

RADIO TEST REPORT

FCC 47 CFR PART 15 SUBPART C

INDUSTRY CANADA RSS-247

Test Standard	FCC Part 15.247 + IC RSS-247 issue 2
Brand name	LI-COR, Inc.
Product name	WiFi SD Card
Model No.	180-08
Test Result	Pass

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:

Sam Chuang
Manager

Tested by:

Jerry Chuang
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.
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FCC ID: 2AQK3-180-08
Report No.: T180626L01-RP

ISED: 24106-18008

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Rev.: 01

Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	August 22, 2018	Initial Issue	ALL	Allison Chen
01	August 28, 2018	1. Revised PPSD table value in section 5.4. 2. Add cable for Instrument Calibration in section 1.6. 3. Revised support equipment in section 1.7.	P.8, P.27	Allison Chen

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1. GENERAL INFORMATION

1.1 EUT INFORMATION

Applicant	LI-COR INC 4647 Superior Street, Lincoln, Nebraska, USA			
Manufacturer	United Power Research Technology Corp. 8F.-5, No.83, Sec. 2, Dongda Rd., North Dist., Hsinchu City 300, Taiwan (R.O.C.)			
Equipment	WiFi SD Card			
Model Name	180-08			
Model Discrepancy	N/A			
Received Date	June 26, 2018			
Date of Test	July 16 ~ 26, 2018			
Output Power(W)	IEEE 802.11b Mode:	0.0115	EIRP:	0.0182
	IEEE 802.11g Mode:	0.0556	EIRP:	0.0881
	IEEE 802.11n HT 20 MHz Mode:	0.0597	EIRP:	0.0946
Power Supply	Power from host system. (DC 5V)			
HW Version	MP			
FW Version	V301_KA			

1.2 EUT CHANNEL INFORMATION

Frequency Range	802.11b Mode: 2412MHz ~ 2462MHz 802.11g Mode: 2412MHz ~ 2462MHz 802.11n HT 20MHz Mode: 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
Channel Numbers	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 63.10:2013 clause 5.6.1 Table 4 and RSS-GEN Table A1 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 type="checkbox"/> PIFA <input type="checkbox"/> PCB <input type="checkbox"/> Dipole <input checked="" type="checkbox"/> Chip
Antenna Gain	Gain: 2dBi
Antenna connector	N/A

1.4 MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
Semi Anechoic Chamber (966 Chamber_B) / Radiated Emission, 30 to 1000 MHz	+/- 3.97
Semi Anechoic Chamber (966 Chamber_B) / Radiated Emission, 1 to 18GHz	+/- 3.58
Semi Anechoic Chamber (966 Chamber_B) / Radiated Emission, 18 to 26 GHz	+/- 3.59
Semi Anechoic Chamber (966 Chamber_B) / Radiated Emission, 26 to 40 GHz	+/- 3.81
Conducted Emission (Mains Terminals), 9kHz to 30MHz	+/- 2.48

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	-	-
Radiation	Jerry Chuang	-
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.

1.6 INSTRUMENT CALIBRATION

RF Conducted Test Site					
Equipment	Manufacturer	Model	S/N	Cal Date	Cal Due
Cable	HUBER SUHNER	SUCOFLEX 104PEA	25157	07/31/2017	07/30/2018
Directional Couplers	Agilent	87301D	MY44350252	07/25/2017	07/24/2018
Power Meter	Anritsu	ML2495A	1012009	09/18/2017	09/17/2018
Power Seneor	Anritsu	MA2411B	1126148	02/06/2018	02/05/2019
Signal Analyzer	R&S	FSV 40	101073	10/02/2017	10/01/2018
Divider	Solvang Technology	STI08-0015	008	N.C.R	N.C.R
3M 966 Chamber Test Site					
Equipment	Manufacturer	Model	S/N	Cal Date	Cal Due
Band Reject Filters	MICRO TRONICS	BRM 50702	120	05/14/2018	05/13/2019
Bilog Antenna	Sunol Sciences	JB3	A030105	07/13/2018	07/12/2019
Cable	HUBER SUHNER	SUCOFLEX 104PEA	25157	07/31/2017	07/30/2018
Cable	HUBER SUHNER	SUCOFLEX 104PEA	20995	07/31/2017	07/30/2018
Digital Thermo-Hygro Meter	WISEWIND	1206	D07	02/08/2018	02/07/2019
double Ridged Guide Horn Antenna	ETC	MCTD 1209	DRH13M02003	08/25/2017	08/24/2018
Loop Ant	COM-POWER	AL-130	121051	03/21/2018	03/20/2019
Pre-Amplifier	EMEC	EM330	060609	07/31/2017	07/30/2018
Pre-Amplifier	HP	8449B	3008A00965	07/28/2017	07/27/2018
PSA Series Spectrum Analyzer	Agilent	E4446A	MY46180323	05/31/2018	05/30/2019
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

Remark:

- Each piece of equipment is scheduled for calibration once a year.
- N.C.R. = No Calibration Required.

AC Power Line Conducted Emission Test Room					
Equipment	Manufacturer	Model	S/N	Cal Date	Cal Due
LISN	R&S	ENV216	101054	02/06/2018	02/05/2019
LISN	SCHWARZBECK	NSLK 8127	8127-541	02/09/2018	02/08/2019
EMI Test Receiver	R&S	ESCI	101203	11/02/2017	11/01/2018
CABLE	EMCI	CFD300-NL	CERF	06/29/2018	06/28/2019

Remark:

1. Each piece of equipment is scheduled for calibration once a year.
2. N.C.R. = No Calibration Required.

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
1	NB(B)	Toshiba	PORTEGE R30-A	N/A	PD97260H
2	ATM&All-in-1 Combo Card Reader	KINYO	KCR-355	D4A106	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 558074 D01 V04, RSS-247 Issue 2 and RSS-GEN Issue 4.

2. TEST SUMMERY

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	5.1	AC Conducted Emission	Pass
15.247(a)(2)	RSS-247(5.2)(a)	5.2	6 dB Bandwidth	Pass
-	RSS-GEN 6.6	5.2	Occupied Bandwidth (99%)	Pass
15.247(b)	RSS-247(5.4)(d)	5.3	Output Power Measurement	Pass
15.247(e)	RSS-247(5.2)(b)	5.4	Power Spectral Density	Pass
15.247(d)	RSS-247(5.5)	5.5	Conducted Band Edge	Pass
15.247(d)	RSS-247(5.5)	5.5	Conducted Emission	Pass
15.247(d)	RSS-GEN 8.9, 8.10	5.6	Radiation Band Edge	Pass
15.247(d)	RSS-GEN 8.9, 8.10	5.6	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:MCS0
Test Channel Frequencies	<p>IEEE 802.11b Mode:</p> <ol style="list-style-type: none"> 1. Lowest Channel : 2412MHz 2. Middle Channel : 2437MHz 3. Highest Channel : 2462MHz <p>IEEE 802.11g Mode:</p> <ol style="list-style-type: none"> 1. Lowest Channel : 2412MHz 2. Middle Channel : 2437MHz 3. Highest Channel : 2462MHz <p>IEEE 802.11n HT20 Mode:</p> <ol style="list-style-type: none"> 1. Lowest Channel : 2412MHz 2. Middle Channel : 2437MHz 3. Highest Channel : 2462MHz
Operation Transmitter	IEEE 802.11b Mode:1T1R IEEE 802.11g Mode:1T1R IEEE 802.11n HT20 Mode: 1T1R

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 host system.
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 host system.
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 checked="" type="checkbox"/> Placed in fixed position at X-Plane (E2-Plane) <input type="checkbox"/> Placed in fixed position at Y-Plane (E1-Plane) <input type="checkbox"/> Placed in fixed position at Z-Plane (H-Plane)
Worst Polarity	<input checked="" type="checkbox"/> Horizontal <input type="checkbox"/> Vertical

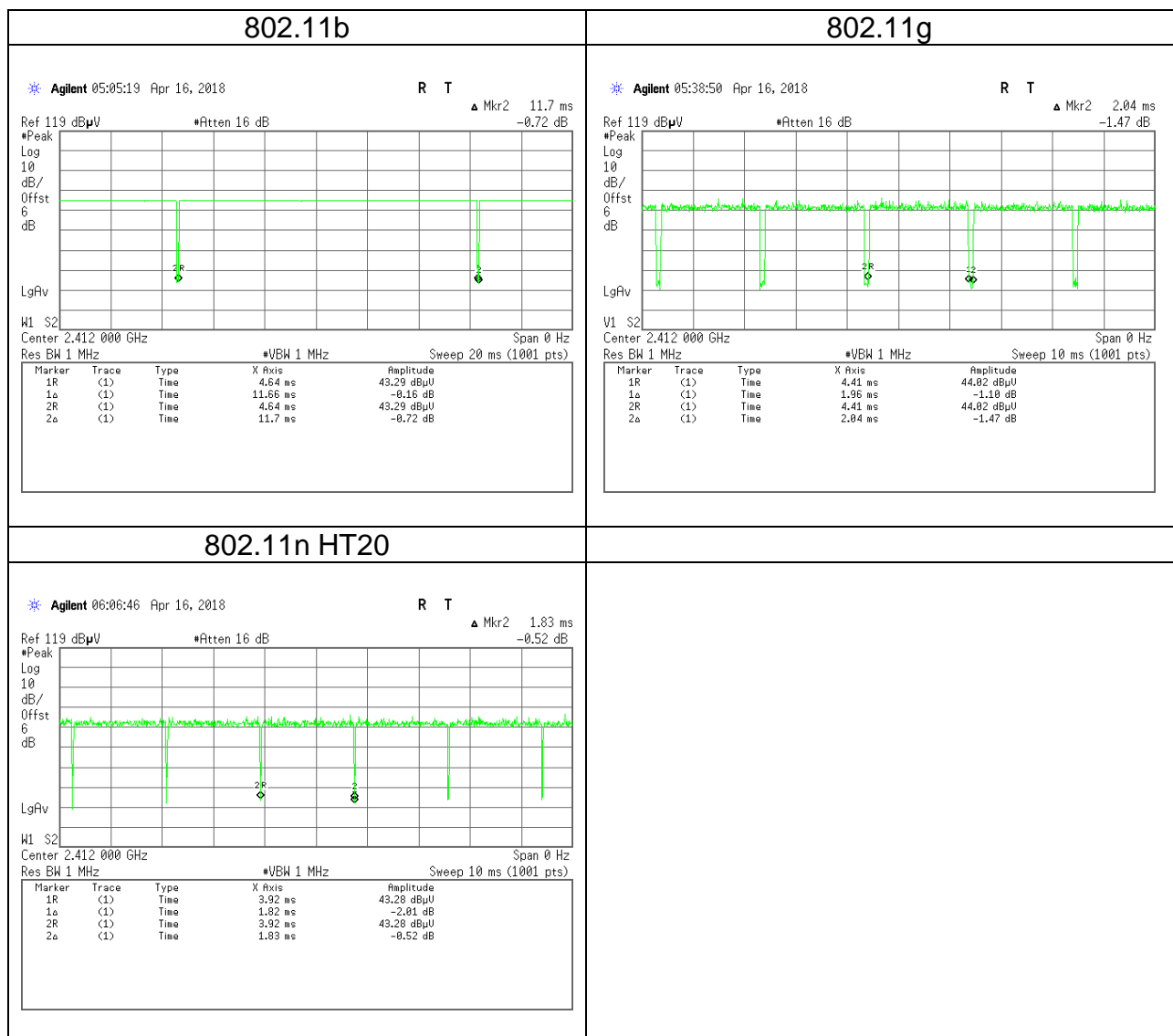
Radiated Emission Measurement Below 1G	
Test Condition	Radiated Emission Below 1G
Power supply Mode	Mode 1:EUT power by host system.
Worst Mode	<input checked="" type="checkbox"/> Mode 1 <input type="checkbox"/> Mode 2 <input type="checkbox"/> Mode 3 <input type="checkbox"/> Mode 4

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(X-Plane and Horizontal) were recorded in this report*
- 3. For below 1G radiation emission were performed the EUT transmit at the highest output power channel as worse case.*

4. EUT DUTY CYCLE

Duty Cycle				
Configuration	TX ON (ms)	TX ALL (ms)	Duty Cycle (%)	Duty Factor(dB)
802.11b	11.6600	11.7000	99.66%	-0.03
802.11g	1.9600	2.0400	96.08%	-0.35
802.11n HT20	1.8200	1.8300	99.45%	-0.05



5. TEST RESULT

5.1 AC POWER LINE CONDUCTED EMISSION

5.1.1 Test Limit

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

Frequency Range (MHz)	Limits(dBµV)	
	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

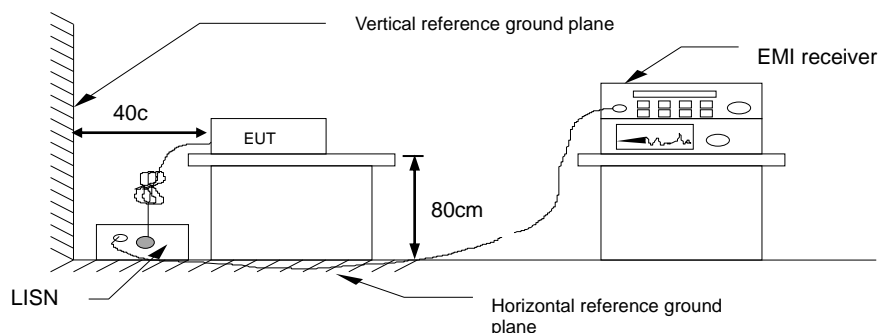
* Decreases with the logarithm of the frequency.

5.1.2 Test Procedure

Test method Refer as ANSI 63.10:2013 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.

5.1.3 Test Setup

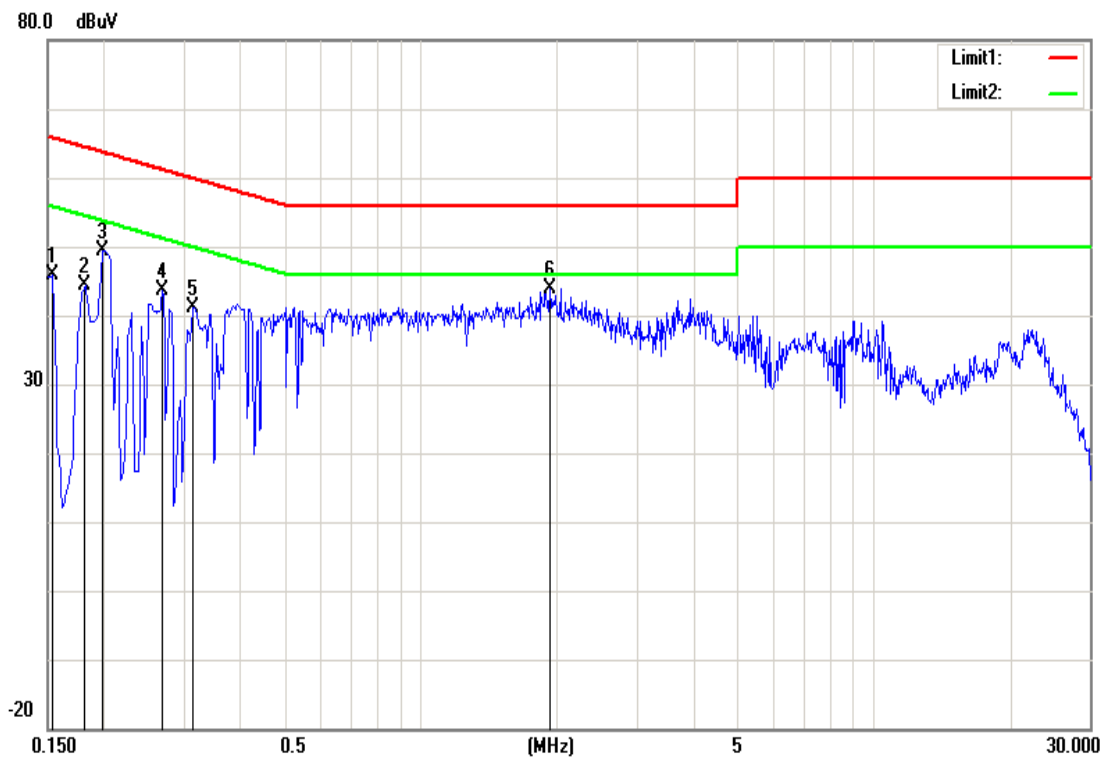


5.1.4 Test Result

Pass.

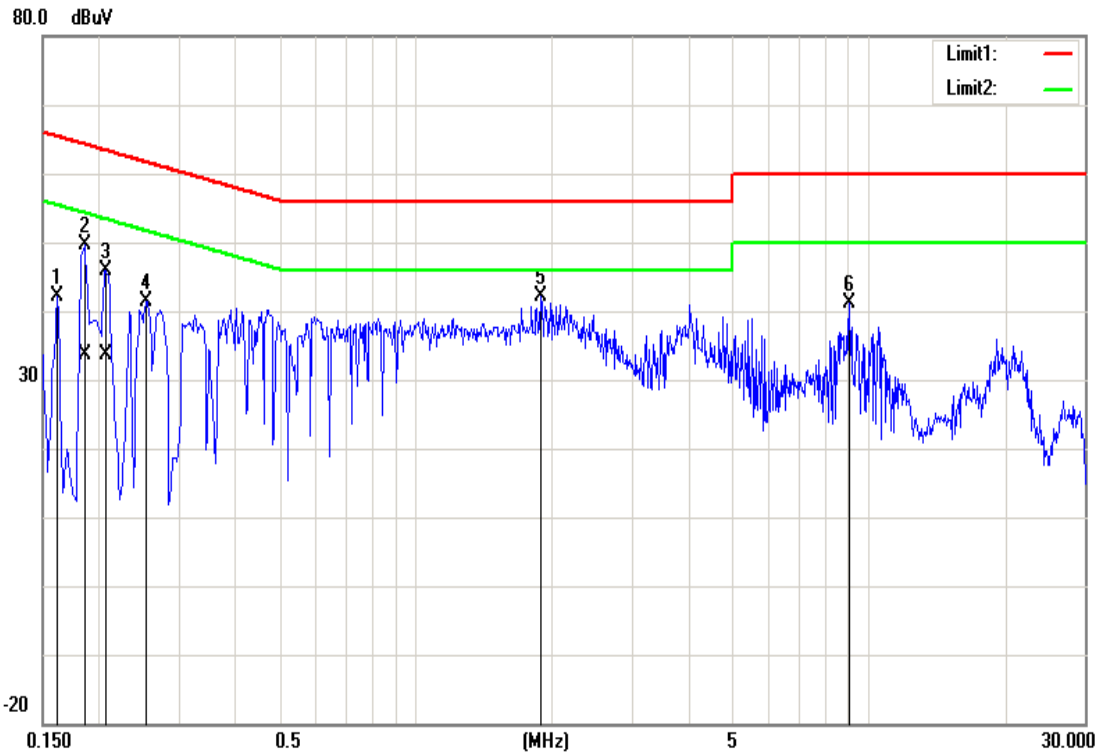
Test Data

Test Mode:	Mode 1	Temp/Hum	24(°C)/ 50%RH
Phase:	Line	Test Date	2018/07/26
		Test Engineer	Dally Hong



No.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1	0.1540	41.93	17.17	0.11	42.04	17.28	65.78	55.78	-23.74	-38.50	Pass
2	0.1820	45.91	26.35	0.11	46.02	26.46	64.39	54.39	-18.37	-27.93	Pass
3*	0.1980	47.15	33.79	0.11	47.26	33.90	63.69	53.69	-16.43	-19.79	Pass
4	0.2700	40.24	29.68	0.11	40.35	29.79	61.12	51.12	-20.77	-21.33	Pass
5	0.3140	38.33	26.94	0.12	38.45	27.06	59.86	49.86	-21.41	-22.80	Pass
6	1.9380	38.58	28.84	0.15	38.73	28.99	56.00	46.00	-17.27	-17.01	Pass

Test Mode:	Mode 1	Temp/Hum	24(°C)/ 50%RH
Phase:	Neutral	Test Date	2018/07/26
		Test Engineer	Dally Hong



No.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1	0.1620	39.43	13.46	0.14	39.57	13.60	65.36	55.36	-25.79	-41.76	Pass
2	0.1864	46.11	31.03	0.13	46.24	31.16	64.20	54.20	-17.96	-23.04	Pass
3	0.2072	43.01	26.99	0.13	43.14	27.12	63.32	53.32	-20.18	-26.20	Pass
4	0.2540	38.13	28.18	0.13	38.26	28.31	61.63	51.63	-23.37	-23.32	Pass
5	1.8900	37.29	26.51	0.16	37.45	26.67	56.00	46.00	-18.55	-19.33	Pass
6*	9.0700	38.09	32.44	0.28	38.37	32.72	60.00	50.00	-21.63	-17.28	Pass

5.2 6dB BANDWIDTH AND OCCUPIED BANDWIDTH(99%)

5.2.1 Test Limit

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

6 dB Bandwidth :

Limit	Shall be at least 500kHz
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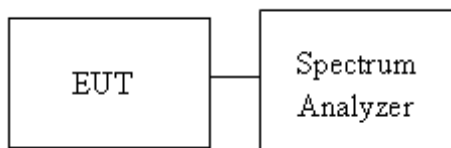
Occupied Bandwidth(99%) : For reporting purposes only.

5.2.2 Test Procedure

Test method Refer as KDB 558074 D01 V04, Section 8.1 and ANSI 63.10:2013 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 6dB Bandwidth
4. SA set RBW = 1% ~ 5% OBW, VBW = three times the RBW and Detector = Peak, to measurement 99% Bandwidth.
5. Measure and record the result of 6 dB Bandwidth and 99% Bandwidth. in the test report.

