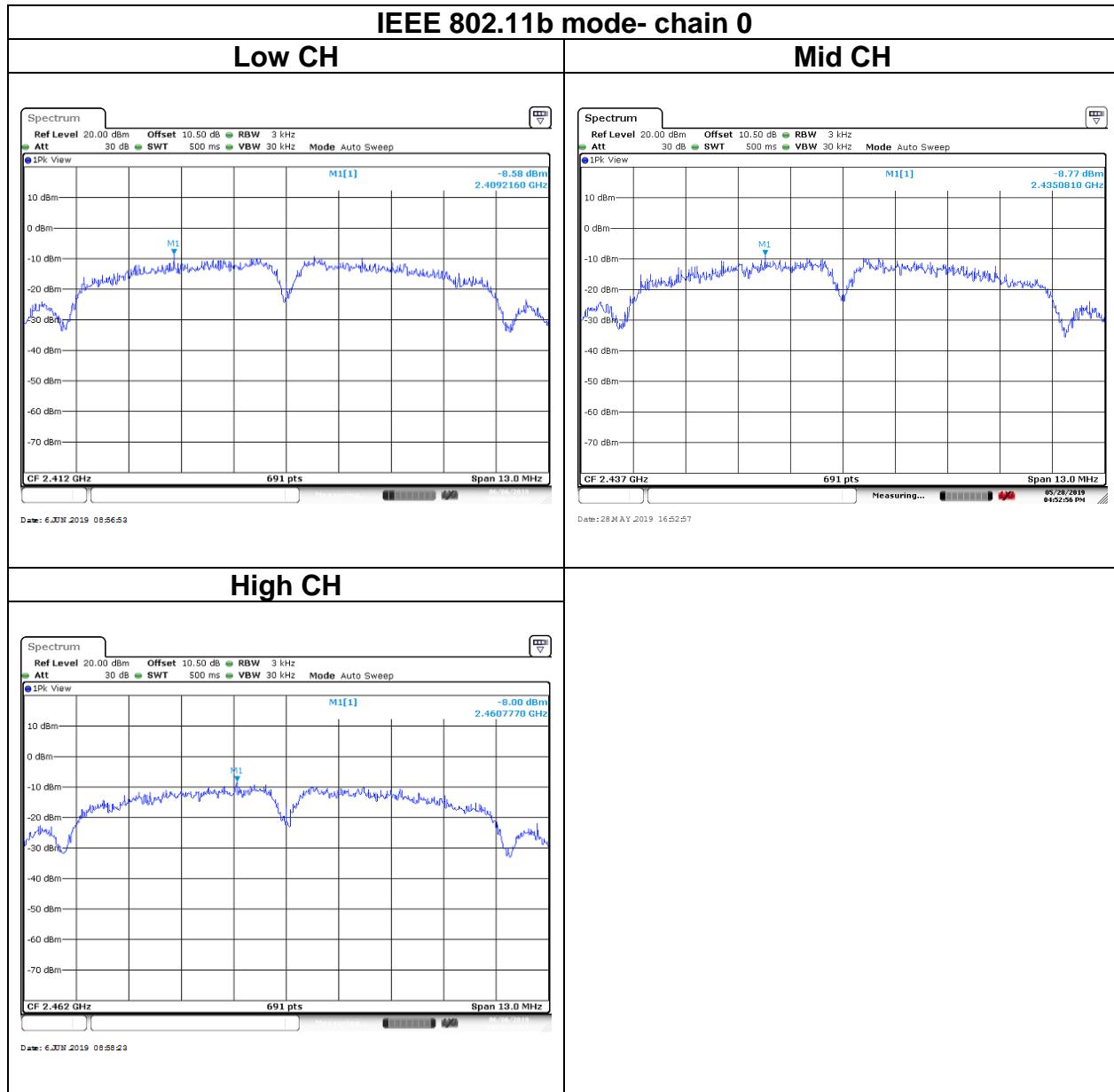
Test mode: IEEE 802.11g mode / 2412-2462 MHz					
Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	Total PSSD (dBm)	Limit (dBm)
Low	2412	-11.44	-11.05	-8.23	8
Mid	2437	-10.86	-11.24	-8.04	
High	2462	-10.57	-11.09	-7.81	

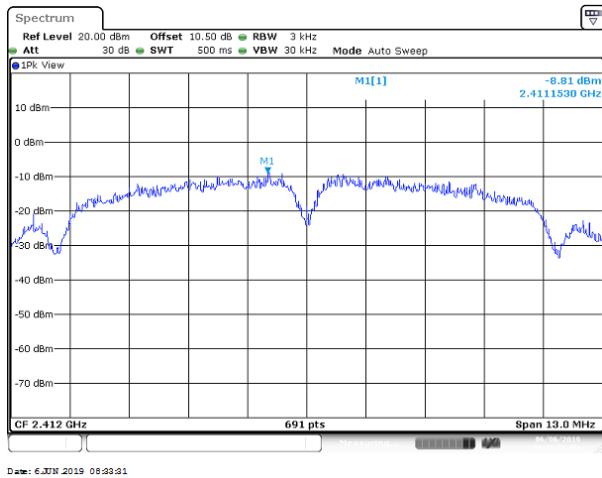
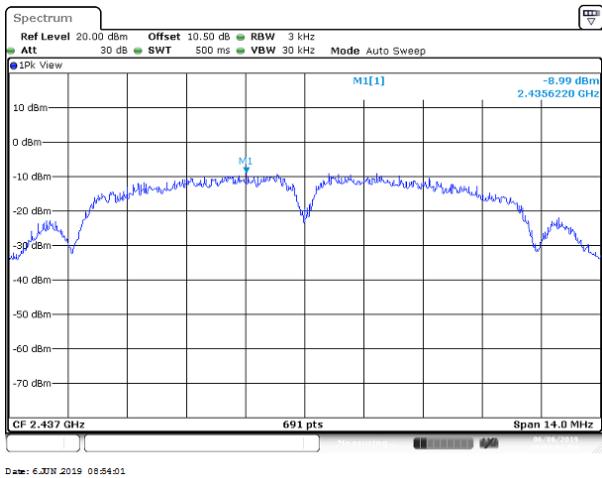
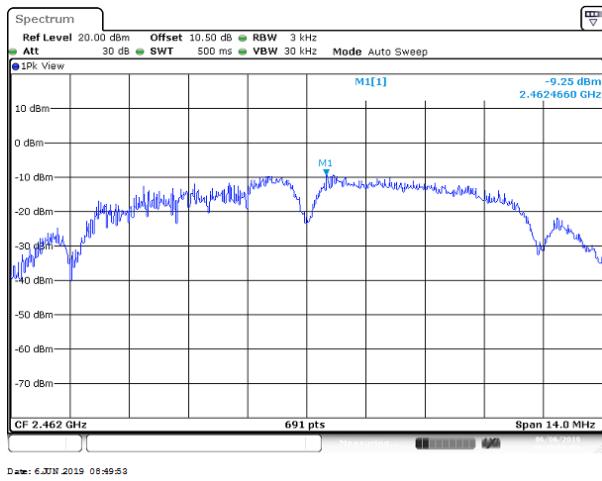
Test mode: IEEE 802.11n HT 20 MHz mode / 2412-2462 MHz					
Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	Total PSSD (dBm)	Limit (dBm)
Low	2412	-10.86	-10.89	-7.86	8
Mid	2437	-10.64	-10.96	-7.79	
High	2462	-11.17	-11.02	-8.08	

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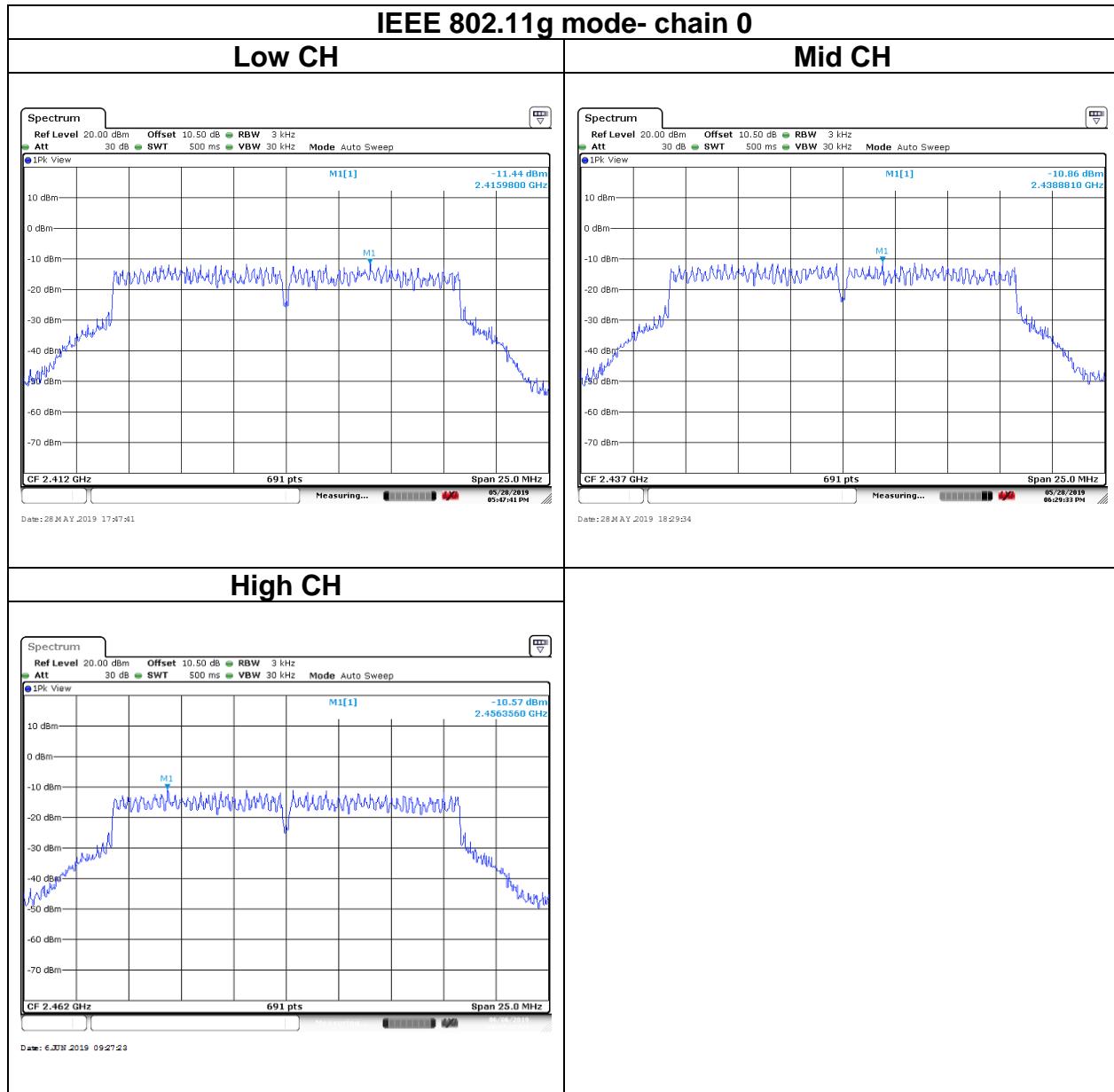
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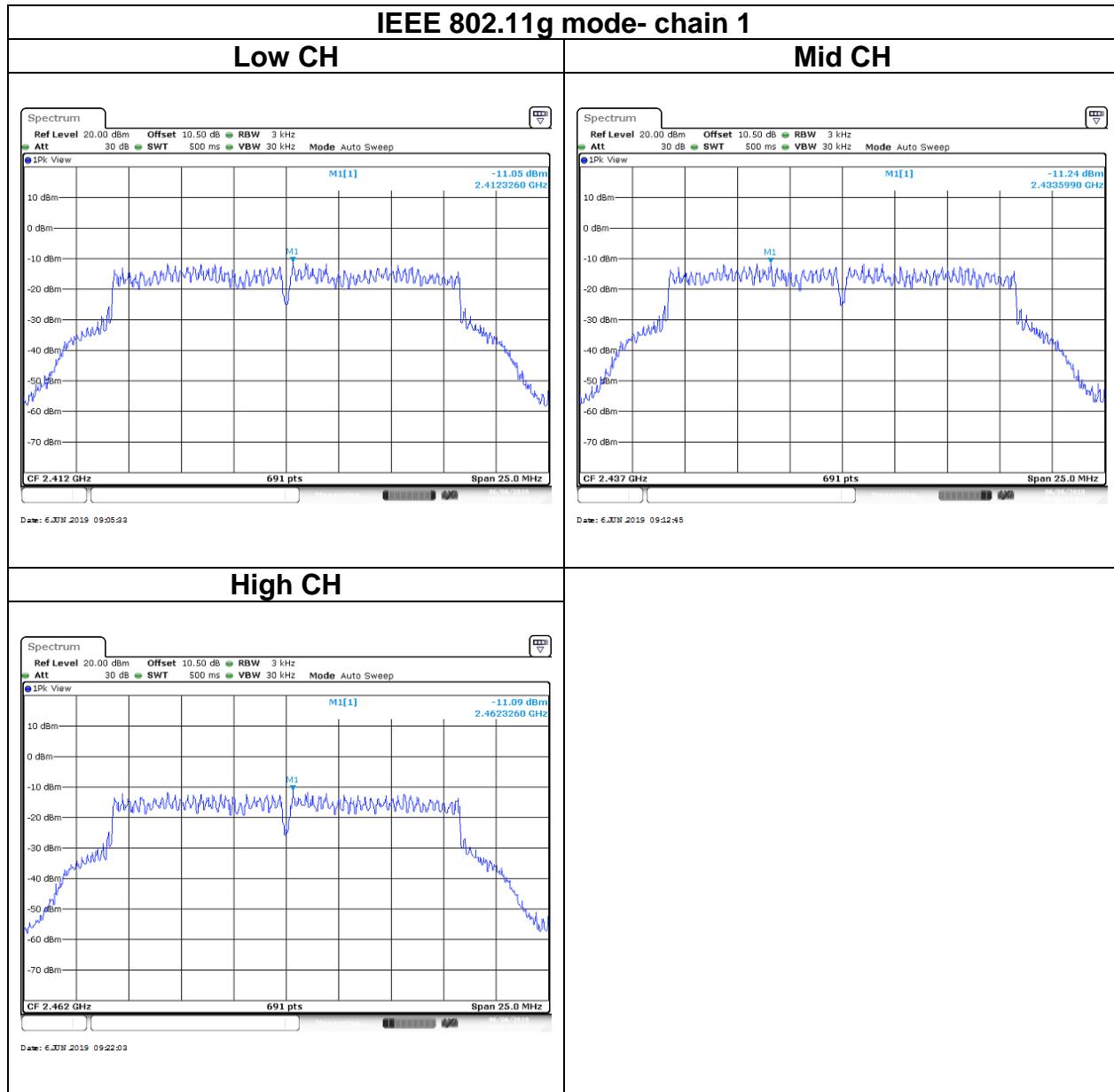
## Test Data



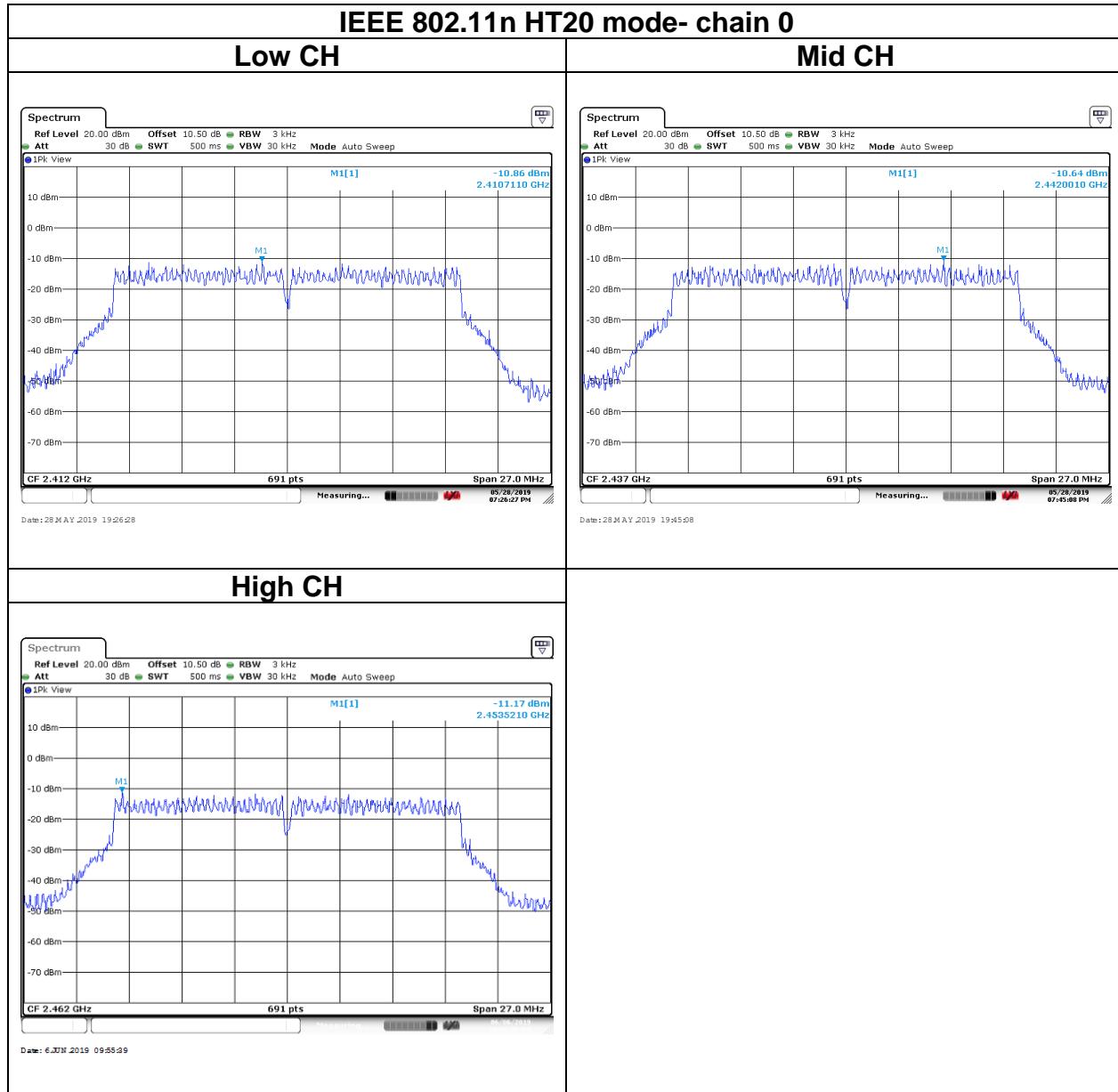
**IEEE 802.11b mode- chain 1****Low CH****Mid CH****High CH**

