RADIO TEST REPORT
FCC 47 CFR PART 15 SUBPART C

Test Standard	**FCC Part 15.247**
Brand name	XADA
Product name	**WIRELESS ROUTER**
Model No.	**XA2200**
Test Result	**Pass**
Statements of Conformity	**Determination of compliance is based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.**

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.
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Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	October 04, 2019	Initial Issue	ALL	May Lin
01	October 28, 2019	See the following Note Rev. (01)	P.1, P.4	May Lin

Rev (01):

1. Revised the product name.

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1. GENERAL INFORMATION

1.1 EUT INFORMATION

Applicant	XADA Technologies Ltd. 1F., No. 2, Ln. 150, Sec. 5, Xinyi Rd., Xiny District, 110 Taipei City, Taiwan
Manufacturer	TechNexion Ltd. 16f-5, No.736, Zhongzheng Road, Zhonghe Dist., New Taipei City, 23511 Taiwan ROC
Equipment	WIRELESS ROUTER
Model Name	XA2200
Model Discrepancy	N/A
Received Date	April 11, 2019
Date of Test	April 19 ~ August 22, 2019
Output Power(W)	**Mode** / **Output Power (W)** IEEE 802.11b Mode: 0.8996 IEEE 802.11g Mode: 0.9388 IEEE 802.11n HT20 Mode: 0.8904 IEEE 802.11n HT40 Mode: 0.9312
EUT Power Rating:	DC 9V, 3A
Power Adapter	Sunny Electronics Corp. / SYS1621-TYPE C 30 I/P: 100-240V~, 1.5A MAX, 50-60Hz O/P: 5V / 3A, 9V / 3A, 12V / 2.5A, 15V / 2A, 20V / 1.5A, 3.3-16V / 2A

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1.2 EUT CHANNEL INFORMATION

Frequency Range	802.11b/g/n HT20: 2412MHz ~ 2462MHz 802.11n HT40: 2422MHz ~ 2452MHz
Modulation Type	1. IEEE 802.11b Mode: DSSS(DBPSK/DQPSK/CCK) 2. IEEE 802.11g Mode: OFDM (BPSK/QPSK/16QAM/64QAM) 3. IEEE 802.11n HT20 Mode : OFDM (BPSK/QPSK/16QAM/64QAM) 4. IEEE 802.11n HT40 Mode : OFDM (BPSK/QPSK/16QAM/64QAM)
Number of channels	1. IEEE 802.11b Mode: 11 Channels 2. IEEE 802.11g Mode: 11 Channels 3. IEEE 802.11n HT20 Mode : 11 Channels 4. IEEE 802.11n HT40 Mode : 7 Channels

Remark:
Refer as ANSI C63.10: 2013 clause 5.6.1 Table 4 for test channels

Number of frequencies to be tested		
Frequency range in which device operates	**Number of frequencies**	**Location in frequency range of operation**
☐ 1 MHz or less	1	Middle
☐ 1 MHz to 10 MHz	2	1 near top and 1 near bottom
☒ More than 10 MHz	3	1 near top, 1 near middle, and 1 near bottom

1.3 ANTENNA INFORMATION

Antenna Type	☐ PIFA ☒ PCB ☐ Dipole ☐ Coils
Antenna Gain	Chain 0: Gain: 2.77dBi Chain 1: Gain: 1.1dBi Power Directional Gain: 2.01
Antenna Connector	N/A

Notes:
1. Power Directional Gain: 10LOG(((10^(Ant1/10)+10^(Ant2/10))/2))

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1.4 MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
AC Powerline Conducted Emission	+/- 1.2575
Emission bandwidth, 20dB bandwidth	+/- 0.0014
RF output power, conducted	+/- 1.14
Power density, conducted	+/- 1.40
3M Semi Anechoic Chamber / 30M~200M	+/- 4.12
3M Semi Anechoic Chamber / 200M~1000M	+/- 4.68
3M Semi Anechoic Chamber / 1G~8G	+/- 5.18
3M Semi Anechoic Chamber / 8G~18G	+/- 5.47
3M Semi Anechoic Chamber / 18G~26G	+/- 3.81
3M Semi Anechoic Chamber / 26G~40G	+/- 3.87

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.

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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	Kailin Lee	-
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					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal Date**	**Cal Due**
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
Power Meter	Anritsu	ML2495A	1149001	02/12/2019	02/11/2020
Software	N/A				

3M 966 Chamber Test Site					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal Date**	**Cal 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	05/31/2018	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
Software	e3 6.11-20180413				

AC line Conduction Test Room					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal Date**	**Cal Due**
CABLE	EMCI	CFD300-NL	CERF	06/27/2019	06/26/2020
EMI Test Receiver	R&S	ESCI	100064	07/26/2019	07/25/2020
LISN	SCHWARZBECK	NSLK 8127	8127-541	01/31/2019	01/30/2020
LISN	SCHAFFNER	NNB 41	03/10013	02/13/2019	02/12/2020
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**
1	NB(L)	Toshiba	PORTEGE R30-A	N/A	PD97260H

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, KDB 662911 D01.

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2. TEST SUMMERY

FCC Standard Section	Report Section	Test Item	Result
15.203	1.3	Antenna Requirement	Pass
15.207(a)	5.1	AC Conducted Emission	Pass
15.247(a)(2)	5.2	6 dB Bandwidth	Pass
2.1049	5.2	Occupied Bandwidth (99%)	Pass
15.247(b)(3)	5.3	Output Power Measurement	Pass
15.247(e)	5.4	Power Spectral Density	Pass
15.247(d)	5.5	Conducted Band Edge	Pass
15.247(d)	5.5	Conducted Spurious Emission	Pass
15.247(d)	5.6	Radiation Band Edge	Pass
15.247(d)	5.6	Radiation Spurious Emission	Pass

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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 IEEE 802.11n HT40 Mode: MCS8
Test Channel Frequencies	**IEEE 802.11b Mode:** 1. Lowest Channel: 2412MHz 2. Middle Channel: 2437MHz 3. Highest Channel: 2462MHz **IEEE 802.11g Mode:** 1. Lowest Channel: 2412MHz 2. Middle Channel: 2437MHz 3. Highest Channel: 2462MHz **IEEE 802.11n HT20 Mode:** 1. Lowest Channel: 2412MHz 2. Middle Channel: 2437MHz 3. Highest Channel: 2462MHz **IEEE 802.11n HT40 Mode:** 1. Lowest Channel: 2422MHz 2. Middle Channel: 2437MHz 3. Highest Channel: 2452MHz
Operation Transmitter	IEEE 802.11b Mode: 2T2R IEEE 802.11g Mode: 2T2R IEEE 802.11n HT20 Mode: 2T2R IEEE 802.11n HT40 Mode: 2T2R

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

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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 100~240V To DC 9 V
Worst Mode	☒ Mode 1 ☐ Mode 2 ☐ Mode 3 ☐ 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 100~240V To DC 9 V
Worst Mode	☒ Mode 1 ☐ Mode 2 ☐ Mode 3 ☐ Mode 4
Worst Position	☐ Placed in fixed position. ☒ Placed in fixed position at X-Plane (E2-Plane) ☐ Placed in fixed position at Y-Plane (E1-Plane) ☐ Placed in fixed position at Z-Plane (H-Plane)
Worst Polarity	☒ Horizontal ☐ Vertical

Radiated Emission Measurement Below 1G	
Test Condition	Radiated Emission Below 1G
Power supply Mode	Mode 1: EUT power by Adapter 100~240V To DC 9 V
Worst Mode	☒ Mode 1 ☐ Mode 2 ☐ Mode 3 ☐ 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. 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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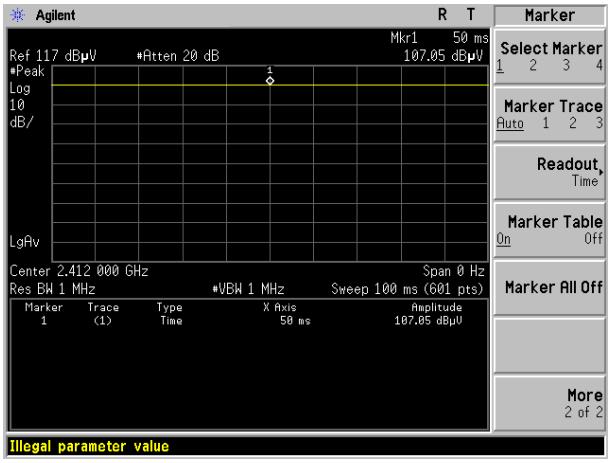
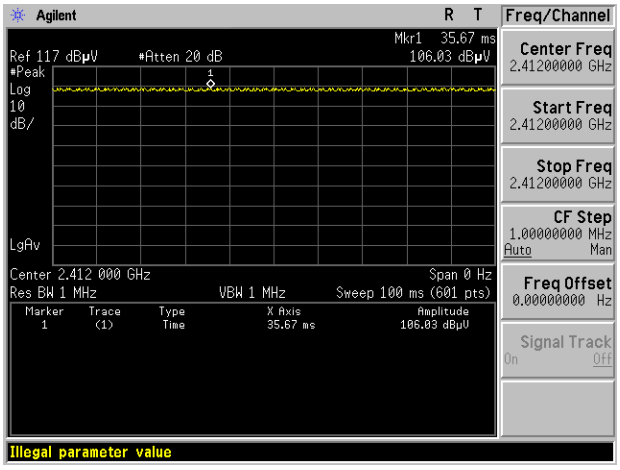
4. EUT DUTY CYCLE

Duty Cycle			
Configuration	TX ON (ms)	TX ALL (ms)	Duty Cycle (%)
802.11b	1.0000	1.0000	100.00%
802.11g	1.0000	1.0000	100.00%
802.11n HT20	4.9500	5.0500	98.02%
802.11n HT40	2.4250	2.4910	97.35%

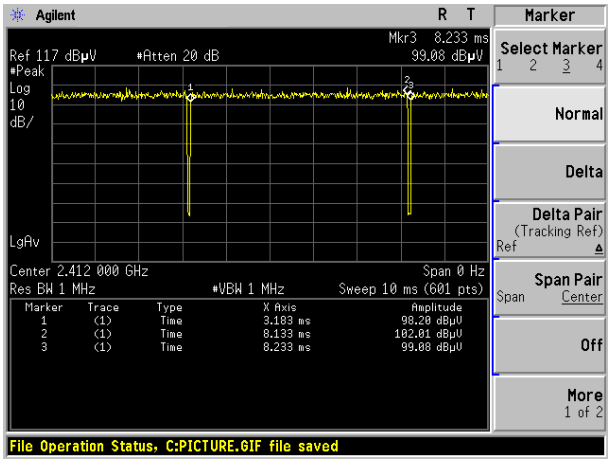
802.11b



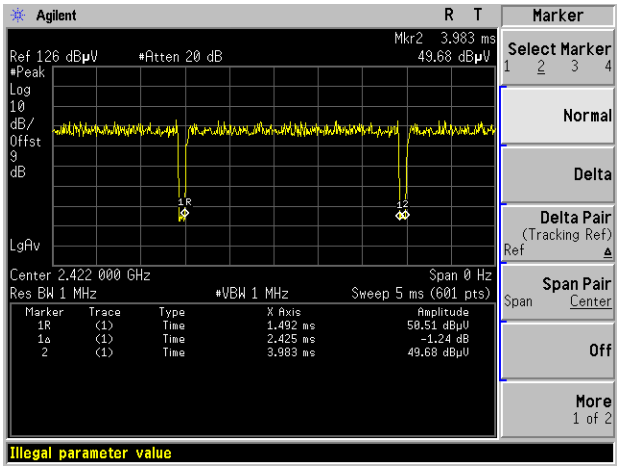
802.11g



802.11n HT20



802.11n HT40



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5. TEST RESULT

5.1 AC POWER LINE CONDUCTED EMISSION

5.1.1 Test Limit

According to §15.207(a),

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

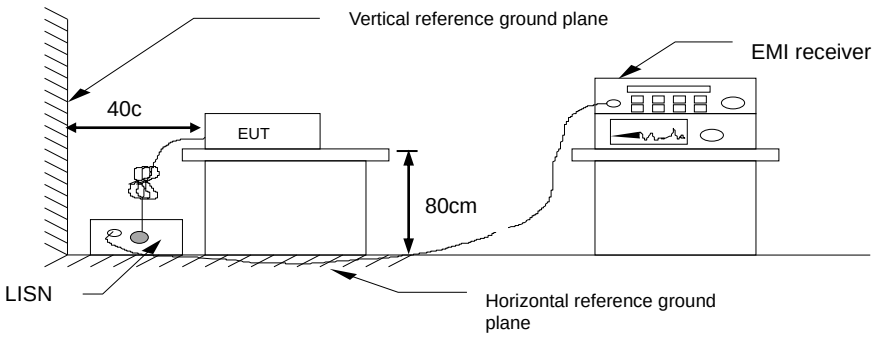
* Decreases with the logarithm of the frequency.

5.1.2 Test Procedure

Test method Refer as ANSI 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.