5.2.3 Test Setup



5.2.4 Test Result

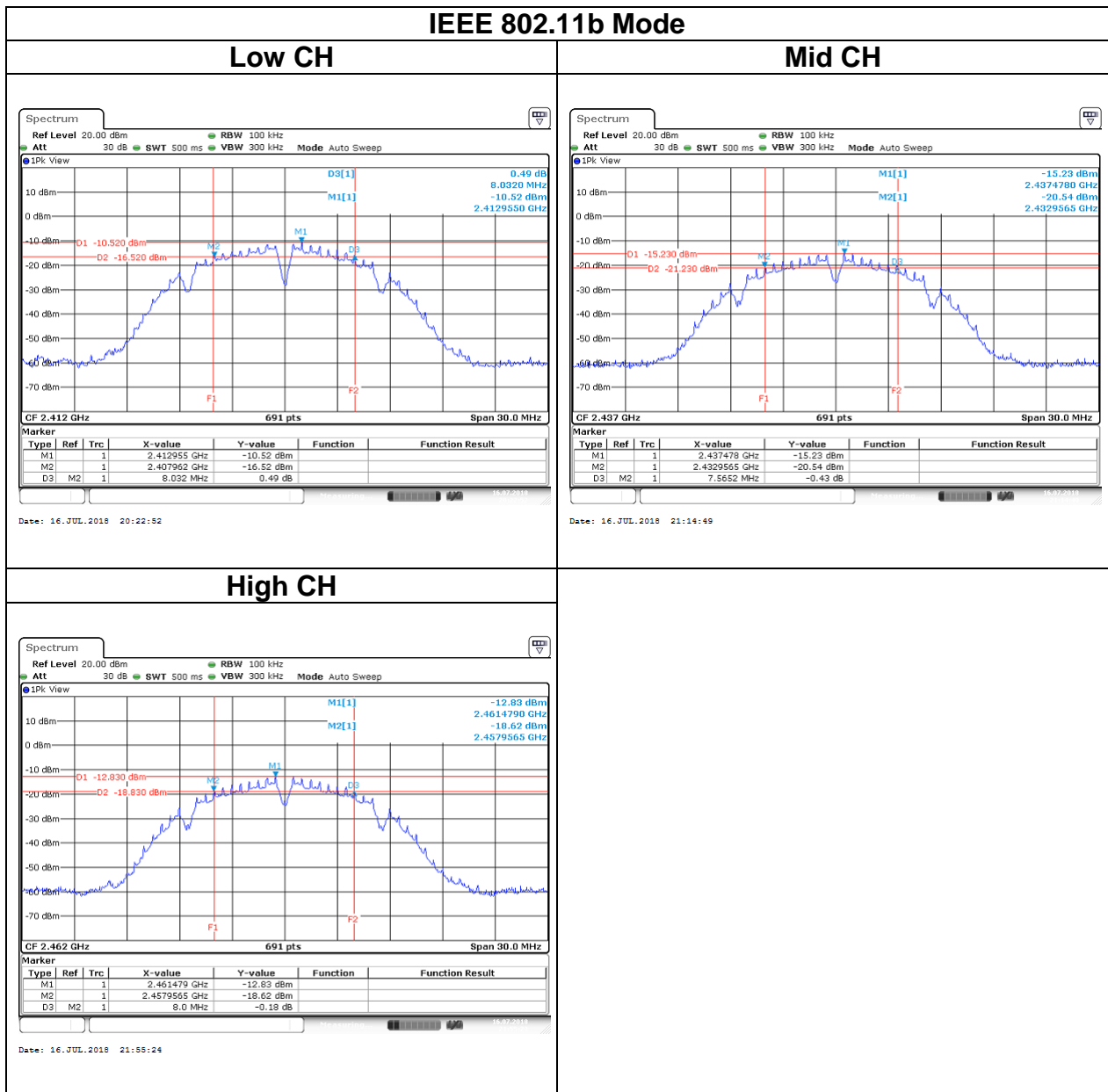
Test mode: IEEE 802.11b Mode / 2412-2462 MHz						
Channel	Frequency (MHz)	Chain 0 OBW(99%) (MHz)	Chain 1 OBW(99%) (MHz)	Chain 0 6dB BW (MHz)	Chain 1 6dB BW (MHz)	6dB limit (kHz)
Low	2412	12.4602	-	8.0320	-	≥500
Mid	2437	12.2865	-	7.5652	-	
High	2462	12.2431	-	8.0000	-	

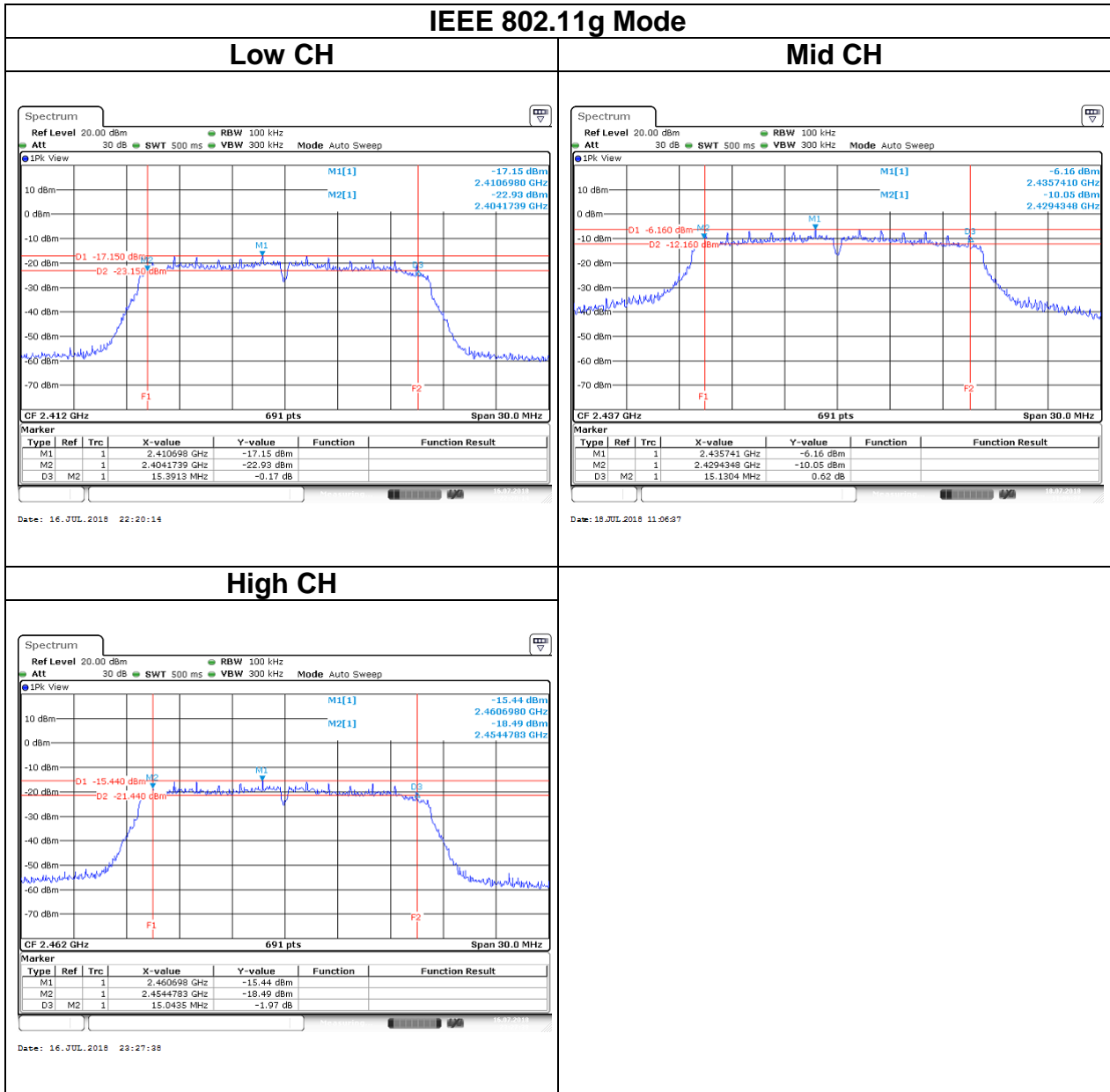
Test mode: IEEE 802.11g Mode / 2412-2462 MHz						
Channel	Frequency (MHz)	Chain 0 OBW(99%) (MHz)	Chain 1 OBW(99%) (MHz)	Chain 0 6dB BW (MHz)	Chain 1 6dB BW (MHz)	6dB limit (kHz)
Low	2412	16.2807	-	15.3913	-	≥500
Mid	2437	16.5846	-	15.1304	-	
High	2462	16.3241	-	15.0435	-	

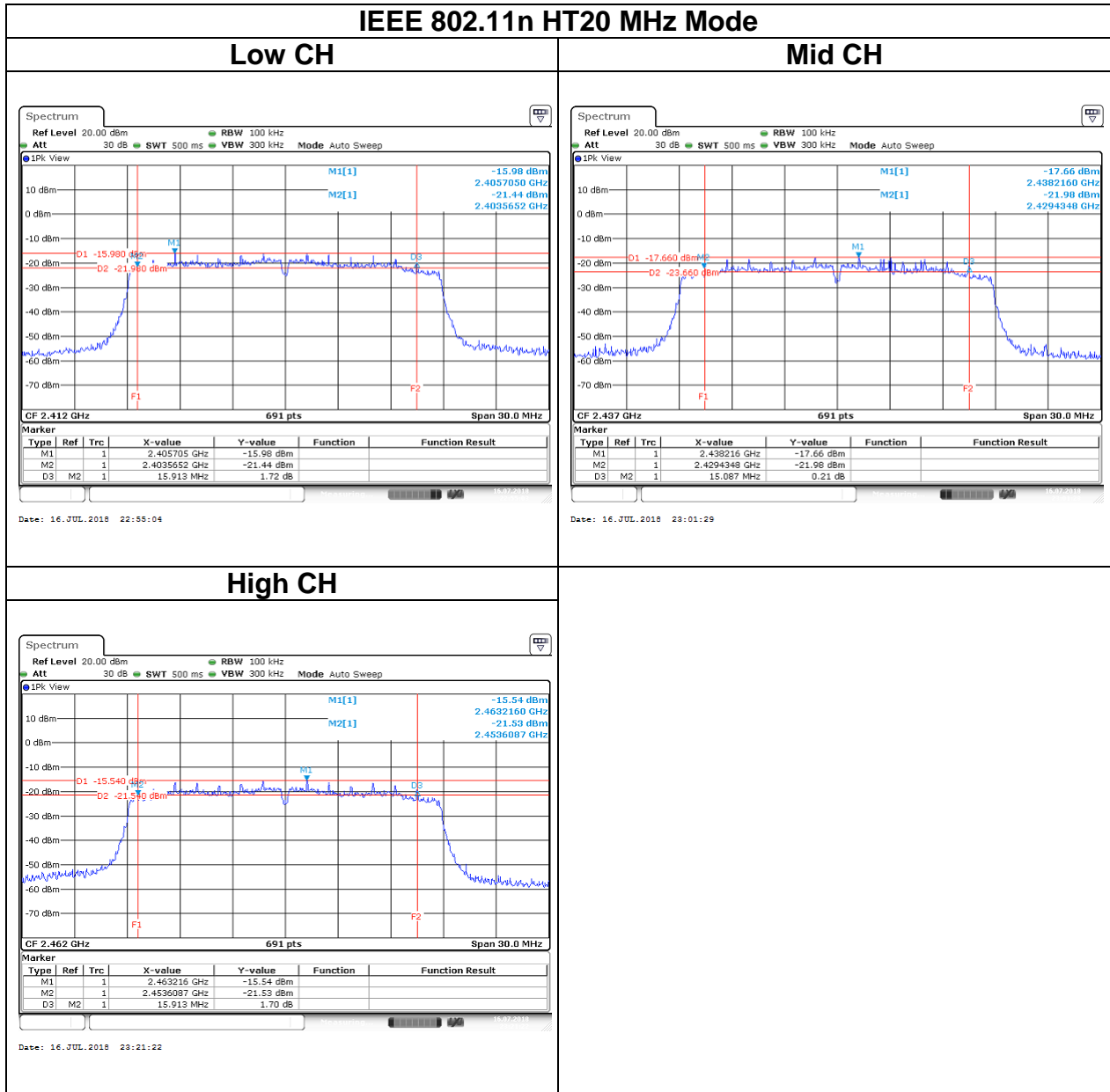
Test mode: IEEE 802.11n 20 MHz Mode / 2412-2462 MHz						
Channel	Frequency (MHz)	Chain 0 OBW(99%) (MHz)	Chain 1 OBW(99%) (MHz)	Chain 0 6dB BW (MHz)	Chain 1 6dB BW (MHz)	6dB limit (kHz)
Low	2412	17.4095	-	15.913	-	≥500
Mid	2437	17.4529	-	15.087	-	
High	2462	17.4095	-	15.913	-	

Test Data

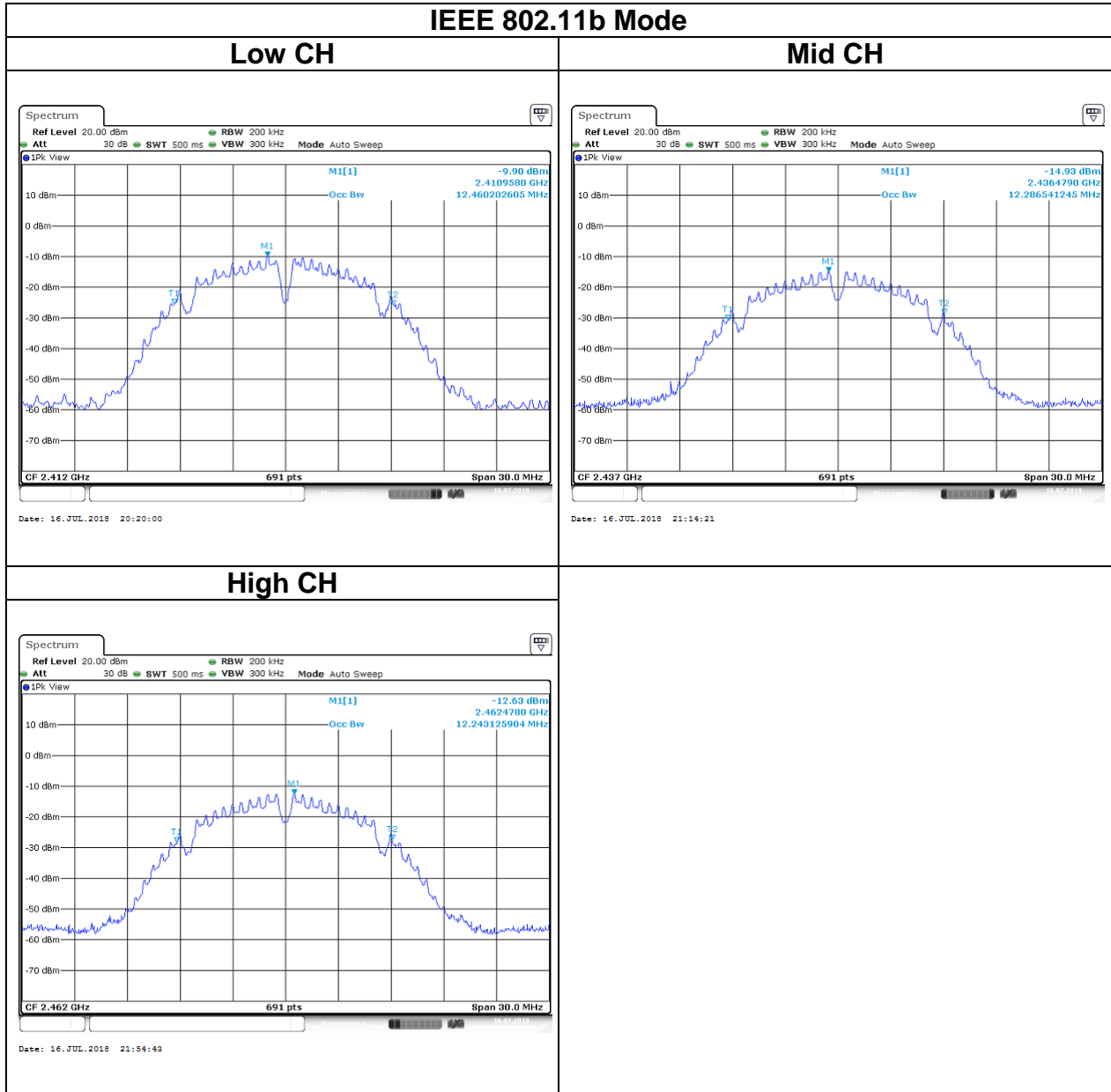
6dB Bandwidth

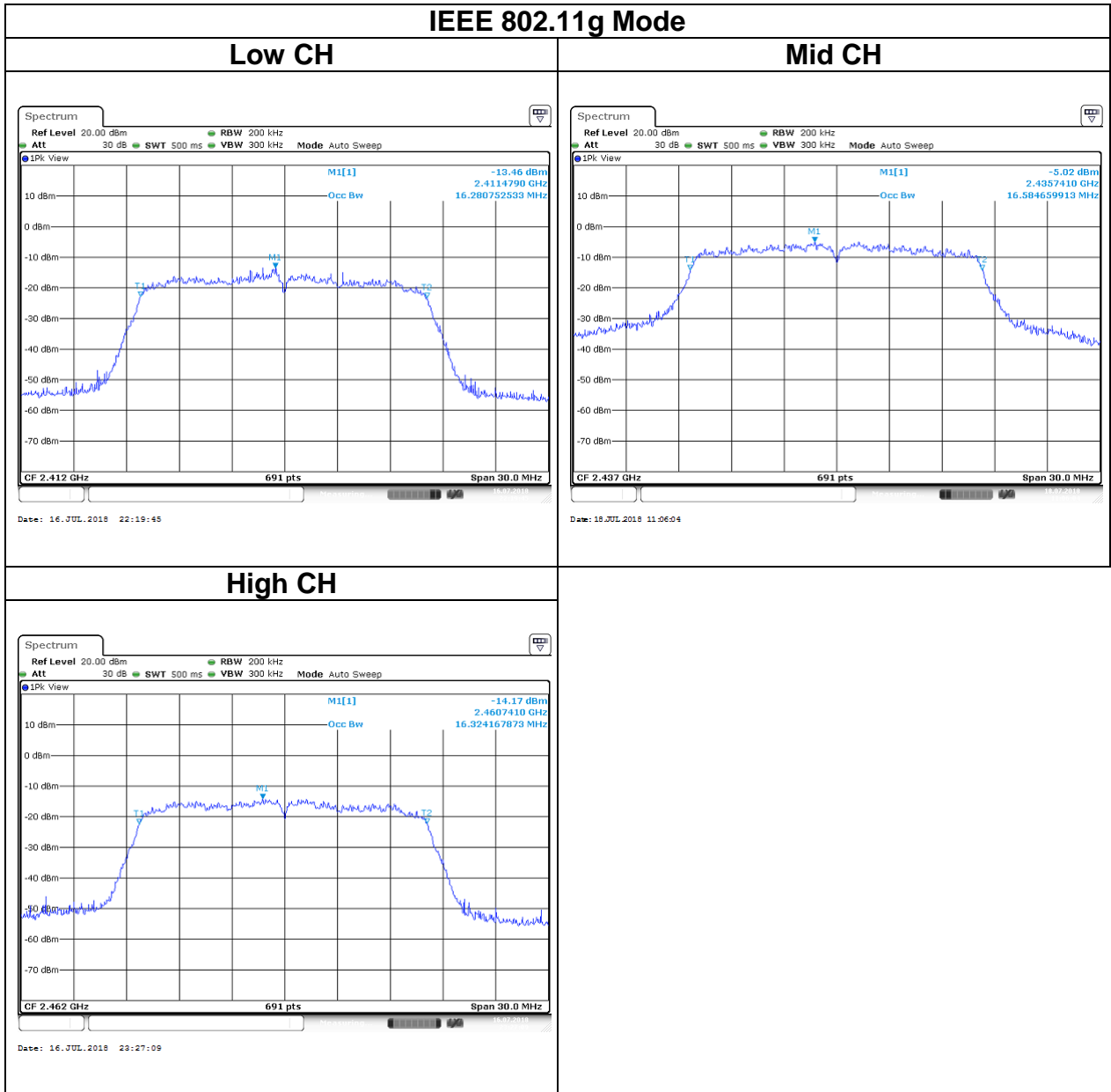


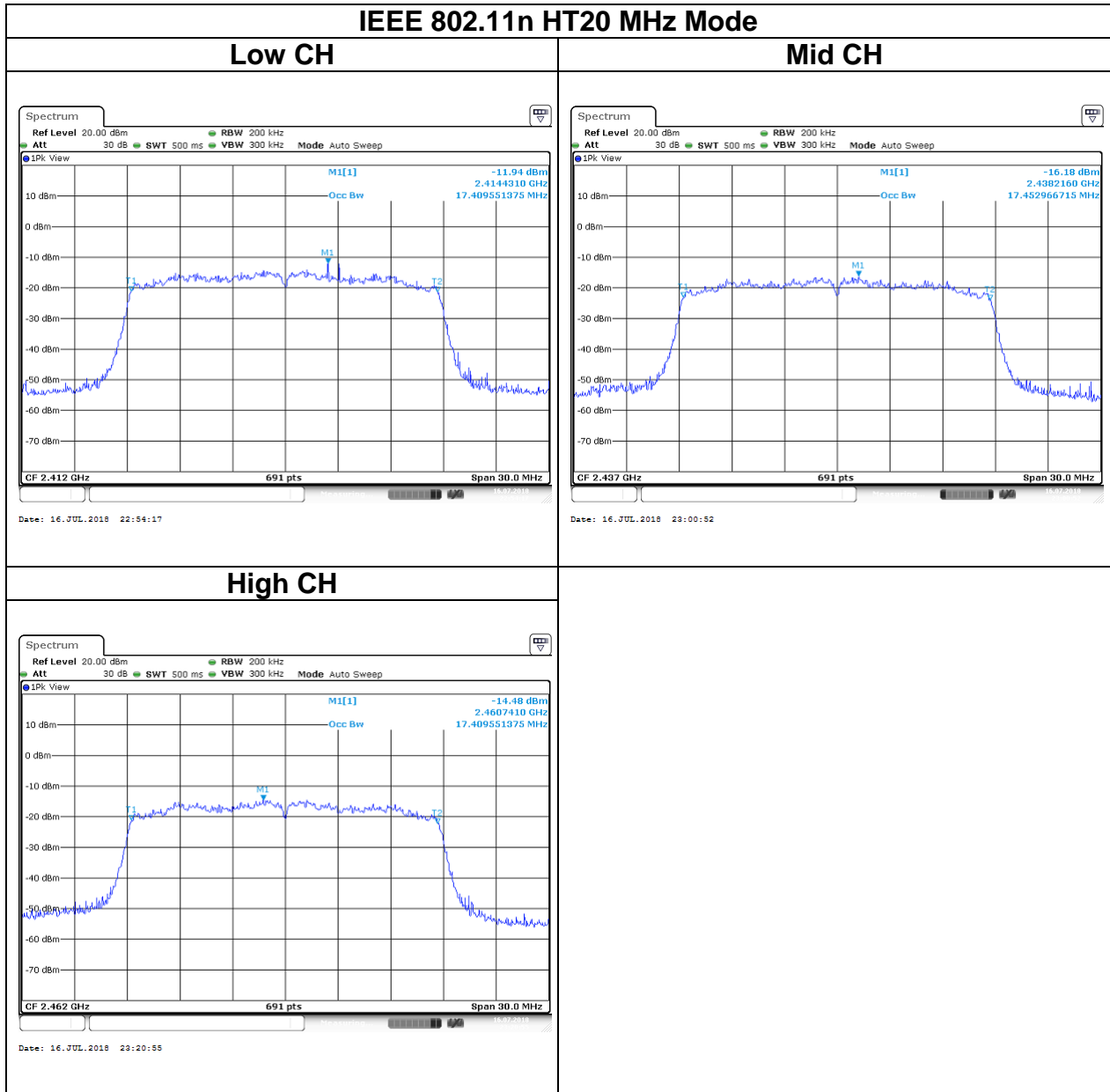




99%OBW







5.3 OUTPUT POWER MEASUREMENT

5.3.1 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 :
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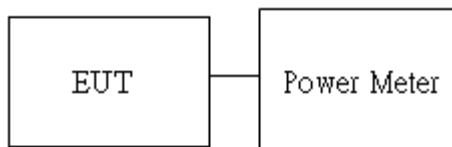
Average output power : For reporting purposes only.

5.3.2 Test Procedure

Test method Refer as KDB 558074 D01 V04, 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.