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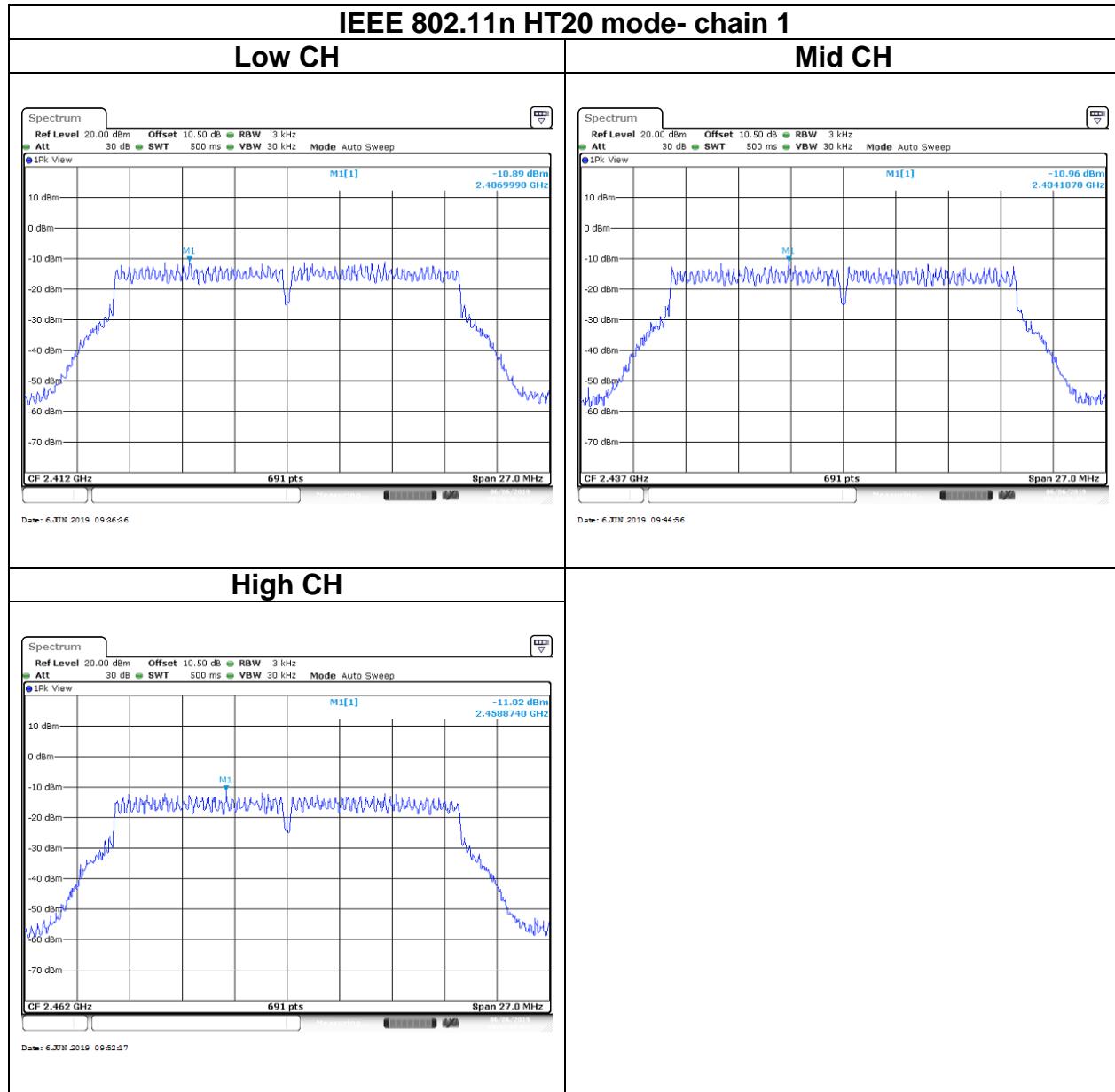




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## 4.5 CONDUCTED BANDEDGE AND SPURIOUS EMISSION

### 4.5.1 Test Limit

According to §15.247(d) and RSS-247 section 5.5,

In any 100 kHz bandwidth outside the authorized frequency band,

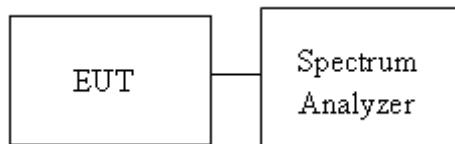
Non-restricted bands shall be attenuated at least 20 dB/30 dB relative to the maximum PSD level in 100 kHz by RF conducted or a radiated measurement which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a).

### 4.5.2 Test Procedure

Test method Refer as KDB 662911 D01, KDB 558074 D01.

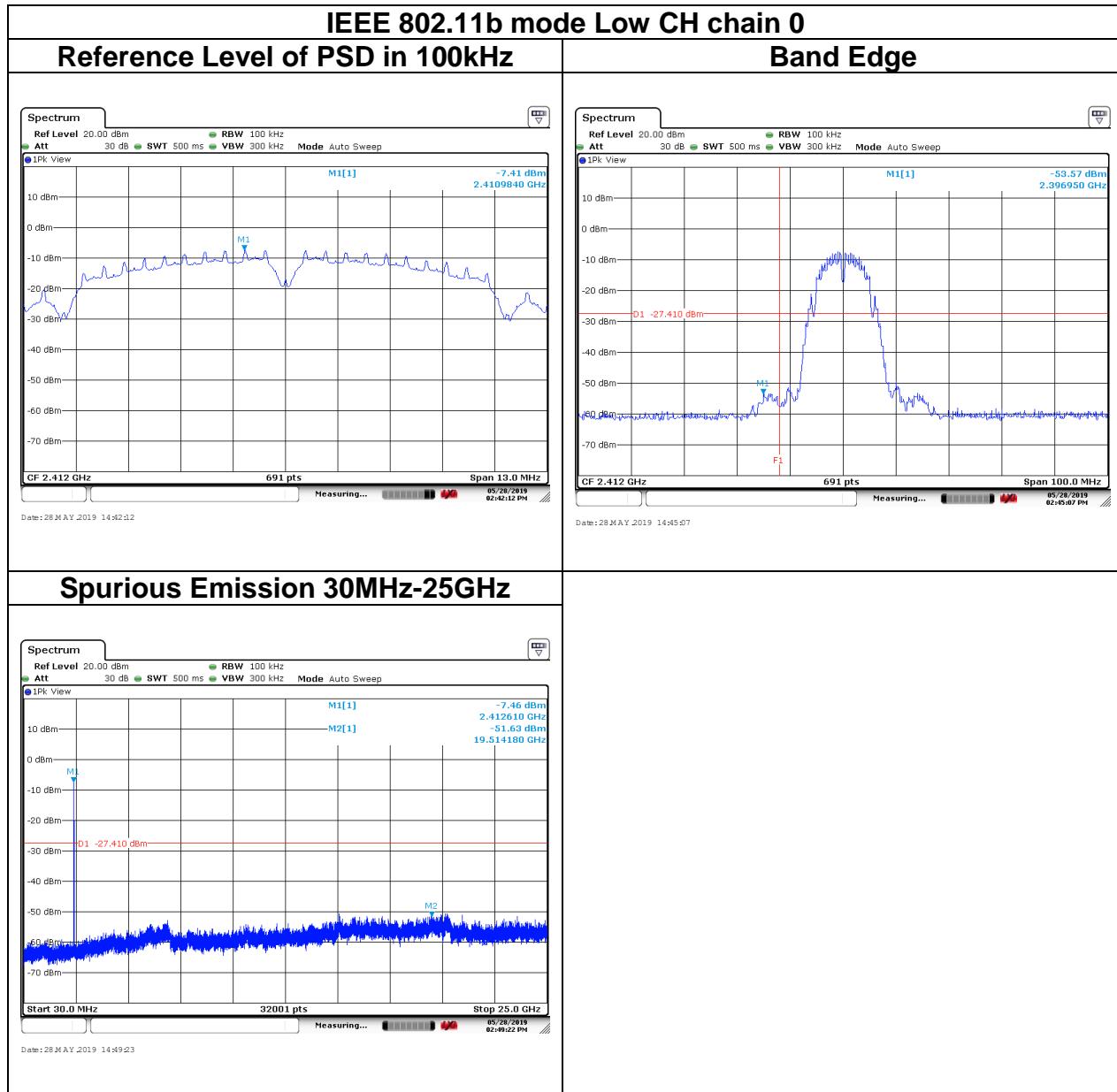
1. EUT RF output port connected to the SA by RF cable, and the path loss was compensated to result.
2. SA setting, RBW=100kHz, VBW=300kHz, Detector=Peak, Trace mode = max hold, SWT = Auto.
3. In any 100 kHz bandwidth outside the authorized frequency band, shall be attenuated at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when conducted power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