5.1.3 Test Setup



5.1.4 Test Result

Pass.

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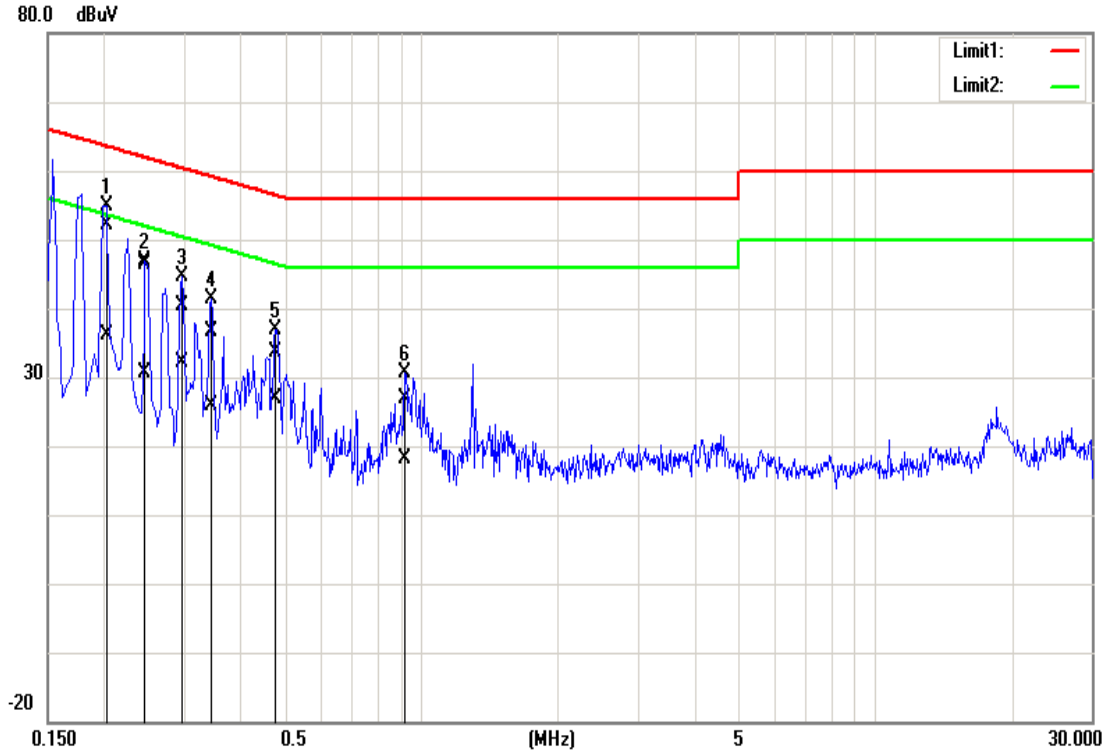
Test Data

Test Mode:	Mode 1	Temp/Hum	24(℃)/ 50%RH
Phase:	Line	Test Date	2019/08/22
		Test Engineer	Dally Hong



Frequency (MHz)	Quasi Peak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	Quasi Peak result (dBuV)	Average result (dBuV)	Quasi Peak limit (dBuV)	Average limit (dBuV)	Quasi Peak margin (dB)	Average margin (dB)	Remark
0.2020	42.03	25.94	10.13	52.16	36.07	63.53	53.53	-11.37	-17.46	Pass
0.2460	36.17	20.49	10.13	46.30	30.62	61.89	51.89	-15.59	-21.27	Pass
0.2980	30.36	22.01	10.13	40.49	32.14	60.30	50.30	-19.81	-18.16	Pass
0.3460	26.54	15.71	10.14	36.68	25.85	59.06	49.06	-22.38	-23.21	Pass
0.4780	23.58	16.83	10.14	33.72	26.97	56.37	46.37	-22.65	-19.40	Pass
0.9220	16.74	7.89	10.17	26.91	18.06	56.00	46.00	-29.09	-27.94	Pass

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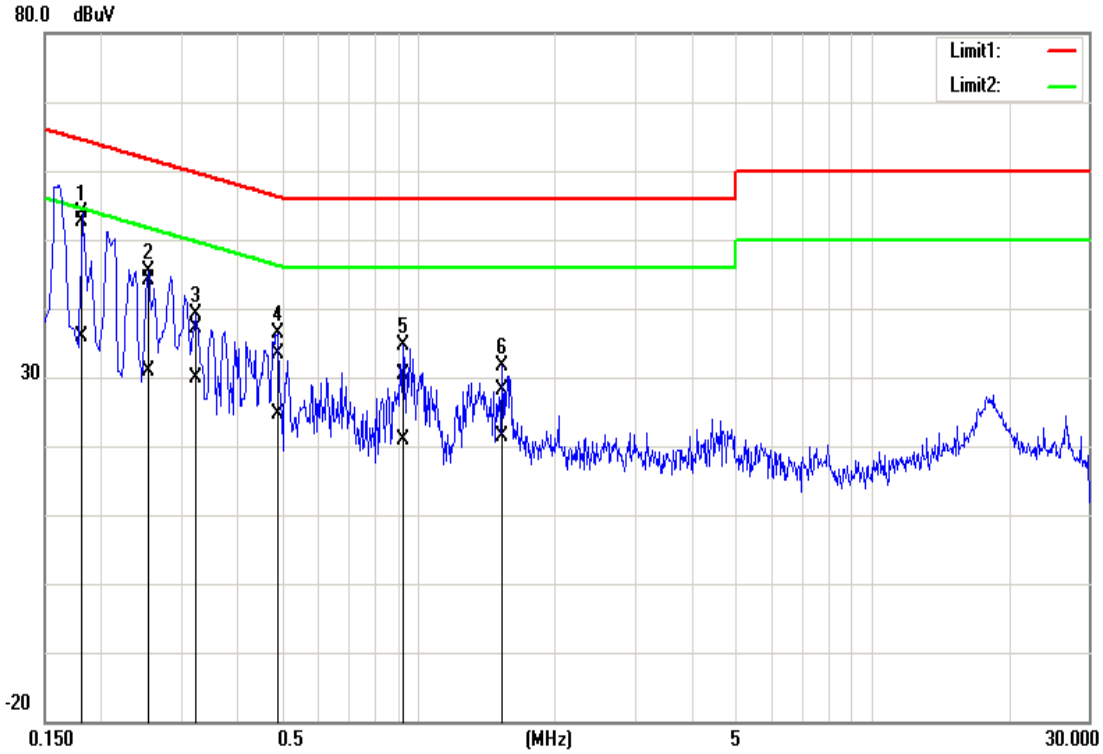
Test Mode:	Mode 1	Temp/Hum	24(℃)/ 50%RH
Phase:	Neutral	Test Date	2019/08/22
		Test Engineer	Dally Hong



Frequency (MHz)	Quasi Peak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	Quasi Peak result (dBuV)	Average result (dBuV)	Quasi Peak limit (dBuV)	Average limit (dBuV)	Quasi Peak margin (dB)	Average margin (dB)	Remark
0.1820	42.61	25.97	10.02	52.63	35.99	64.39	54.39	-11.76	-18.40	Pass
0.2540	34.06	20.82	10.02	44.08	30.84	61.63	51.63	-17.55	-20.79	Pass
0.3220	27.21	19.95	10.03	37.24	29.98	59.66	49.66	-22.42	-19.68	Pass
0.4900	23.38	14.54	10.03	33.41	24.57	56.17	46.17	-22.76	-21.60	Pass
0.9260	20.25	10.92	10.04	30.29	20.96	56.00	46.00	-25.71	-25.04	Pass
1.5300	18.10	11.39	10.06	28.16	21.45	56.00	46.00	-27.84	-24.55	Pass

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5.2 6dB BANDWIDTH AND OCCUPIED BANDWIDTH(99%)

5.2.1 Test Limit

According to §15.247(a)(2),

6 dB Bandwidth ：

Limit	Shall be at least 500kHz

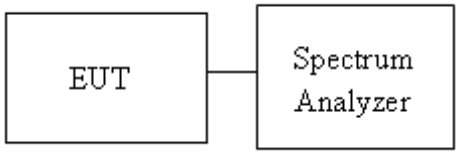
Occupied Bandwidth(99%) ： For reporting purposes only.

5.2.2 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 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



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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	13.0680	12.9811	8.0435	8.5652	≥500
Mid	2437	13.0680	12.9811	8.087	8.0435	
High	2462	13.1548	13.0246	8.087	8.0435	

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	16.6280	16.5846	16.3478	16.3478	≥500
Mid	2437	16.5412	16.5412	16.3478	16.3478	
High	2462	16.5846	16.5846	16.3478	16.3478	

Test mode: IEEE 802.11n HT20 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	17.7134	18.1041	17.5652	17.5652	≥500
Mid	2437	17.7134	17.7134	17.5652	17.5217	
High	2462	17.6266	17.7568	17.5652	17.5652	

Test mode: IEEE 802.11n HT40 Mode / 2422-2452 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	2422	36.2373	36.1215	35.014	35.246	>500
Mid	2437	36.1215	36.1215	33.159	35.246	
High	2452	36.1215	36.1215	35.13	35.246	

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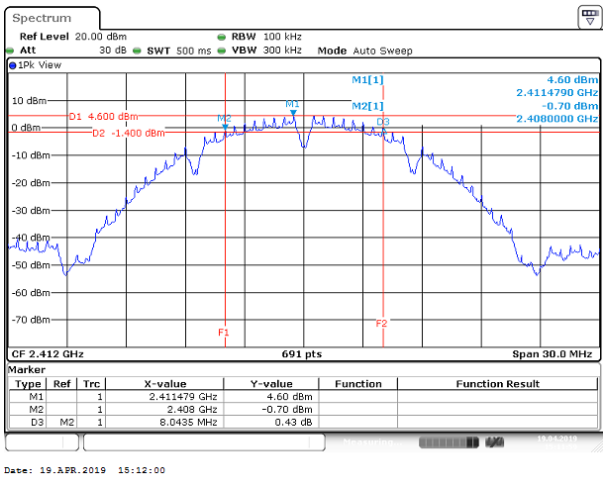
Test Data

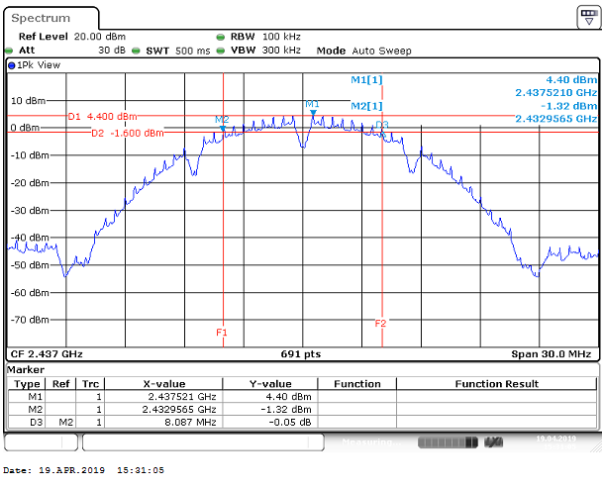
6dB BANDWIDTH

IEEE 802.11b Mode- chain 0

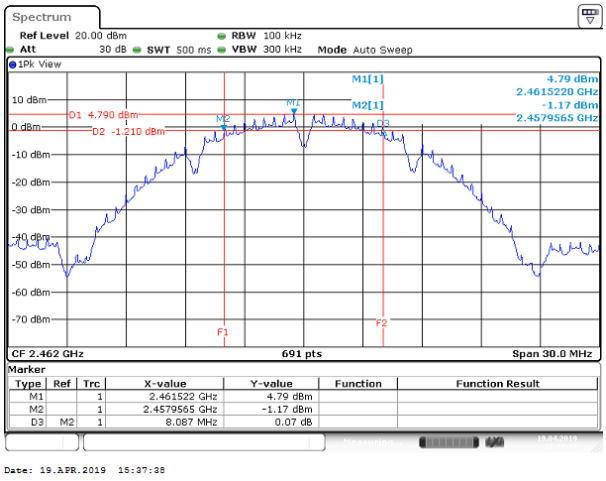
Low CH



Mid CH



High CH



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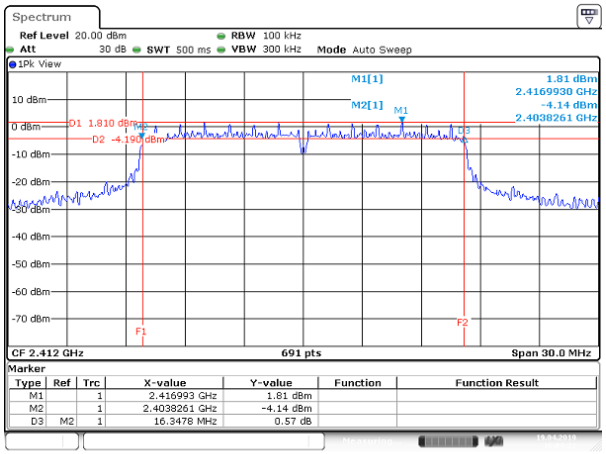
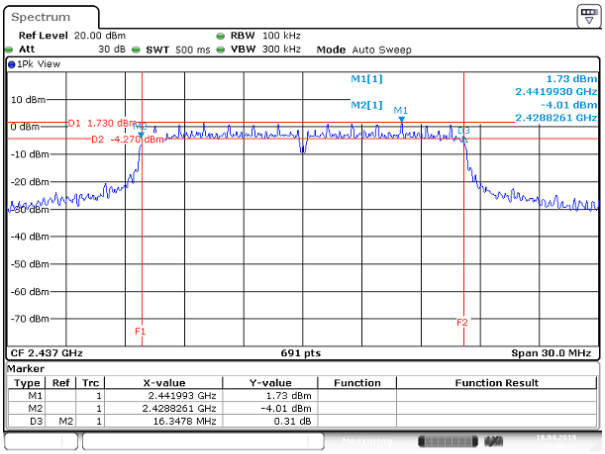
IEEE 802.11g Mode- chain 0