5.3.3 Test Setup



5.3.4 Test Result

Peak output power :

Wifi 2.4G										
Config	CH	Freq. (MHz)	power set	PK Power (dBm)	PK Power (W)	EIRP PK Power (dBm)	EIRP PK Power (W)	DG (dBi)	Limit (dBm)	EIRP Limit (dBm)
IEEE 802.11b Mode Data rate: 1Mbps	Low	2412	40	10.03	0.0101	12.03	0.0160	2	30	36
	Mid	2437	42	10.59	0.0115	12.59	0.0182			
	High	2462	42	10.35	0.0108	12.35	0.0172			
IEEE 802.11g Mode Data rate: 6Mbps	Low	2412	38	17.05	0.0507	19.05	0.0804			
	Mid	2437	40	17.45	0.0556	19.45	0.0881			
	High	2462	42	17.21	0.0526	19.21	0.0834			
IEEE 802.11n HT20 MHz Mode Data rate: MCS0	Low	2412	40	17.14	0.0518	19.14	0.0820			
	Mid	2437	42	17.76	0.0597	19.76	0.0946			
	High	2462	42	17.12	0.0515	19.12	0.0817			

Average output power :

Wifi 2.4G					
Config	CH	Freq. (MHz)	AV Power(dBm)		AV Total Power (dBm)
			chain0	chain1	
IEEE 802.11b Mode Data rate: 1Mbps	Low	2412	6.74	-	6.74
	Mid	2437	7.42	-	7.42
	High	2462	7.44	-	7.44
IEEE 802.11g Mode Data rate: 6Mbps	Low	2412	6.62	-	6.62
	Mid	2437	7.58	-	7.58
	High	2462	7.73	-	7.73
IEEE 802.11n HT20 MHz Mode Data rate: MCS0	Low	2412	6.67	-	6.67
	Mid	2437	7.57	-	7.57
	High	2462	7.45	-	7.45

5.4 POWER SPECTRAL DENSITY

5.4.1 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.

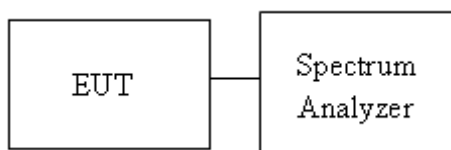
Limit	<input checked="" type="checkbox"/> Antenna not exceed 6 dBi : 8dBm <input type="checkbox"/> Antenna with DG greater than 6 dBi : [Limit = 8 – (DG – 6)] <input type="checkbox"/> Point-to-point operation :
-------	---

5.4.2 Test Procedure

Test method Refer as KDB 558074 D01 V04, 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.

5.4.3 Test Setup



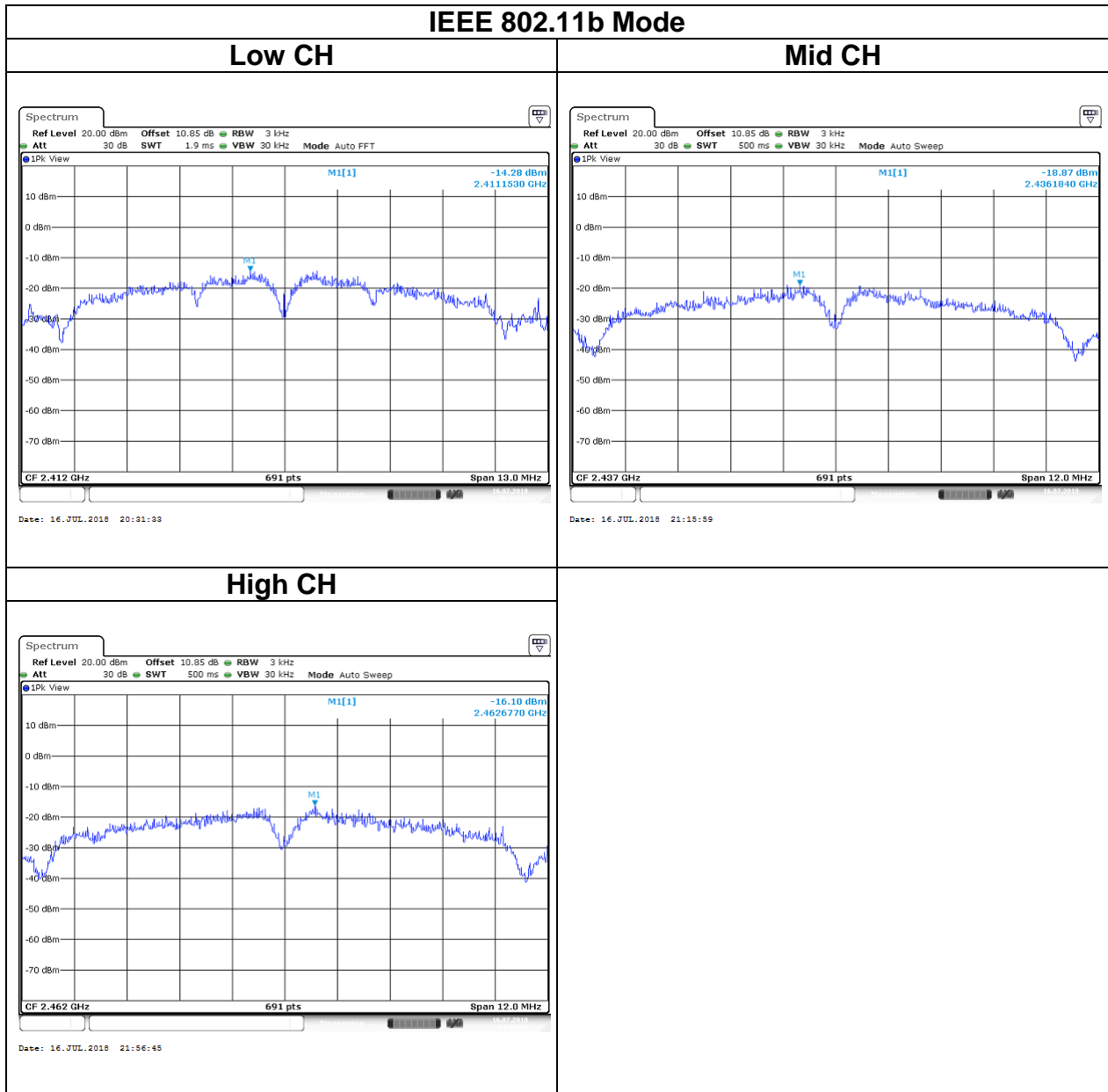
5.4.4 Test Result

Test mode: IEEE 802.11b Mode / 2412-2462 MHz			
Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)
Low	2412	-14.28	8
Mid	2437	-18.87	
High	2462	-16.10	

Test mode: IEEE 802.11g Mode / 2412-2462 MHz			
Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)
Low	2412	-20.42	8
Mid	2437	-18.58	
High	2462	-18.97	

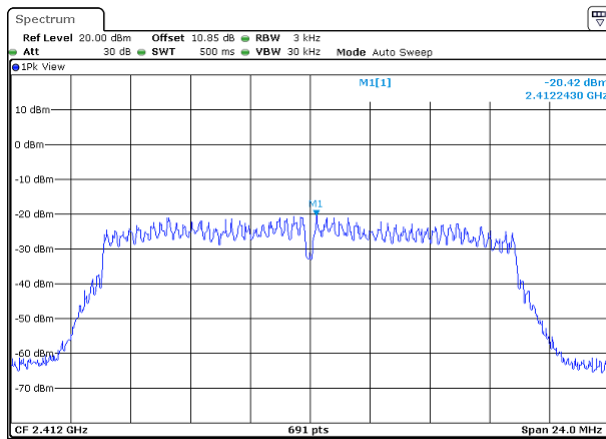
Test mode: IEEE 802.11n HT 20 MHz Mode / 2412-2462 MHz			
Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)
Low	2412	-19.39	8
Mid	2437	-21.39	
High	2462	-18.91	

Test Data



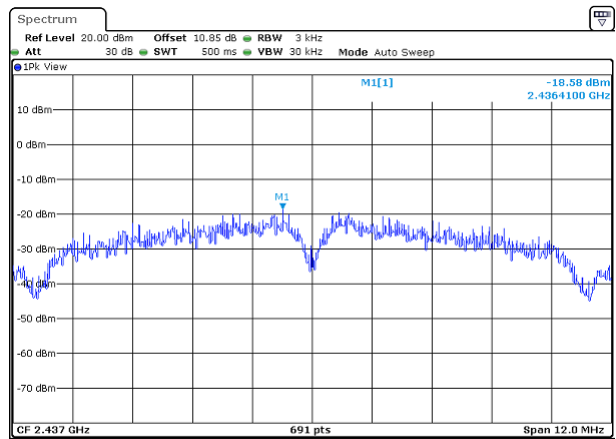
IEEE 802.11g Mode

Low CH



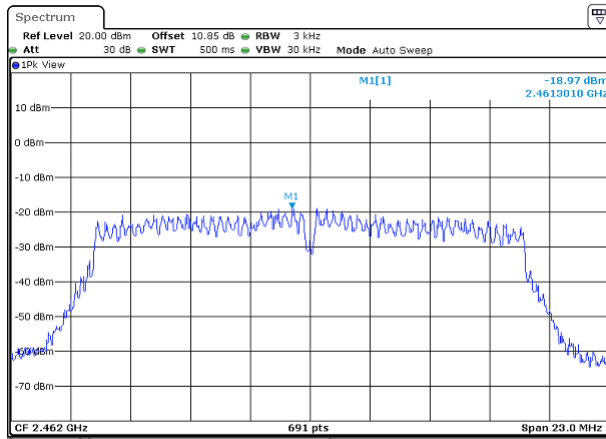
Date: 16.JUL.2018 22:21:55

Mid CH

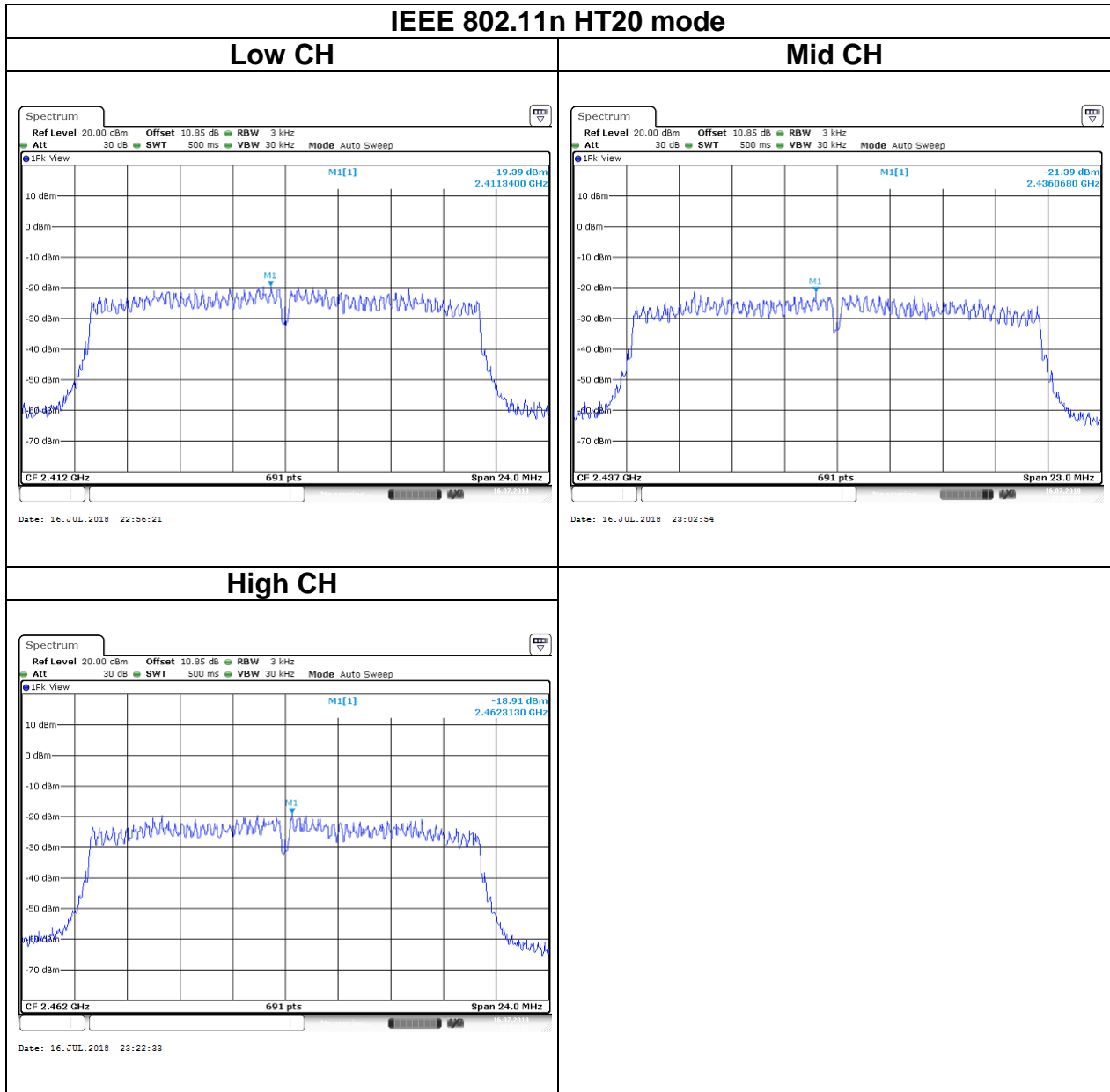


Date: 16.JUL.2018 22:31:54

High CH



Date: 16.JUL.2018 23:28:51



5.5 CONDUCTED BANDEDGE AND SPURIOUS EMISSION

5.5.1 Test Limit

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

In any 100 kHz bandwidth outside the authorized frequency band,

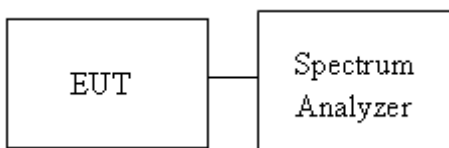
Non-restricted bands shall be attenuated at least 20 dB/30 dB relative to the maximum PSD level in 100 kHz by RF conducted or a radiated measurement which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a).

5.5.2 Test Procedure

Test method Refer as KDB 558074 D01 V04, Section 11.

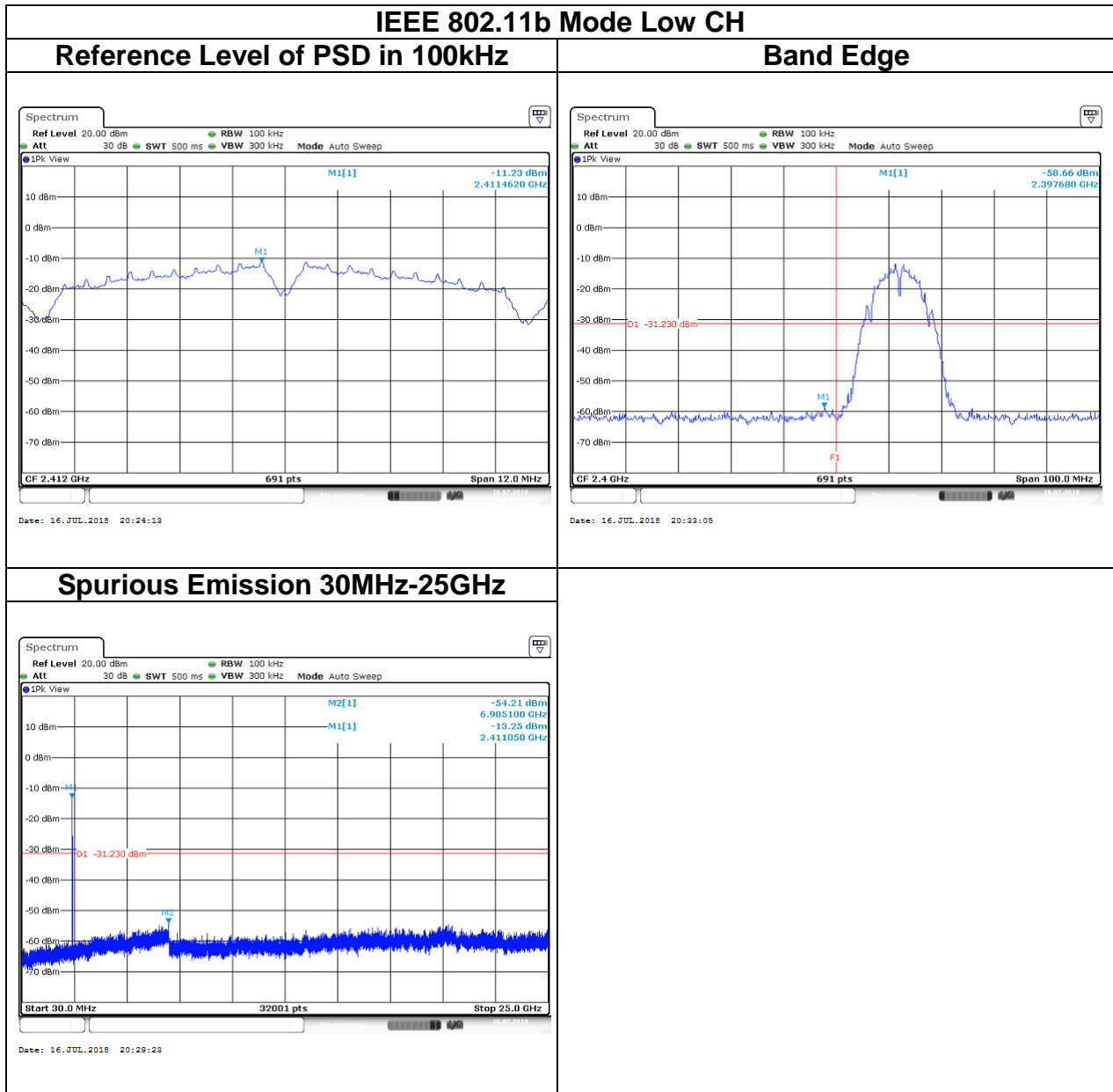
1. EUT RF output port connected to the SA by RF cable, and the path loss was compensated to result.
2. SA setting, RBW=100kHz, VBW=300kHz, Detector=Peak, Trace mode = max hold, SWT = Auto.
3. In any 100 kHz bandwidth outside the authorized frequency band, shall be attenuated at least 20 dB relative to 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.