### 4.5.3 Test Setup

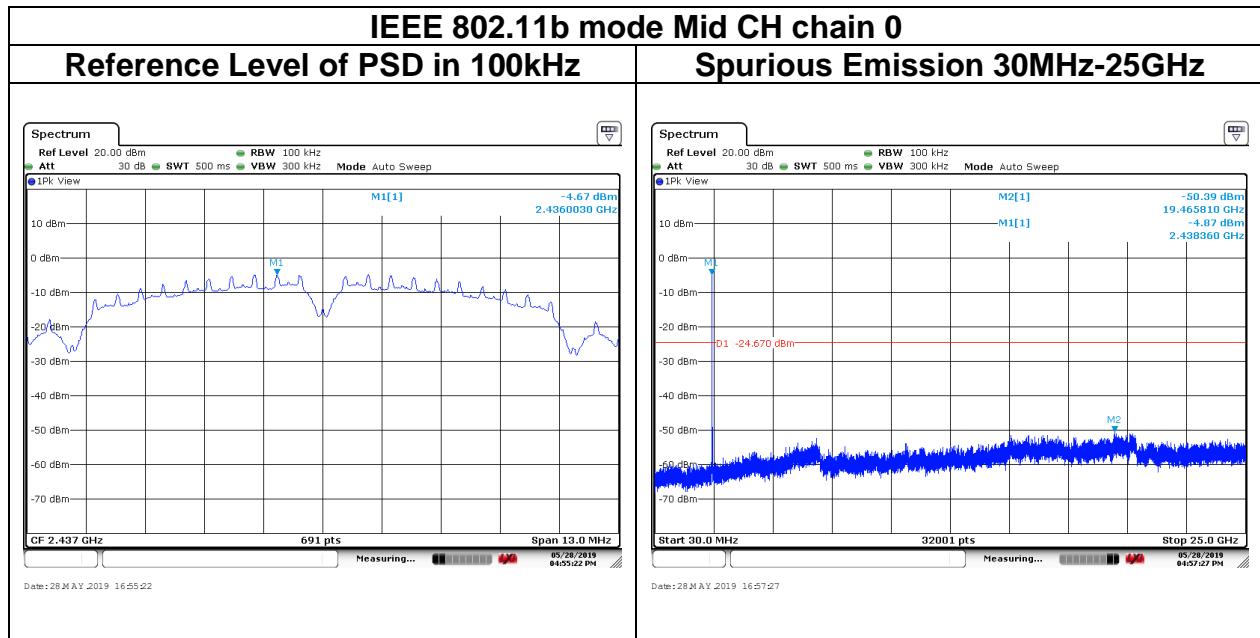


## 4.5.4 Test Result

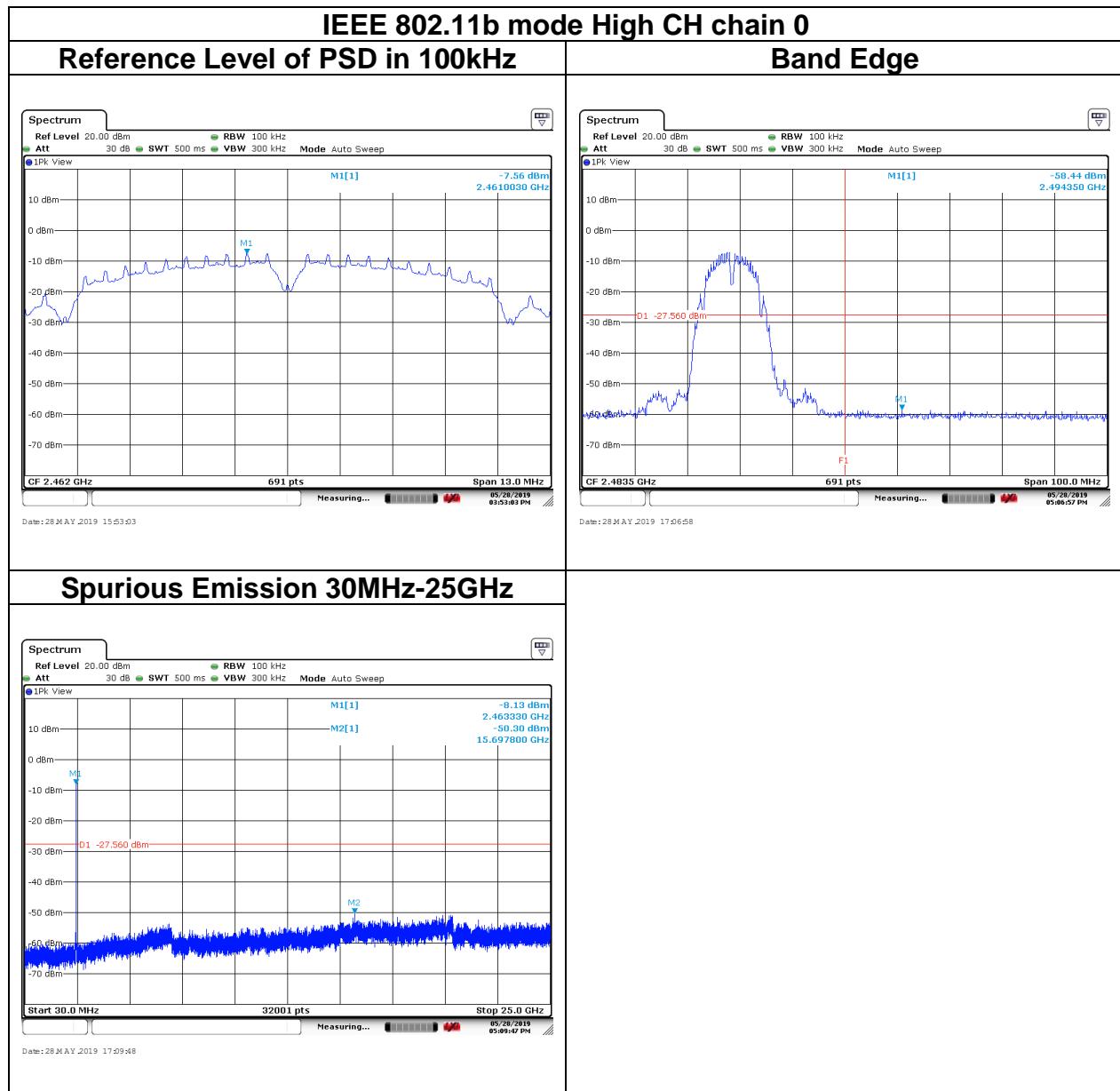
### Test Data



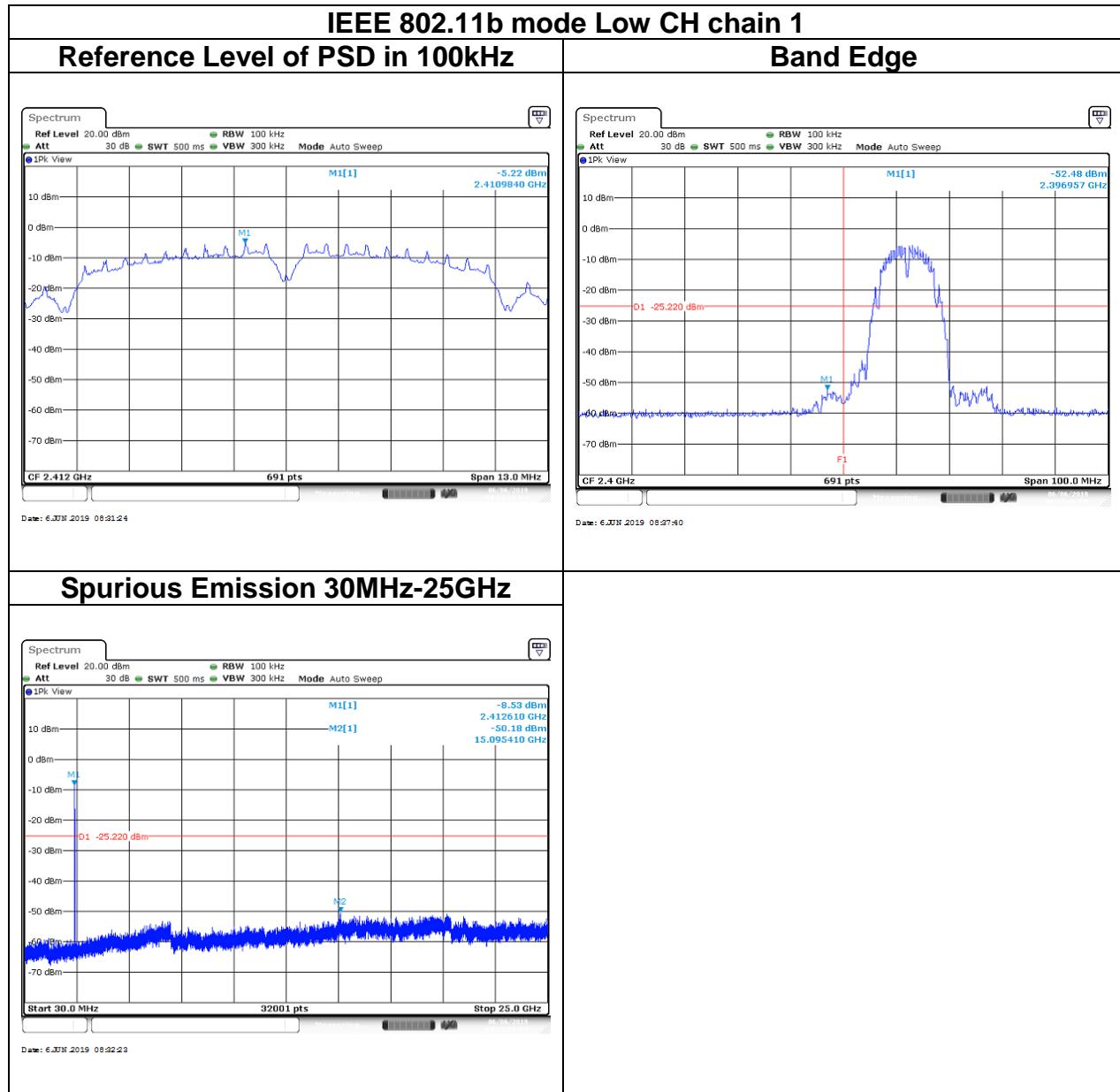
Report No.: T190503D05-B-RP3



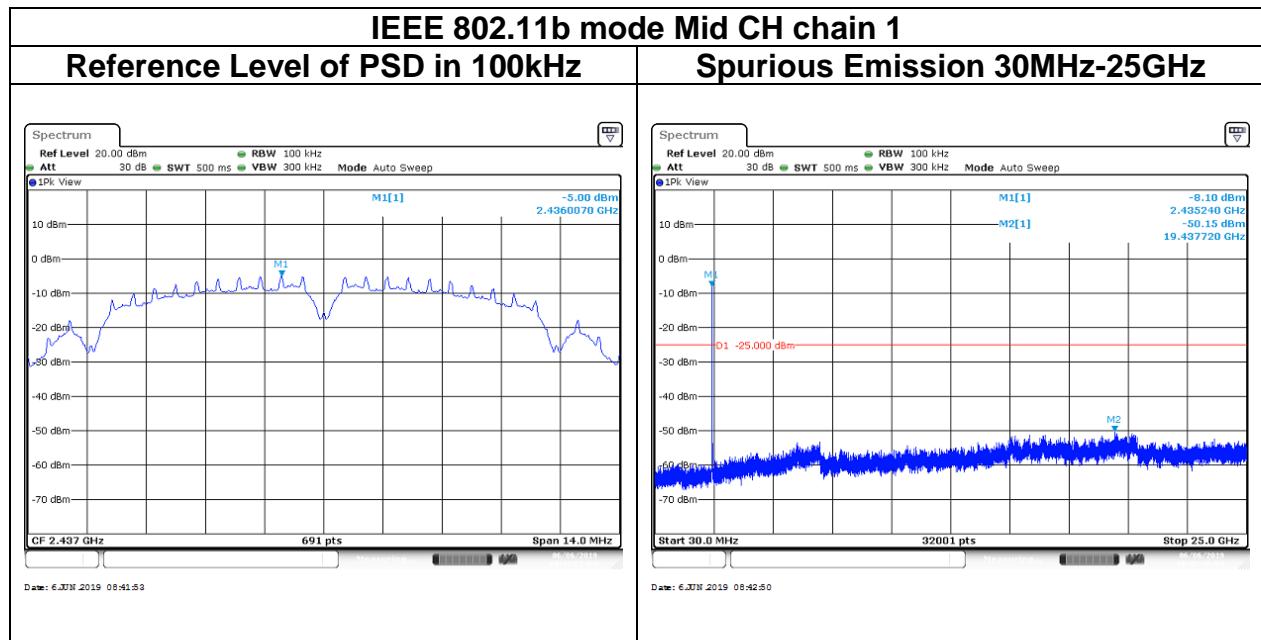
Report No.: T190503D05-B-RP3



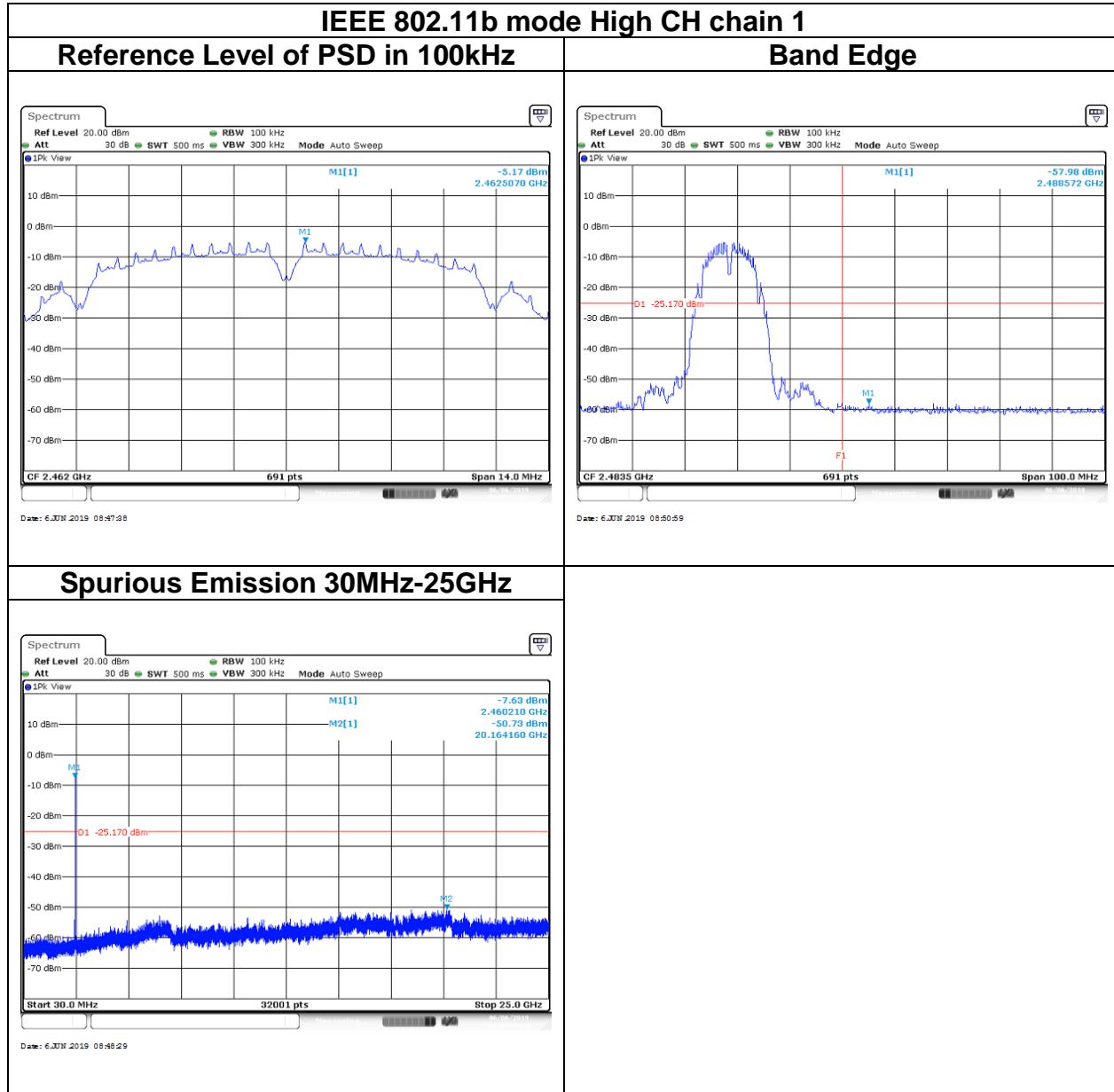
Report No.: T190503D05-B-RP3



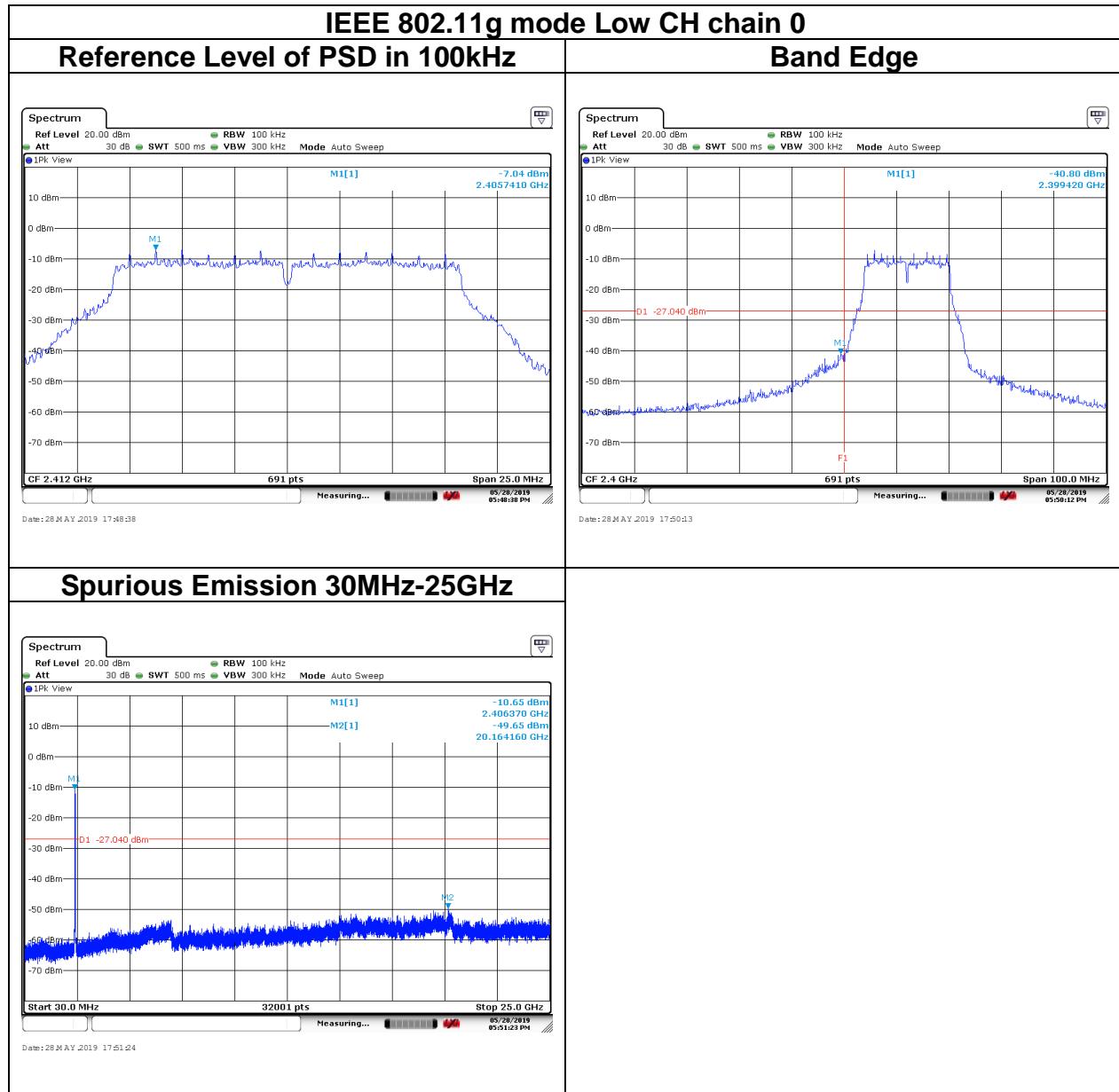
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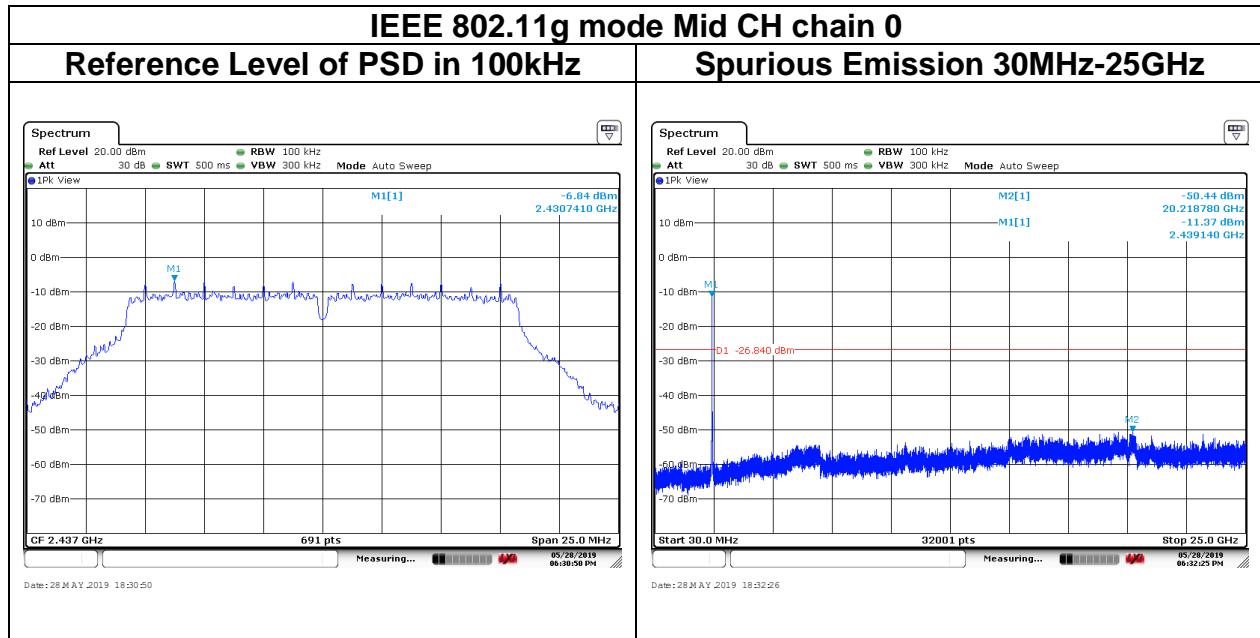
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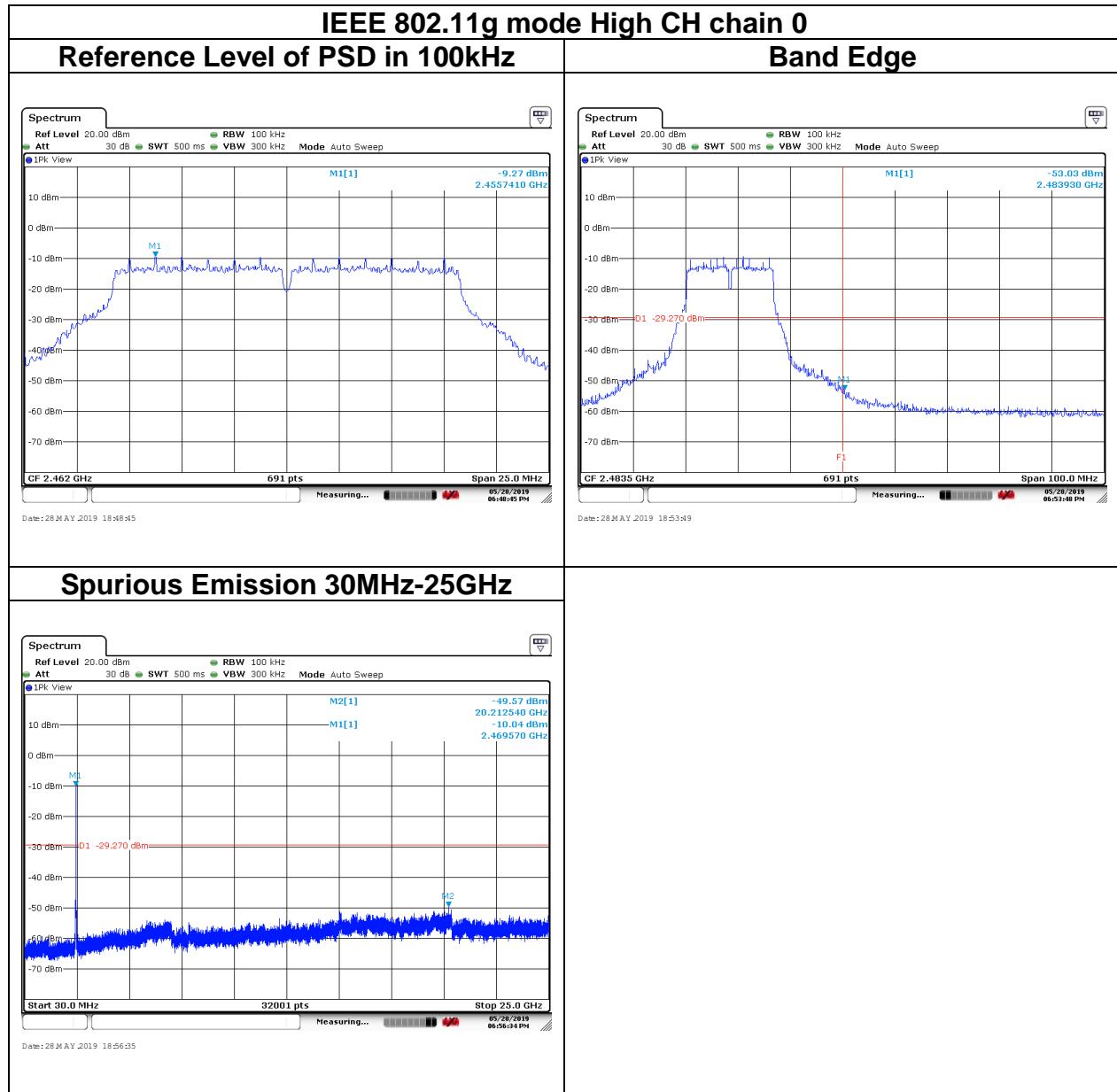
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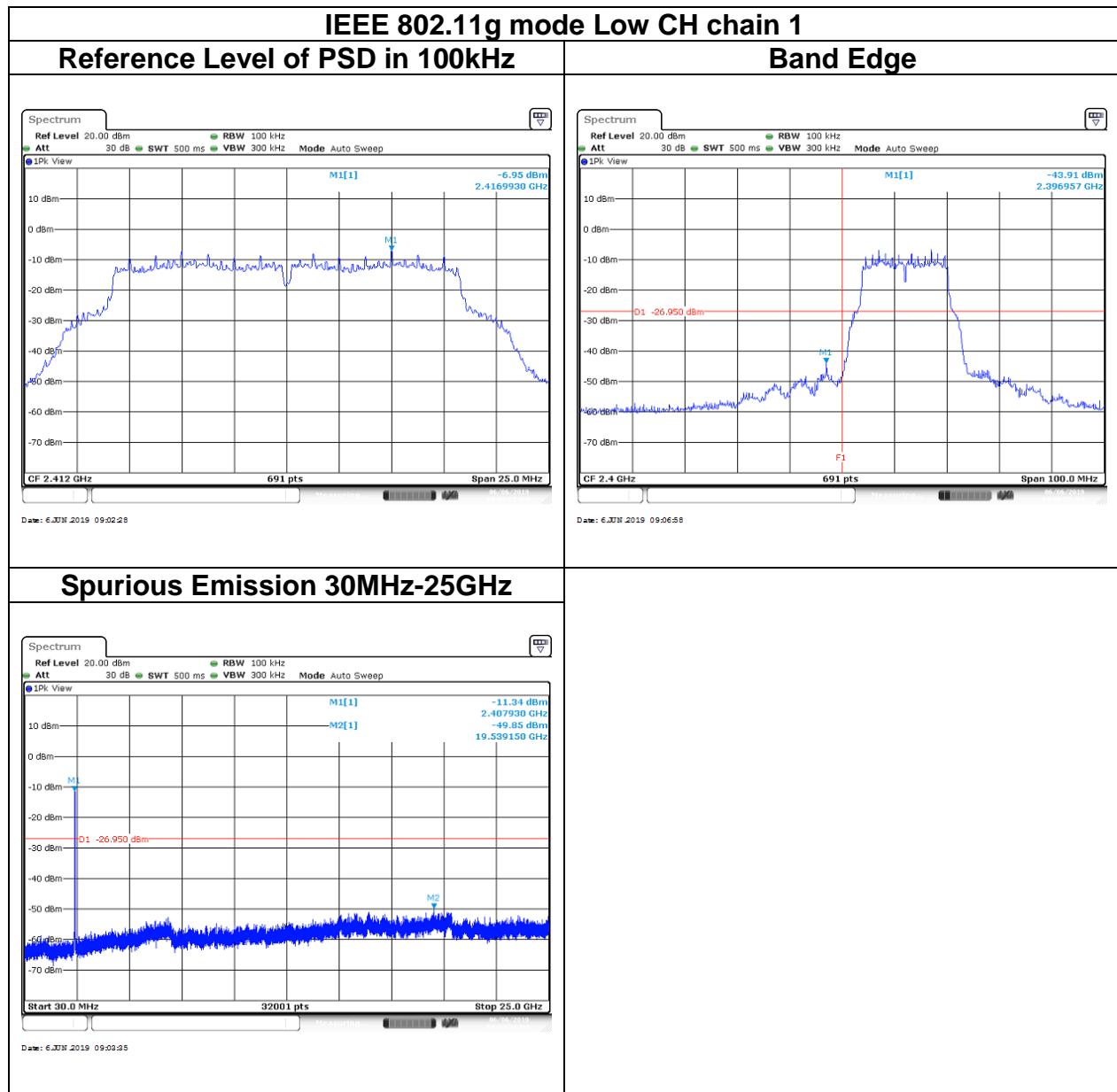