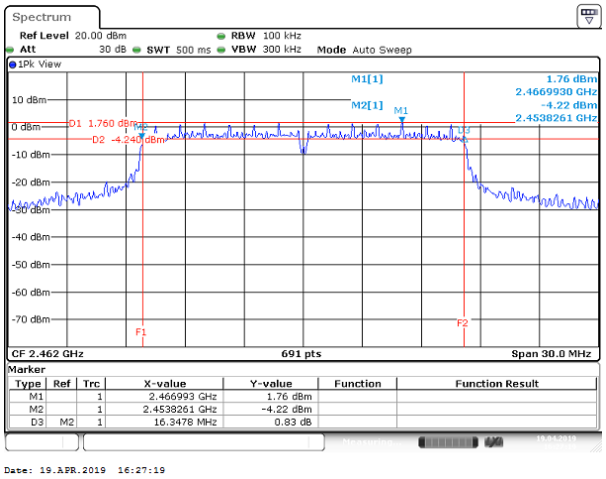
Low CH



Mid CH



High CH



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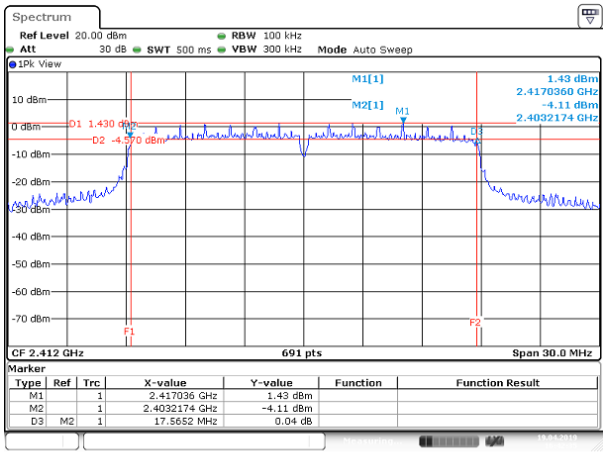
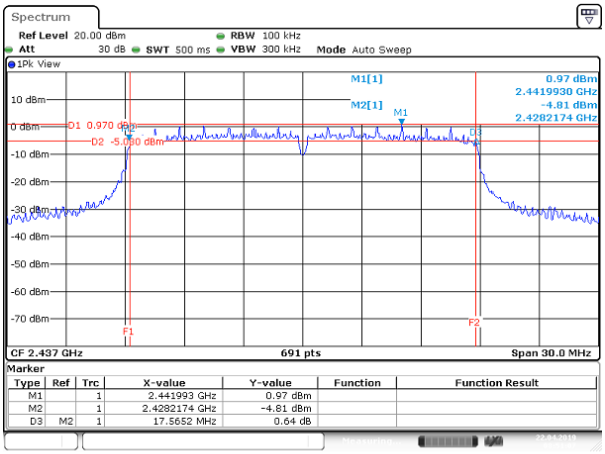
IEEE 802.11n HT20 Mode- chain 0

Low CH



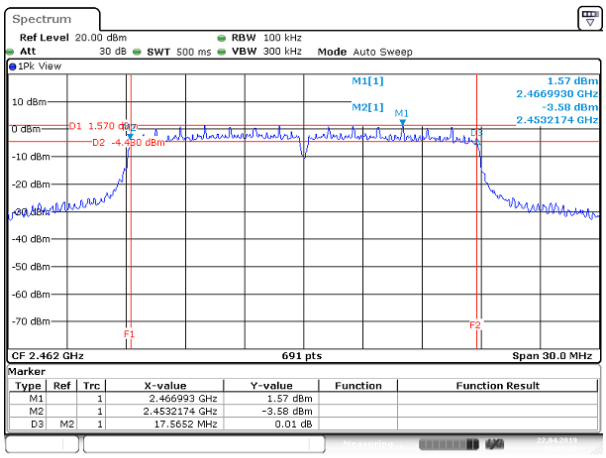
Date: 19.APR.2019 16:42:36

Mid CH



Date: 22.APR.2019 08:51:07

High CH



Date: 22.APR.2019 09:08:12

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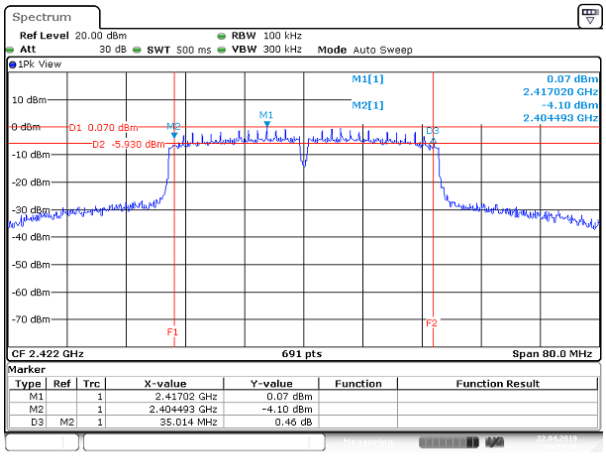
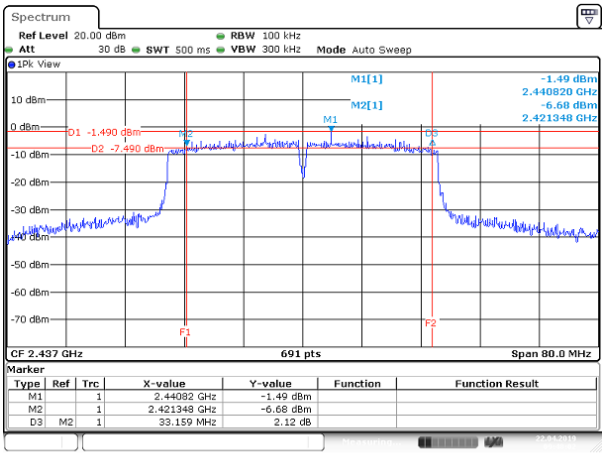
IEEE 802.11n HT40 mode-Chain 0

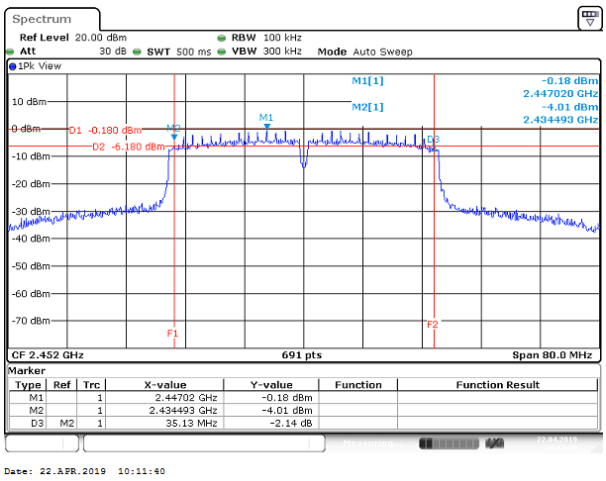
Low CH



Mid CH



High CH



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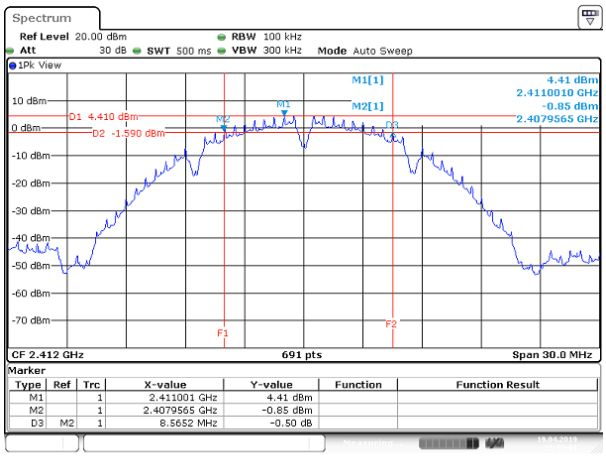
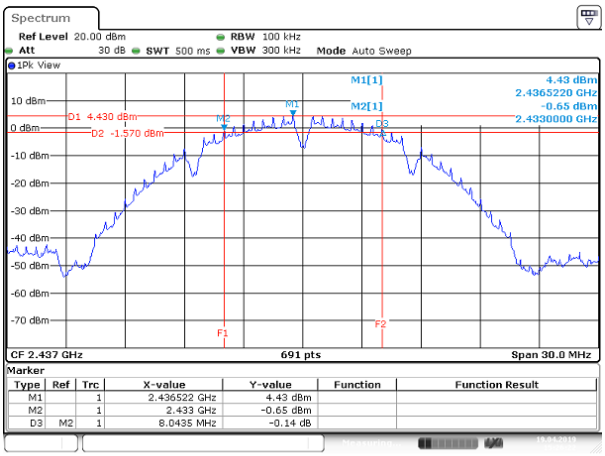
IEEE 802.11b mode-Chain 1

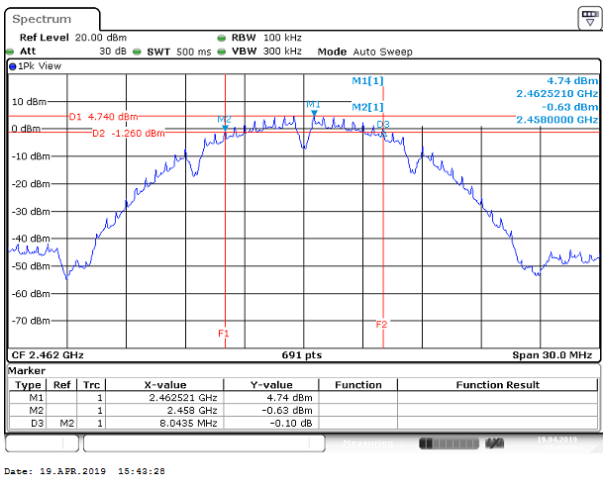
Low CH



Mid CH



High CH



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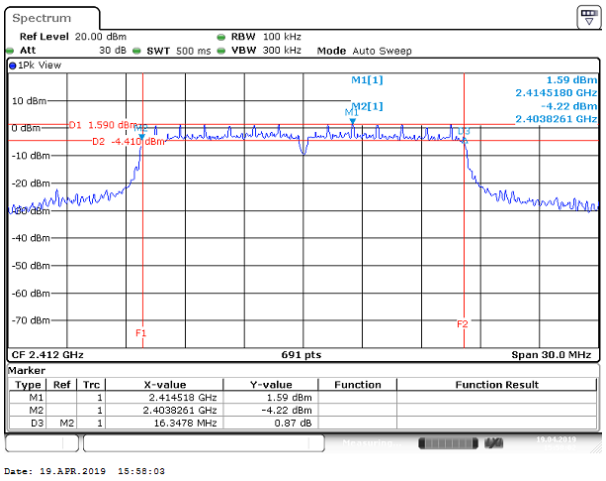
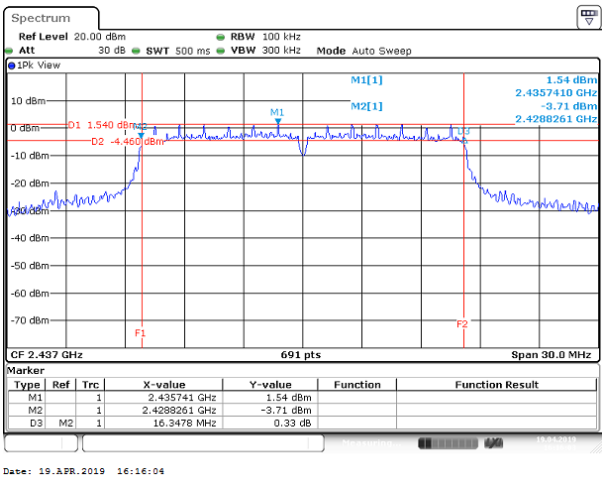
IEEE 802.11g mode-Chain 1