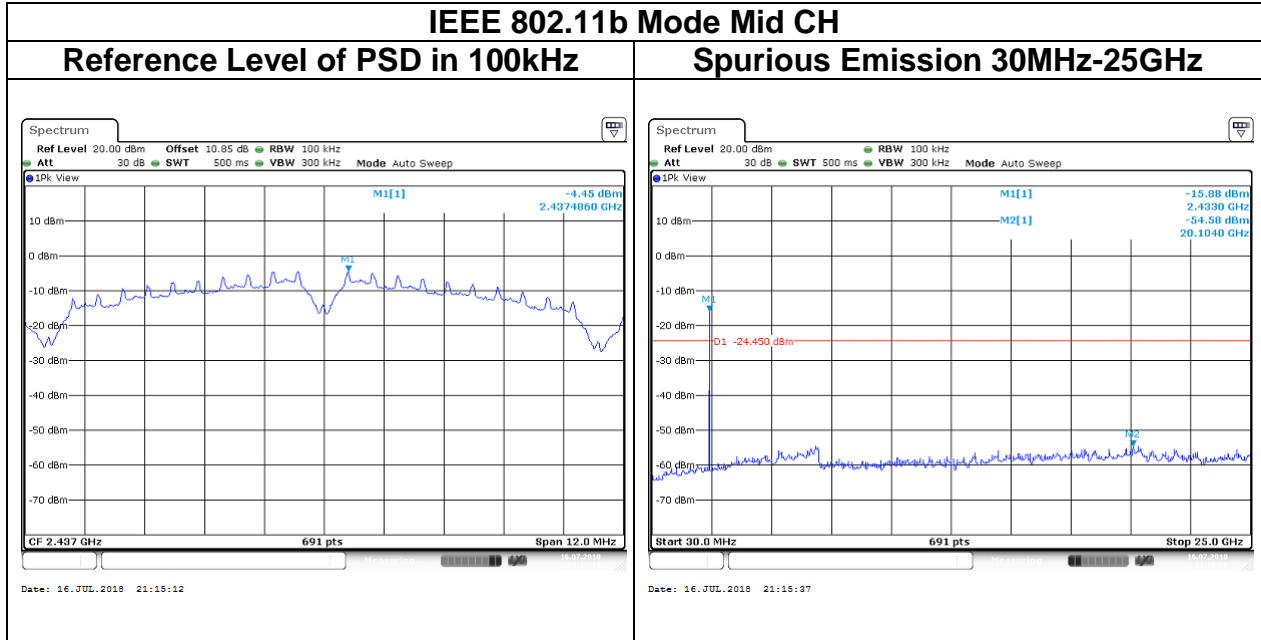
5.5.3 Test Setup



5.5.4 Test Result

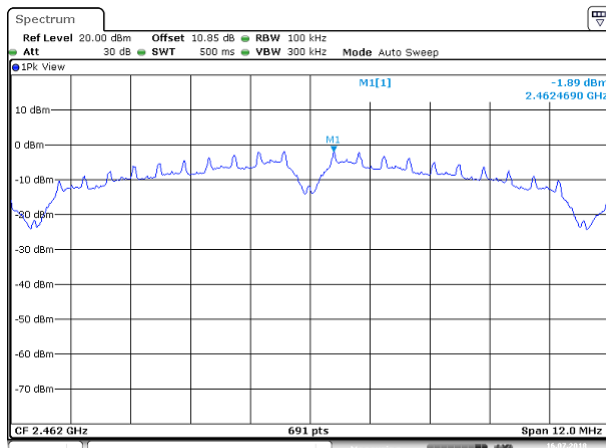
Test Data





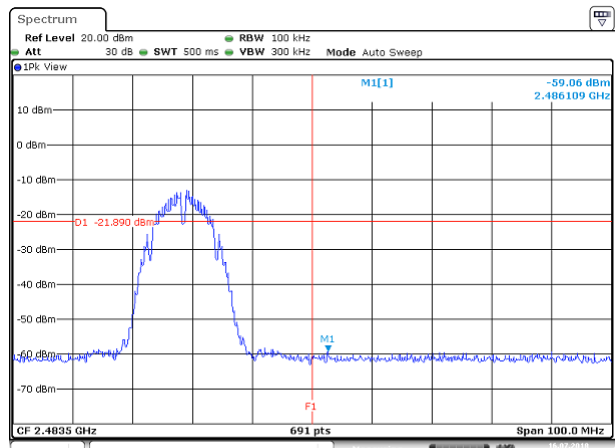
IEEE 802.11b Mode High CH

Reference Level of PSD in 100kHz



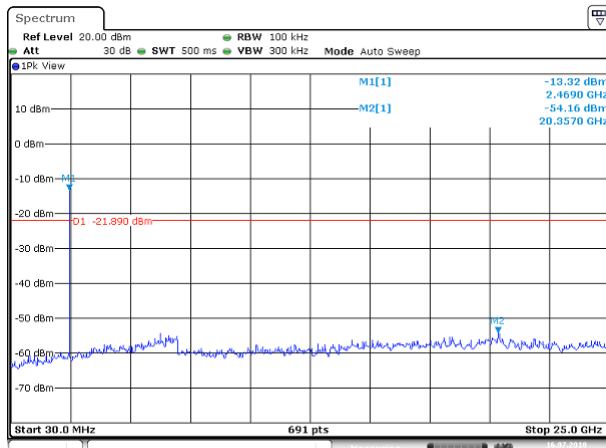
Date: 16.JUL.2018 21:55:52

Band Edge



Date: 16.JUL.2018 21:57:11

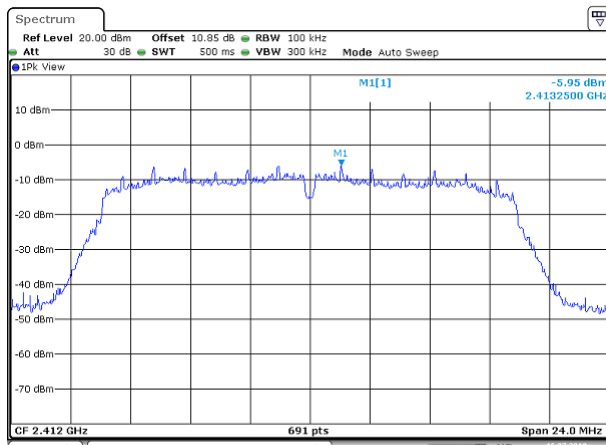
Spurious Emission 30MHz-25GHz



Date: 16.JUL.2018 21:56:20

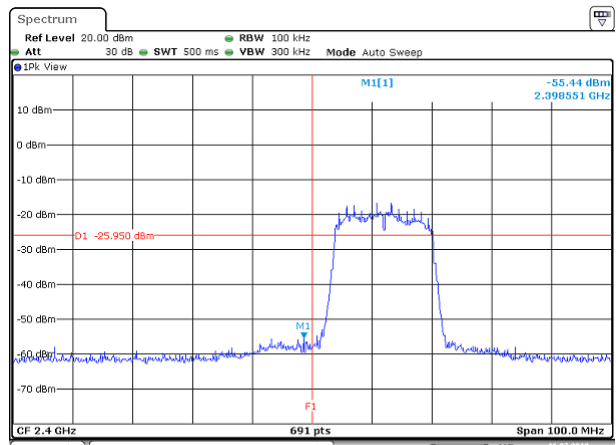
IEEE 802.11g Mode Low CH

Reference Level of PSD in 100kHz



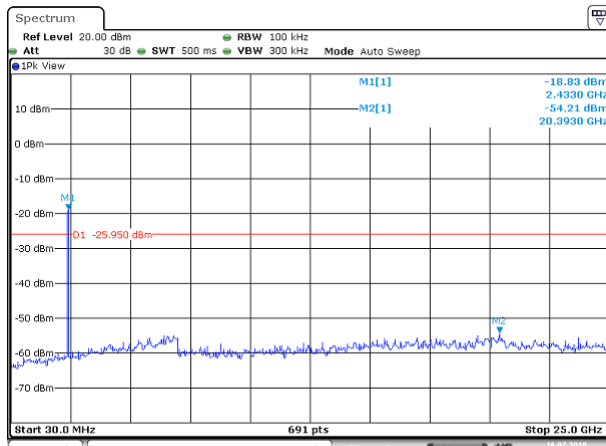
Date: 16.JUL.2018 22:20:40

Band Edge

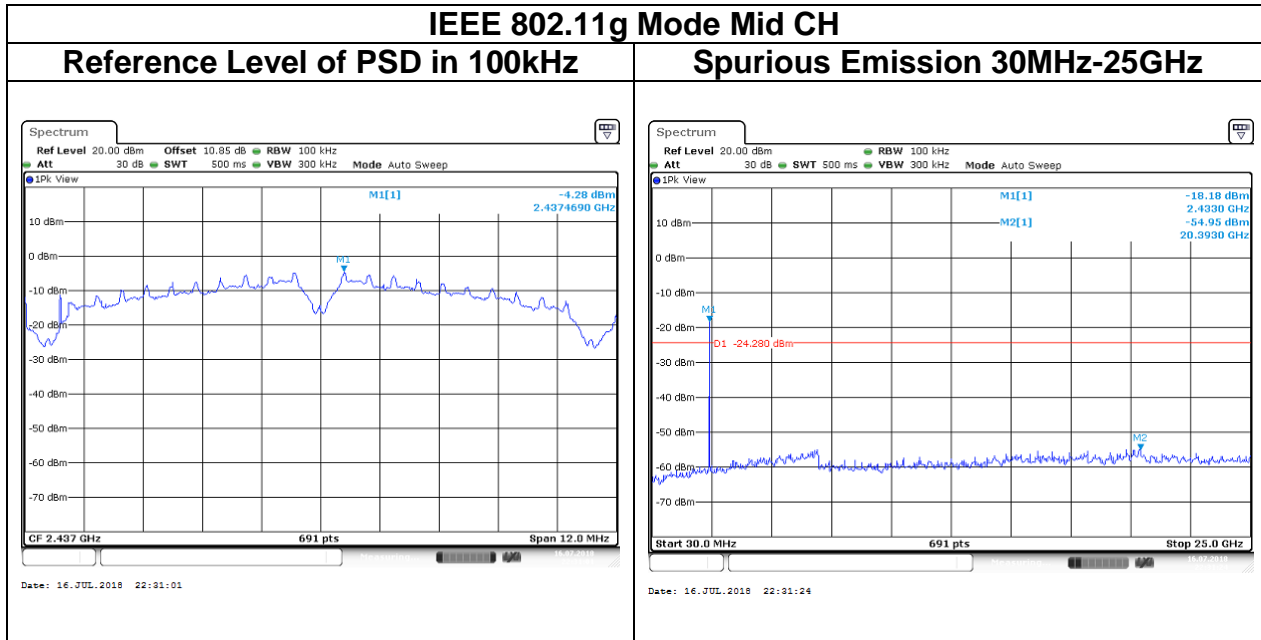


Date: 16.JUL.2018 22:22:01

Spurious Emission 30MHz-25GHz

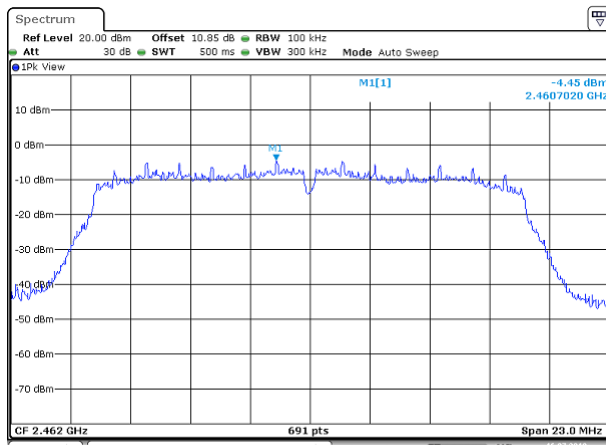


Date: 16.JUL.2018 22:21:09



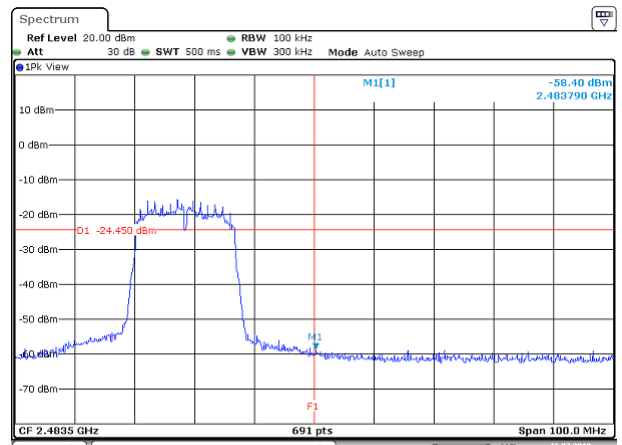
IEEE 802.11g Mode High CH

Reference Level of PSD in 100kHz



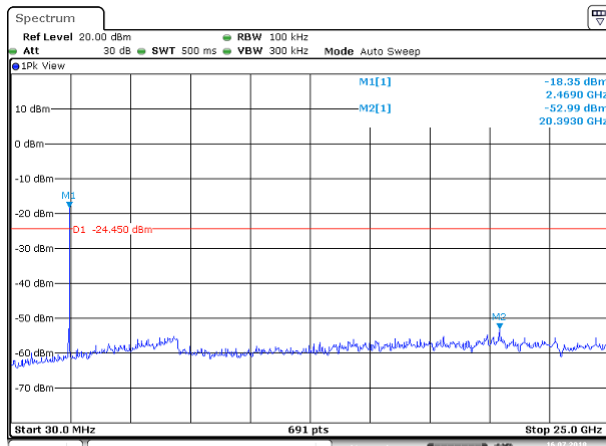
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Band Edge

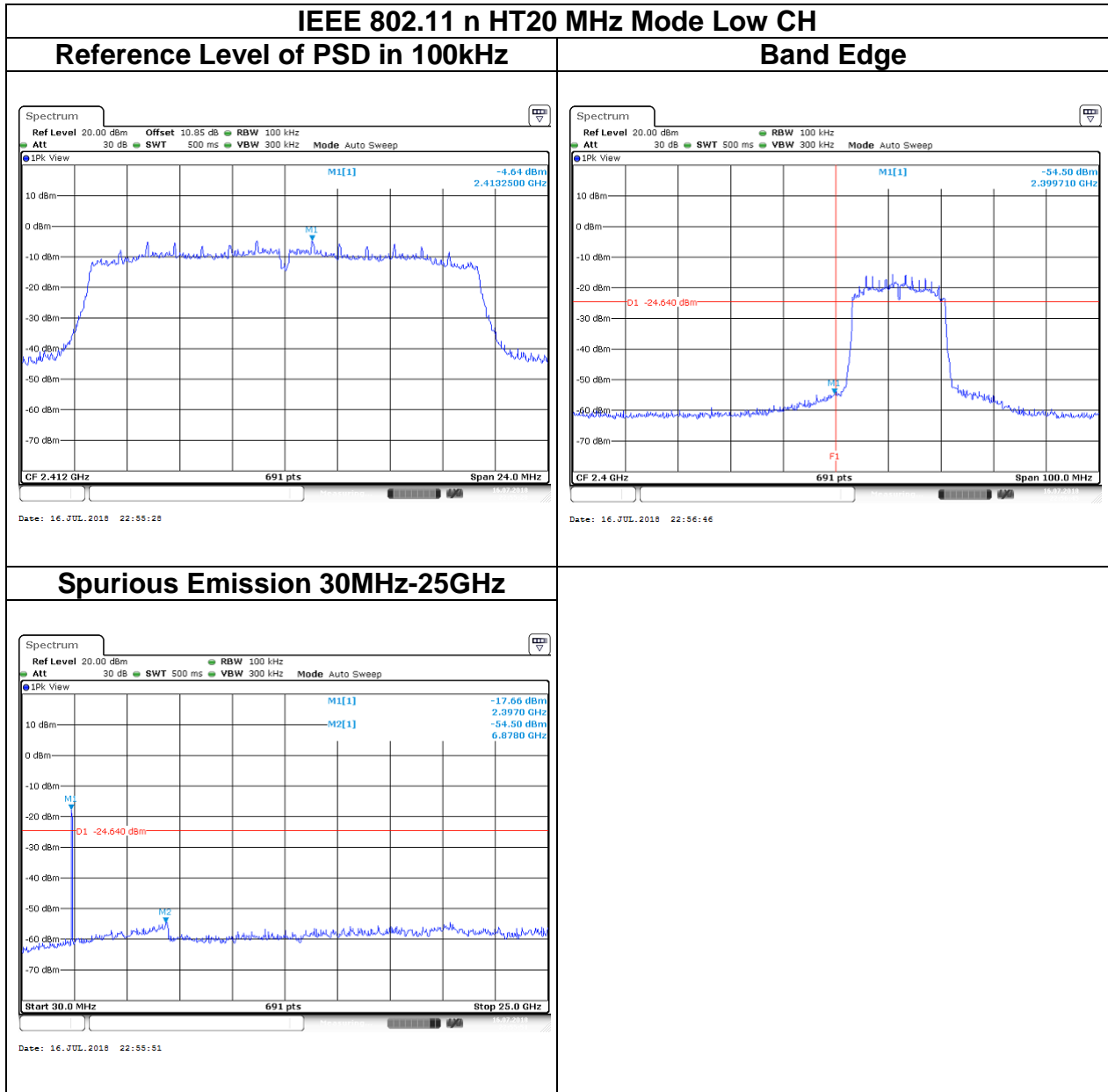


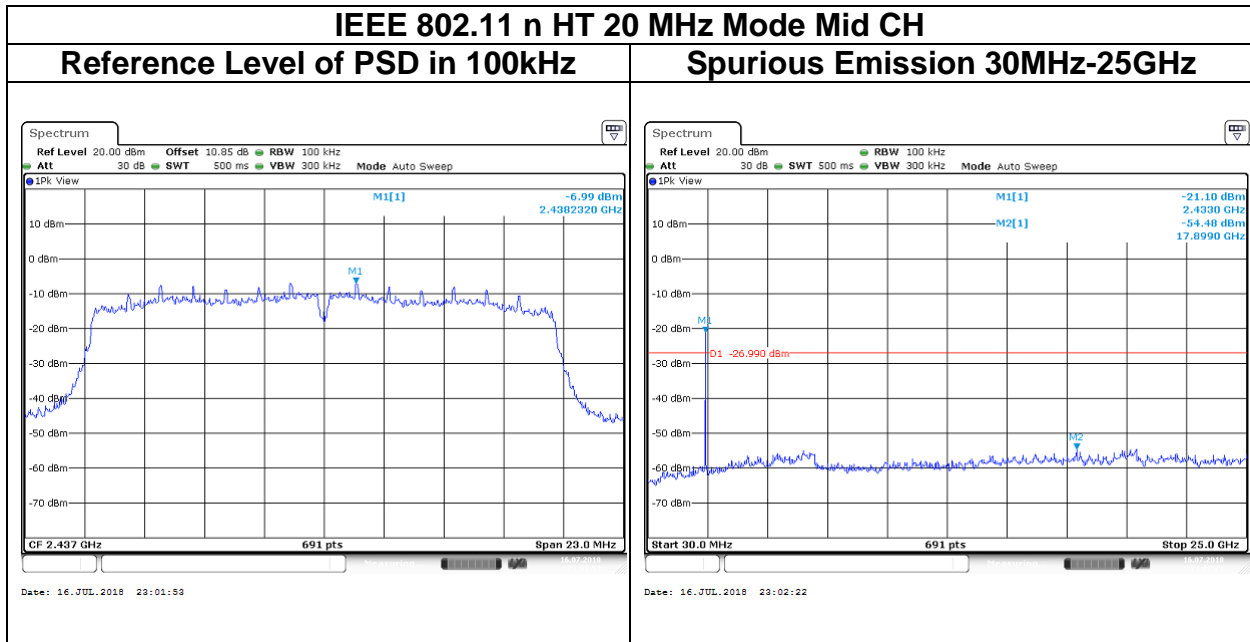
Date: 16.JUL.2018 23:29:37

Spurious Emission 30MHz-25GHz



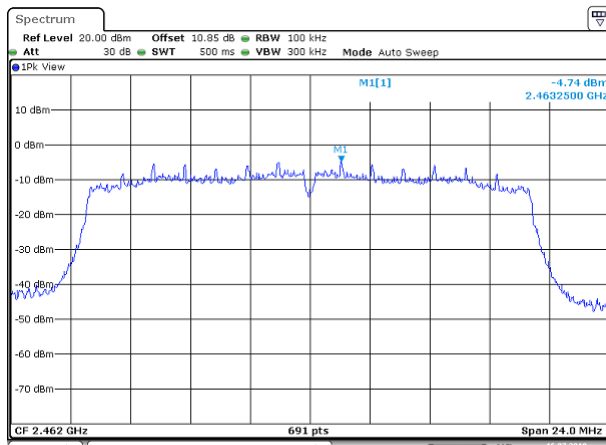
Date: 16.JUL.2018 23:28:28





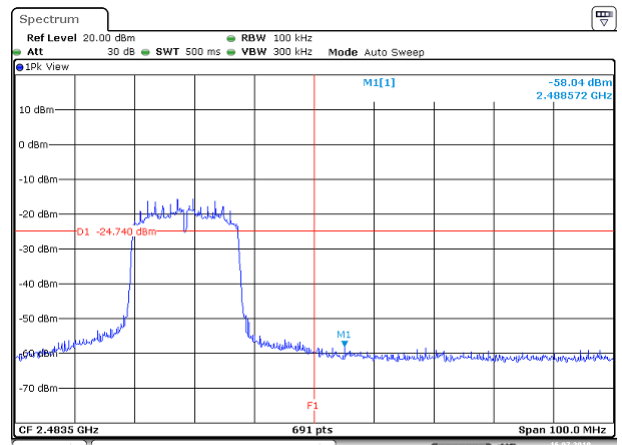
IEEE 802.11n HT 20 MHz Mode High CH

Reference Level of PSD in 100kHz



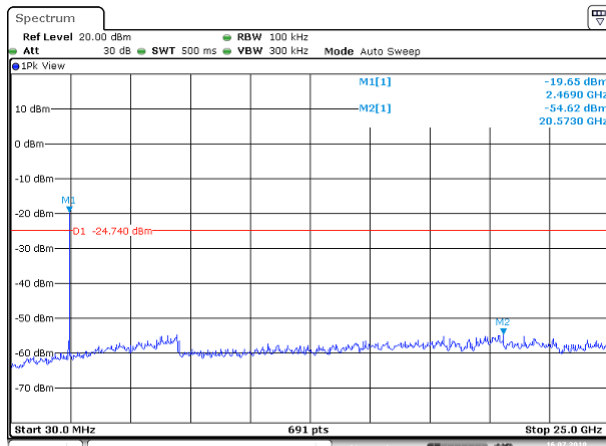
Date: 16.JUL.2018 23:21:46

Band Edge



Date: 16.JUL.2018 23:22:58

Spurious Emission 30MHz-25GHz



Date: 16.JUL.2018 23:22:09

5.6 RADIATION BANDEDGE AND SPURIOUS EMISSION

5.6.1 Test Limit

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

IC according to RSS-247 section 5.5, RSS-Gen, Section 8.9 and 8.10

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

5.6.2 Test Procedure

Test method Refer as KDB 558074 D01 V04, Section 12.1.

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, 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 937606.

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

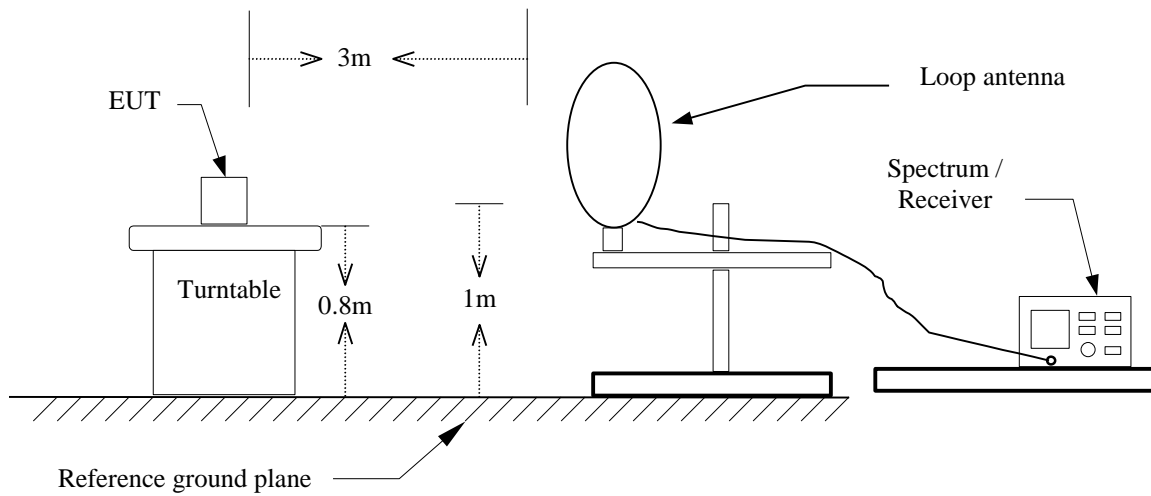
·If Duty Cycle \geq 98%, VBW=10Hz.

·If Duty Cycle < 98%, VBW=1/T.

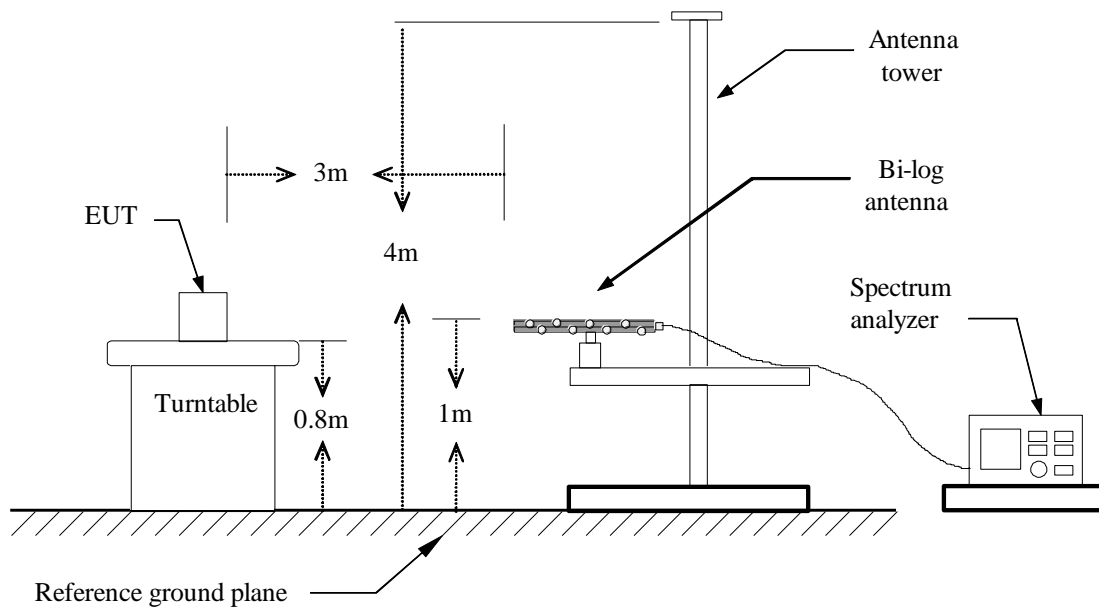
Configuration	Duty Cycle (%)	T(ms)	1/T (kHz)	VBW Setting
802.11b	99.66%	11.6600	-	10Hz
802.11g	96.08%	1.9600	0.510	560Hz
802.11n HT20	99.45%	1.8200	-	10Hz