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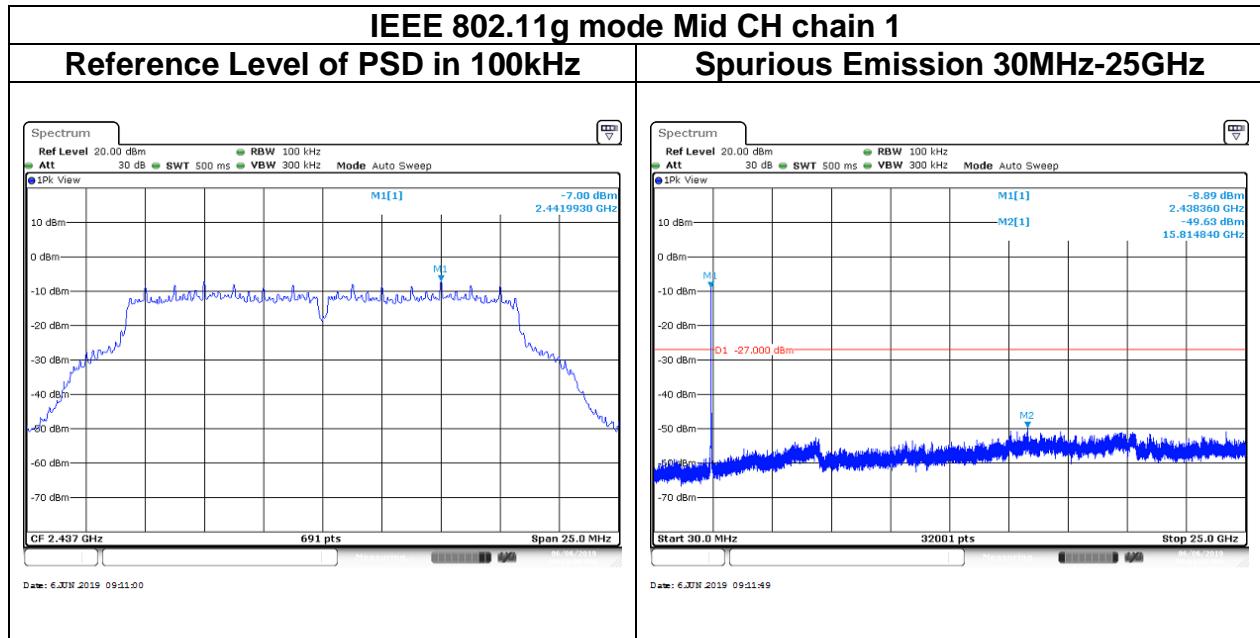
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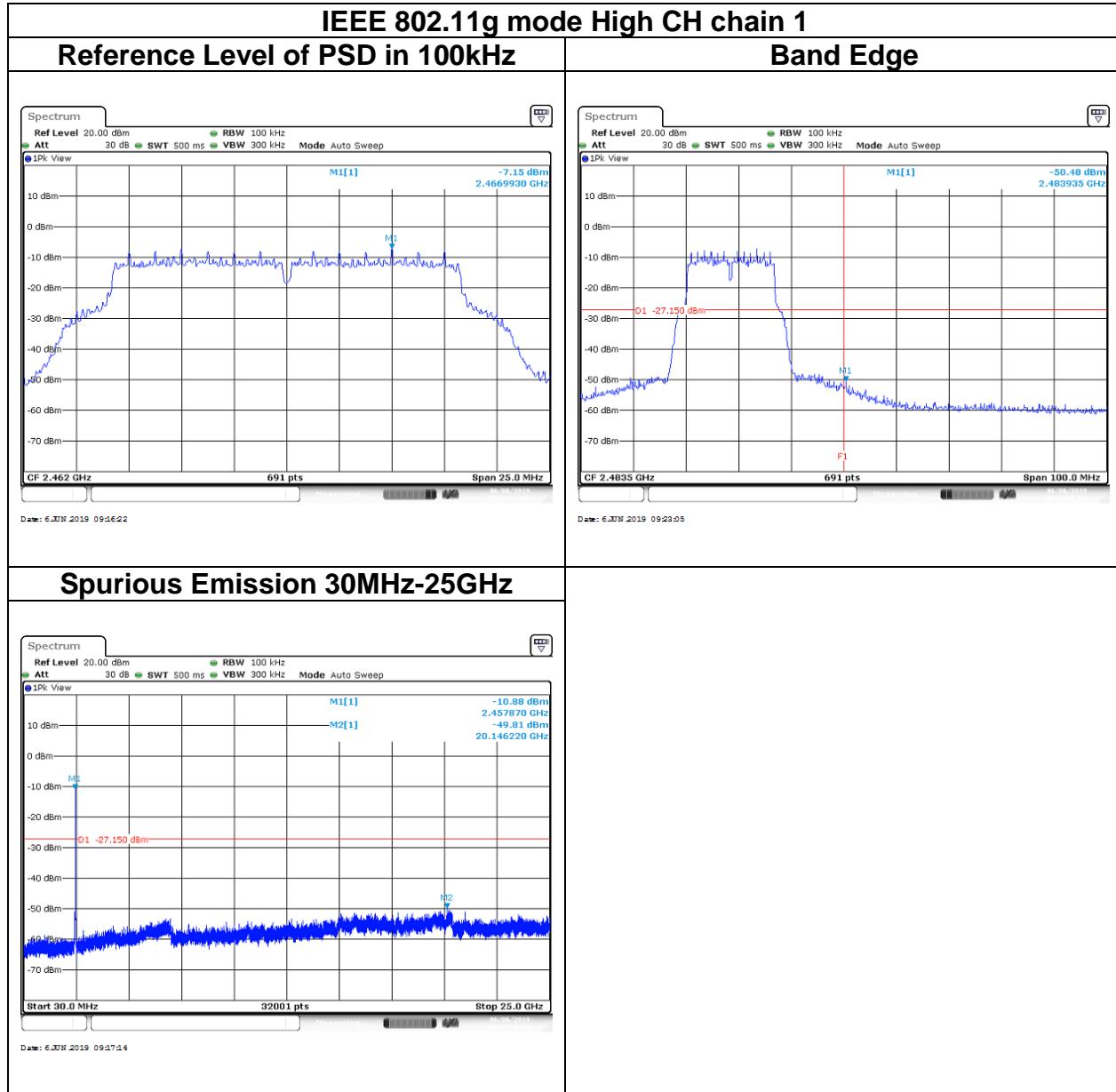
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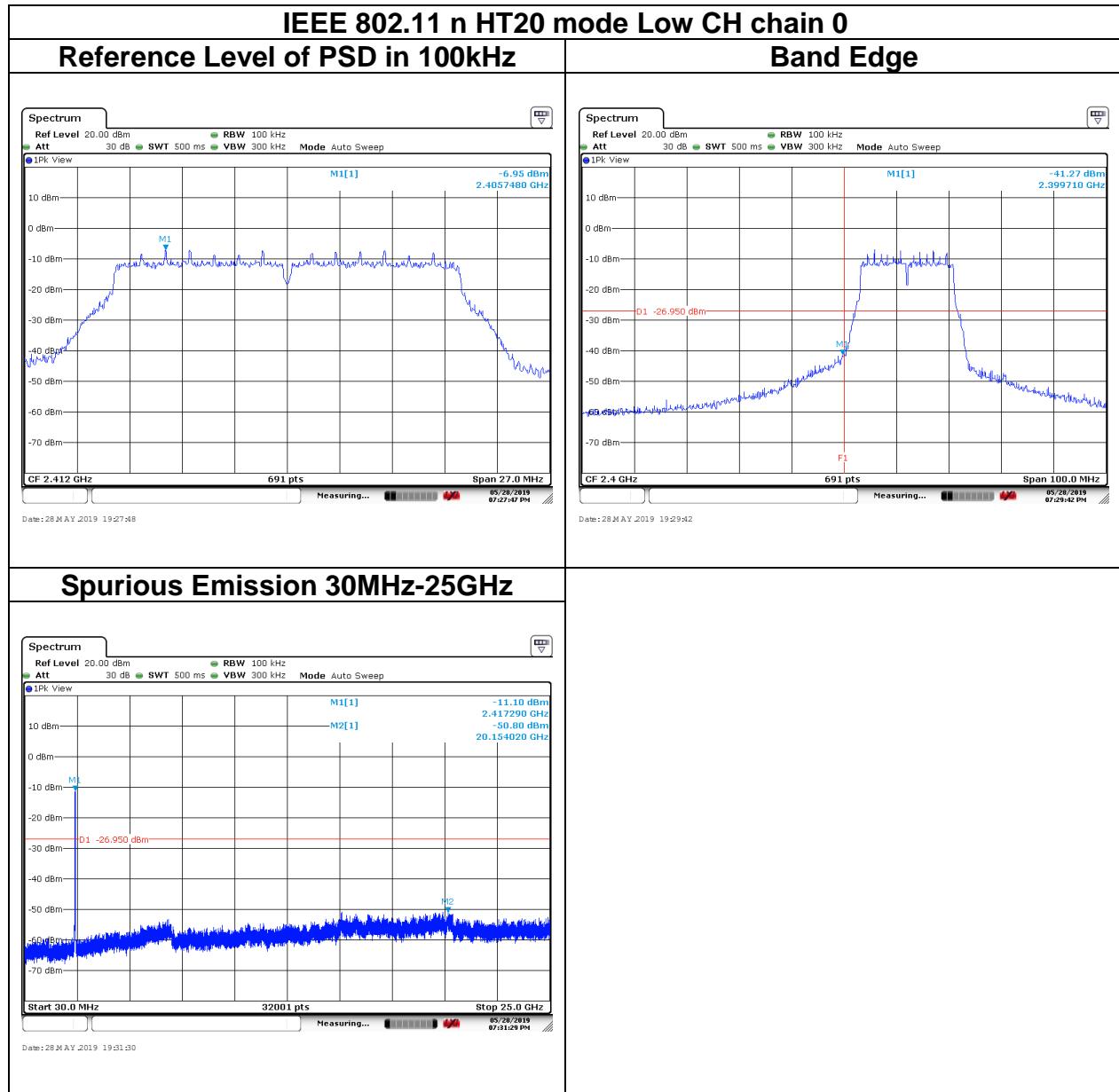


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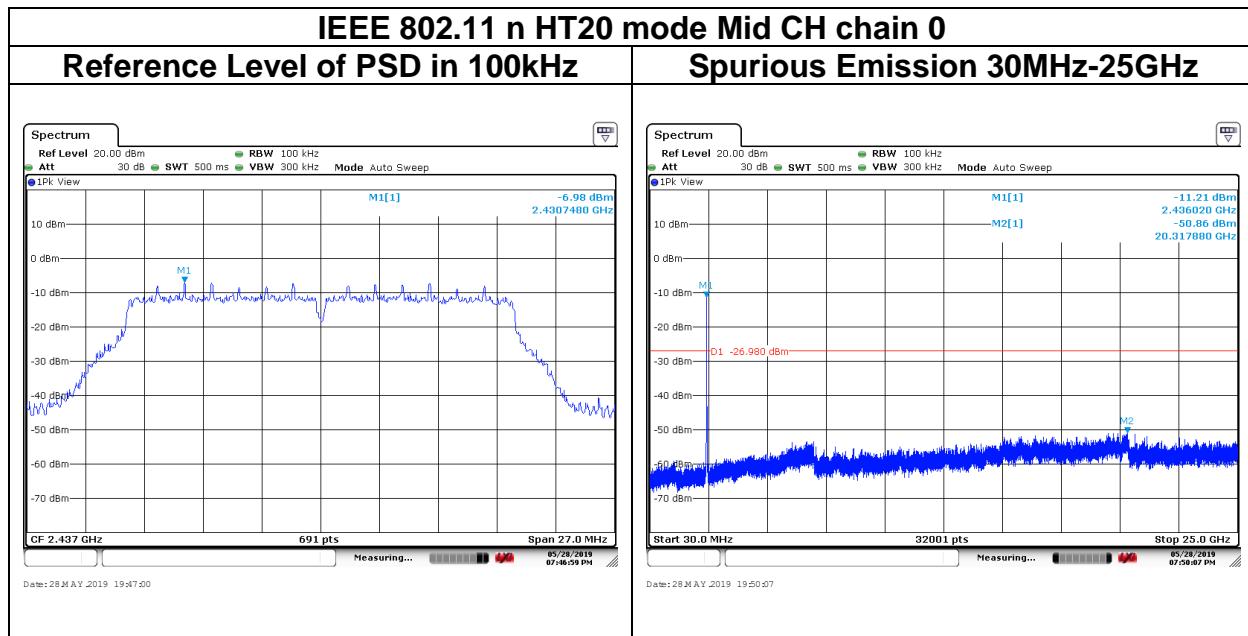
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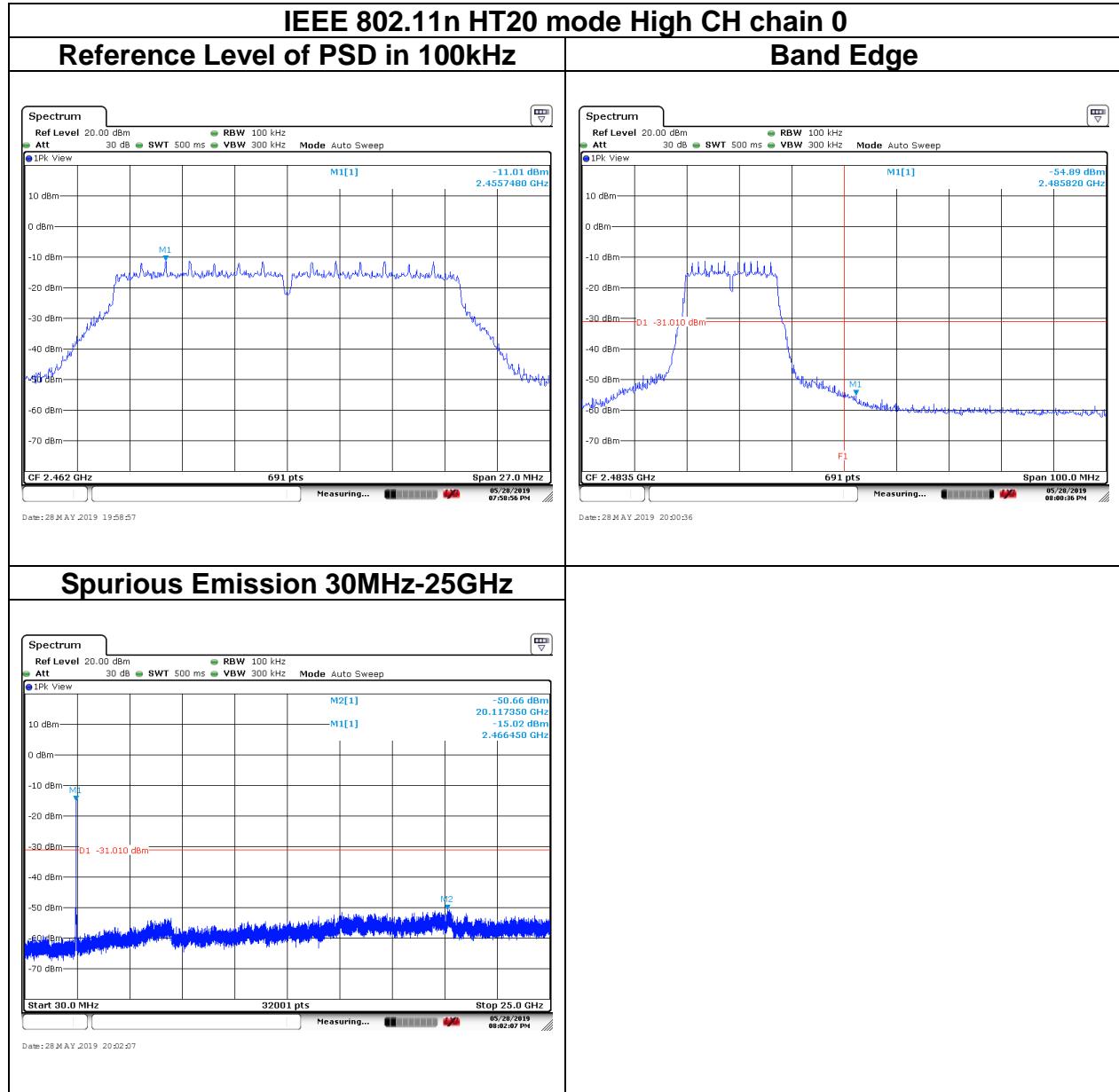
Report No.: T190503D05-B-RP3

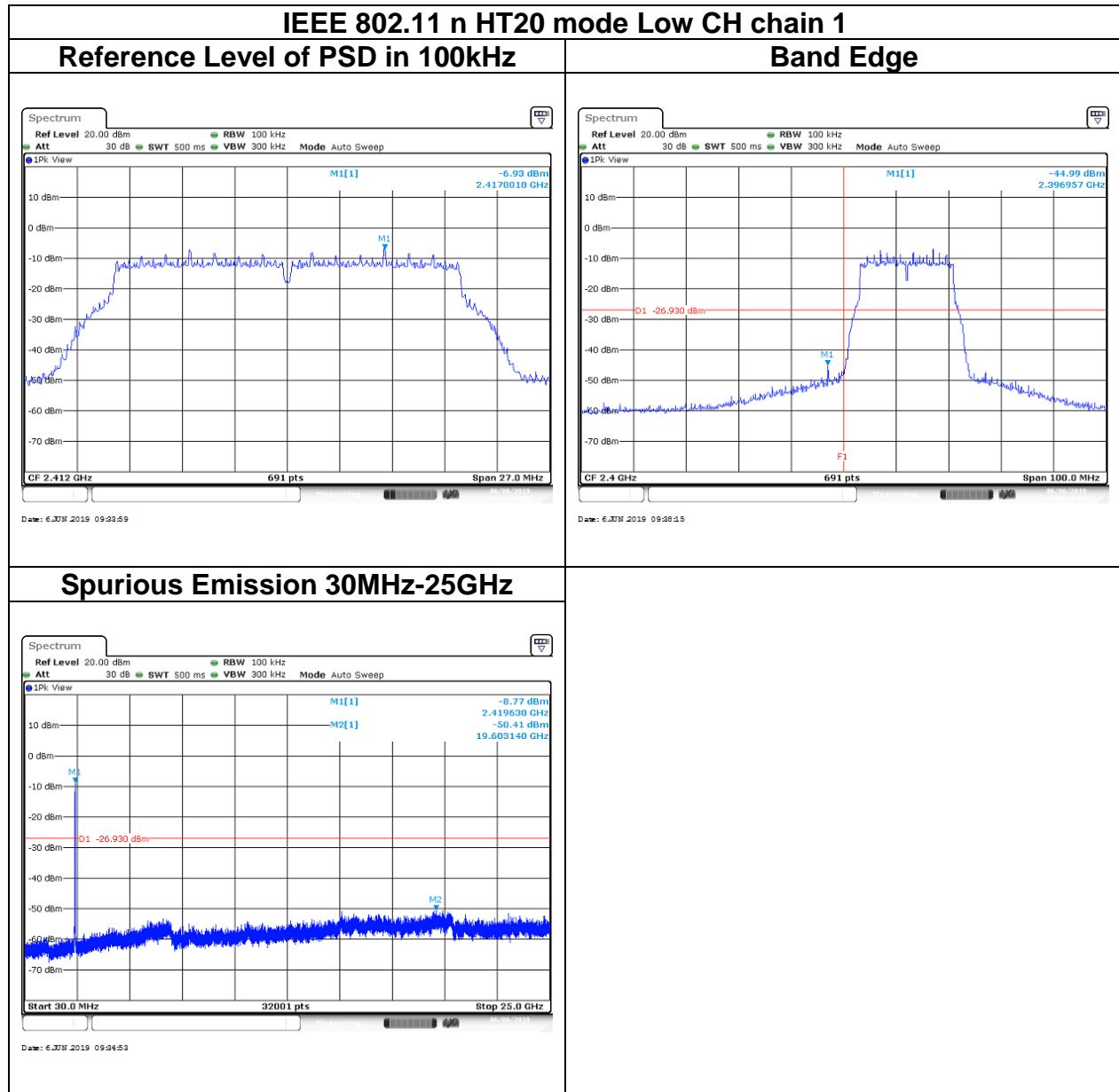


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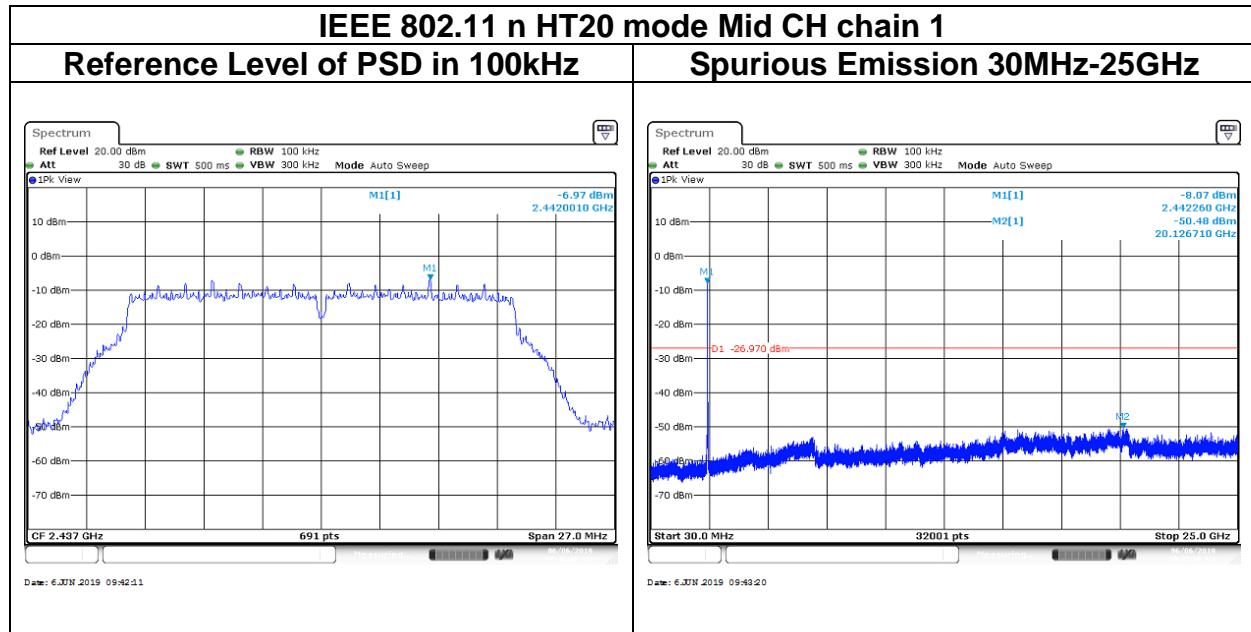