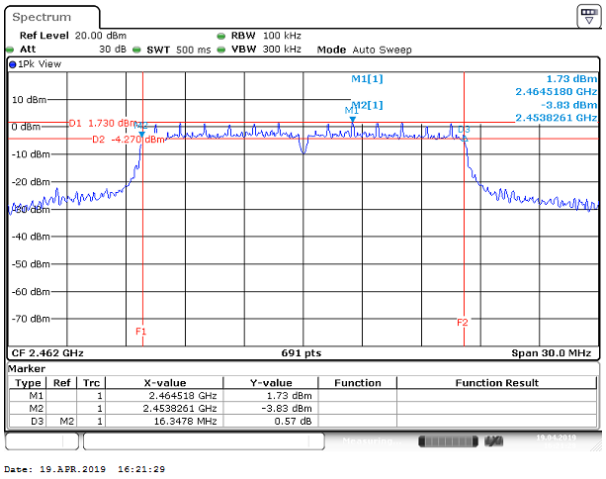
Low CH



Mid CH



High CH



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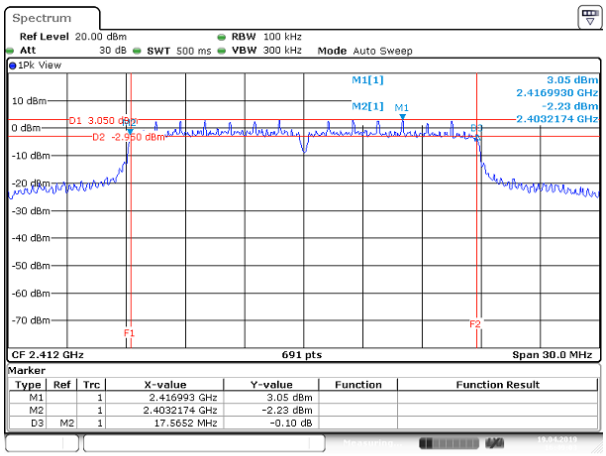
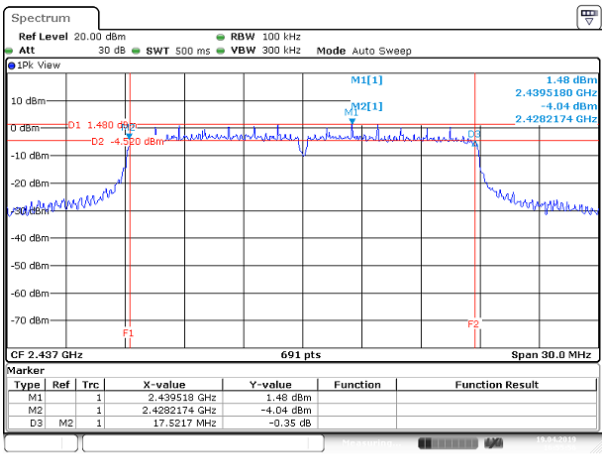
IEEE 802.11n HT20 mode-Chain 1

Low CH



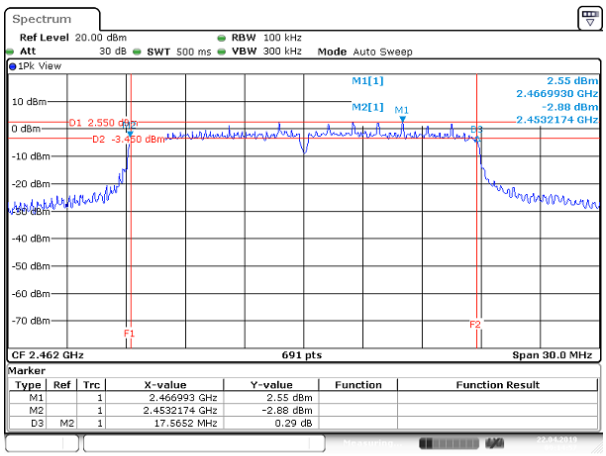
Date: 19.APR.2019 16:49:04

Mid CH



Date: 19.APR.2019 16:55:56

High CH



Date: 22.APR.2019 09:14:57

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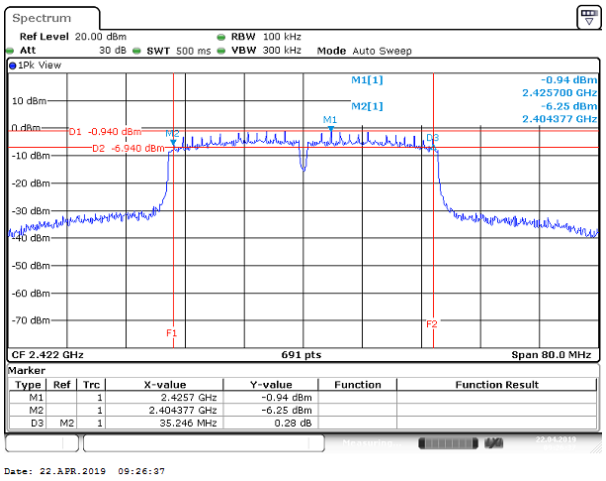
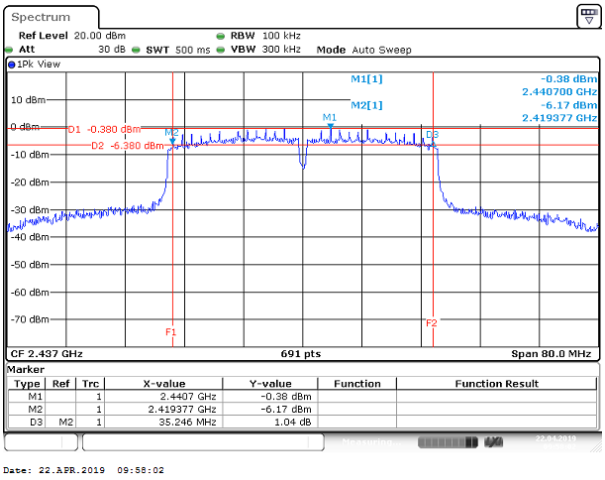
IEEE 802.11n HT40 mode-Chain 1

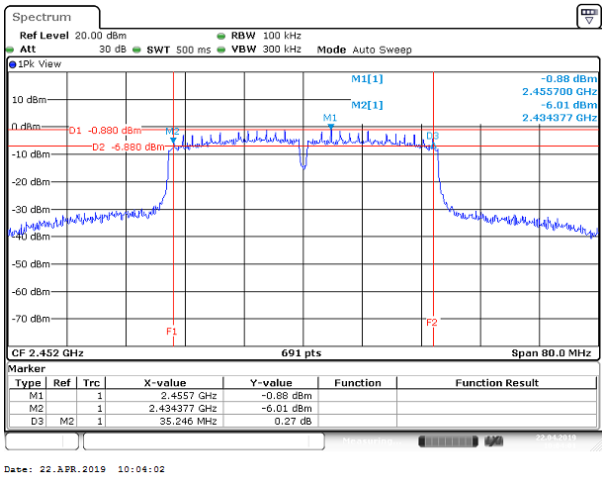
Low CH



Mid CH



High CH



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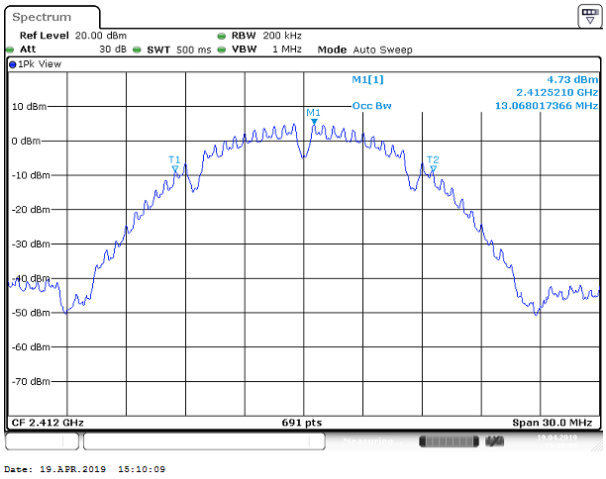
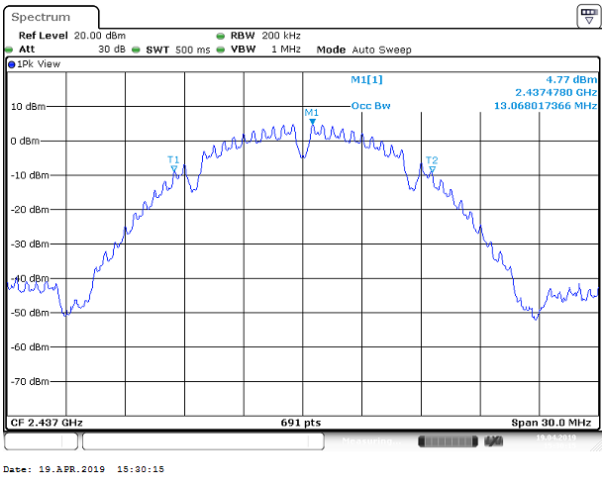
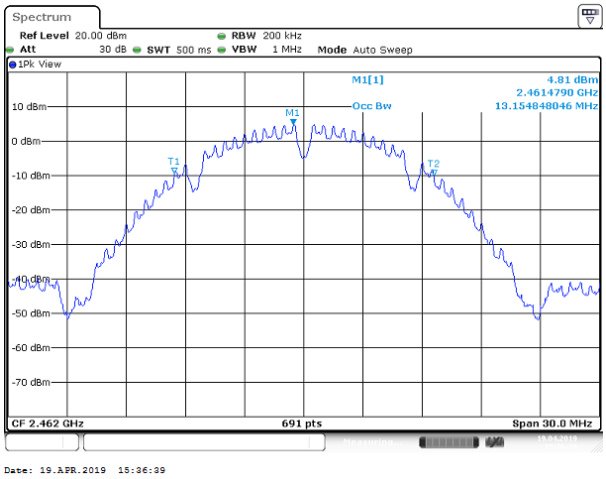
Test Data

BANDWIDTH (99%)

IEEE 802.11b mode-Chain 0	
Low CH	**Mid CH**
	
High CH	
	

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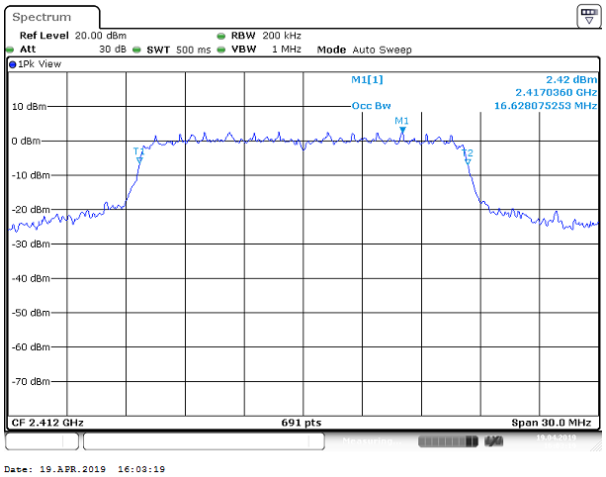
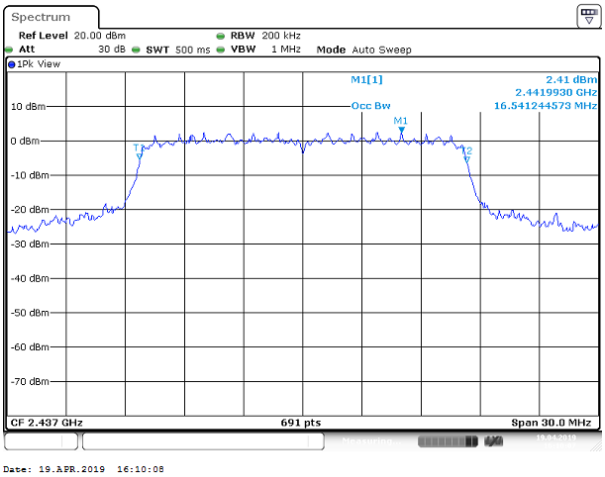
IEEE 802.11g mode-Chain 0