5.6.3 Test Setup

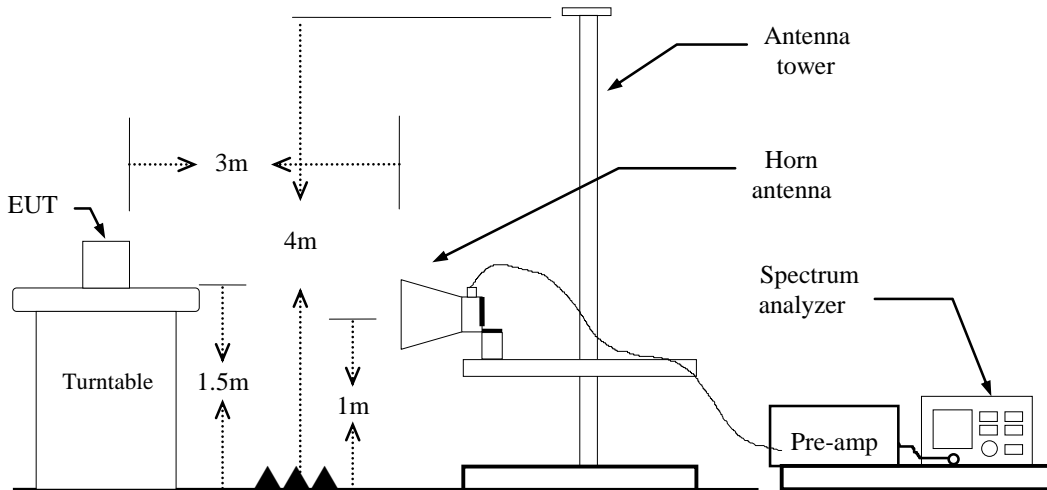
9kHz ~ 30MHz



30MHz ~ 1GHz



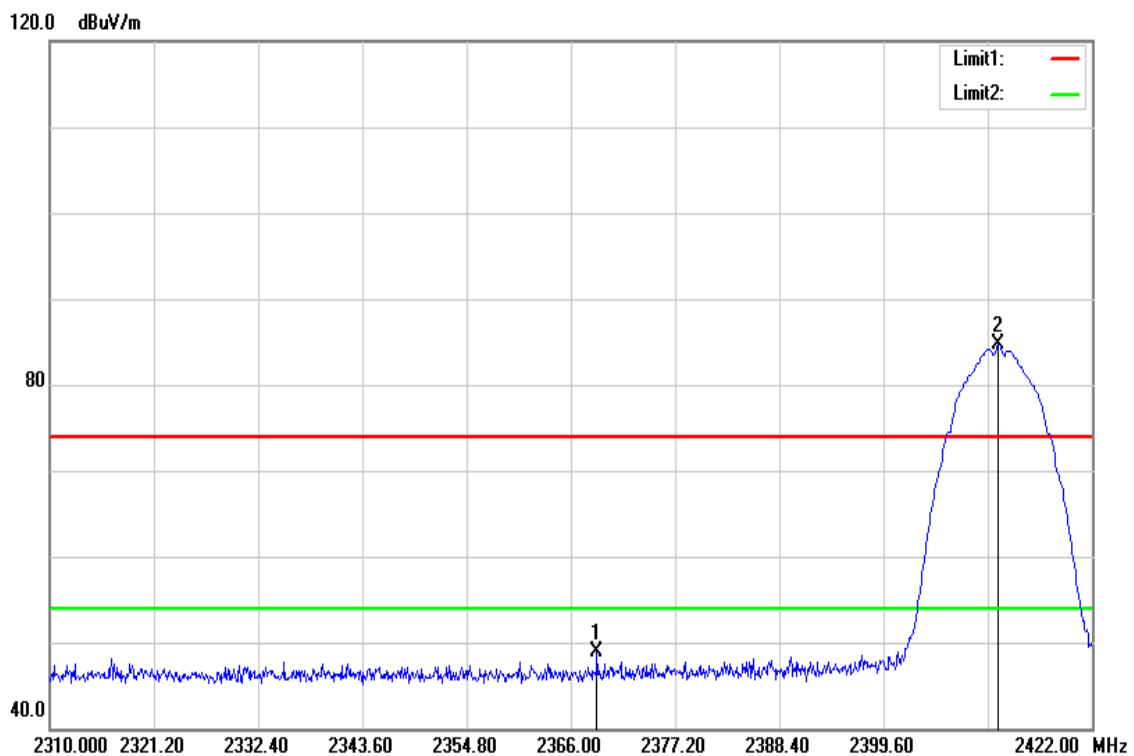
Above 1 GHz



5.6.4 Test Result

Band Edge Test Data

Test Mode	IEEE 802.11b Low CH	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	July 19, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2368.800	51.88	-3.05	48.83	74.00	-25.17	peak
2411.920	87.58	-2.92	84.66	-	-	peak

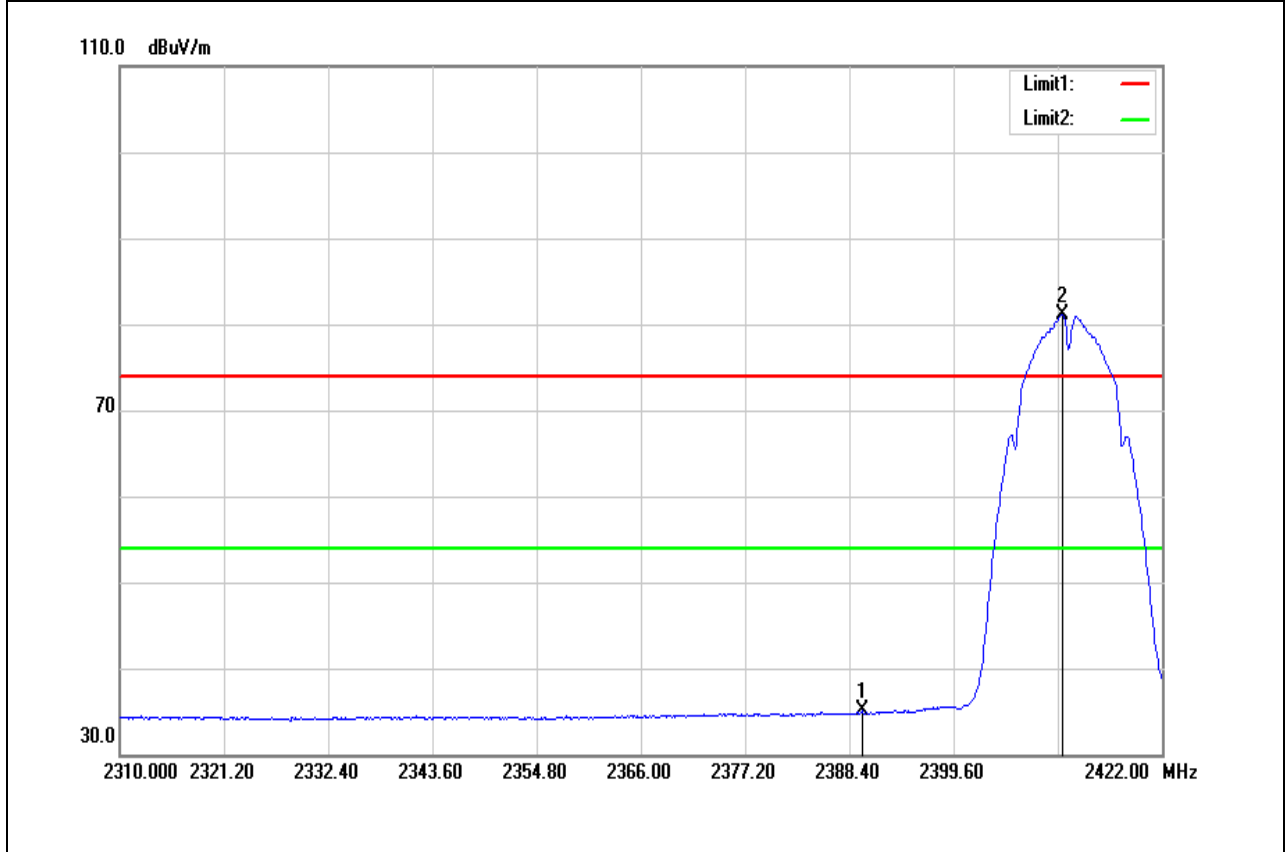


FCC ID: 2AQK3-180-08
 Report No.: T180626L01-RP

ISED: 24106-18008

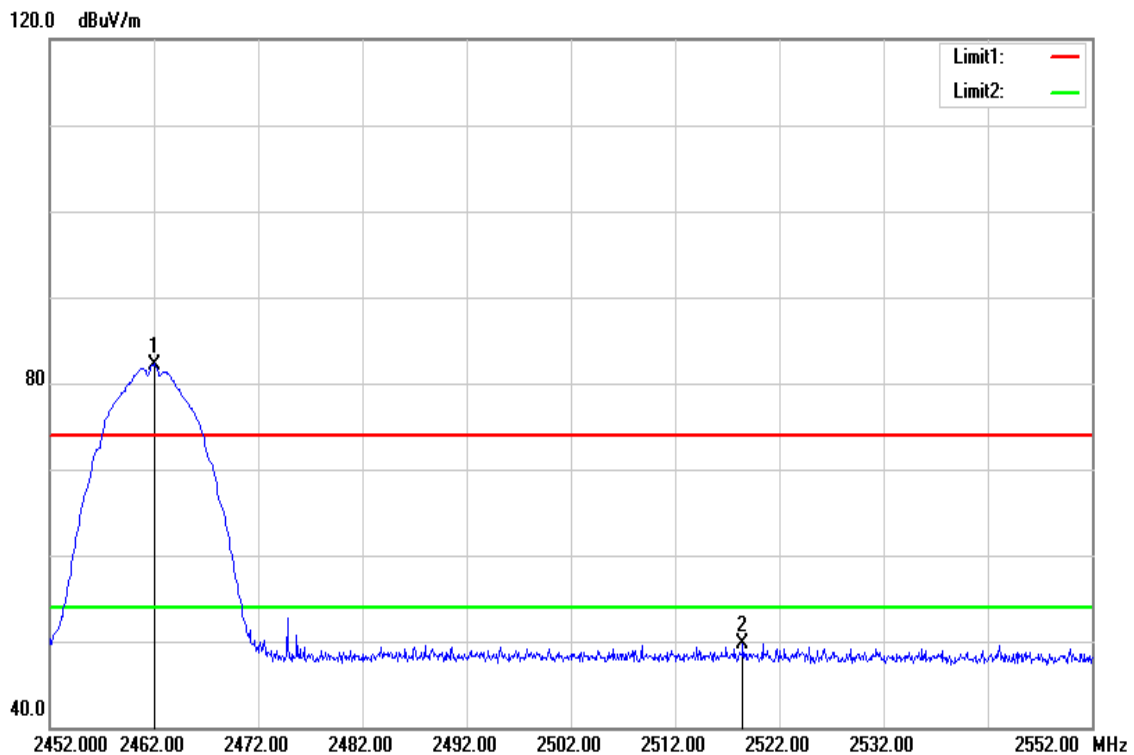
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Test Mode	IEEE 802.11b Low CH	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	July 19, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average		



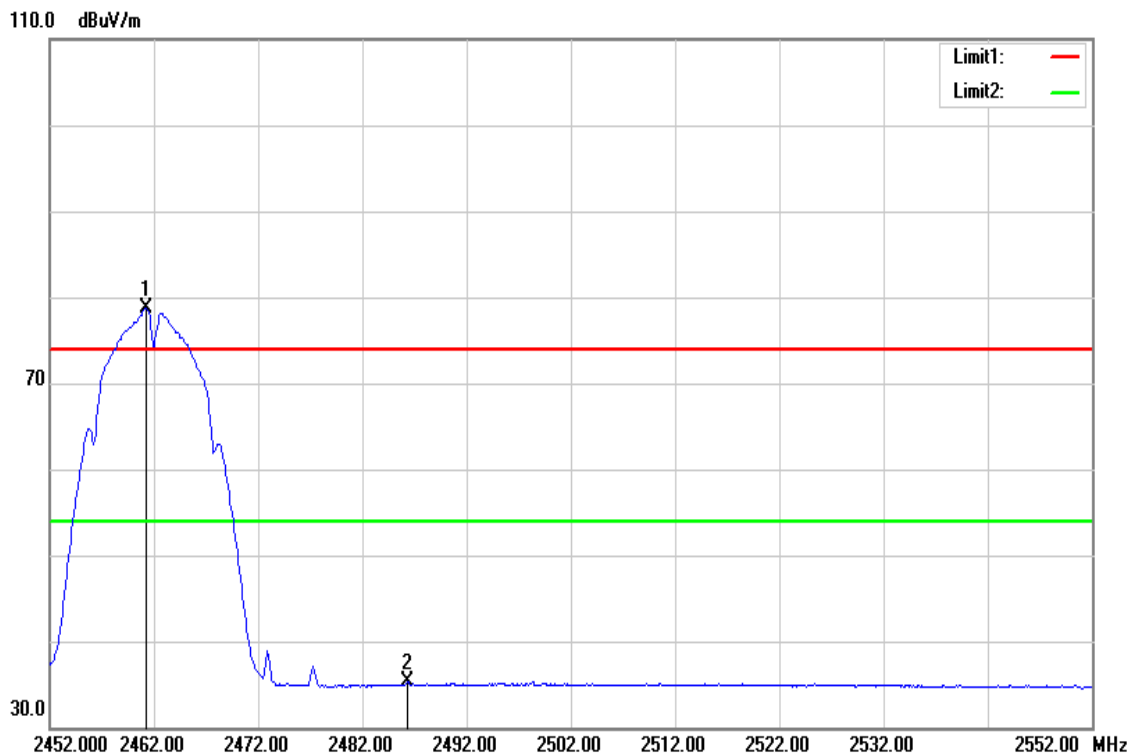
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2389.744	38.00	-2.98	35.02	54.00	-18.98	AVG
2411.248	84.10	-2.92	81.18	-	-	AVG

Test Mode	IEEE 802.11b High CH	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	July 19, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		



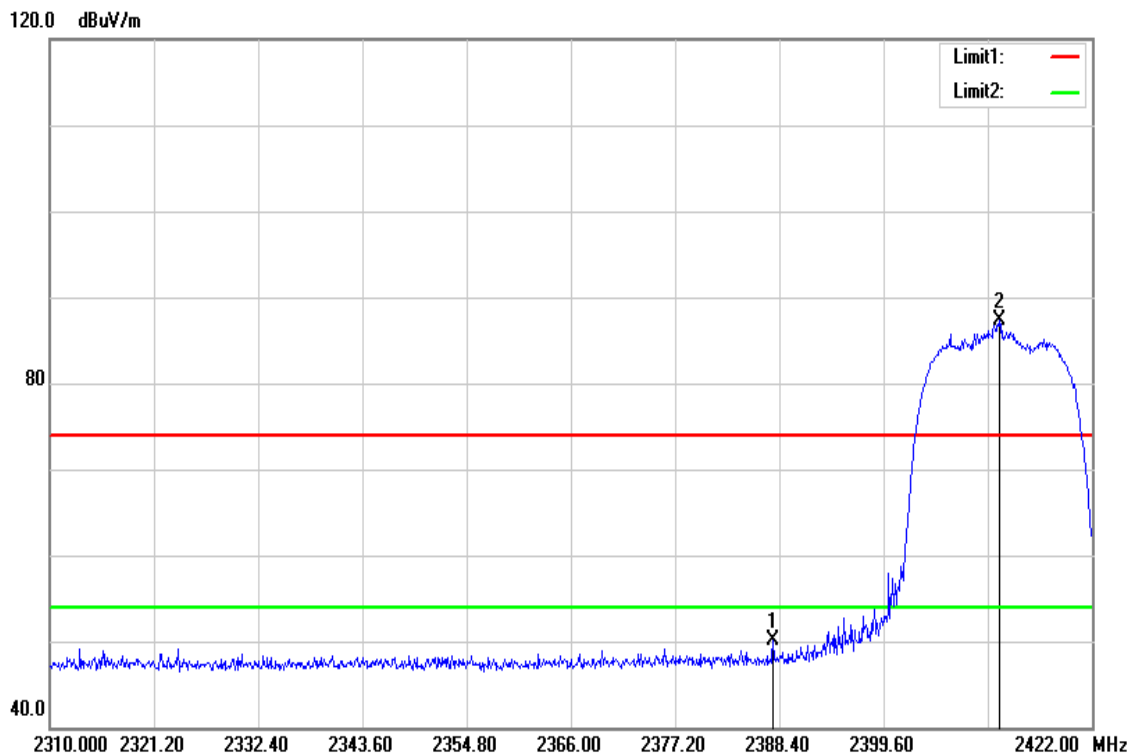
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2462.000	84.96	-2.76	82.20	-	-	peak
2518.500	52.34	-2.61	49.73	74.00	-24.27	peak

Test Mode	IEEE 802.11b High CH	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	July 19, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average		



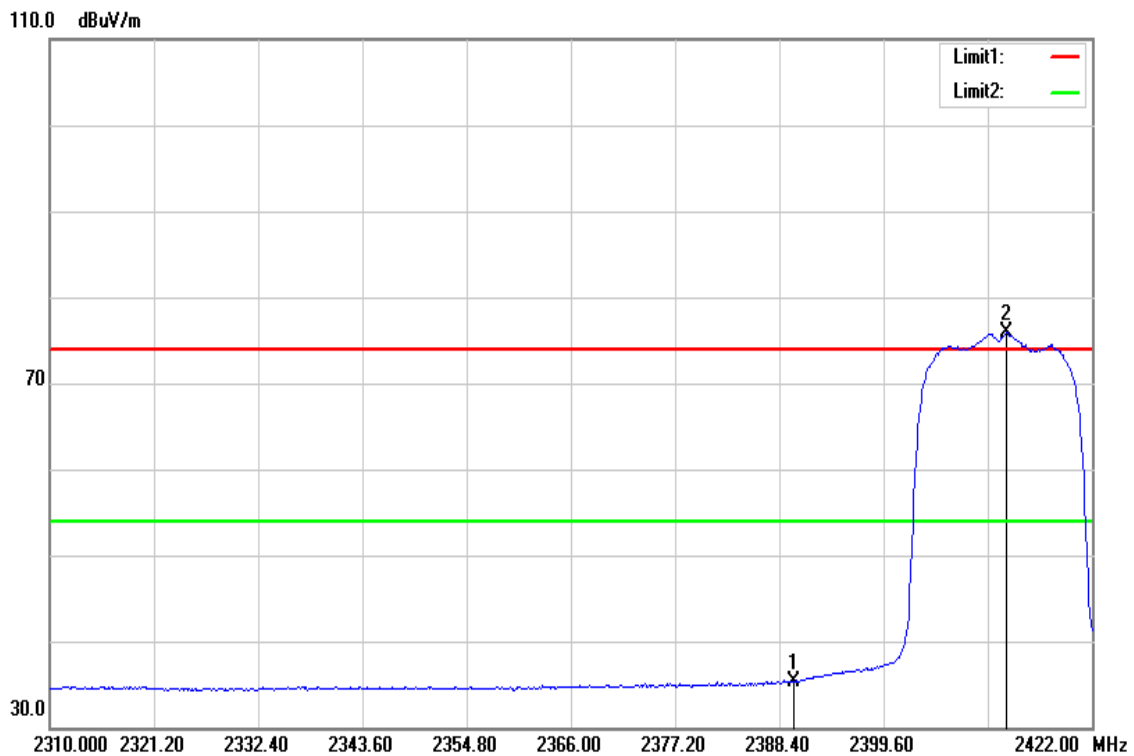
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2461.200	81.44	-2.76	78.68	-	-	AVG
2486.300	37.97	-2.68	35.29	54.00	-18.71	AVG

Test Mode	IEEE 802.11g Low CH	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	July 19, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		



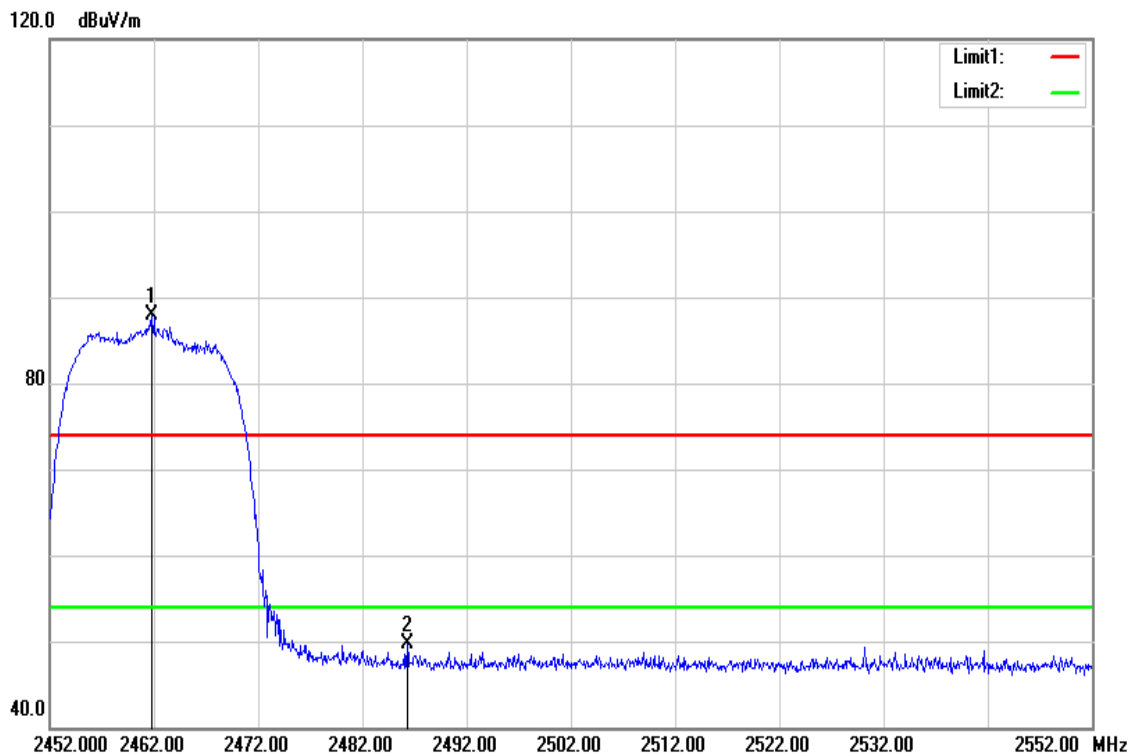
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2387.728	53.03	-2.98	50.05	74.00	-23.95	peak
2412.032	90.15	-2.92	87.23	-	-	peak

Test Mode	IEEE 802.11g Low CH	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	July 19, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average		



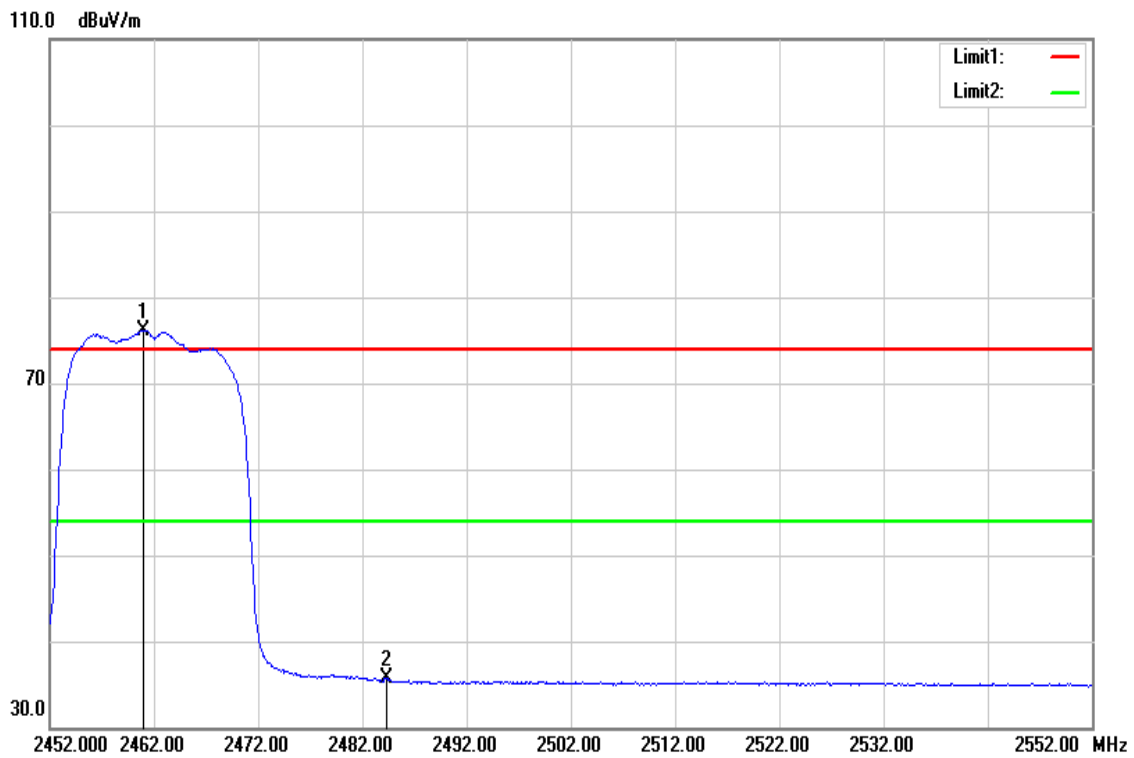
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2390.000	38.38	-2.98	35.40	54.00	-18.60	AVG
2412.816	78.71	-2.90	75.81	-	-	AVG

Test Mode	IEEE 802.11g High CH	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	July 19, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		