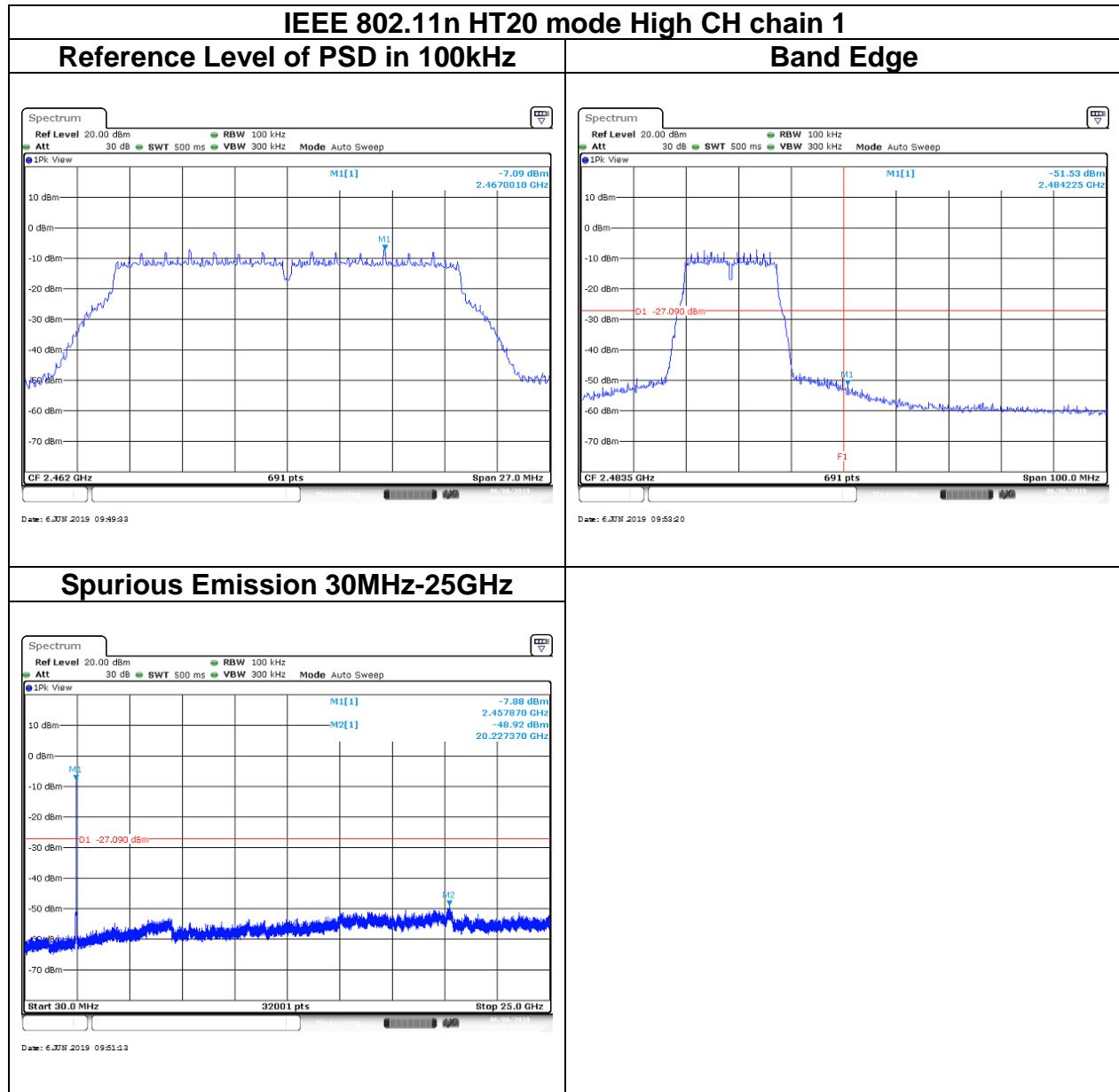
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## 4.6 RADIATION BANDEDGE AND SPURIOUS EMISSION

### 4.6.1 Test Limit

FCC according to §15.247(d), §15.209 and §15.205,

In any 100 kHz bandwidth outside the authorized frequency band, all harmonic and spurious must be least 20 dB below the highest emission level with the authorized frequency band. Radiation emission which fall in the restricted bands must also follow the FCC section 15.209 as below limit in table.

#### Below 30 MHz

Frequency	Field Strength (microvolts/m)	Magnetic H-Field (microamperes/m)	Measurement Distance (metres)
9-490 kHz	2,400/F (F in kHz)	2,400/F (F in kHz)	300
490-1,705 kHz	24,000/F (F in kHz)	24,000/F (F in kHz)	30
1.705-30 MHz	30	N/A	30

#### Above 30 MHz

Frequency	Field Strength (microvolts/m)	Measurement Distance (metres)
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

IC according to RSS-Gen, Section 8.9 and 8.10.

**RSS-Gen Table 3 and Table 5 – General Field Strength Limits for Transmitters and Receivers at Frequencies Above 30 MHz** (Note)

Frequency (MHz)	Field Strength microvolts/m at 3 metres (watts, e.i.r.p.)	
	Transmitters	Receivers
30-88	100 (3 nW)	100 (3 nW)
88-216	150 (6.8 nW)	150 (6.8 nW)
216-960	200 (12 nW)	200 (12 nW)
Above 960	500 (75 nW)	500 (75 nW)

**Note:** Measurements for compliance with the limits in table 3 may be performed at distances other than 3 metres, in accordance with Section 6.6.

**RSS-Gen Table 6: General Field Strength Limits for Transmitters at Frequencies Below 30 MHz (Transmit)**

Frequency	Magnetic field strength (H-Field) ( $\mu$ A/m)	Measurement Distance (m)
9-490 kHz Note	6.37/F (F in kHz)	300
490-1,705 kHz	63.7/F (F in kHz)	30
1.705-30 MHz	0.08	30

**Note:** The emission limits for the ranges 9-90 kHz and 110-490 kHz are based on measurements employing a linear average detector.

#### 4.6.2 Test Procedure

Test method Refer as KDB 662911 D01, KDB 558074 D01.

1. The EUT is placed on a turntable, Above 1 GHz is 1.5m and below 1 GHz is 0.8m above ground plane. The EUT Configured un accordance with ANSI C63.10: 2013, and the EUT set in a continuous mode.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level. And EUT is set 3m away from the receiving antenna, which is scanned from 1m to 4m above the ground plane to find out the highest emissions. Measurement are made polarized in both the vertical and the horizontal positions with antenna.
3. Span shall wide enough to full capture the emission measured. The SA from 9kHz to 26.5GHz set to the low, Mid and High channels with the EUT transmit.

Note: No emission found between lowest internal used/generated frequency to 30MHz (9KHz~30MHz)

Remark:

Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30 m open are test site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.

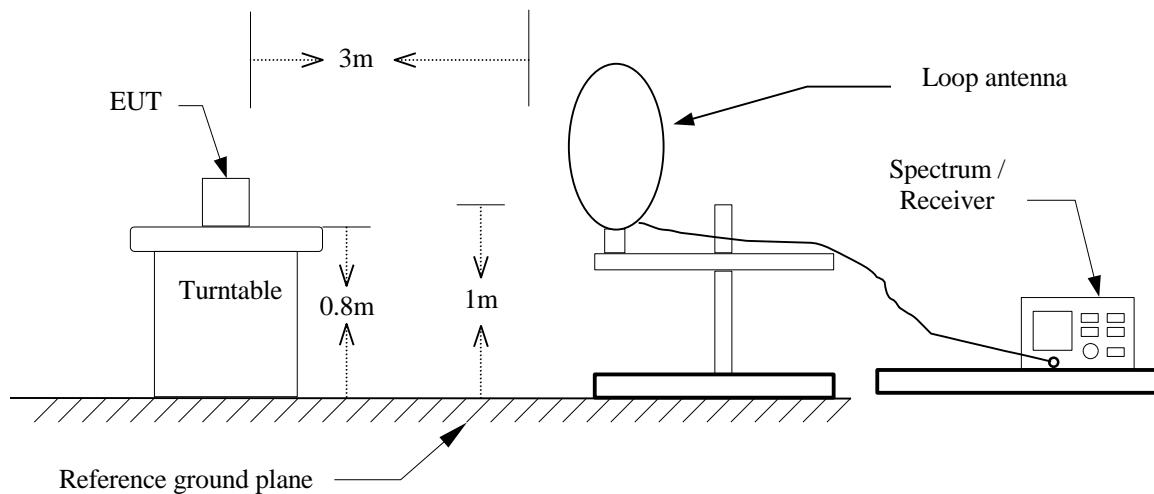
4. The SA setting following :

- (1) Below 1G : RBW = 100kHz, VBW  $\geq$  3 RBW, Sweep = Auto, Detector = Peak, Trace = Max hold.
- (2) Above 1G :
  - (2.1) For Peak measurement : RBW = 1MHz, VBW  $\geq$  3 RBW, Sweep = Auto, Detector = Peak, Trace = Max hold.
  - (2.2) For Average measurement : RBW = 1MHz, VBW
    - If Duty Cycle  $\geq$  98%, VBW=10Hz.
    - If Duty Cycle < 98%, VBW=1/T.

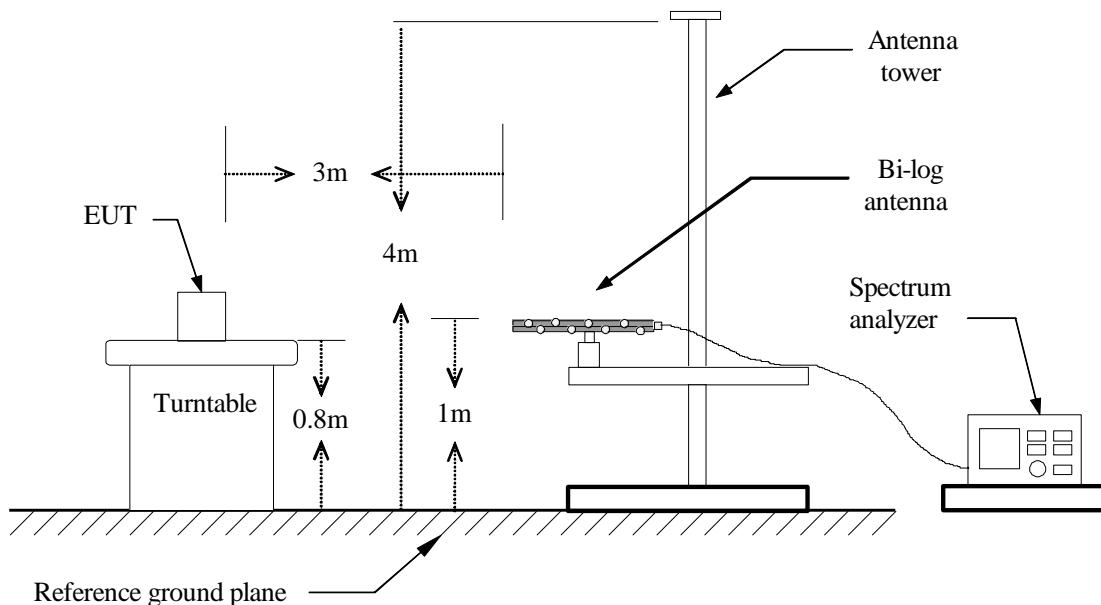
Configuration	Duty Cycle (%)	T(ms)	1/T (kHz)	VBW Setting
802.11b	99.96%	12.4400	-	10Hz
802.11g	99.33%	2.0832	-	10Hz
802.11n HT20	98.61%	1.0032	-	10Hz

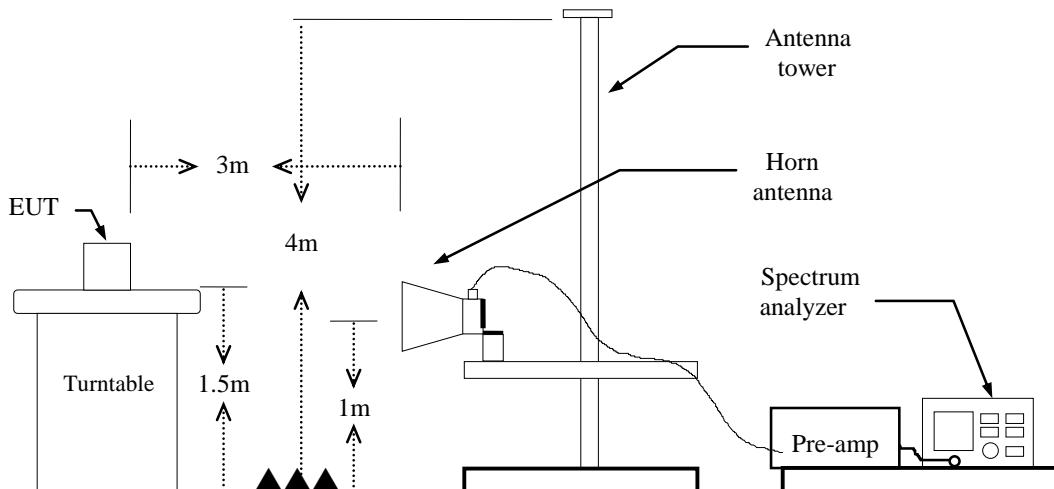
### 4.6.3 Test Setup

#### 9kHz ~ 30MHz



#### 30MHz ~ 1GHz



**Above 1 GHz**

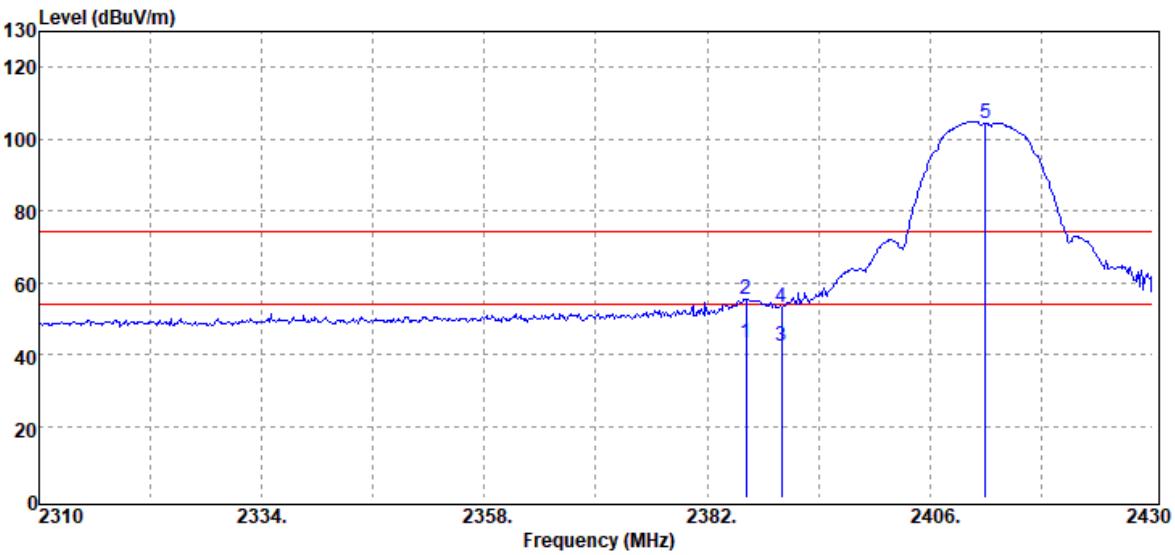
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#### 4.6.4 Test Result

##### Band Edge Test Data

Test Mode	IEEE 802.11b Low CH	Temp/Hum	23(°C)/ 53%RH
Test Item	Band Edge	Test Date	May 24, 2018
Polarize	Vertical	Test Engineer	Dally Hong
Detector	Peak / Average		

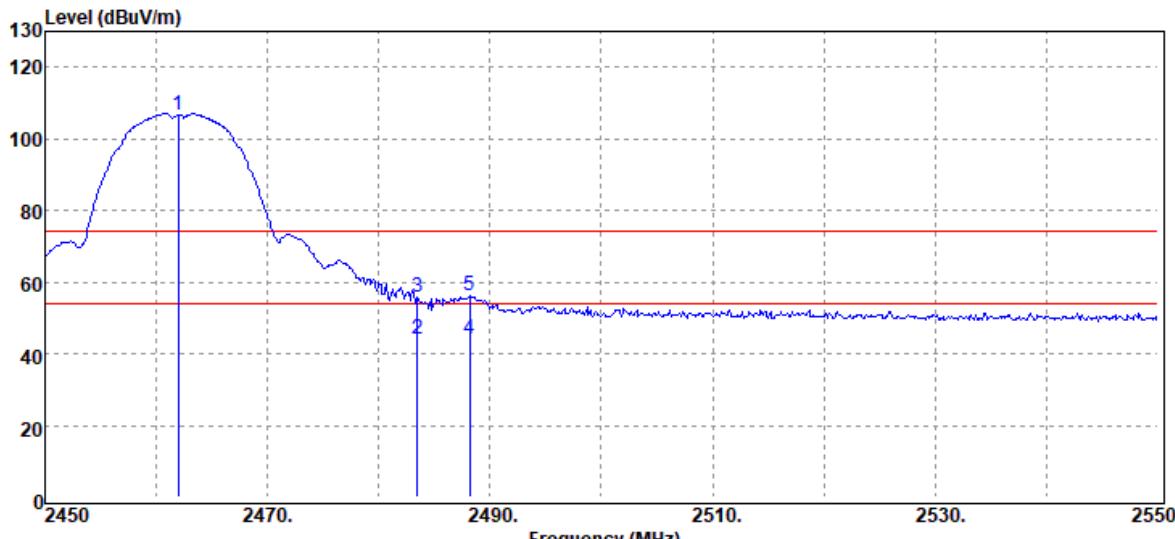
  

  

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2386.20	46.77	-3.38	43.39	54.00	-10.61	Average
2386.20	58.68	-3.38	55.30	74.00	-18.70	Peak
2390.00	45.81	-3.38	42.43	54.00	-11.57	Average
2390.00	56.66	-3.38	53.28	74.00	-20.72	Peak
2412.00	107.86	-3.35	104.51	74.00	-	-

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Test Mode	IEEE 802.11b High CH	Temp/Hum	23(°C)/ 53%RH
Test Item	Band Edge	Test Date	May 24, 2018
Polarize	Vertical	Test Engineer	Dally Hong
Detector	Peak / Average		