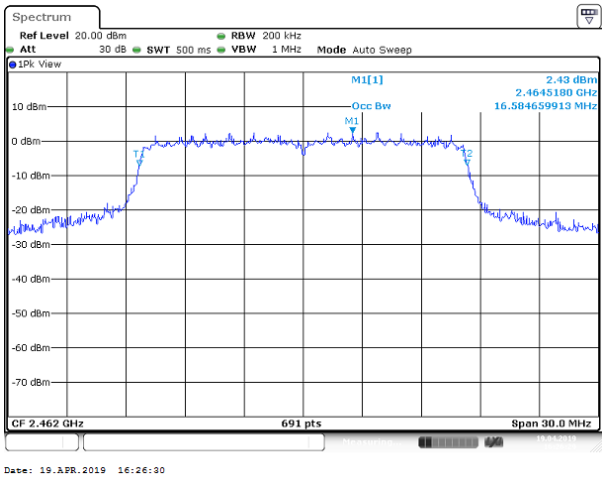
Low CH



Mid CH



High CH



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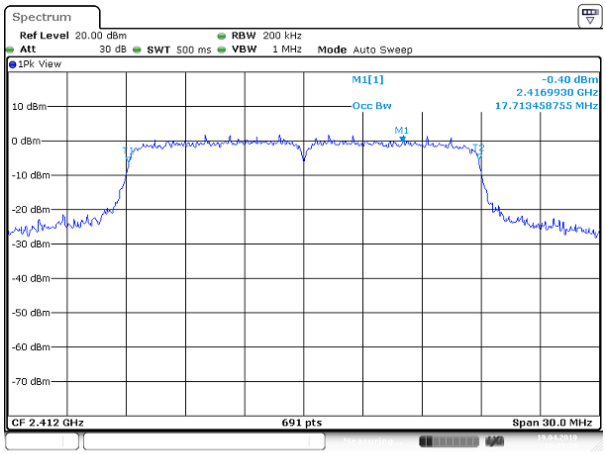
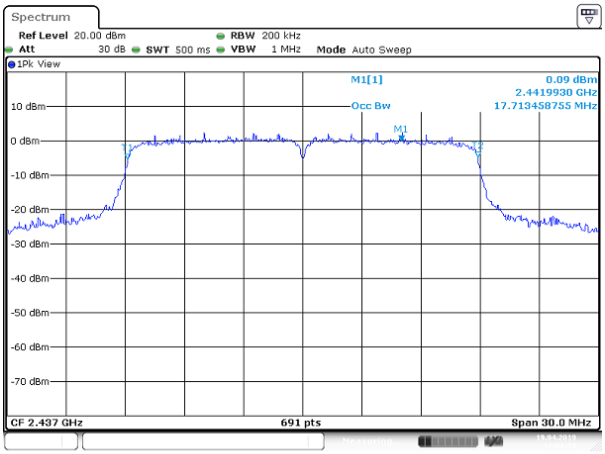
IEEE 802.11n HT20 mode-Chain 0

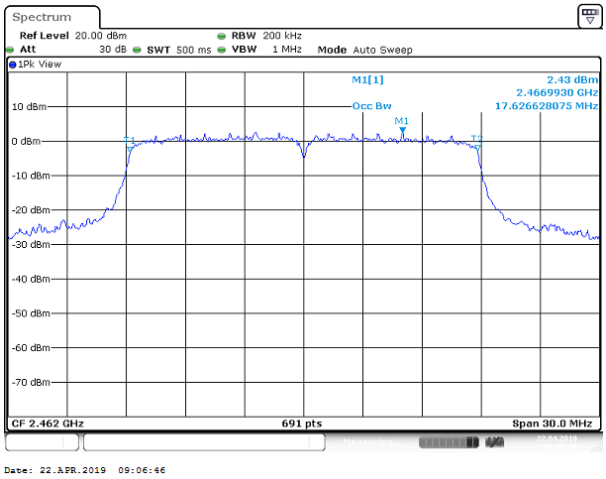
Low CH



Mid CH



High CH



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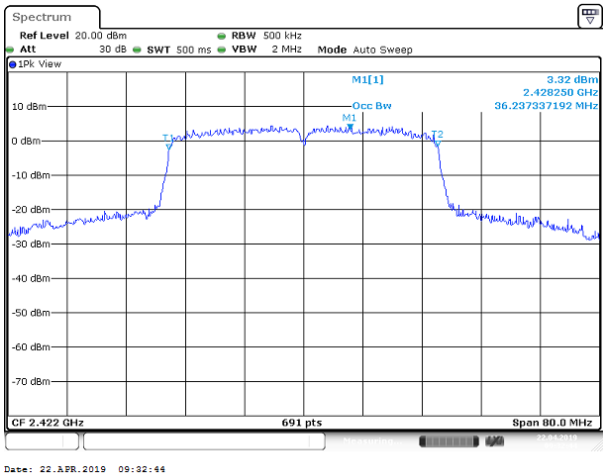
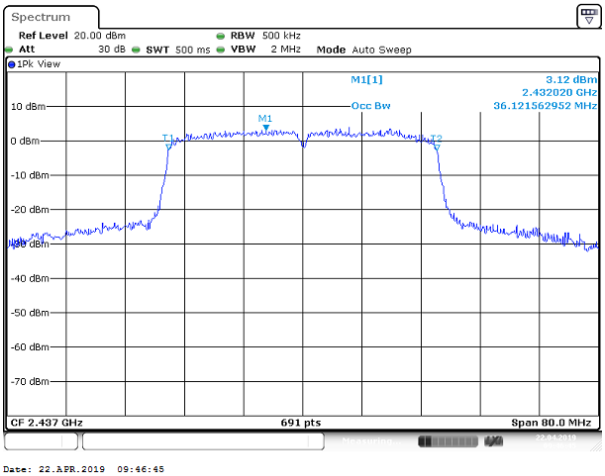
IEEE 802.11n HT40 mode-Chain 0

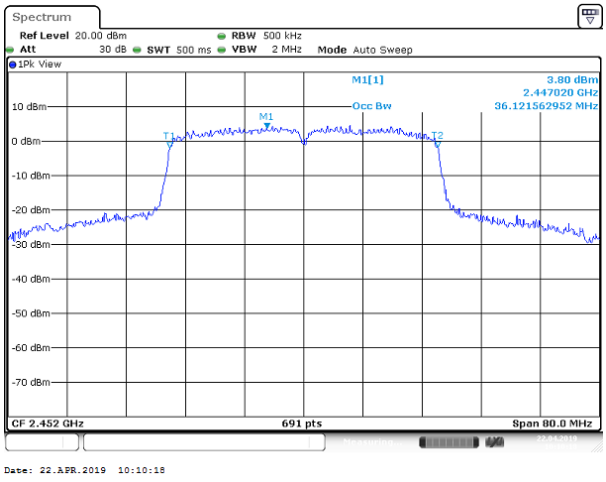
Low CH



Mid CH



High CH



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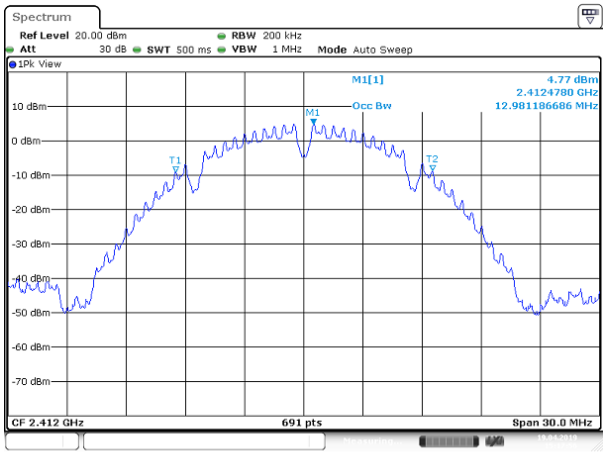
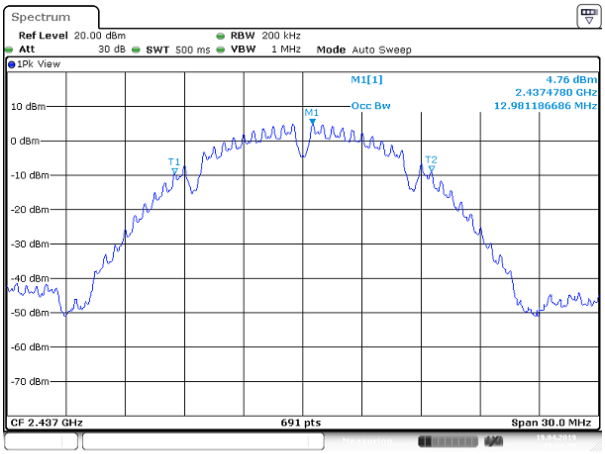
IEEE 802.11b mode-Chain 1

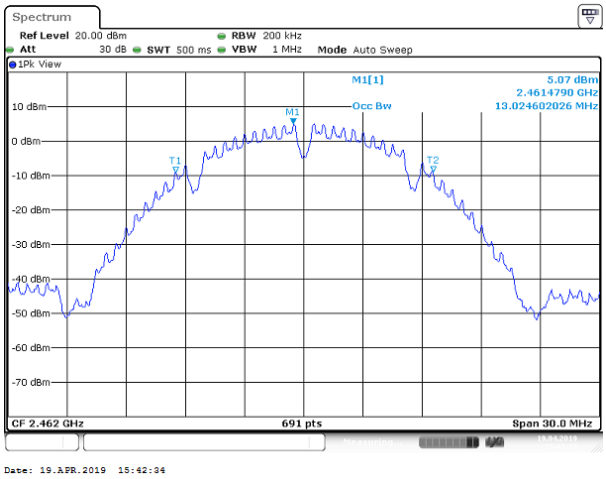
Low CH



Mid CH



High CH



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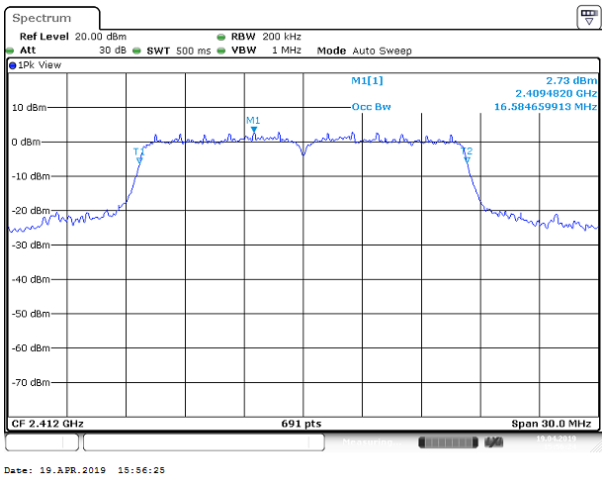
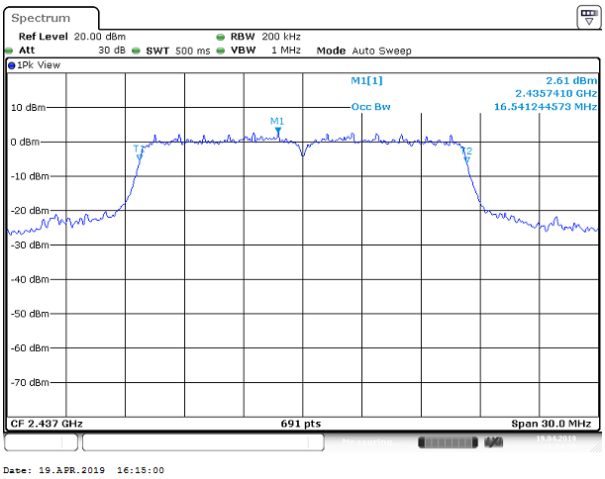
IEEE 802.11g mode-Chain 1

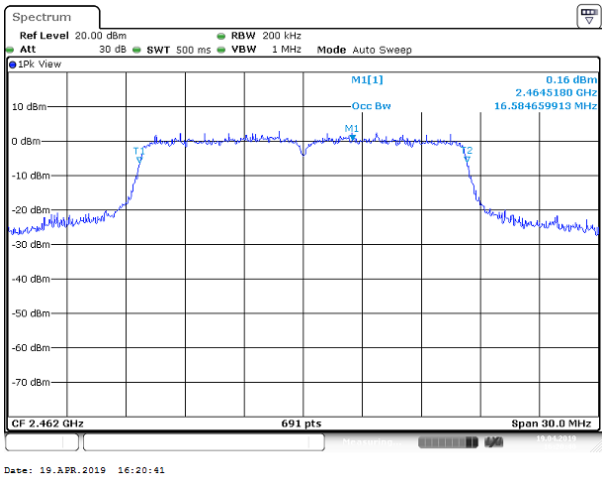
Low CH



Mid CH



High CH



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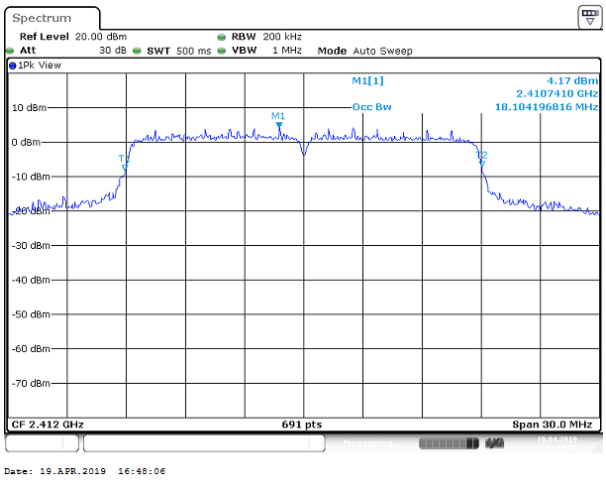
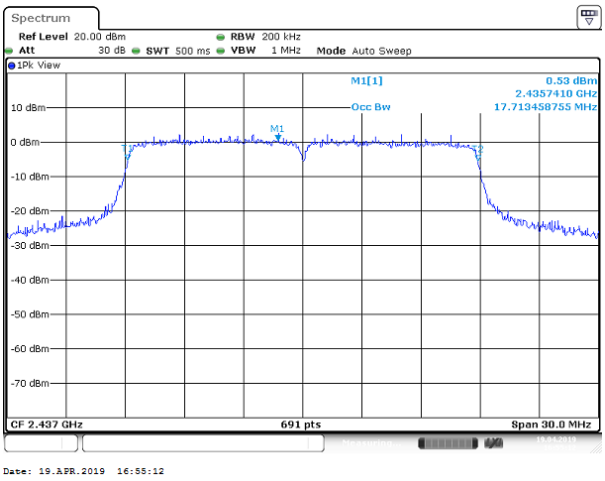
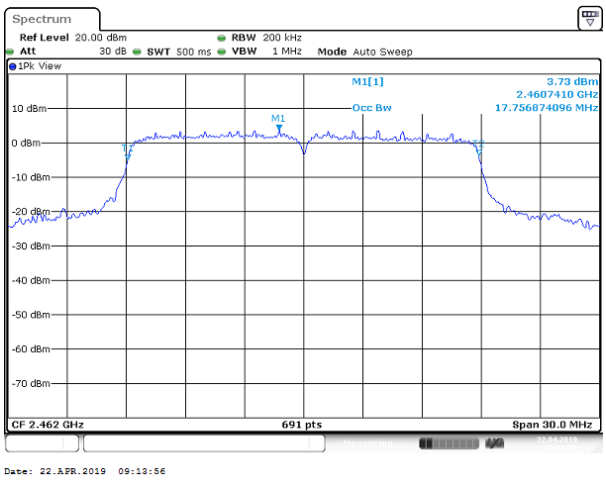
IEEE 802.11n HT20 mode-Chain 1	
Low CH	**Mid CH**
	