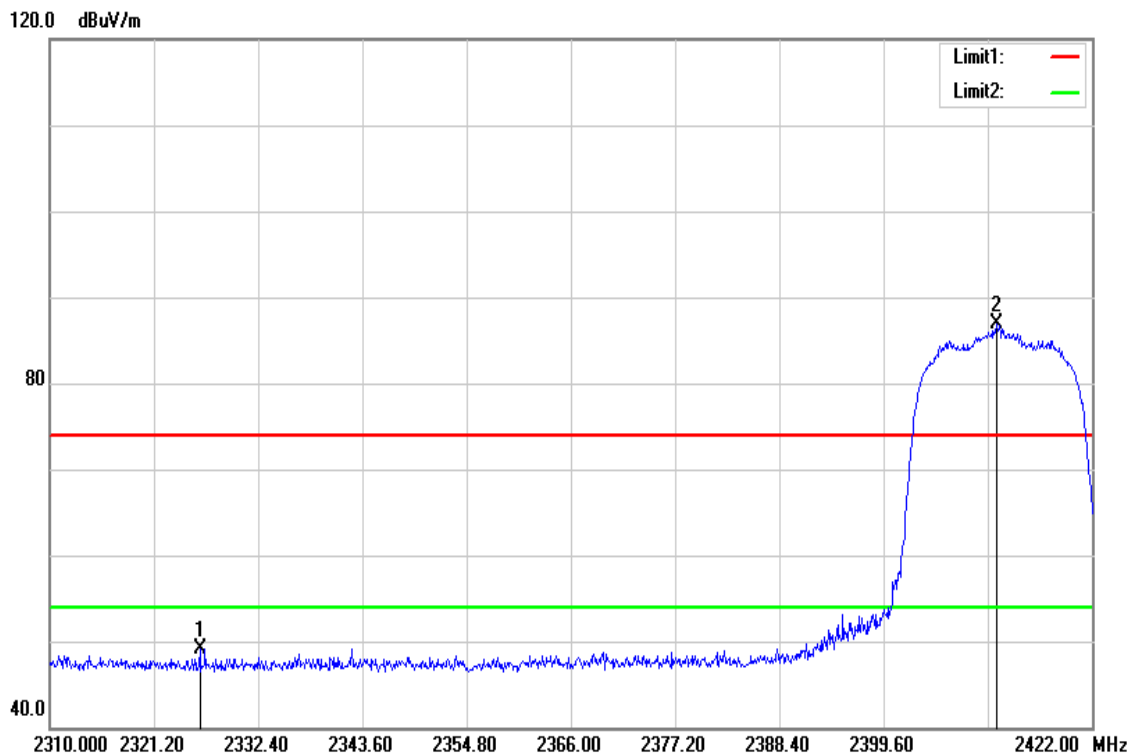
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2461.800	90.75	-2.76	87.99	-	-	peak
2486.300	52.41	-2.68	49.73	74.00	-24.27	peak

Test Mode	IEEE 802.11g High CH	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	July 19, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average		



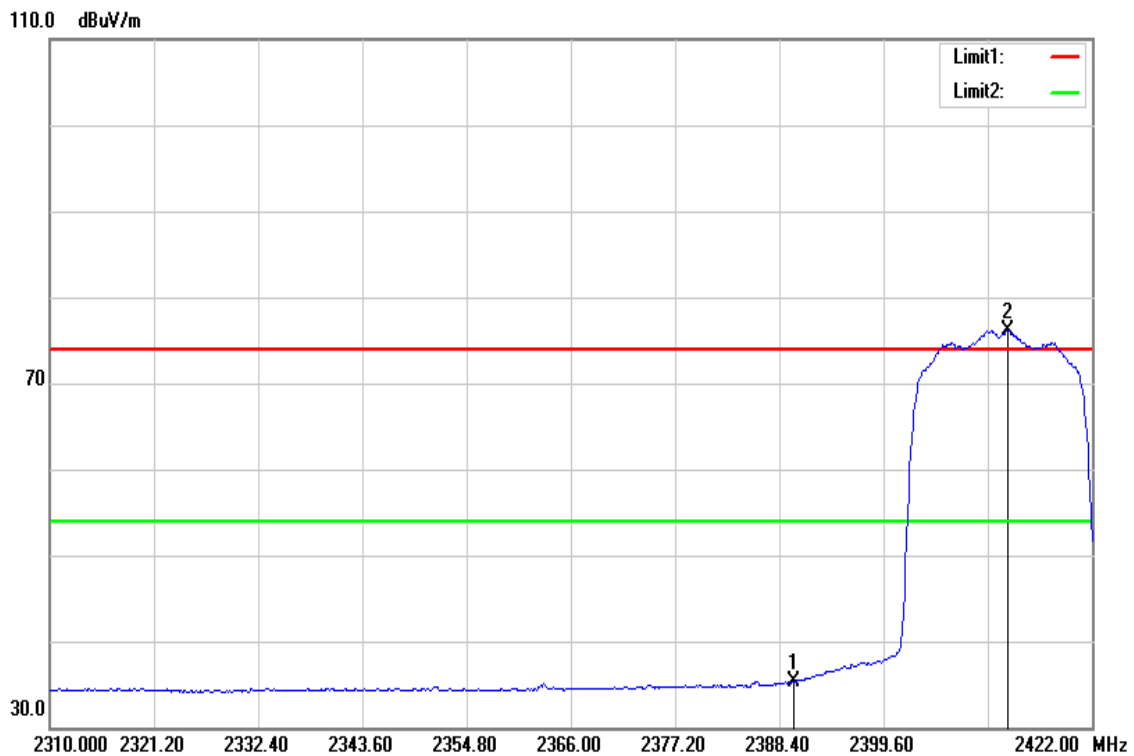
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2461.000	78.93	-2.76	76.17	-	-	AVG
2484.300	38.44	-2.69	35.75	54.00	-18.25	AVG

Test Mode	IEEE 802.11n HT20 Low CH	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	July 19, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		



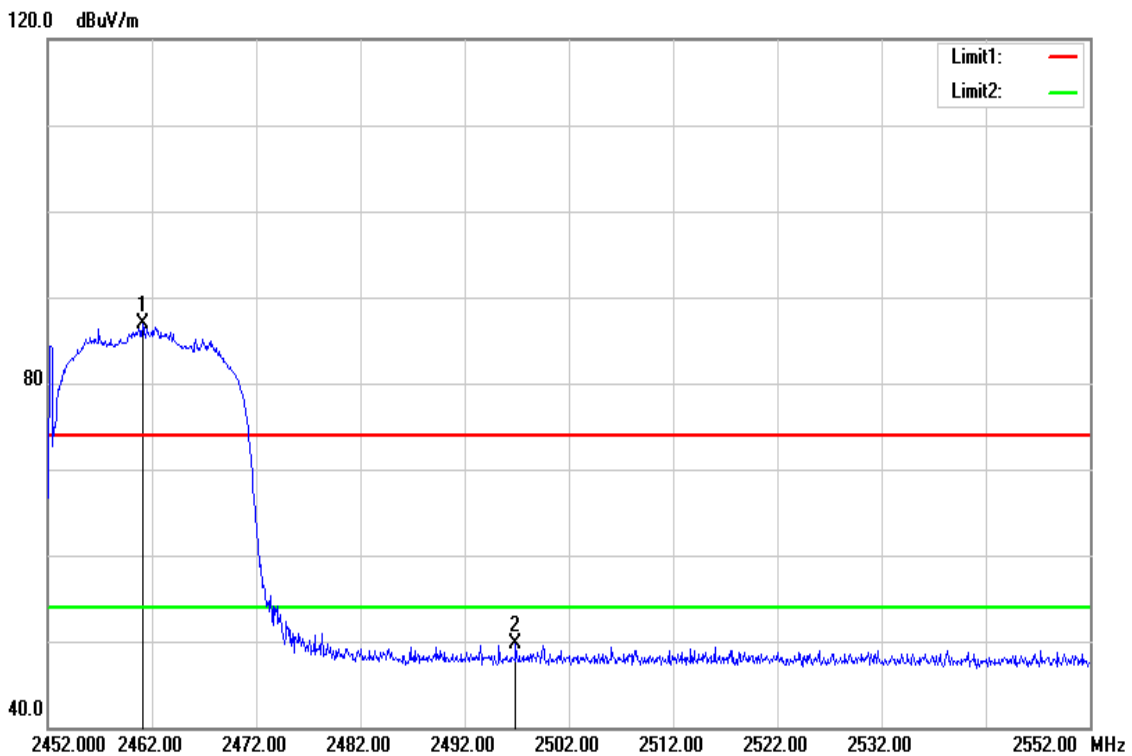
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2326.128	52.32	-3.19	49.13	74.00	-24.87	peak
2411.808	89.77	-2.92	86.85	-	-	peak

Test Mode	IEEE 802.11n HT20 Low CH	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	July 19, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average		



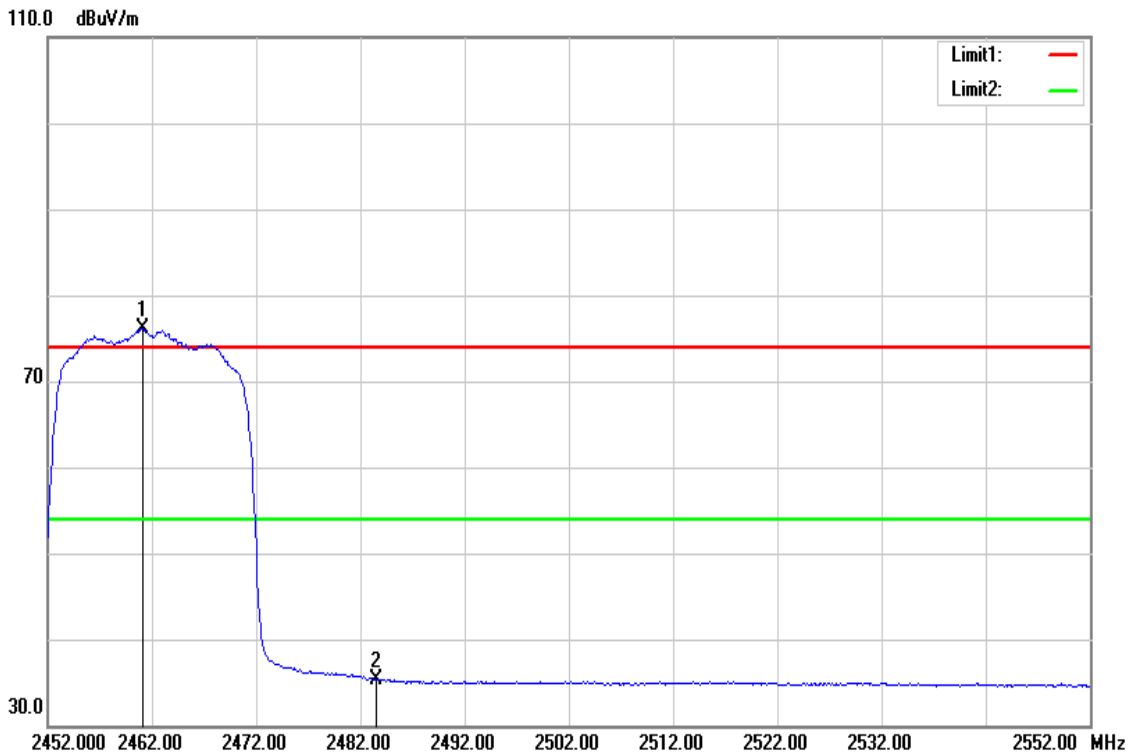
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2390.000	38.30	-2.98	35.32	54.00	-18.68	AVG
2412.928	79.05	-2.90	76.15	-	-	AVG

Test Mode	IEEE 802.11n HT20 High CH	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	July 19, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2461.100	89.74	-2.76	86.98	-	-	peak
2496.900	52.43	-2.65	49.78	74.00	-24.22	peak

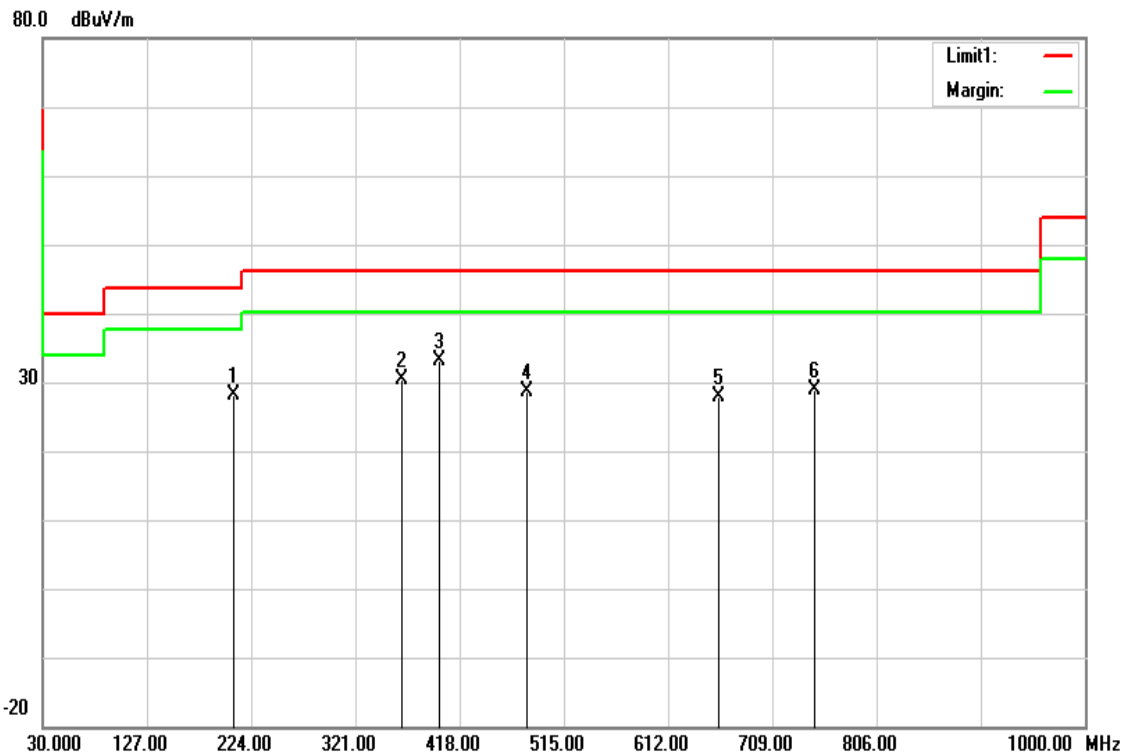
Test Mode	IEEE 802.11n HT20 High CH	Temp/Hum	22(°C)/ 34%RH
Test Item	Band Edge	Test Date	July 19, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2461.100	78.86	-2.76	76.10	-	-	AVG
2483.500	37.97	-2.69	35.28	54.00	-18.72	AVG

Below 1G Test Data

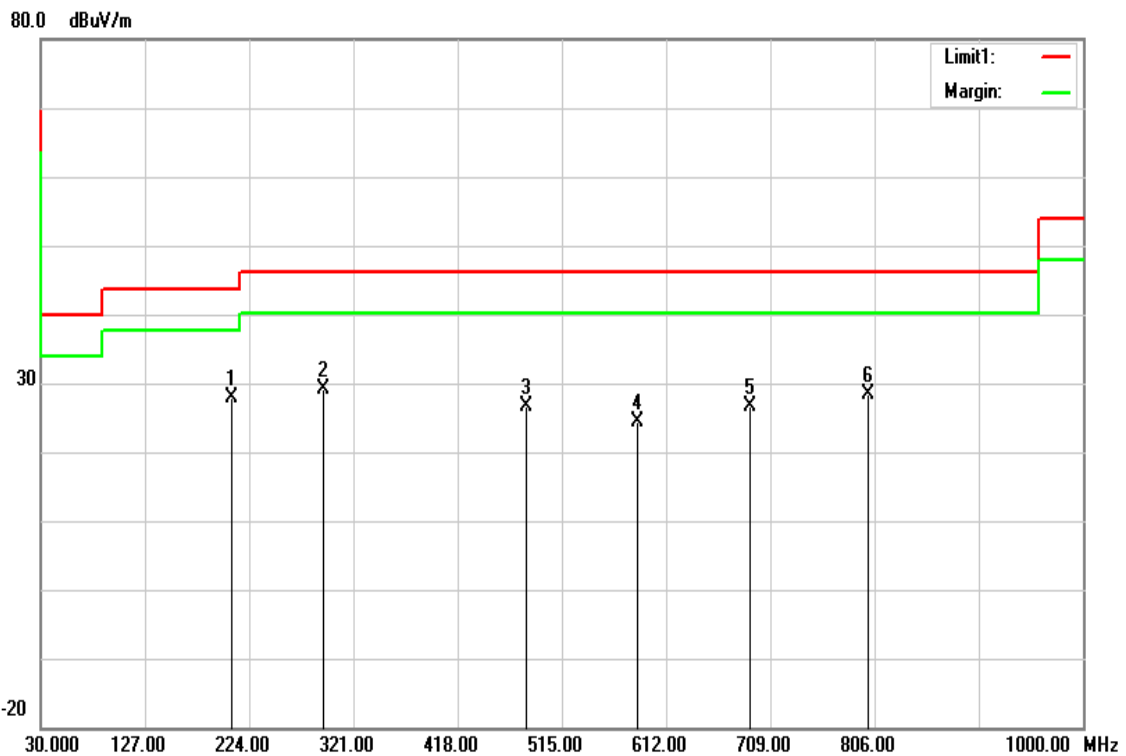
Test Mode	Mode 1	Temp/Hum	22(°C)/ 34%RH
Test Item	30MHz-1GHz	Test Date	July 19, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
207.5100	38.07	-9.96	28.11	43.52	-15.41	peak
364.6500	36.74	-6.35	30.39	46.02	-15.63	peak
398.6000	38.43	-5.33	33.10	46.02	-12.92	peak
481.0500	31.56	-3.01	28.55	46.02	-17.47	peak
658.5600	27.50	0.47	27.97	46.02	-18.05	peak
748.7700	27.13	1.70	28.83	46.02	-17.19	peak

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

Test Mode	Mode 1	Temp/Hum	22(°C)/ 34%RH
Test Item	30MHz-1GHz	Test Date	July 19, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak		

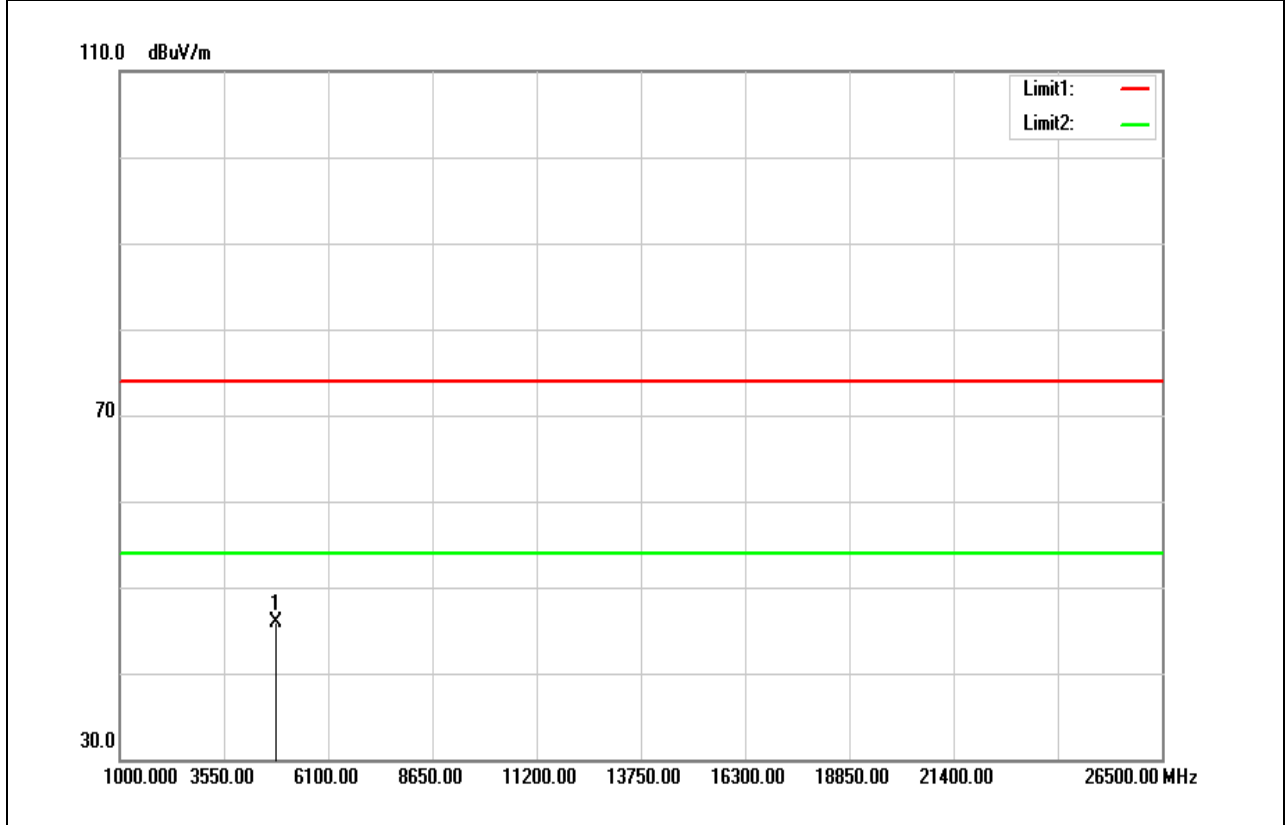


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
207.5100	37.82	-9.96	27.86	43.52	-15.66	peak
292.8700	37.24	-8.04	29.20	46.02	-16.82	peak
482.0200	29.62	-2.99	26.63	46.02	-19.39	peak
584.8400	25.81	-1.32	24.49	46.02	-21.53	peak
690.5700	25.68	0.88	26.56	46.02	-19.46	peak
800.1800	25.77	2.72	28.49	46.02	-17.53	peak

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

Above 1G Test Data

Test Mode	IEEE 802.11b Low CH	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	July 19, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

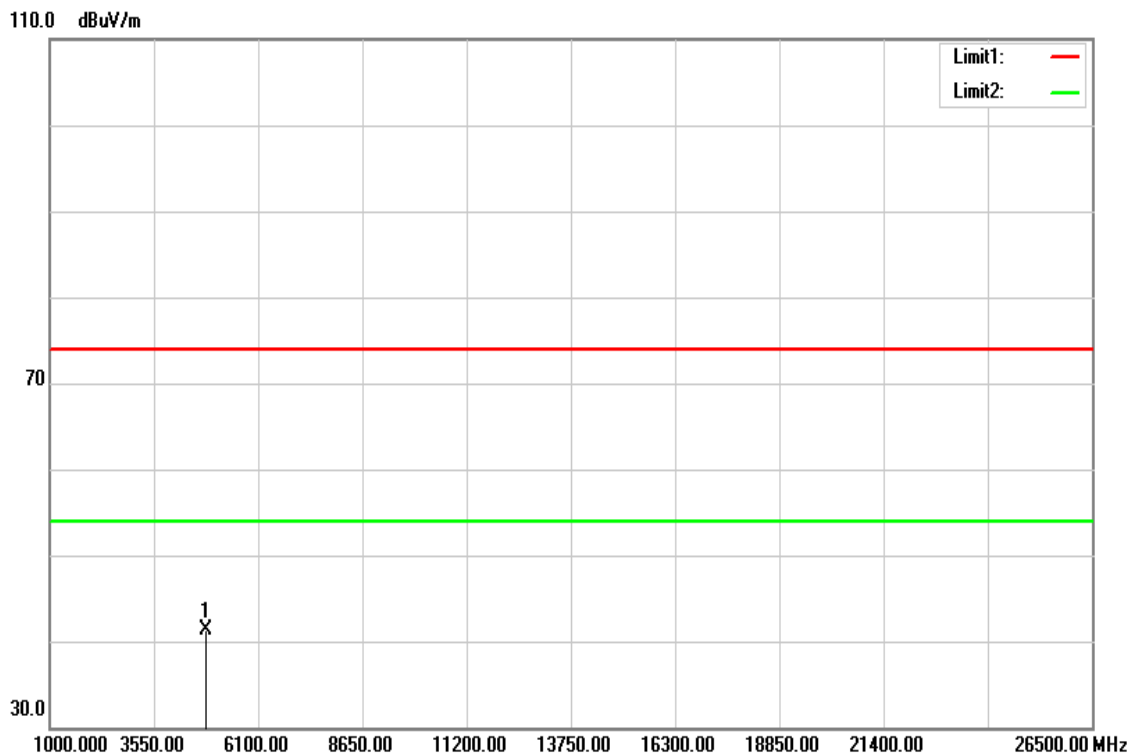


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4827.000	41.47	4.38	45.85	74.00	-28.15	peak
N/A						