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2462.00	109.83	-3.03	106.80	74.00	-	-
2483.50	46.74	-2.83	43.91	54.00	-10.09	Average
2483.50	58.78	-2.83	55.95	74.00	-18.05	Peak
2488.20	46.99	-2.80	44.19	54.00	-9.81	Average
2488.20	58.94	-2.80	56.14	74.00	-17.86	Peak

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Test Mode	IEEE 802.11g Low CH	Temp/Hum	23(°C)/ 53%RH
Test Item	Band Edge	Test Date	May 24, 2018
Polarize	Vertical	Test Engineer	Dally Hong
Detector	Peak / Average		

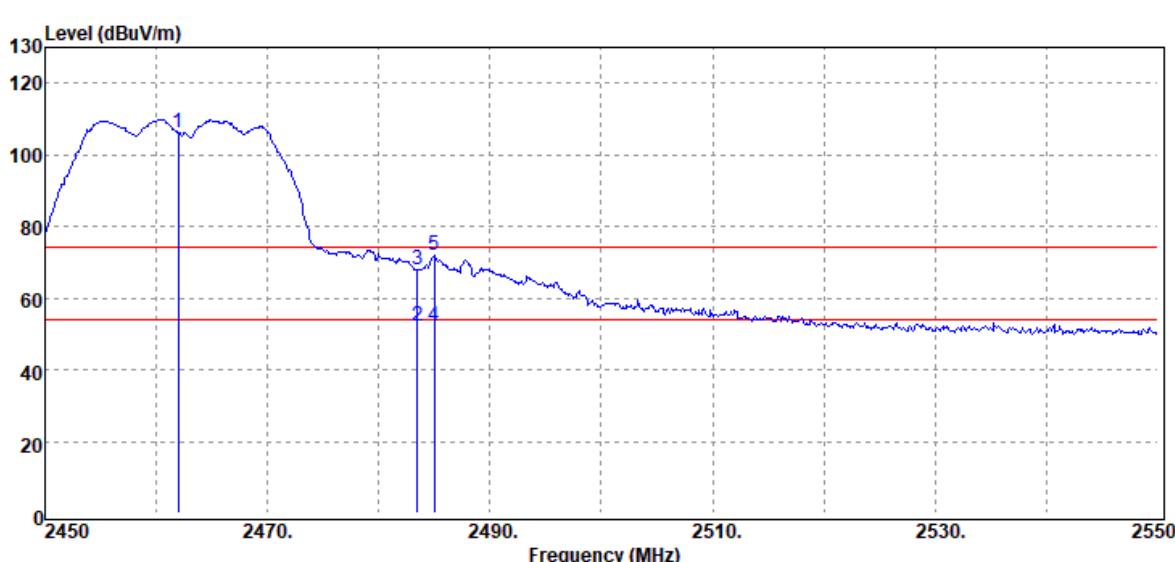
  
  

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2390.00	54.23	-3.38	50.85	54.00	-3.15	Average
2390.00	69.93	-3.38	66.55	74.00	-7.45	Peak
2412.00	107.54	-3.35	104.19	74.00	-	-

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Test Mode	IEEE 802.11g High CH		Temp/Hum	23(°C)/ 53%RH	
Test Item	Band Edge		Test Date	May 24, 2018	
Polarize	Vertical		Test Engineer	Dally Hong	
Detector	Peak / Average				

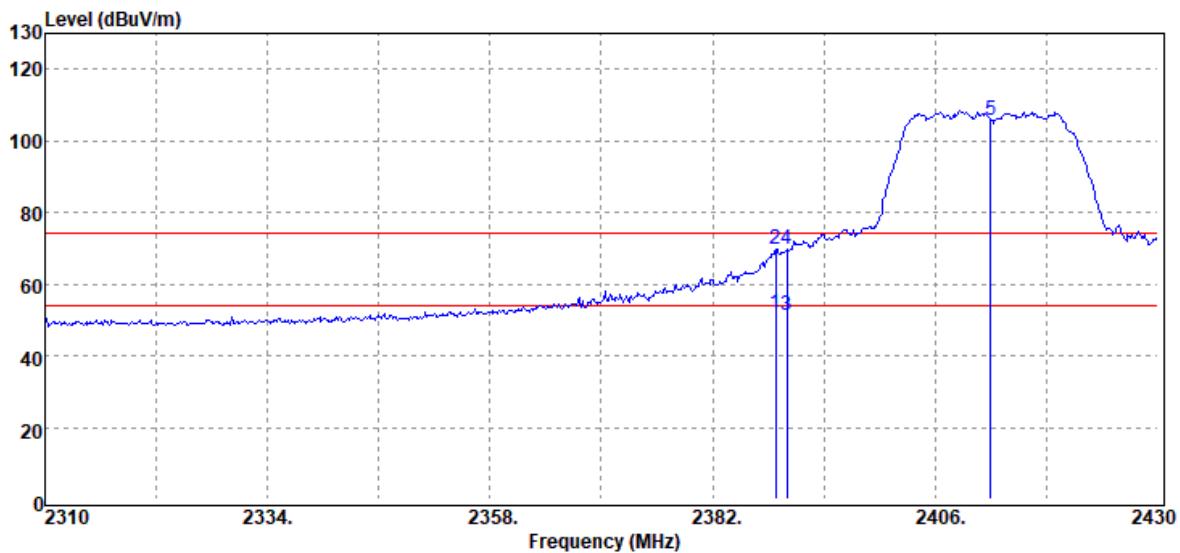
  

  

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2462.00	109.12	-3.03	106.09	74.00	-	-
2483.50	55.11	-2.83	52.28	54.00	-1.72	Average
2483.50	70.60	-2.83	67.77	74.00	-6.23	Peak
2485.00	55.03	-2.82	52.21	54.00	-1.79	Average
2485.00	74.72	-2.82	71.90	74.00	-2.10	Peak

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Test Mode	IEEE 802.11n HT20 Low CH	Temp/Hum	23(°C)/ 53%RH
Test Item	Band Edge	Test Date	May 24, 2018
Polarize	Vertical	Test Engineer	Dally Hong
Detector	Peak / Average		

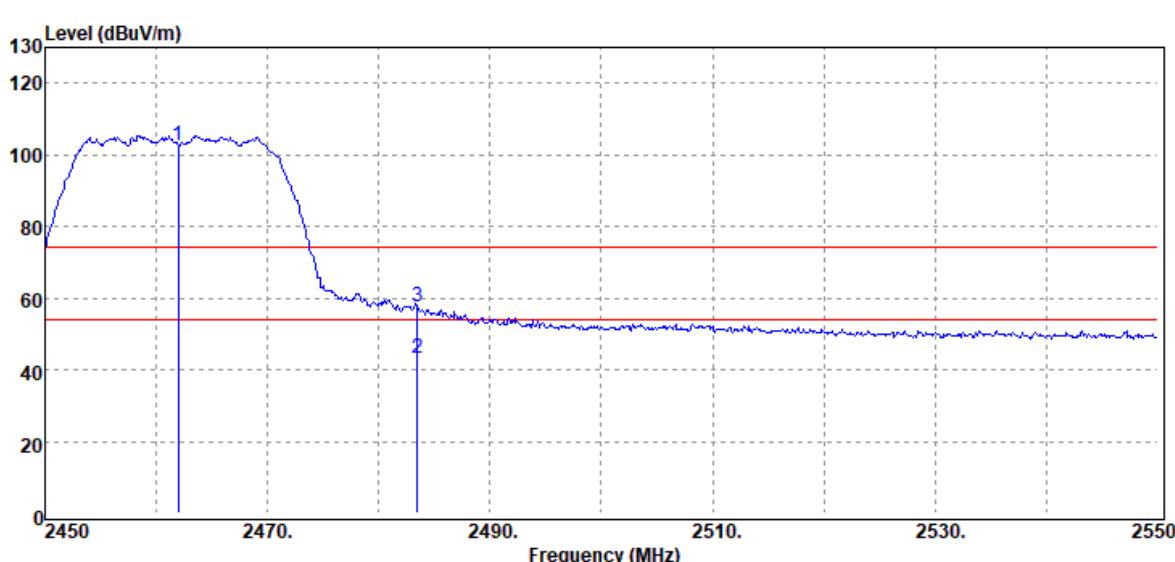


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2388.84	55.11	-3.39	51.72	54.00	-2.28	Average
2388.84	73.28	-3.39	69.89	74.00	-4.11	Peak
2390.00	54.70	-3.38	51.32	54.00	-2.68	Average
2390.00	72.88	-3.38	69.50	74.00	-4.50	Peak
2412.00	109.20	-3.35	105.85	74.00	-	-

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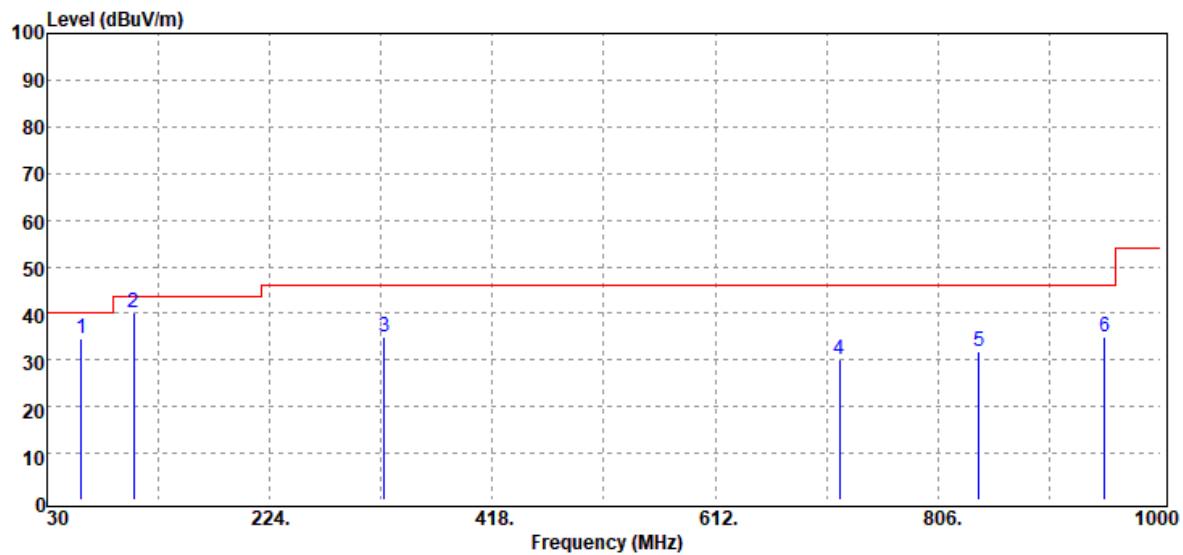
Rev.: 01

Test Mode	IEEE 802.11n HT20 High CH		Temp/Hum	23(°C)/ 53%RH		
Test Item	Band Edge		Test Date	May 24, 2018		
Polarize	Vertical		Test Engineer	Dally Hong		
Detector	Peak / Average					
						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2462.00	105.46	-3.03	102.43	74.00	-	-
2483.50	46.01	-2.83	43.18	54.00	-10.82	Average
2483.50	60.48	-2.83	57.65	74.00	-16.35	Peak

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**Below 1G Test Data**

Test Mode	Mode 1	Temp/Hum	23(°C)/ 53%RH
Test Item	30MHz-1GHz	Test Date	May 24, 2018
Polarize	Vertical	Test Engineer	Dally Hong
Detector	Peak		

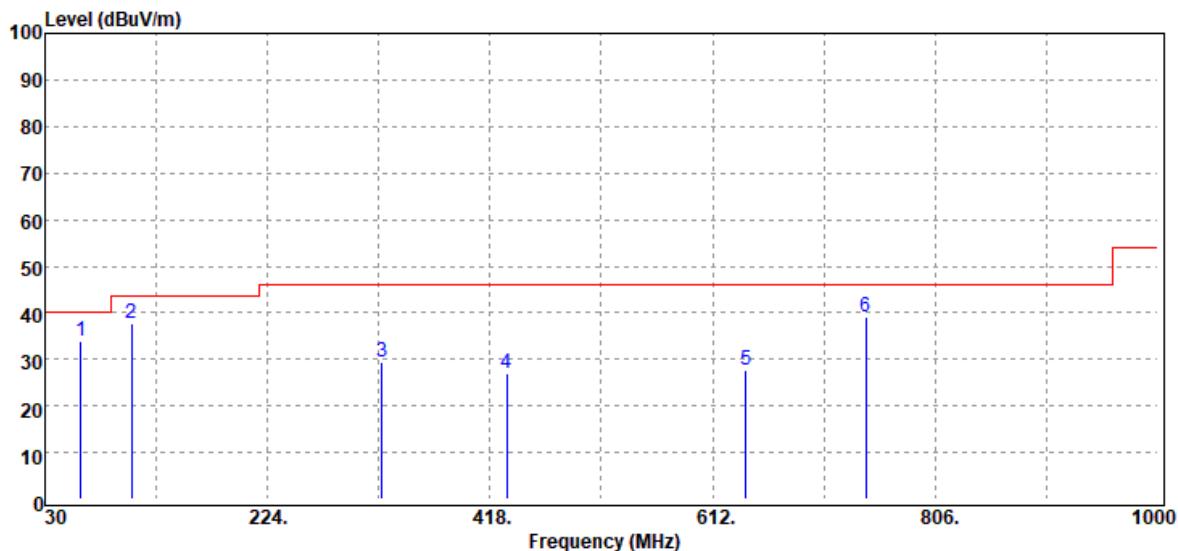


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
60.07	50.18	-15.69	34.49	40.00	-5.51	Peak
105.66	51.13	-11.02	40.11	43.50	-3.39	Peak
323.91	42.39	-7.33	35.06	46.00	-10.94	Peak
720.64	29.62	0.58	30.20	46.00	-15.80	Peak
841.89	28.38	3.50	31.88	46.00	-14.12	Peak
951.50	30.82	4.19	35.01	46.00	-10.99	Peak

Note: No emission found between lowest internal used/generated frequency to 30MHz(9KHz~30MHz)

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Test Mode	Mode 1	Temp/Hum	23(°C)/ 53%RH
Test Item	30MHz-1GHz	Test Date	May 24, 2018
Polarize	Horizontal	Test Engineer	Dally Hong
Detector	Peak		



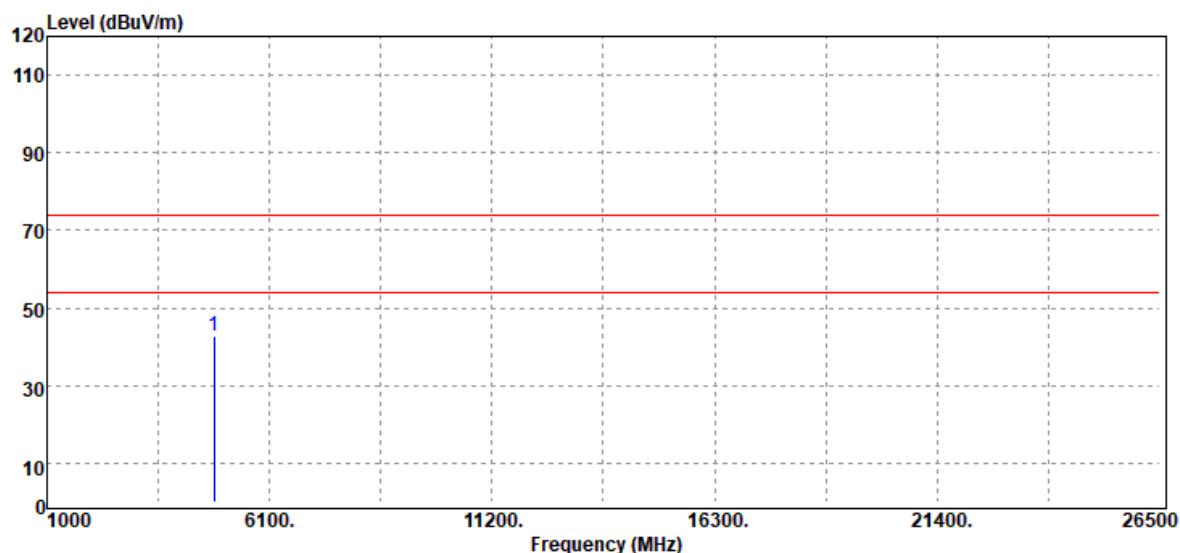
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
61.04	49.57	-15.64	33.93	40.00	-6.07	Peak
105.66	48.74	-11.02	37.72	43.50	-5.78	Peak
323.91	36.69	-7.33	29.36	46.00	-16.64	Peak
432.55	31.30	-4.32	26.98	46.00	-19.02	Peak
641.10	27.87	-0.18	27.69	46.00	-18.31	Peak
745.86	37.11	1.96	39.07	46.00	-6.93	Peak

Note: No emission found between lowest internal used/generated frequency to 30MHz(9KHz~30MHz)

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Above 1G Test Data

Test Mode	IEEE 802.11b Low CH	Temp/Hum	23(°C)/ 53%RH
Test Item	Harmonic	Test Date	May 24, 2018
Polarize	Vertical	Test Engineer	Dally Hong
Detector	Peak		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4824.00	39.88	2.84	42.72	74.00	-31.28	peak
N/A						

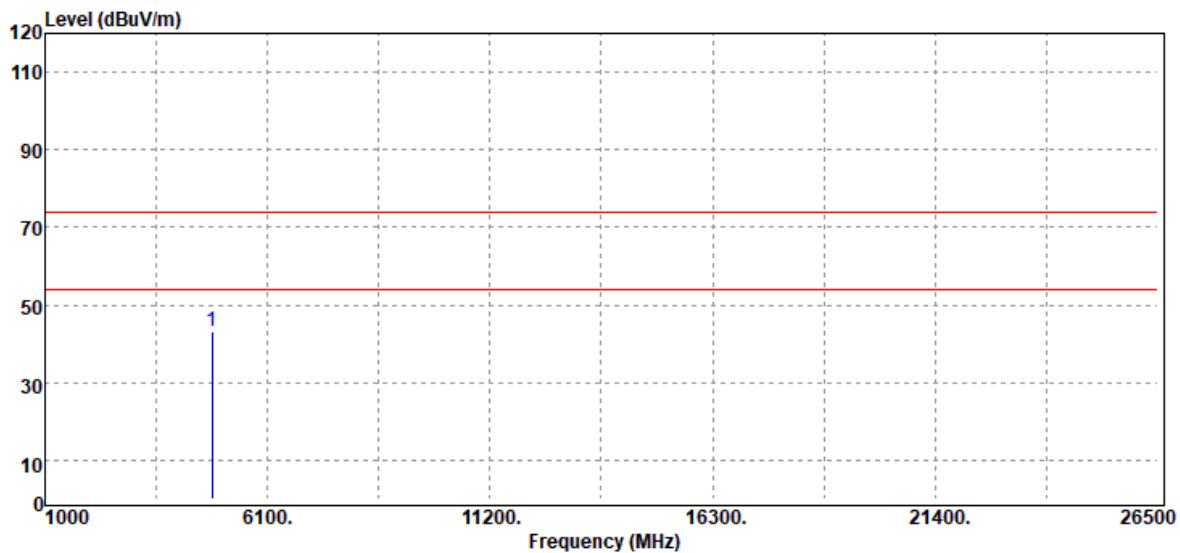
**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

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Test Mode	IEEE 802.11b Low CH	Temp/Hum	23(°C)/ 53%RH
Test Item	Harmonic	Test Date	May 24, 2018
Polarize	Horizontal	Test Engineer	Dally Hong
Detector	Peak		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4824.00	40.47	2.84	43.31	74.00	-30.69	peak
N/A						