High CH	
	

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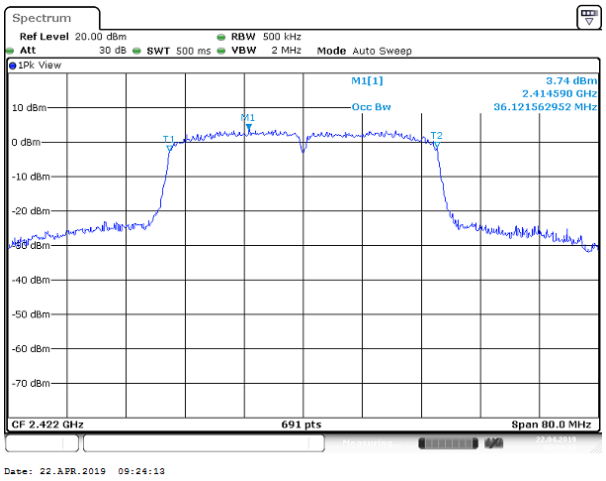
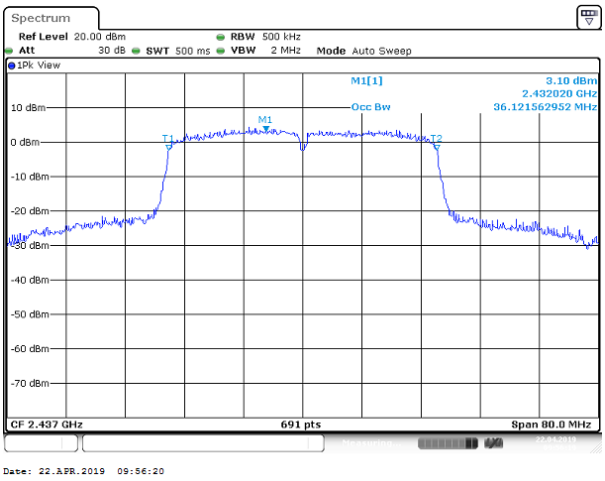
IEEE 802.11n HT40 mode-Chain 1

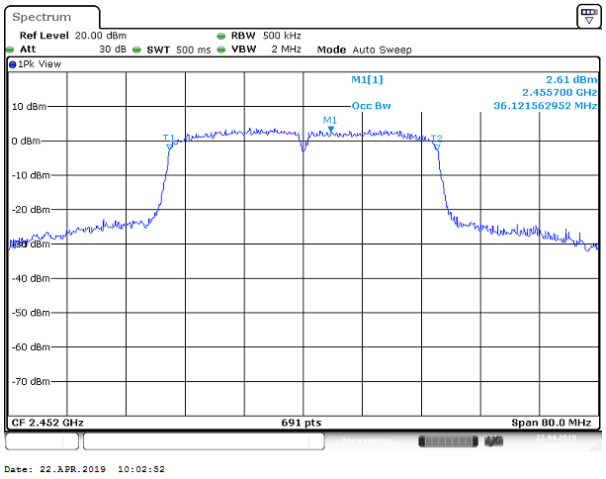
Low CH



Mid CH



High CH



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5.3 OUTPUT POWER MEASUREMENT

5.3.1 Test Limit

According to §15.247(b)(3),

Peak output power：

For systems using digital modulation in the 2400-2483.5 MHz: 1 Watt(30 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	☒ Antenna not exceed 6 dBi：30dBm ☐ Antenna with DG greater than 6 dBi： [Limit = 30 – (DG – 6)] ☐ Point-to-point operation：

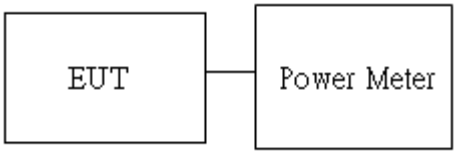
Average output power：For reporting purposes only.

5.3.2 Test Procedure

Test method Refer as KDB 558074 D01.

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



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5.3.4 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)	Limit (dBm)
			chain0	chain1	chain0	chain1			
IEEE 802.11b Data rate: 1Mbps	Low	2412	23	23	25.00	25.2	28.11	0.6474	30
	Mid	2437	24	24	26.13	26.3	29.23	0.8368	
	High	2462	24	24	26.51	26.55	29.54	0.8996	
IEEE 802.11g Data rate: 6Mbps	Low	2412	18	18	26.67	26.76	29.73	0.9388	
	Mid	2437	18	18	26.57	26.59	29.59	0.9100	
	High	2462	18	18	26.51	26.41	29.47	0.8852	
IEEE 802.11n 20MHz Data rate: MCS8	Low	2412	18	18	26.17	26.24	29.22	0.8347	
	Mid	2437	18	18	26.41	26.56	29.50	0.8904	
	High	2462	18	18	26.35	26.31	29.34	0.8591	
IEEE 802.11n 40MHz Data rate: MCS8	Low	2422	18	18	26.64	26.72	29.69	0.9312	
	Mid	2437	18	18	26.62	26.31	29.48	0.8868	
	High	2452	18	18	26.23	26.34	29.30	0.8503	

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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	22.46	22.74	25.61
	Mid	2437	23.62	23.75	26.70
	High	2462	24.00	24.07	27.05
IEEE 802.11g Data rate: 6Mbps	Low	2412	17.96	18.07	21.03
	Mid	2437	17.90	17.96	20.94
	High	2462	17.83	17.80	20.83
IEEE 802.11n 20MHz Data rate: MCS8	Low	2412	17.47	17.49	20.49
	Mid	2437	17.93	17.97	20.96
	High	2462	17.84	17.83	20.85
IEEE 802.11n 40MHz Data rate: MCS8	Low	2422	17.65	17.80	20.74
	Mid	2437	17.56	17.68	20.63
	High	2452	17.52	17.60	20.57

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5.4 POWER SPECTRAL DENSITY

5.4.1 Test Limit

According to §15.247(e),

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.

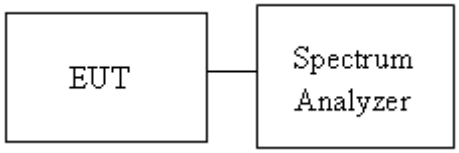
Limit	☒ Antenna not exceed 6 dBi：8dBm ☐ Antenna with DG greater than 6 dBi： [Limit = 8 – (DG – 6)] ☐ Point-to-point operation：

5.4.2 Test Procedure

Test method Refer as KDB 558074 D01.

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 was 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



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5.4.4 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	1.04	0.85	3.96	8
Mid	2437	1.73	2.29	5.03	
High	2462	1.62	1.57	4.61	

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	-1.38	-1.54	1.55	8
Mid	2437	-1.55	-1.78	1.35	
High	2462	-1.85	-1.67	1.25	

Test mode: IEEE 802.11n HT20 Mode / 2412-2462 MHz					
Channel	**Frequency (MHz)**	**Chain 0 PPSD (dBm)**	**Chain 1 PPSD (dBm)**	**Total PSSD (dBm)**	**Limit (dBm)**
Low	2412	-2.49	-2.24	0.65	8
Mid	2437	-2.1	-2.04	0.94	
High	2462	-2.22	-1.38	1.23	

Test mode: IEEE 802.11n HT40 Mode / 2422-2452 MHz					
Channel	**Frequency (MHz)**	**Chain 0 PPSD (dBm)**	**Chain 1 PPSD (dBm)**	**Total PSSD (dBm)**	**Limit (dBm)**
Low	2422	-3.86	-3.79	-0.81	8
Mid	2437	-4.45	-3.42	-0.89	
High	2452	-3.85	-3.83	-0.83	

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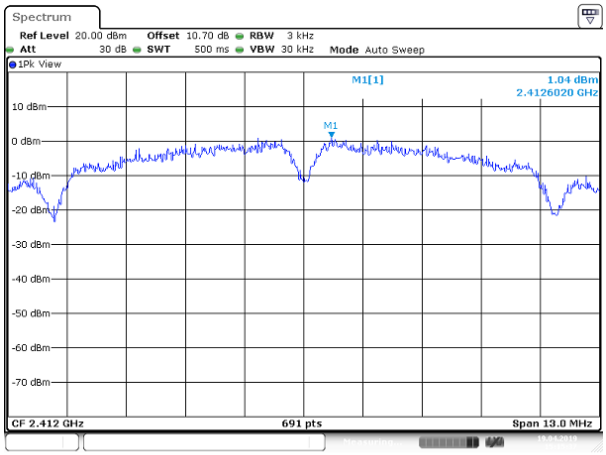
Test Data