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

Test Mode	IEEE 802.11b Low CH	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	July 19, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		

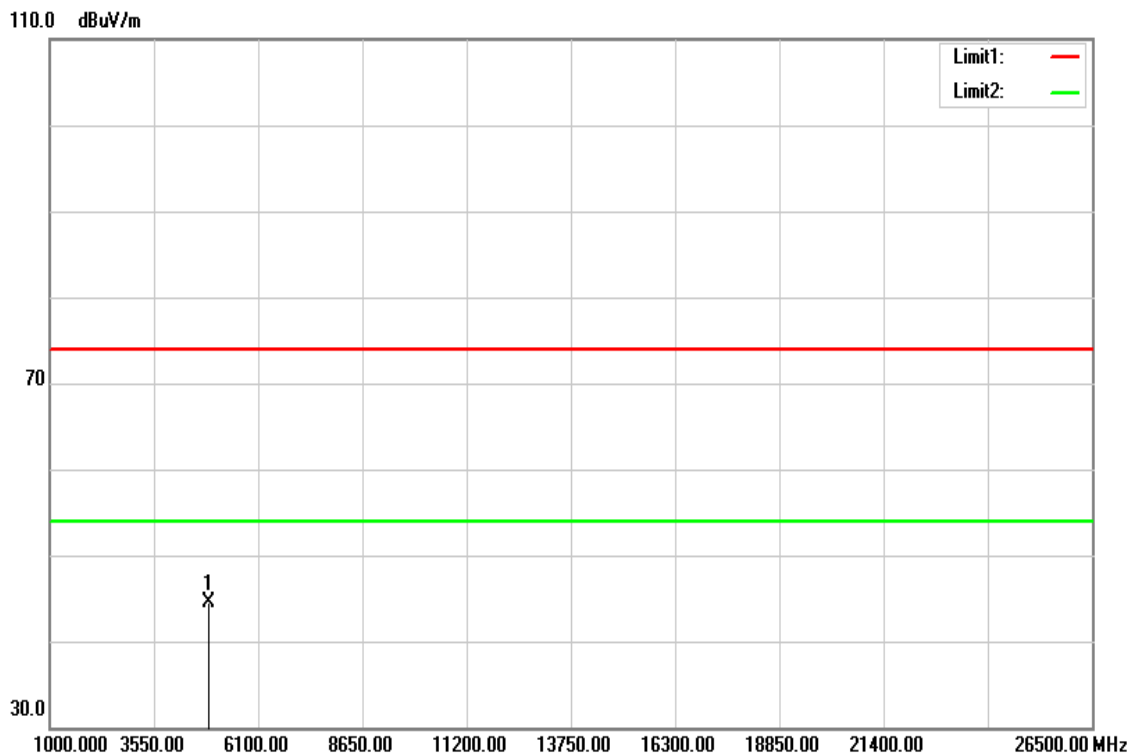


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4824.000	36.93	4.38	41.31	74.00	-32.69	peak
N/A						

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

Test Mode	IEEE 802.11b Mid CH	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	July 19, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

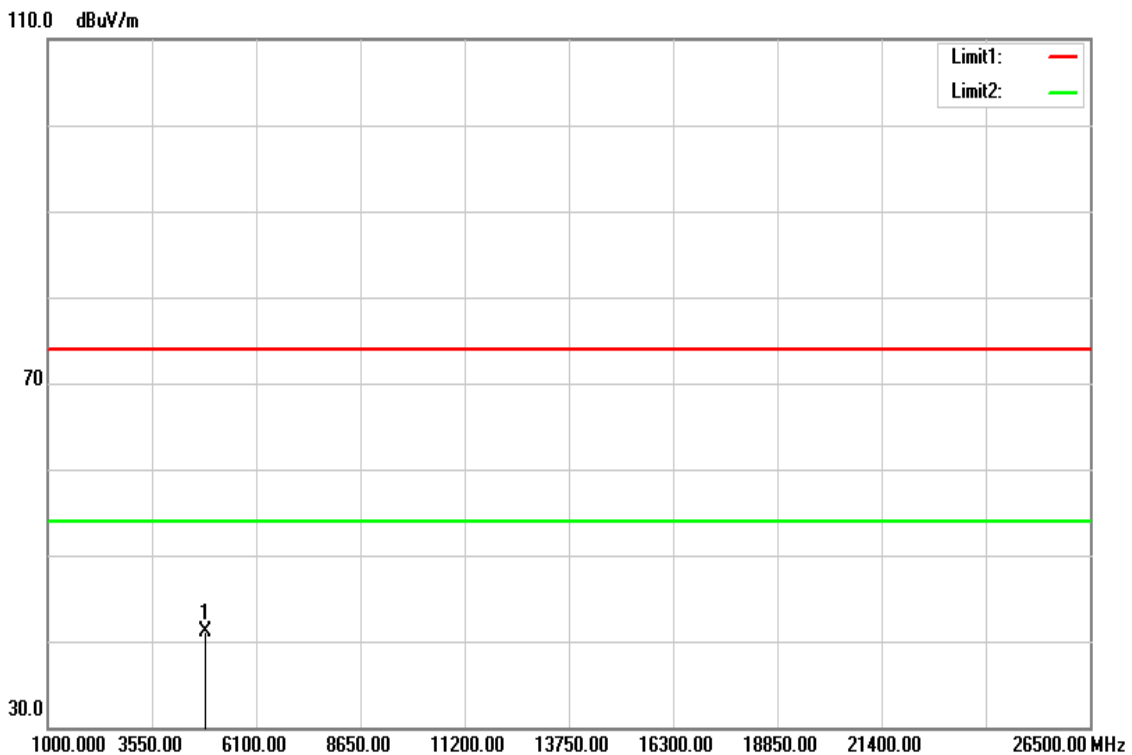


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4876.000	40.01	4.47	44.48	74.00	-29.52	peak
N/A						

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

Test Mode	IEEE 802.11b Mid CH	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	July 19, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		

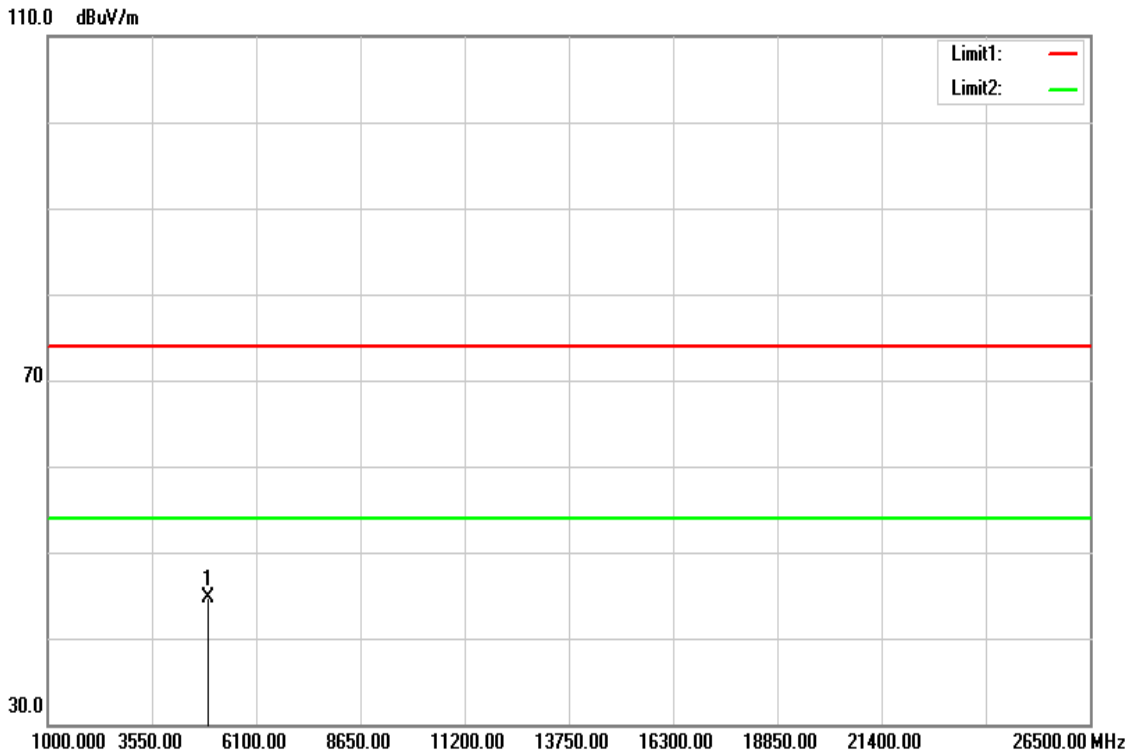


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4874.000	36.55	4.47	41.02	74.00	-32.98	peak
N/A						

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

Test Mode	IEEE 802.11b High CH	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	July 19, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

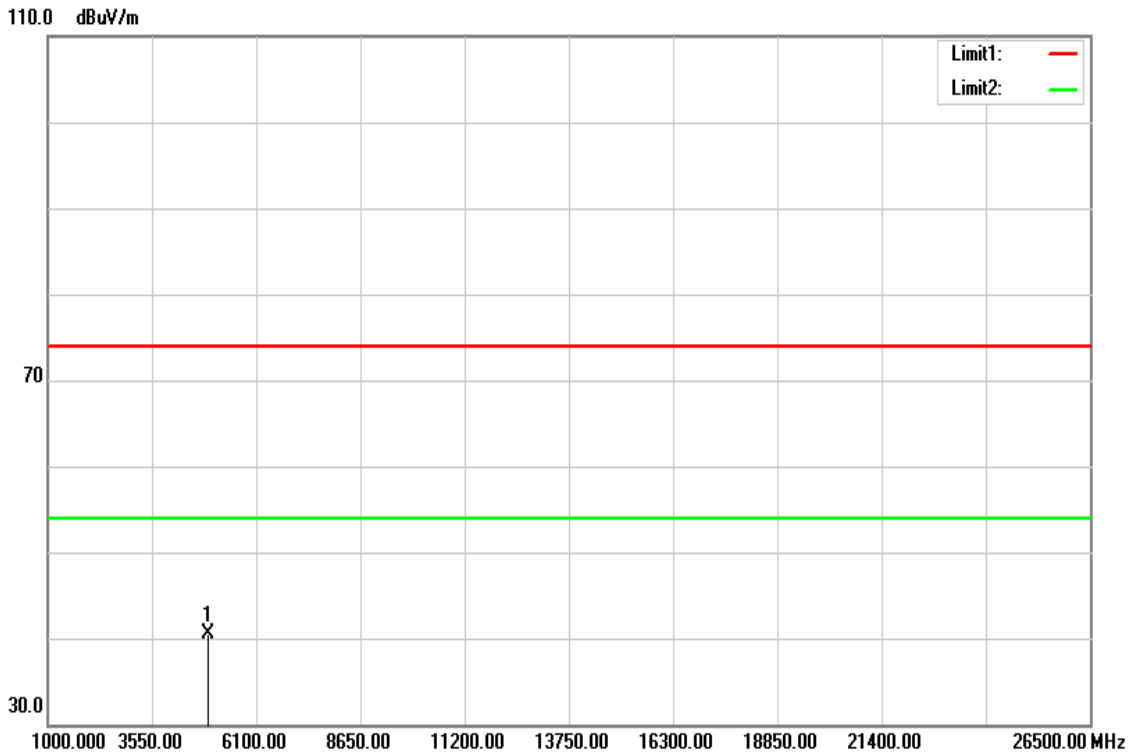


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4925.000	40.08	4.55	44.63	74.00	-29.37	peak
N/A						

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

Test Mode	IEEE 802.11b High CH	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	July 19, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		

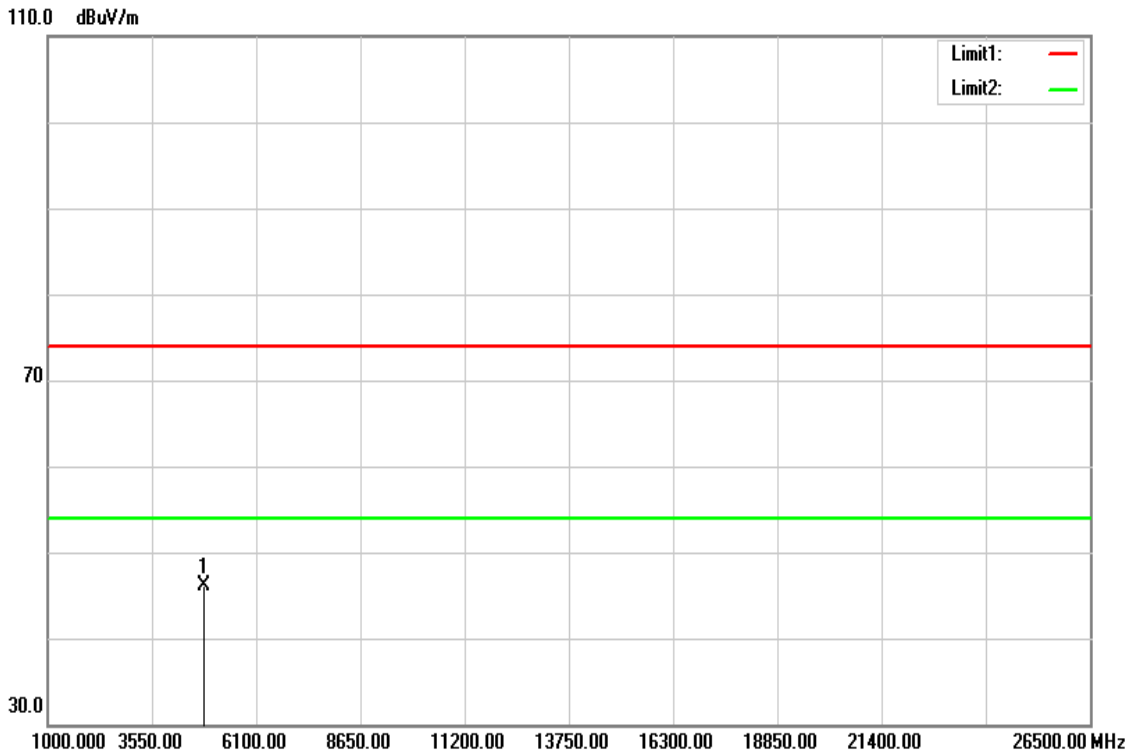


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4924.000	35.87	4.55	40.42	74.00	-33.58	peak
N/A						

Remark:

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

Test Mode	IEEE 802.11g Low CH	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	July 19, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

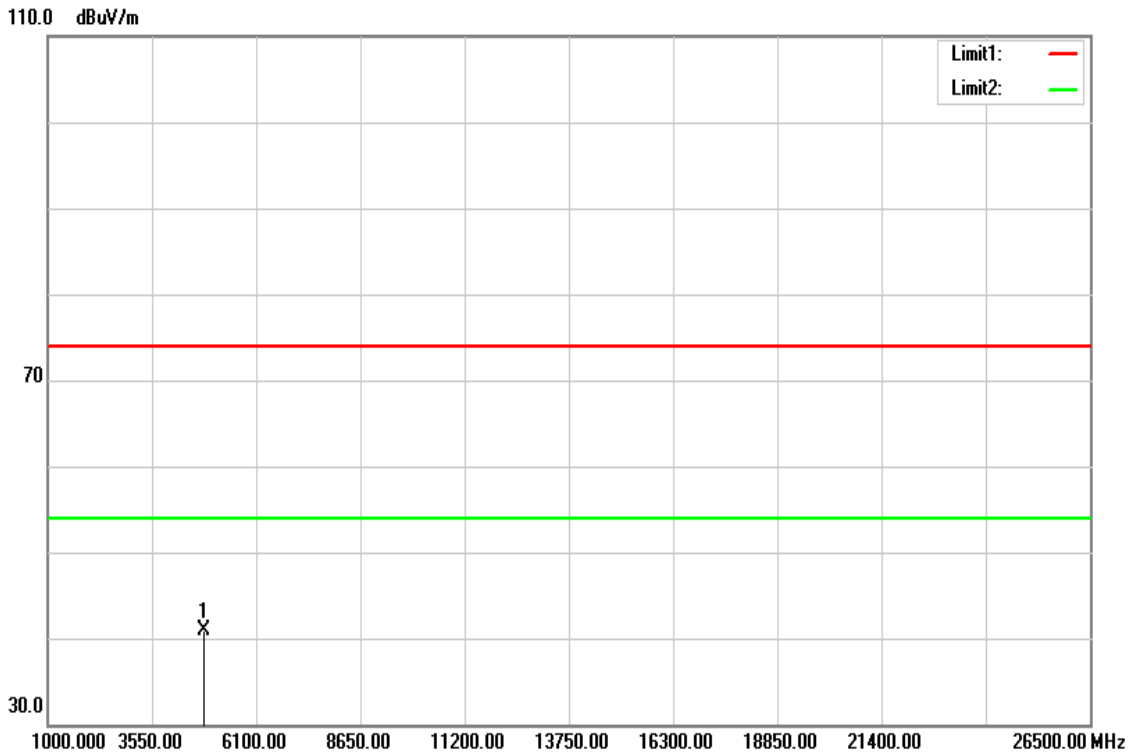


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4827.000	41.64	4.38	46.02	74.00	-27.98	peak
N/A						

Remark:

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

Test Mode	IEEE 802.11g Low CH	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	July 19, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		

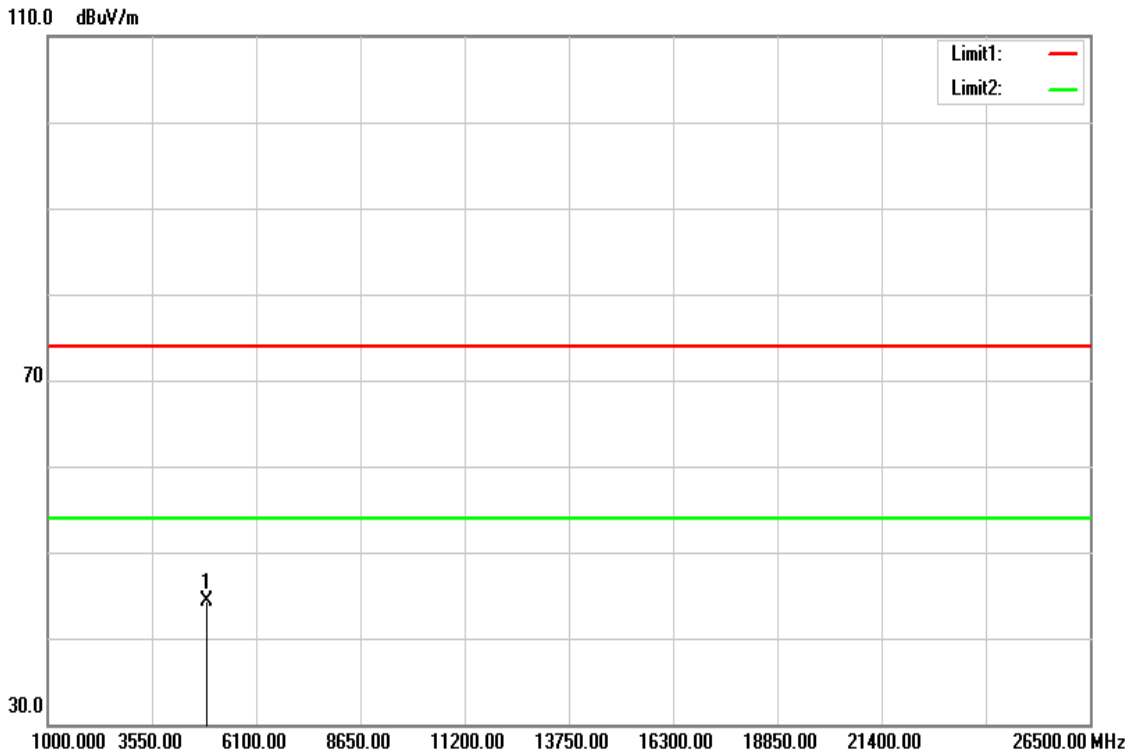


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4824.000	36.60	4.38	40.98	74.00	-33.02	peak
N/A						

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

Test Mode	IEEE 802.11g Mid CH	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	July 19, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

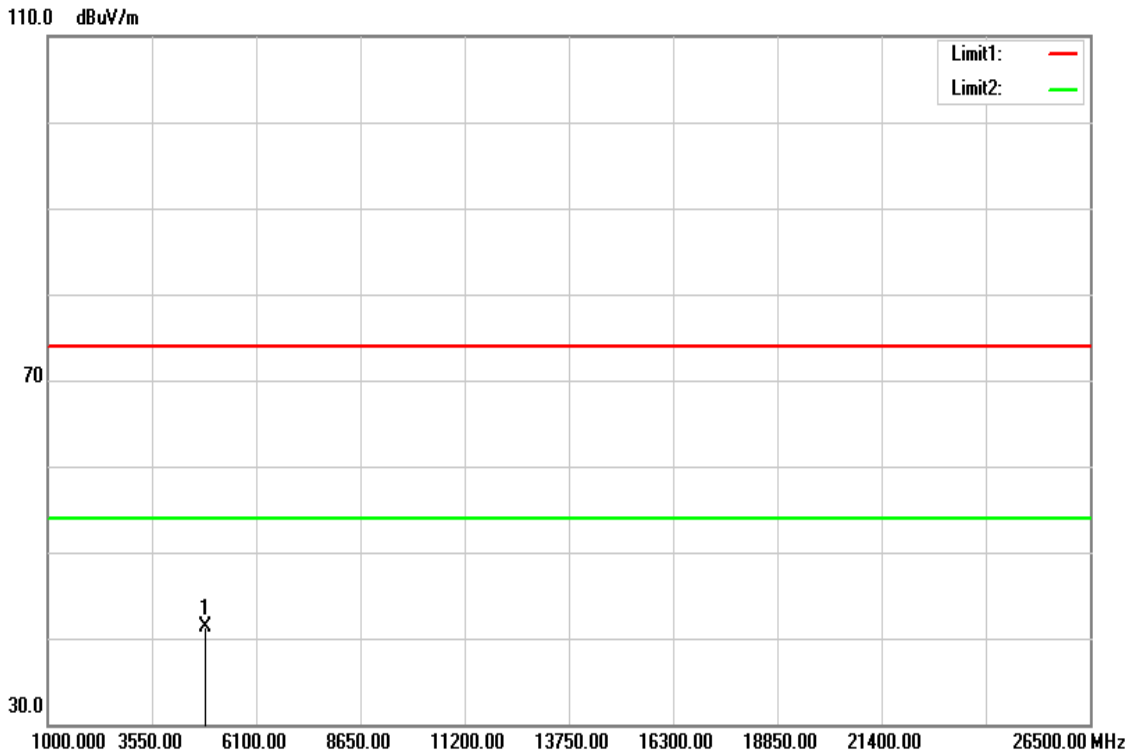


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4876.000	39.83	4.47	44.30	74.00	-29.70	peak
N/A						

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

Test Mode	IEEE 802.11g Mid CH	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	July 19, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		

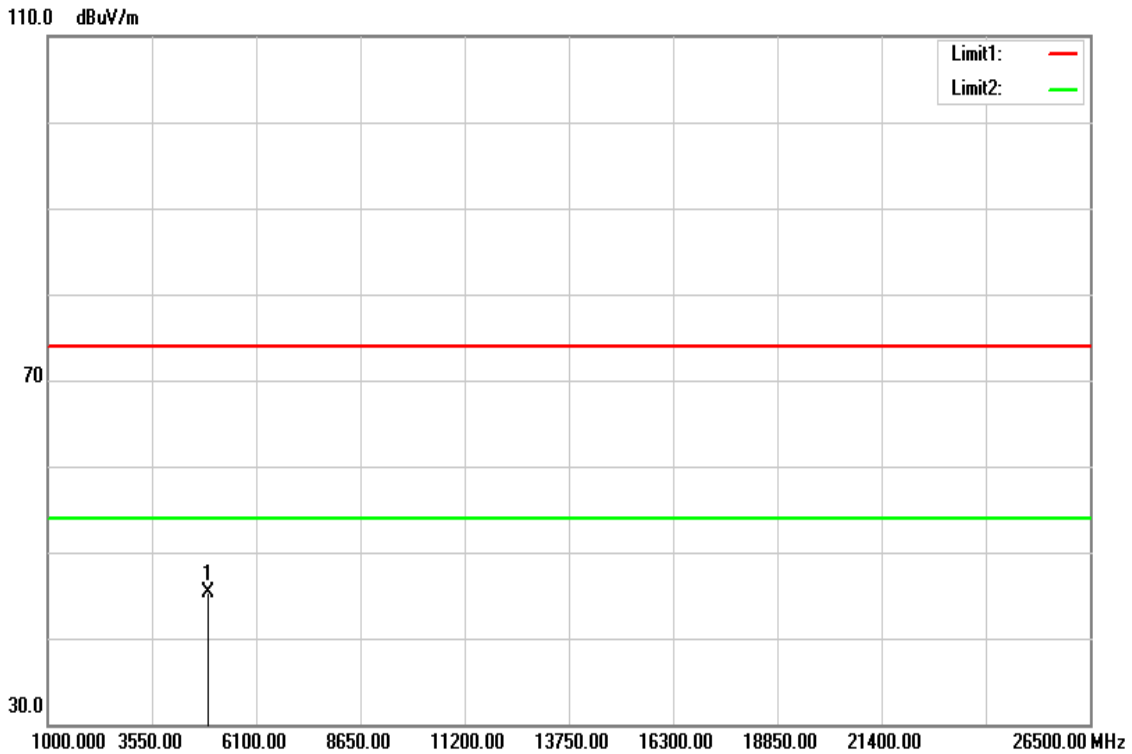


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4874.000	36.81	4.47	41.28	74.00	-32.72	peak
N/A						

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

Test Mode	IEEE 802.11g High CH	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	July 19, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

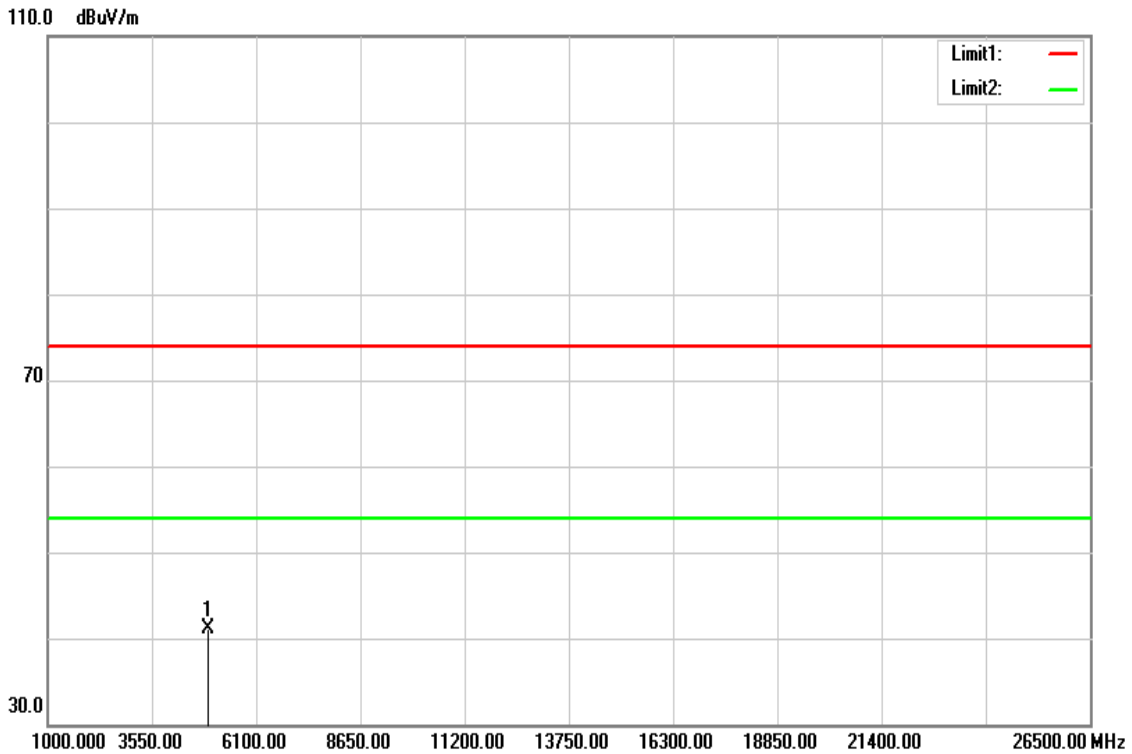


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4925.000	40.85	4.55	45.40	74.00	-28.60	peak
N/A						

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

Test Mode	IEEE 802.11g High CH	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	July 19, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		

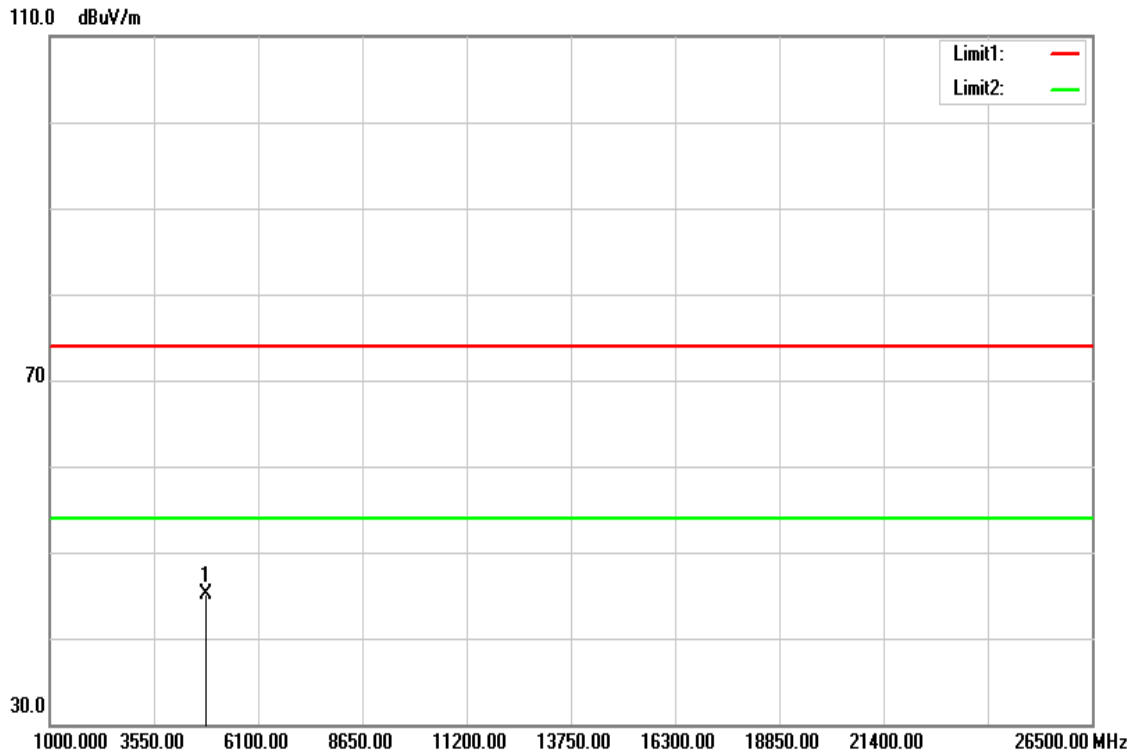


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4924.000	36.55	4.55	41.10	74.00	-32.90	peak
N/A						

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

Test Mode	IEEE 802.11n HT20 Low CH	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	July 19, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

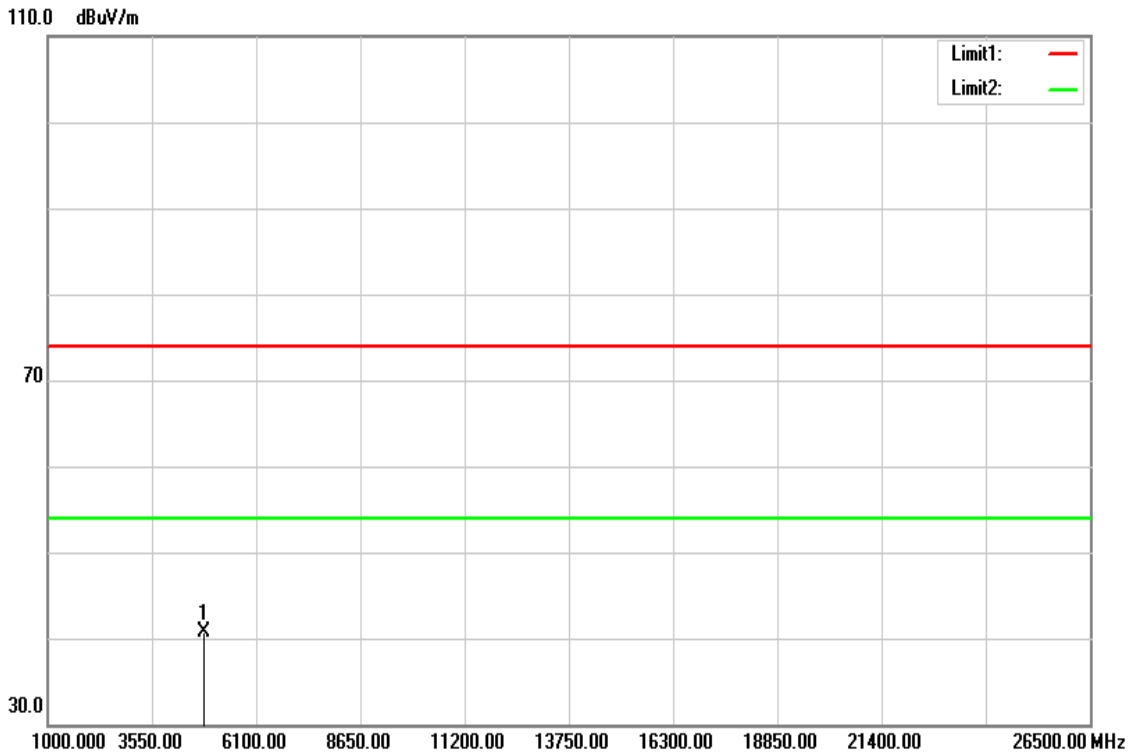


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4827.000	40.78	4.38	45.16	74.00	-28.84	peak
N/A						

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

Test Mode	IEEE 802.11n HT20 Low CH	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	July 19, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		

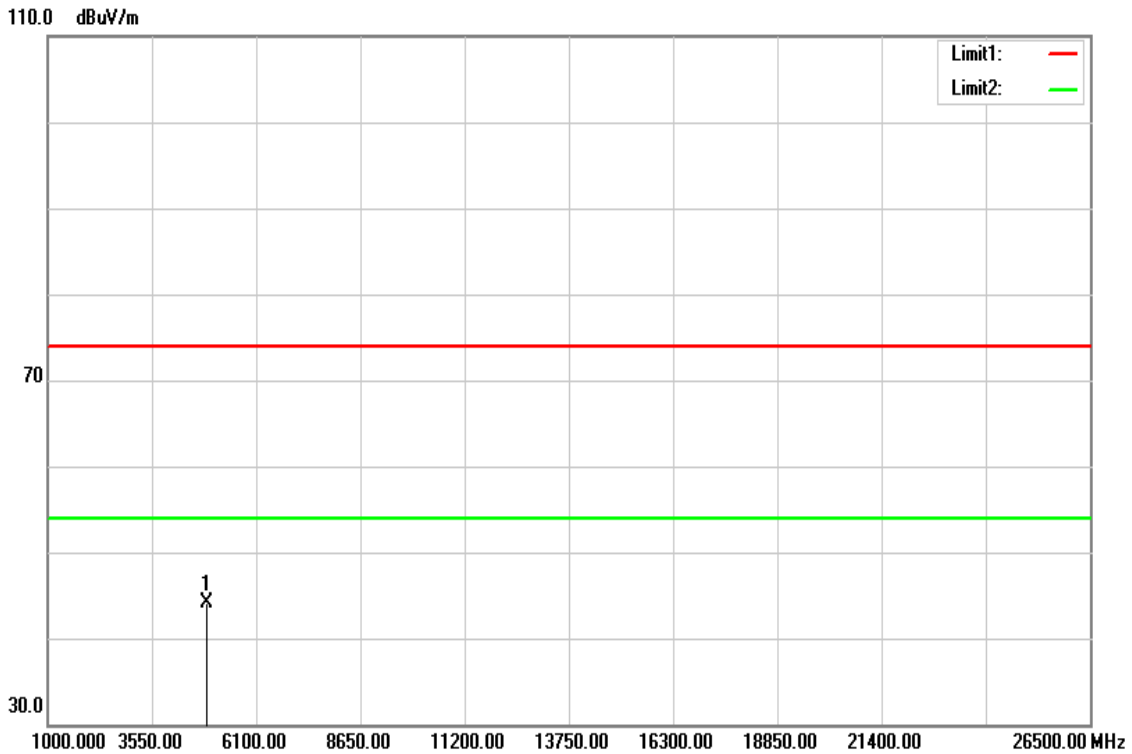


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4824.000	36.38	4.38	40.76	74.00	-33.24	Peak
N/A						

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

Test Mode	IEEE 802.11n HT20 Mid CH	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	July 19, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

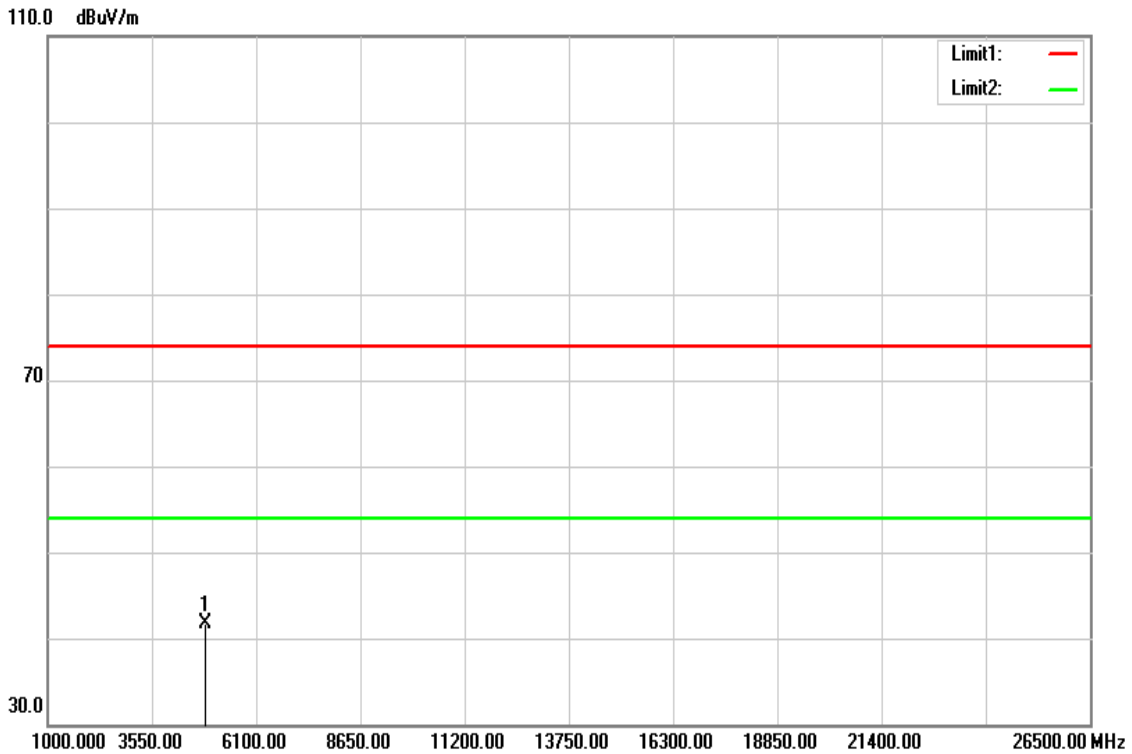


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4876.000	39.61	4.47	44.08	74.00	-29.92	peak
N/A						

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

Test Mode	IEEE 802.11n HT20 Mid CH	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	July 19, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		

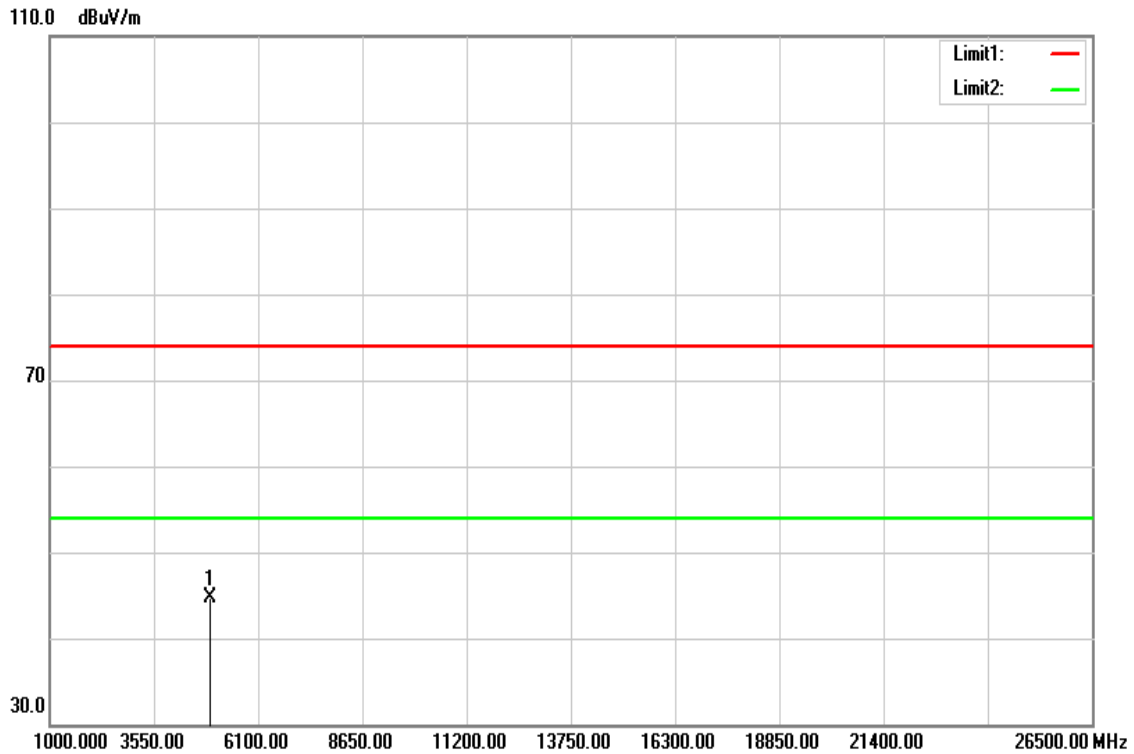


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4874.000	37.13	4.47	41.60	74.00	-32.40	peak
N/A						

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

Test Mode	IEEE 802.11n HT20 High CH	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	July 19, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average		

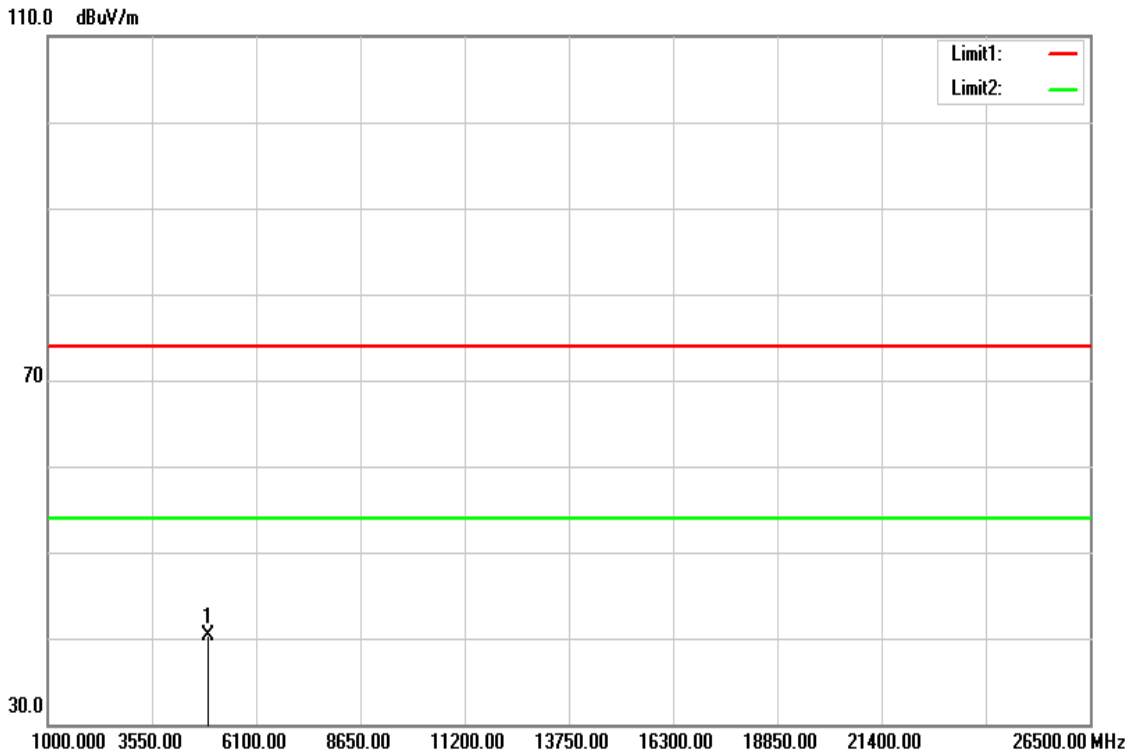


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4925.000	40.16	4.55	44.71	74.00	-29.29	peak
N/A						

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

Test Mode	IEEE 802.11n HT20 High CH	Temp/Hum	22(°C)/ 34%RH
Test Item	Harmonic	Test Date	July 19, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4924.000	35.71	4.55	40.26	74.00	-33.74	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

- End of Test Report -