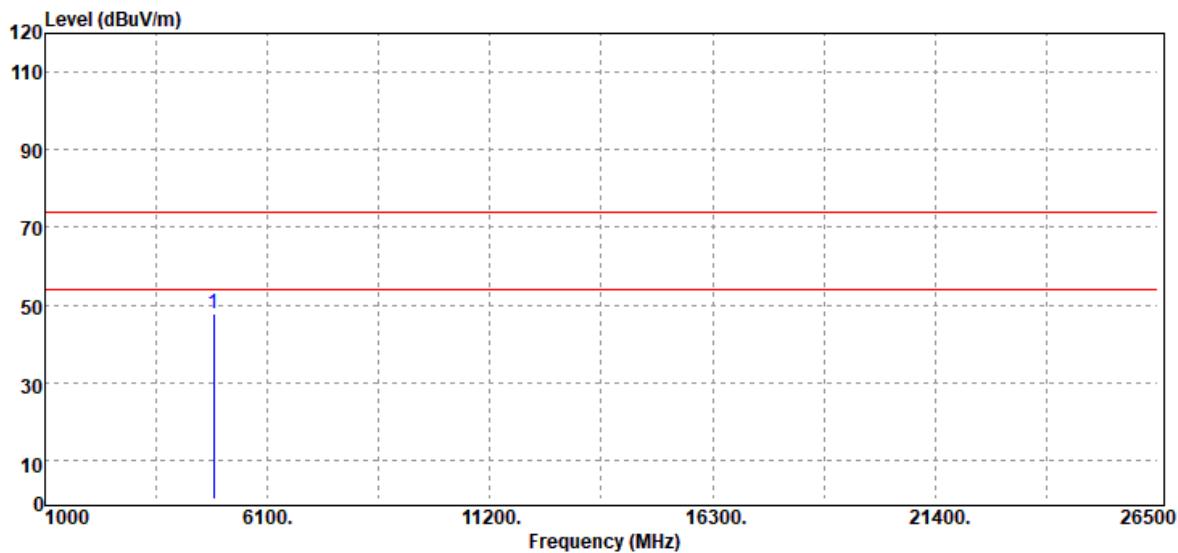
**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

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Test Mode	IEEE 802.11b Mid CH	Temp/Hum	23(°C)/ 53%RH
Test Item	Harmonic	Test Date	May 24, 2018
Polarize	Vertical	Test Engineer	Dally Hong
Detector	Peak		



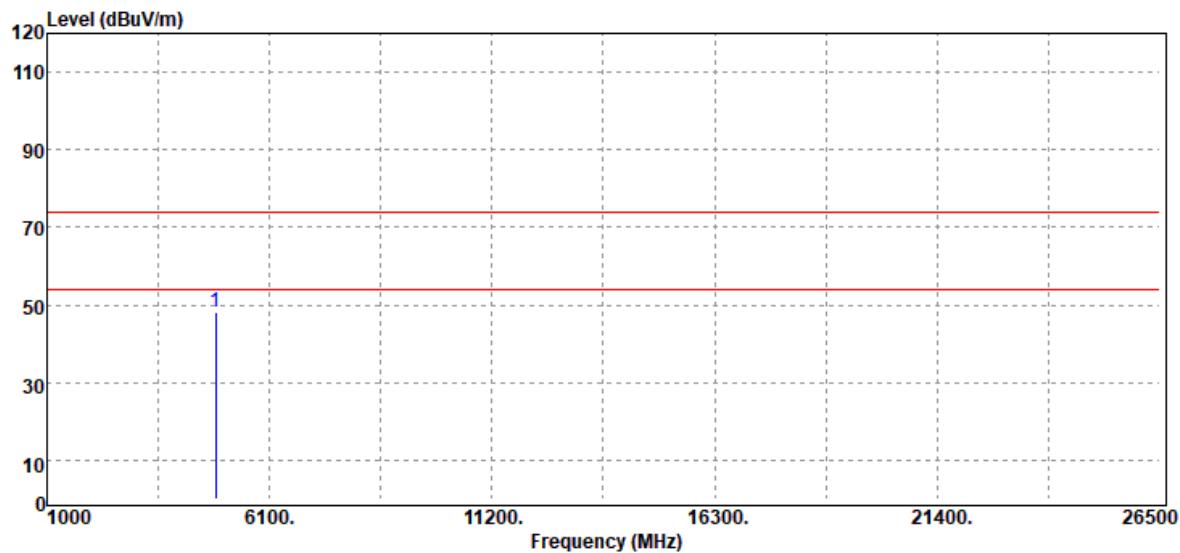
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4874.00	44.79	2.98	47.77	74.00	-26.23	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

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Test Mode	IEEE 802.11b Mid CH	Temp/Hum	23(°C)/ 53%RH
Test Item	Harmonic	Test Date	May 24, 2018
Polarize	Horizontal	Test Engineer	Dally Hong
Detector	Peak		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4874.00	45.20	2.98	48.18	74.00	-25.82	peak
N/A						

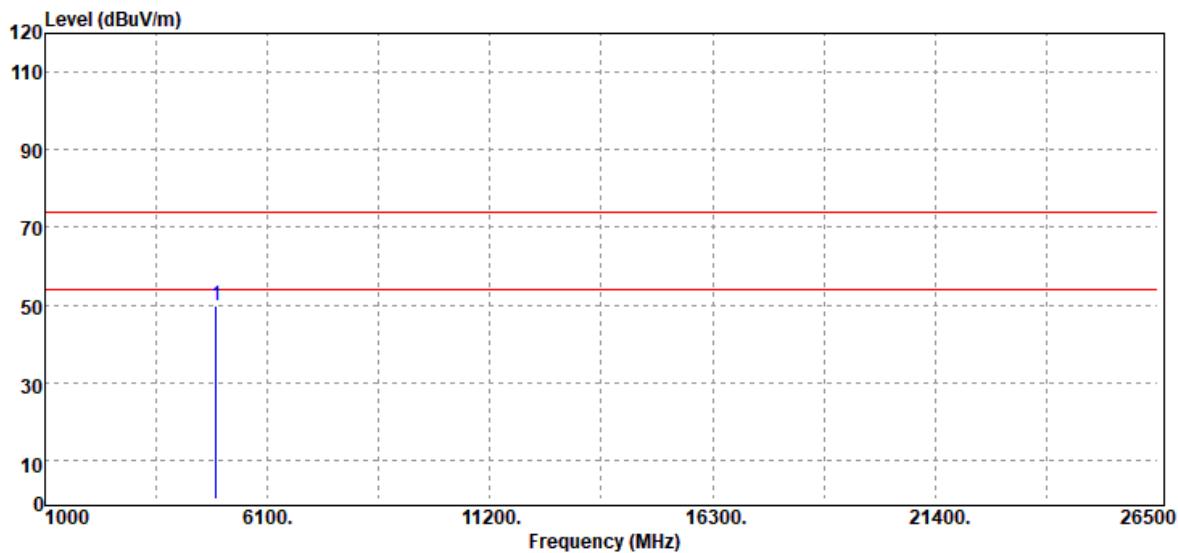
**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

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Test Mode	IEEE 802.11b High CH	Temp/Hum	23(°C)/ 53%RH
Test Item	Harmonic	Test Date	May 24, 2018
Polarize	Vertical	Test Engineer	Dally Hong
Detector	Peak		



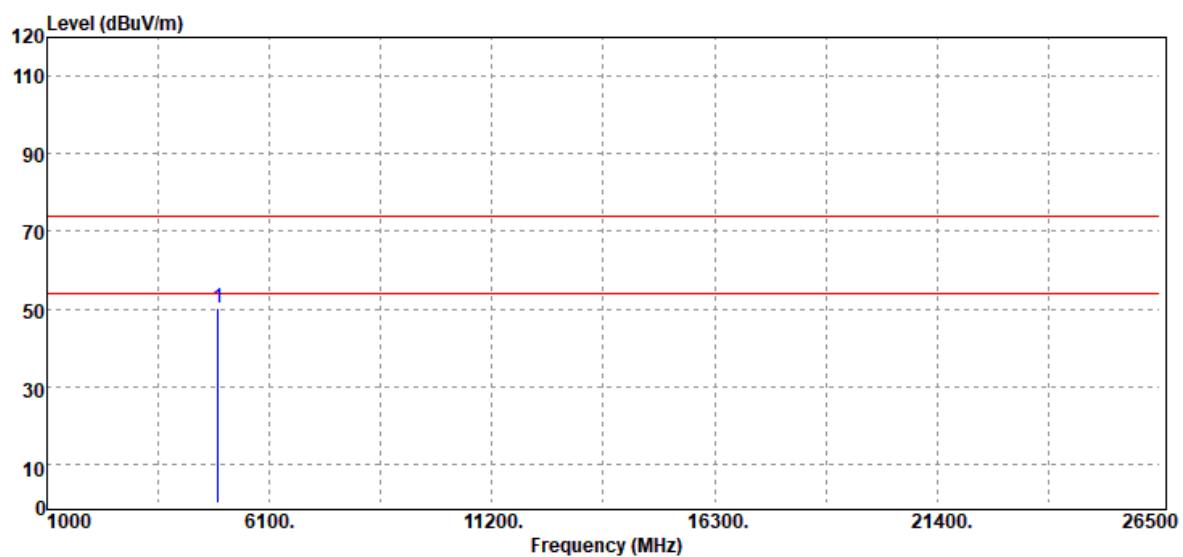
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4924.00	46.44	3.46	49.90	74.00	-24.10	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Report No.: T190503D05-B-RP3

Test Mode	IEEE 802.11b High CH	Temp/Hum	23(°C)/ 53%RH
Test Item	Harmonic	Test Date	May 24, 2018
Polarize	Horizontal	Test Engineer	Dally Hong
Detector	Peak		

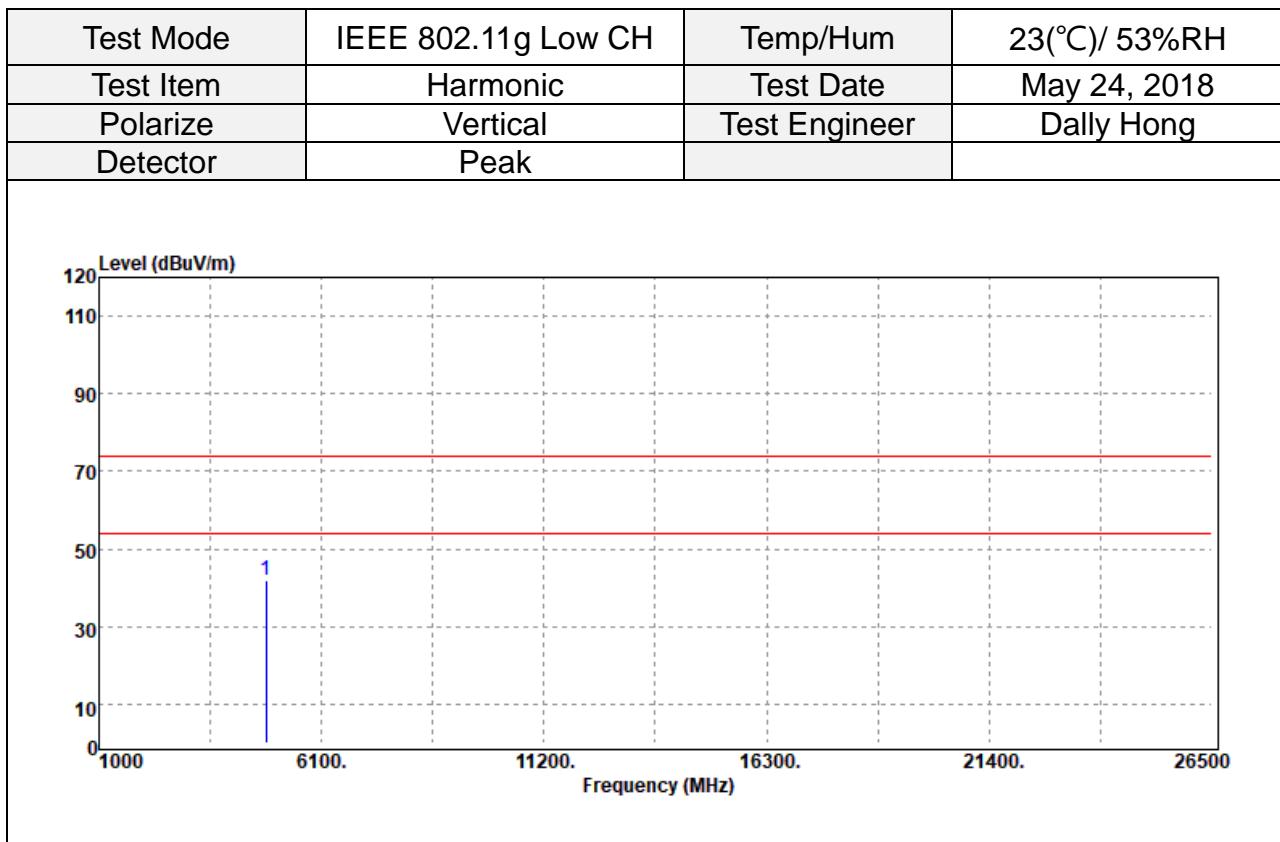


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4924.00	46.92	3.46	50.38	74.00	-23.62	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

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Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4824.00	38.94	2.84	41.78	74.00	-32.22	peak
N/A						

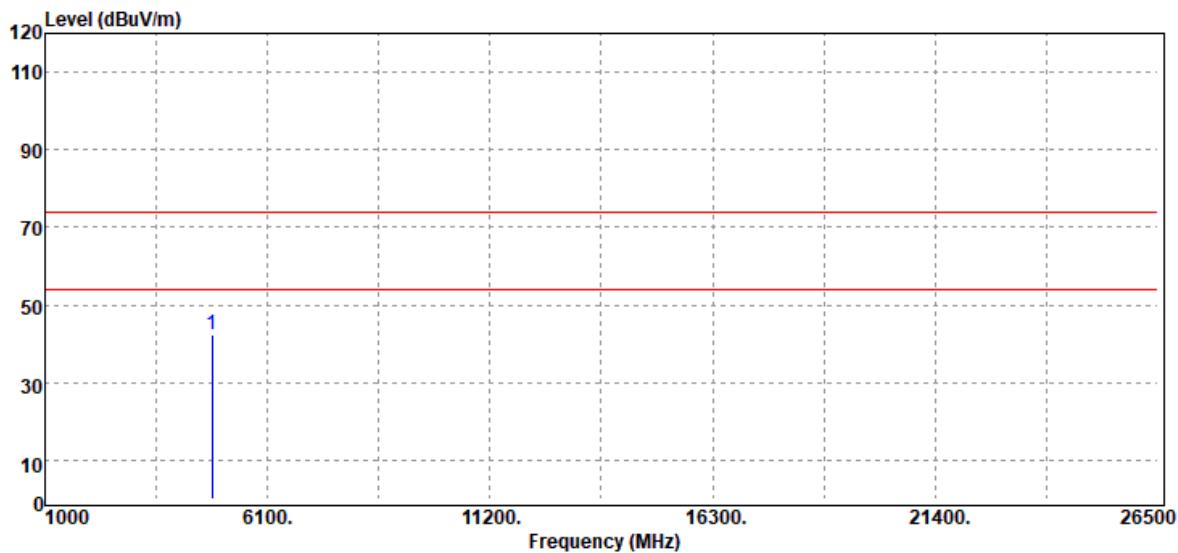
**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

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Test Mode	IEEE 802.11g Low CH	Temp/Hum	23(°C)/ 53%RH
Test Item	Harmonic	Test Date	May 24, 2018
Polarize	Horizontal	Test Engineer	Dally Hong
Detector	Peak		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4824.00	39.46	2.84	42.30	74.00	-31.70	peak
N/A						

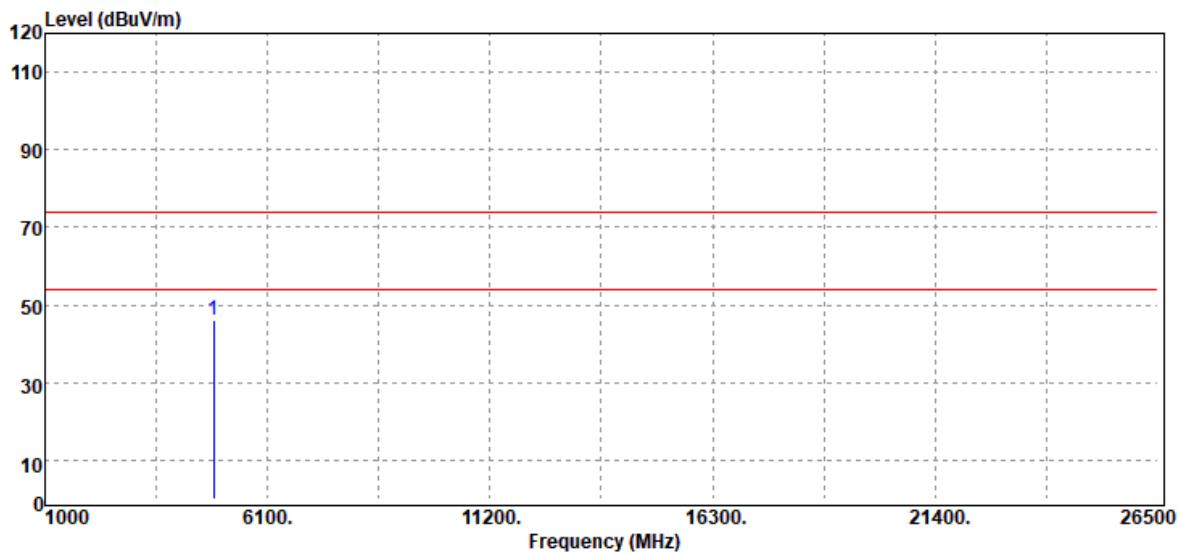
**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

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Test Mode	IEEE 802.11g Mid CH	Temp/Hum	23(°C)/ 53%RH
Test Item	Harmonic	Test Date	May 24, 2018
Polarize	Vertical	Test Engineer	Dally Hong
Detector	Peak		



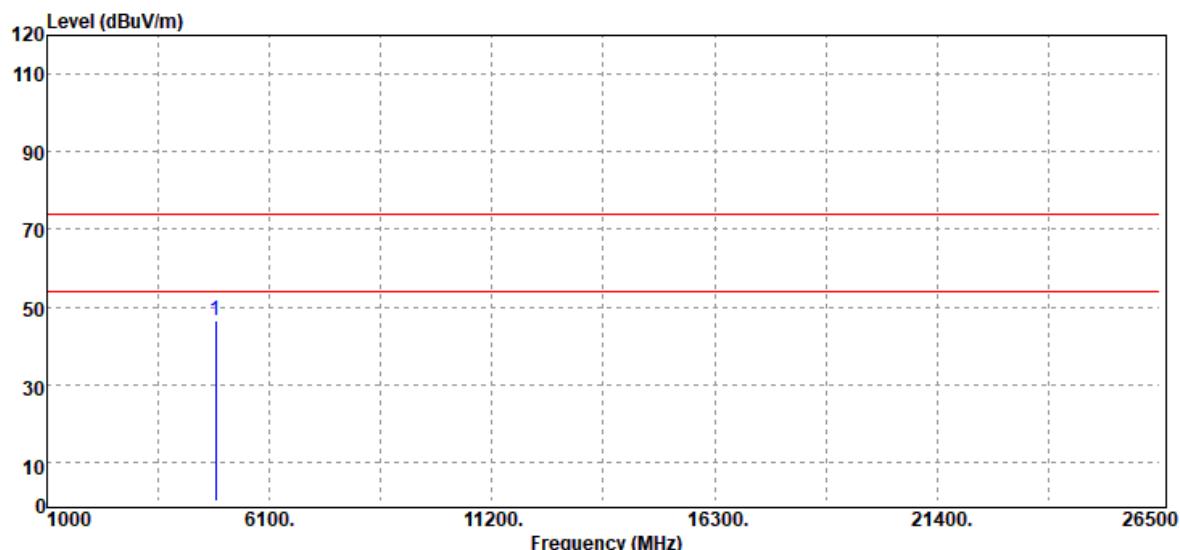
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4874.00	42.96	2.98	45.94	74.00	-28.06	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Report No.: T190503D05-B-RP3