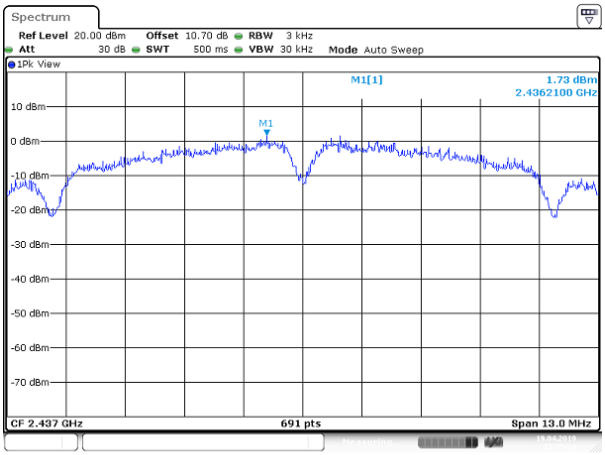
IEEE 802.11b mode-chain 0

Low CH



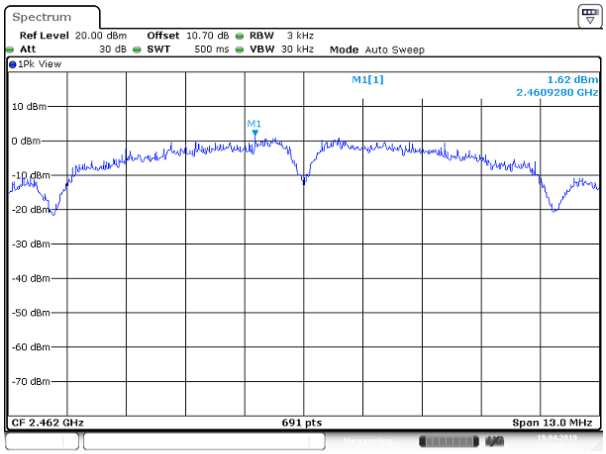
Date: 19.APR.2019 15:15:37

Mid CH



Date: 19.APR.2019 15:35:15

High CH



Date: 19.APR.2019 15:40:23

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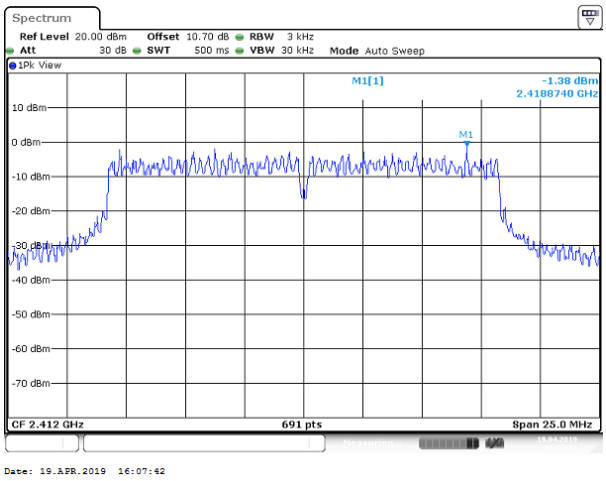
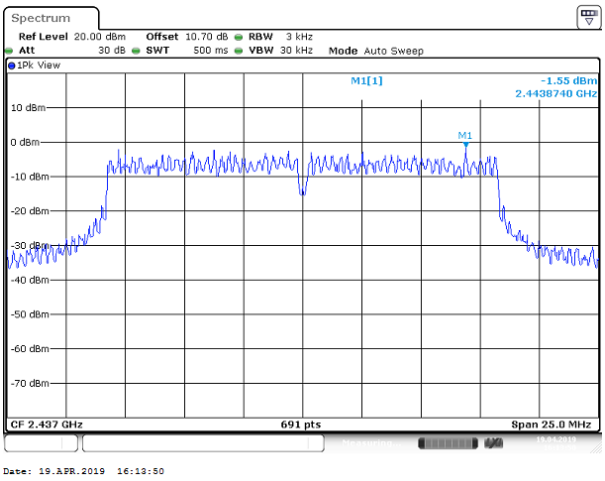
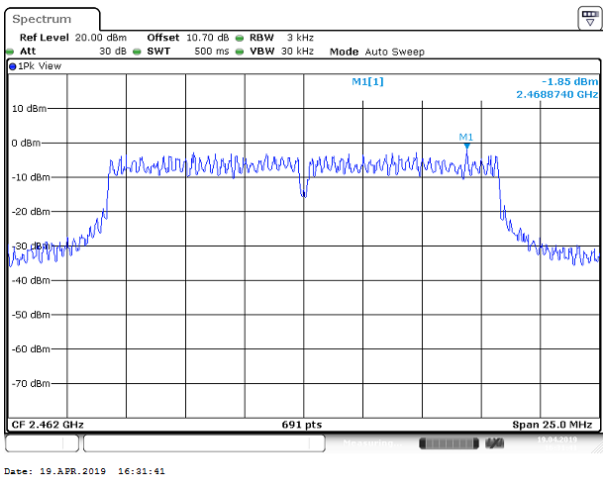
IEEE 802.11g mode-chain 0	
Low CH	**Mid CH**
	
High CH	
	

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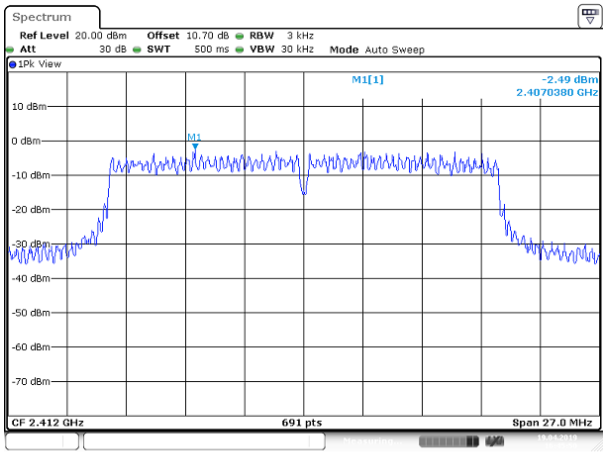
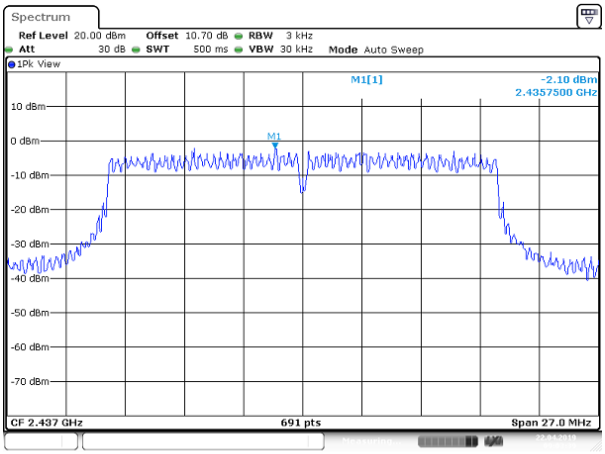
IEEE 802.11n HT20 mode-chain 0

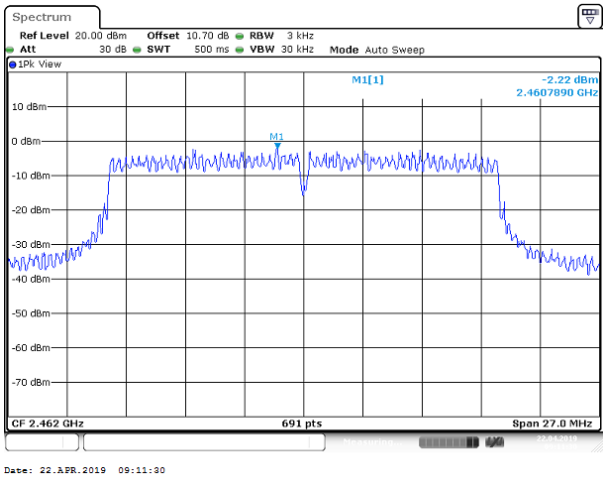
Low CH



Mid CH



High CH



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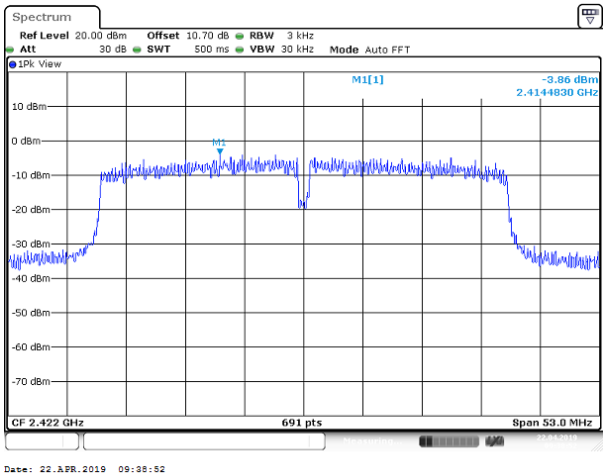
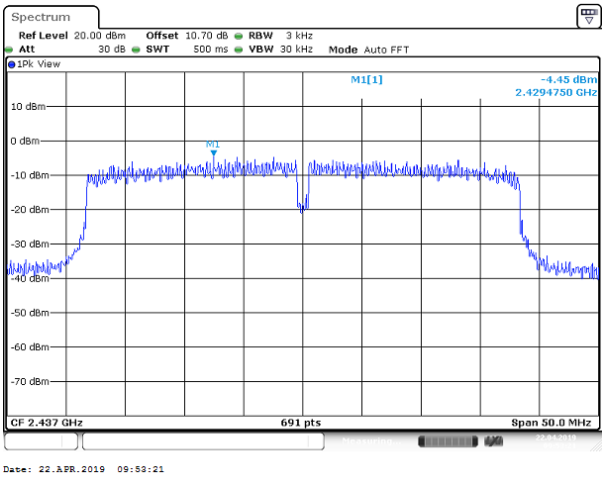
IEEE 802.11n HT40 mode-chain 0

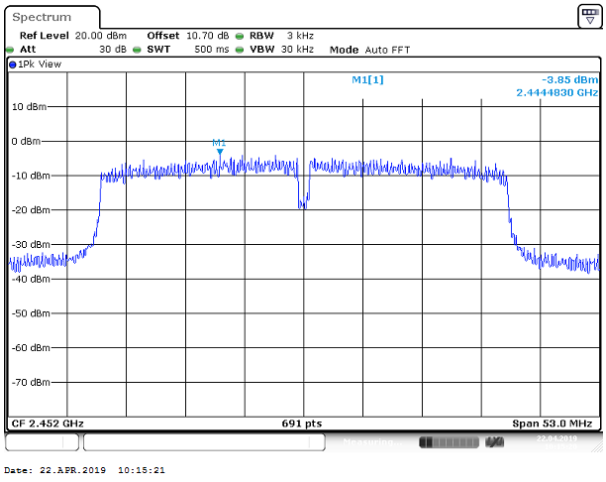
Low CH



Mid CH



High CH



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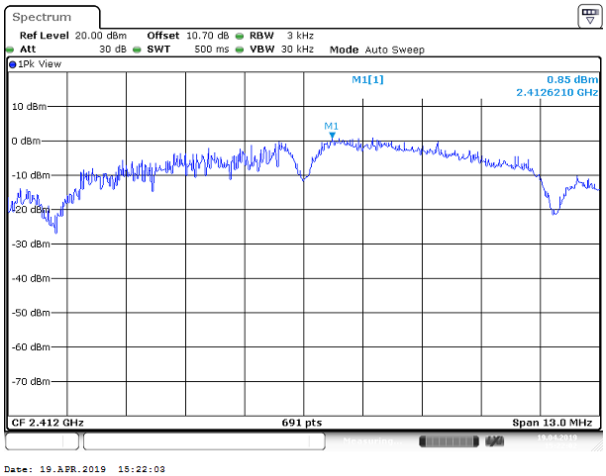
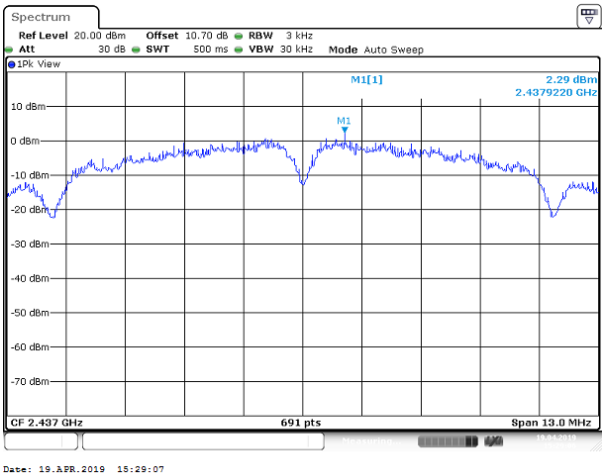
IEEE 802.11b mode-chain 1

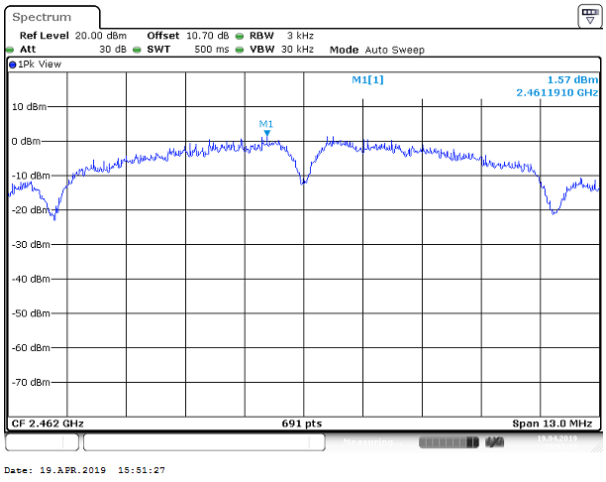
Low CH



Mid CH



High CH



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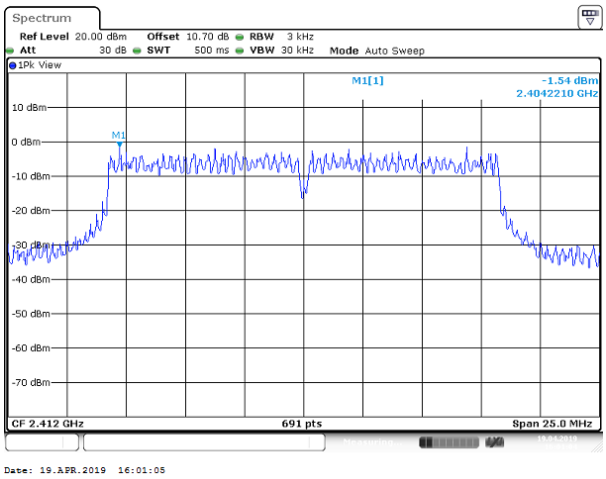
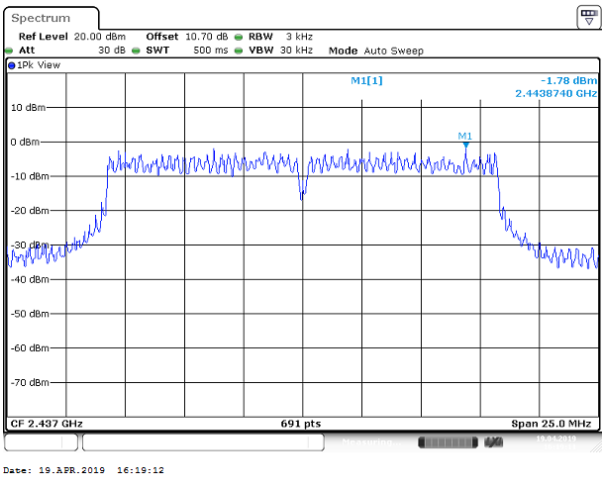
IEEE 802.11g mode-chain 1

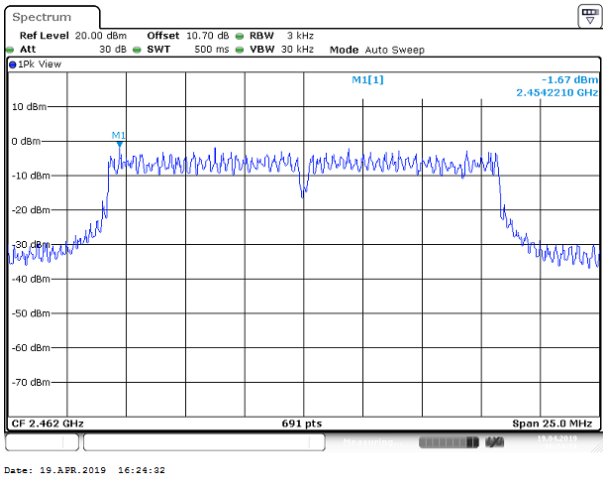
Low CH



Mid CH



High CH



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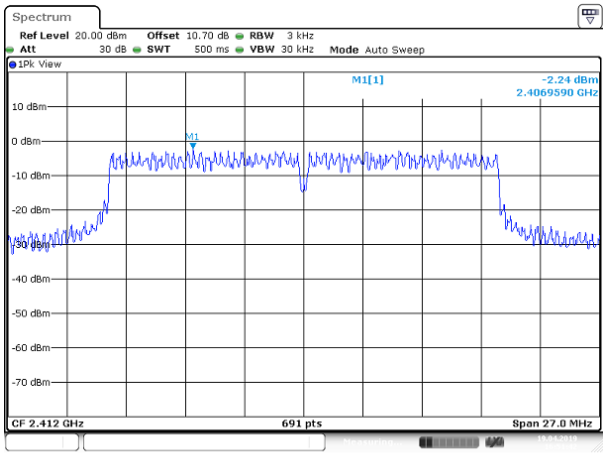
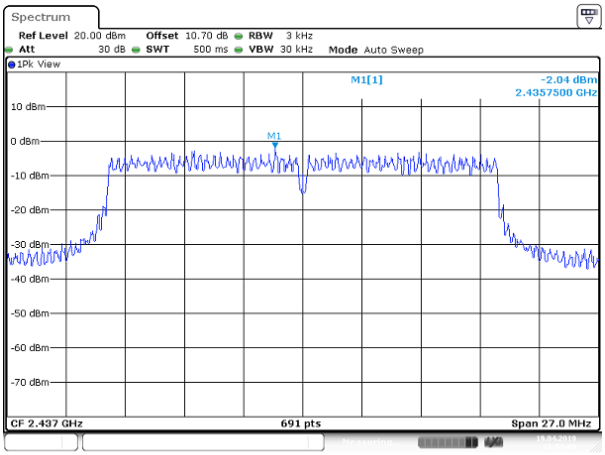
IEEE 802.11n HT20 mode-chain 1

Low CH



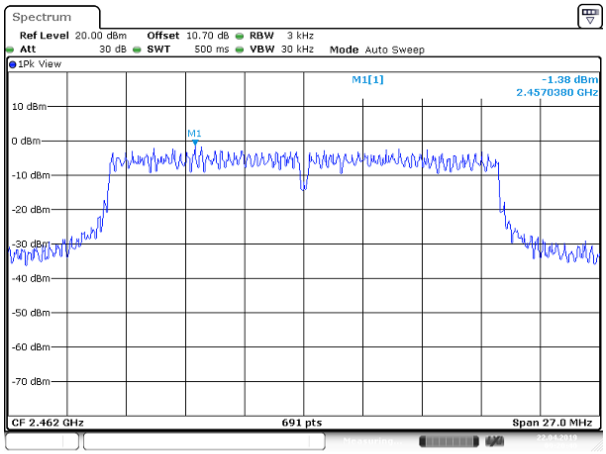
Date: 19.APR.2019 16:51:42

Mid CH



Date: 19.APR.2019 16:59:09

High CH



Date: 22.APR.2019 09:20:40

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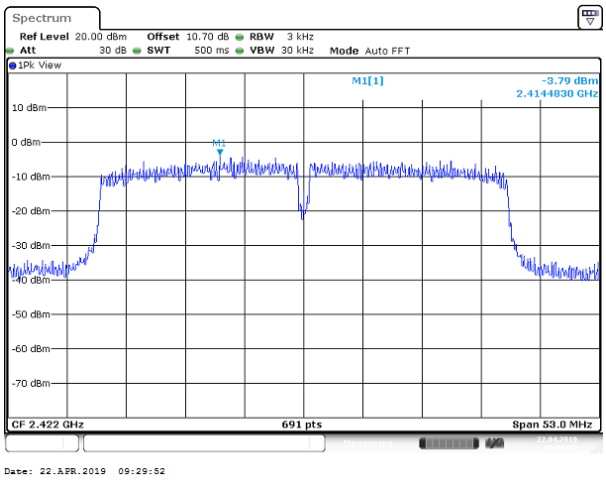
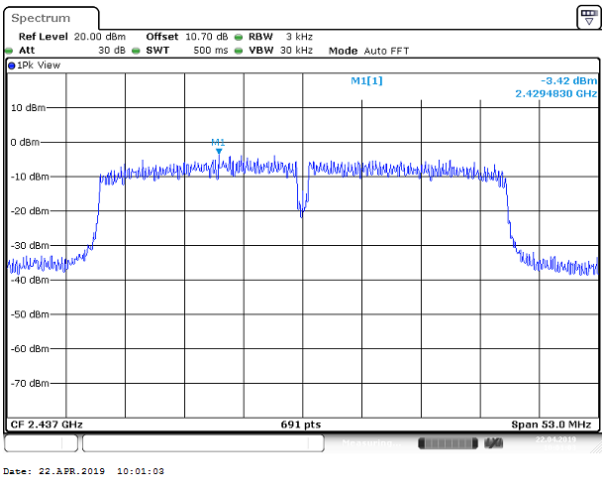
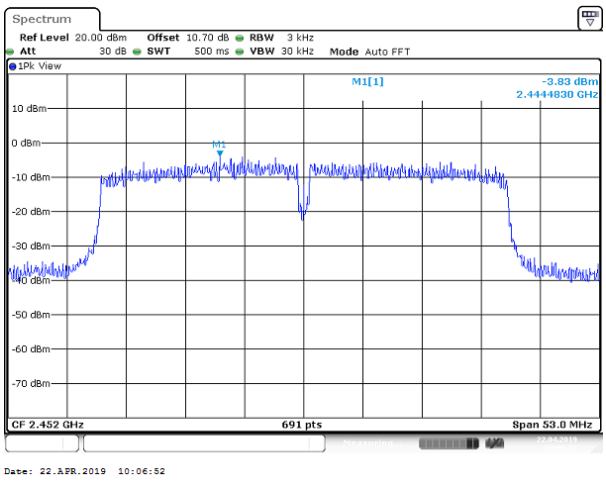
IEEE 802.11n HT40 mode-chain 1	
Low CH	**Mid CH**
	
High CH	
	

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5.5 CONDUCTED BANDEDGE AND SPURIOUS EMISSION

5.5.1 Test Limit

According to §15.247(d),

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

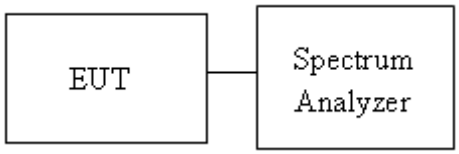
Test method Refer as KDB 558074 D01.

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. f 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



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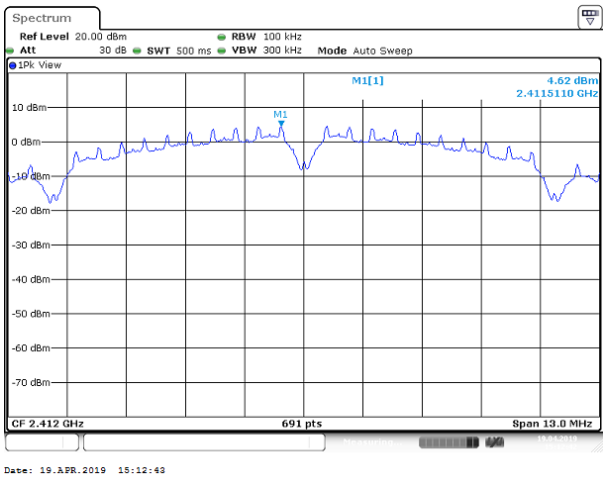
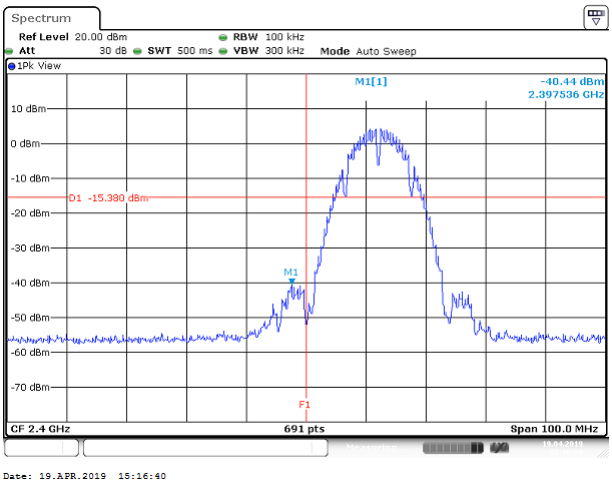
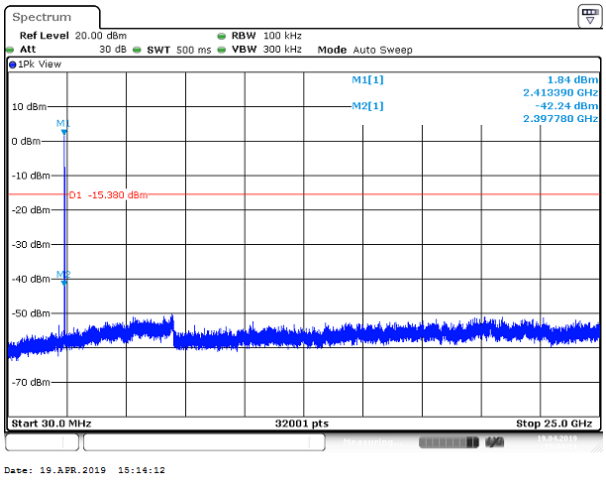
5.5.4 Test Result

Test Data

IEEE 802.11b mode Low CH-chain 0	
Reference Level of PSD in 100kHz	**Band Edge**
	
Spurious Emission 30MHz-25GHz	
	

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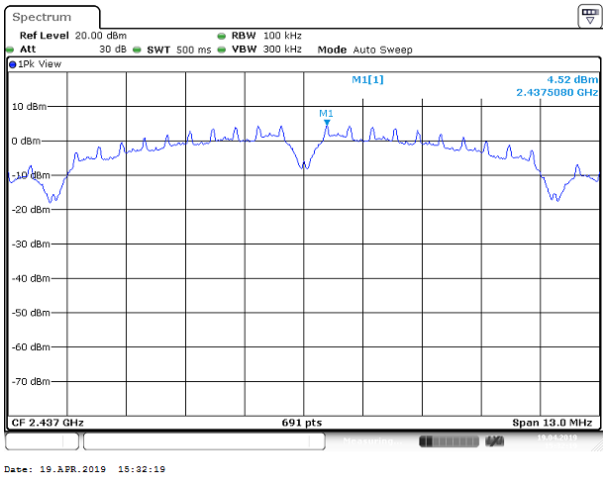
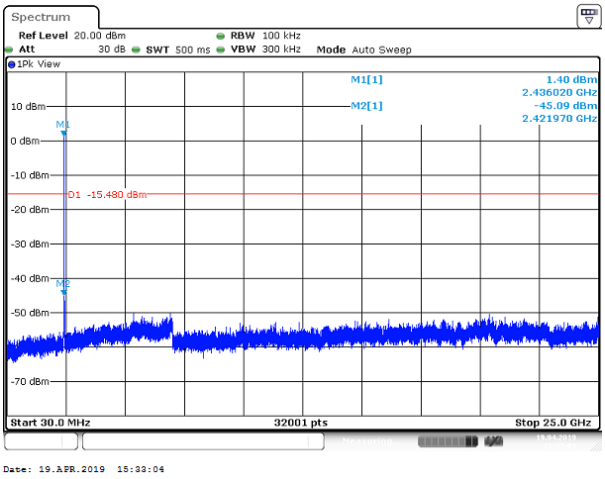
IEEE 802.11b mode Mid CH-chain 0	
Reference Level of PSD in 100kHz	**Spurious Emission 30MHz-25GHz**
	

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