Test Mode	IEEE 802.11g Mid CH	Temp/Hum	23(°C)/ 53%RH
Test Item	Harmonic	Test Date	May 24, 2018
Polarize	Horizontal	Test Engineer	Dally Hong
Detector	Peak		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4874.00	43.34	2.98	46.32	74.00	-27.68	peak
N/A						

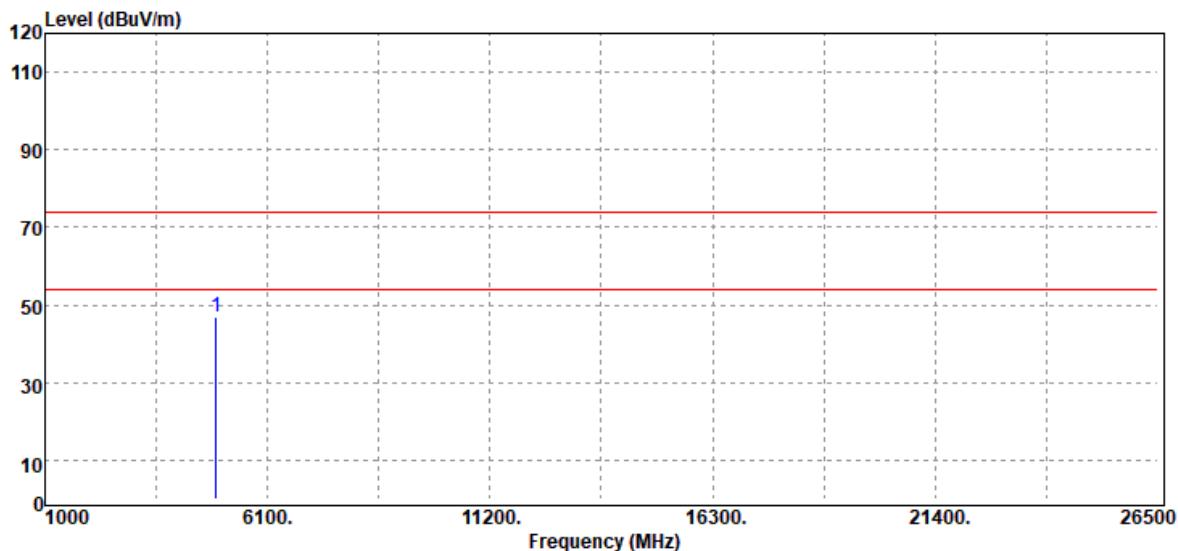
**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

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Test Mode	IEEE 802.11g High CH	Temp/Hum	23(°C)/ 53%RH
Test Item	Harmonic	Test Date	May 24, 2018
Polarize	Vertical	Test Engineer	Dally Hong
Detector	Peak		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4924.00	43.66	3.46	47.12	74.00	-26.88	peak
N/A						

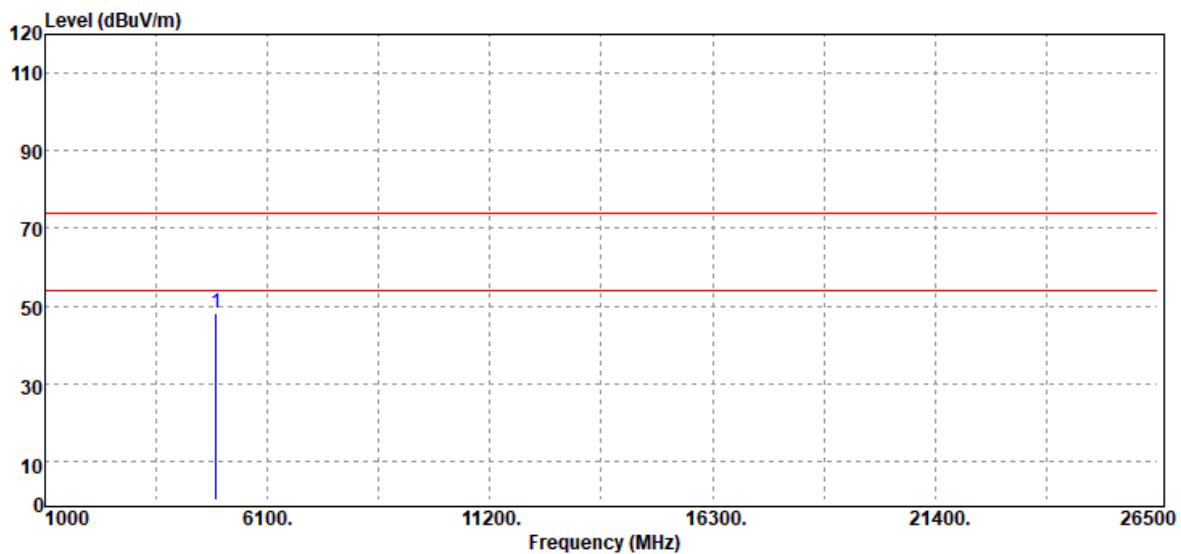
**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

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Test Mode	IEEE 802.11g High CH	Temp/Hum	23(°C)/ 53%RH
Test Item	Harmonic	Test Date	May 24, 2018
Polarize	Horizontal	Test Engineer	Dally Hong
Detector	Peak		



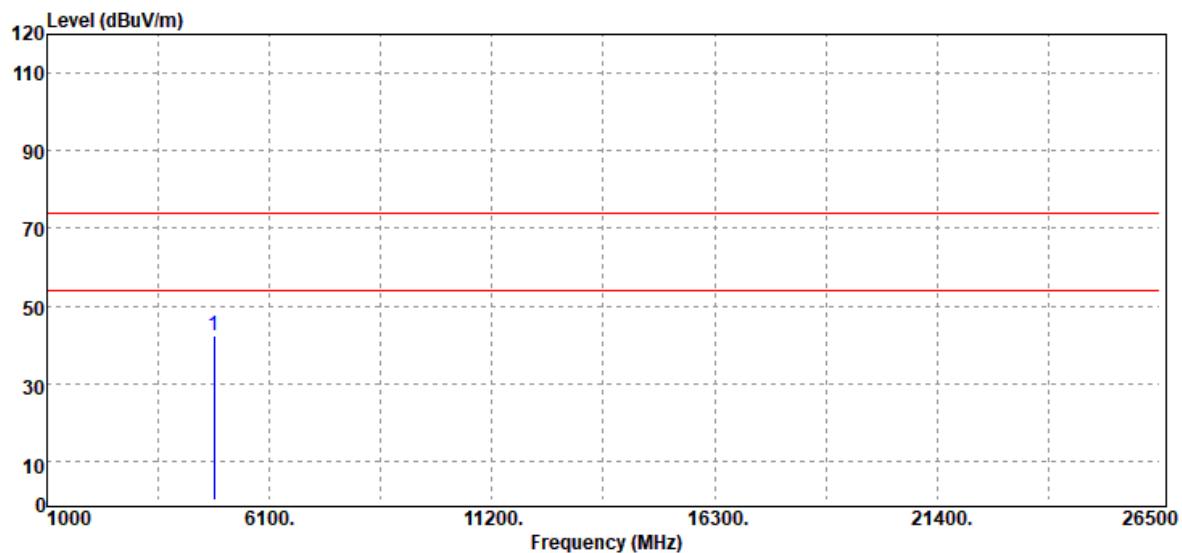
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4924.00	44.51	3.46	47.97	74.00	-26.03	peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

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Test Mode	IEEE 802.11n HT20 Low CH	Temp/Hum	23(°C)/ 53%RH
Test Item	Harmonic	Test Date	May 24, 2018
Polarize	Vertical	Test Engineer	Dally Hong
Detector	Peak		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4824.00	39.70	2.84	42.54	74.00	-31.46	peak
N/A						

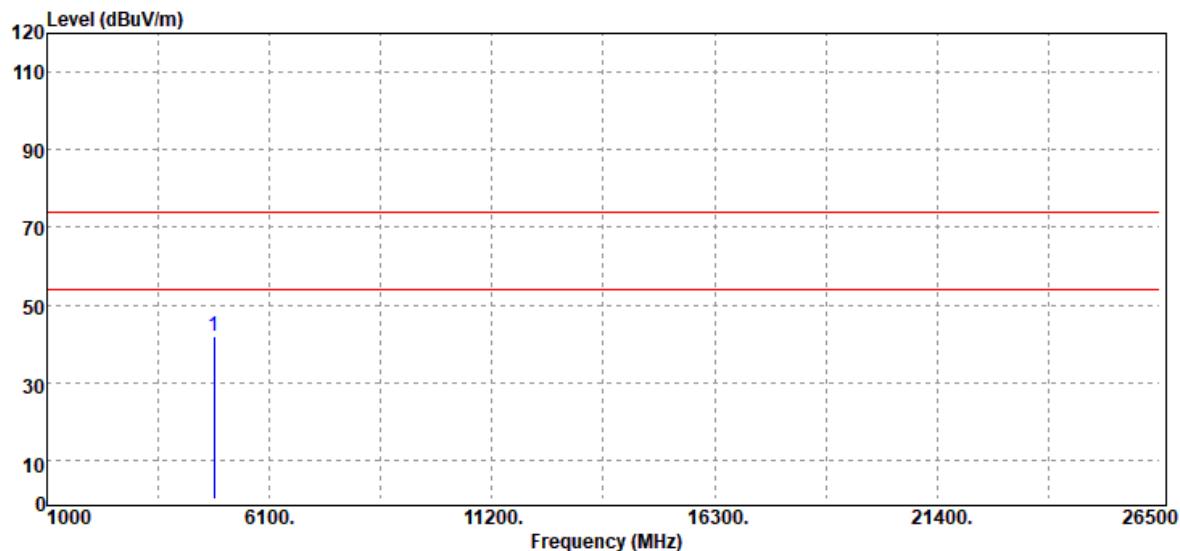
**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

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Test Mode	IEEE 802.11n HT20 Low CH	Temp/Hum	23(°C)/ 53%RH
Test Item	Harmonic	Test Date	May 24, 2018
Polarize	Horizontal	Test Engineer	Dally Hong
Detector	Peak		



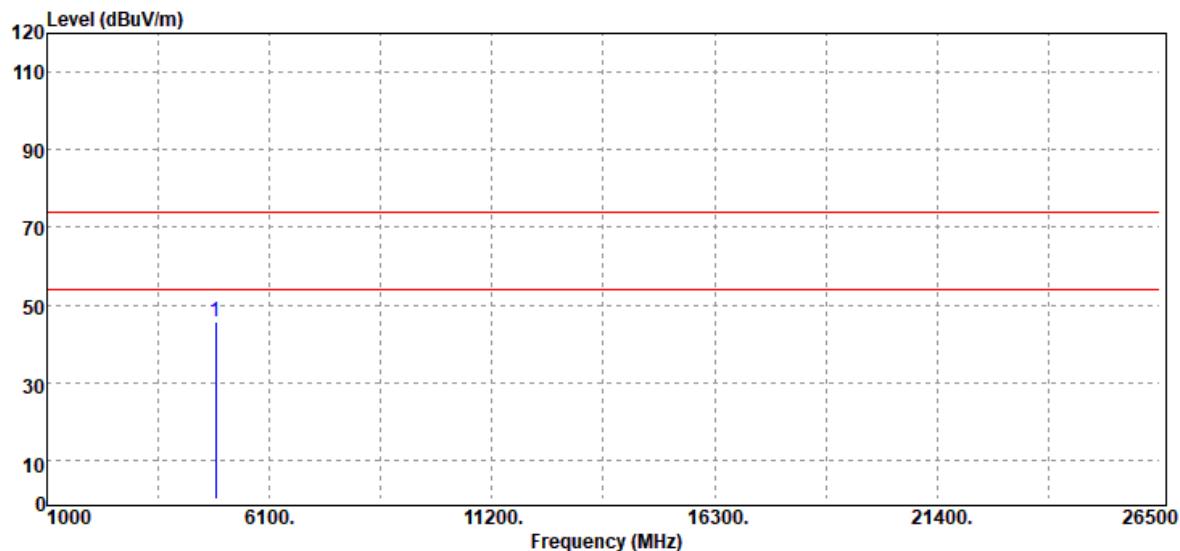
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4824.00	39.12	2.84	41.96	74.00	-32.04	Peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Report No.: T190503D05-B-RP3

Test Mode	IEEE 802.11n HT20 Mid CH	Temp/Hum	23(°C)/ 53%RH
Test Item	Harmonic	Test Date	May 24, 2018
Polarize	Vertical	Test Engineer	Dally Hong
Detector	Peak		



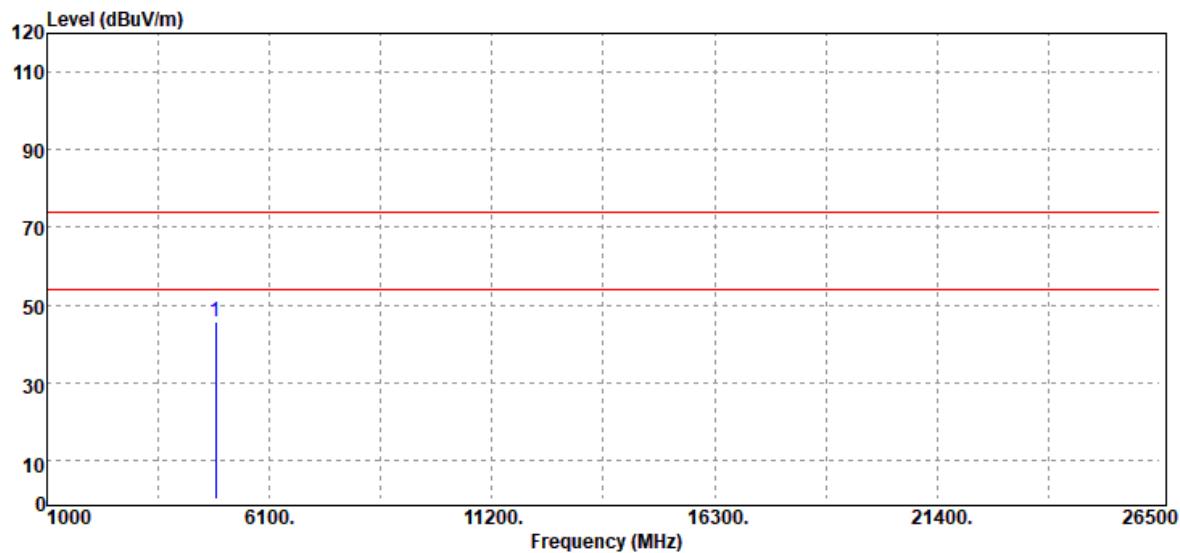
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4874.00	42.78	2.98	45.76	74.00	-28.24	Peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

Report No.: T190503D05-B-RP3

Test Mode	IEEE 802.11n HT20 Mid CH	Temp/Hum	23(°C)/ 53%RH
Test Item	Harmonic	Test Date	May 24, 2018
Polarize	Horizontal	Test Engineer	Dally Hong
Detector	Peak		



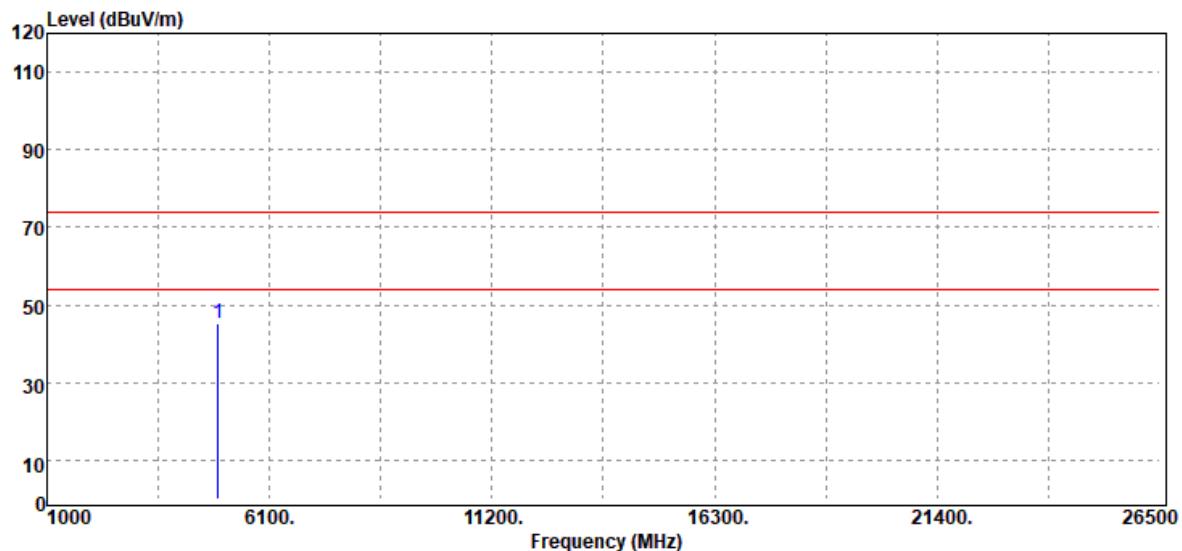
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4874.00	42.66	2.98	45.64	74.00	-28.36	Peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

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Test Mode	IEEE 802.11n HT20 High CH	Temp/Hum	23(°C)/ 53%RH
Test Item	Harmonic	Test Date	May 24, 2018
Polarize	Vertical	Test Engineer	Dally Hong
Detector	Peak		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4924.00	41.68	3.46	45.14	74.00	-28.86	Peak
N/A						

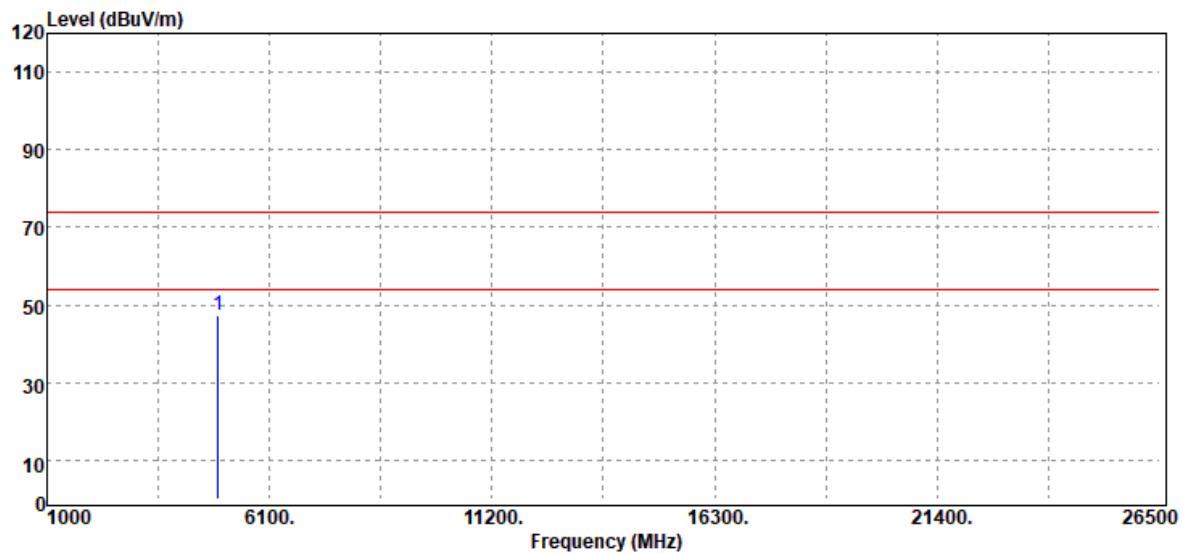
**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit

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Test Mode	IEEE 802.11n HT20 High CH	Temp/Hum	23(°C)/ 53%RH
Test Item	Harmonic	Test Date	May 24, 2018
Polarize	Horizontal	Test Engineer	Dally Hong
Detector	Peak		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4924.00	43.81	3.46	47.27	74.00	-26.73	Peak
N/A						

**Remark:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. For above 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit