

FCC REPORT (WIFI)

Applicant: 8Devices

Address of Applicant: Gedimino 47, Kaunas, LT-44242, Lithuania

Equipment Under Test (EUT)

Product Name: Komikan

Model No.: Komikan

FCC ID: Z9W-KOM

Applicable standards: FCC CFR Title 47 Part 15 Subpart C Section 15.247

Date of sample receipt: 24 Mar., 2020

Date of Test: 24 Mar., to 06 May, 2020

Date of report issued: 06 May, 2020

Test Result: PASS*

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:



Bruce Zhang
Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the CCIS product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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2 Version

Version No.	Date	Description
00	06 May, 2020	Original

Tested by:

Mike.Ou

Test Engineer

Date: 06 May, 2020

Reviewed by:

Winner Zhang

Project Engineer

Date: 06 May, 2020

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4 Test Summary

Test Items	Section in CFR 47	Result
Antenna requirement	15.203 & 15.247 (b)	Pass
AC Power Line Conducted Emission	15.207	Pass
Conducted Peak Output Power	15.247 (b)(3)	Pass
6dB Emission Bandwidth 99% Occupied Bandwidth	15.247 (a)(2)	Pass
Power Spectral Density	15.247 (e)	Pass
Band Edge	15.247 (d)	Pass
Spurious Emission	15.205 & 15.209	Pass

Remark:

1. Pass: The EUT complies with the essential requirements in the standard.
2. N/A: Not Applicable.
3. The cable insertion loss used by "RF Output Power" and other conduction measurement items is 1.0dB (provided by the customer).

Test Method:	ANSI C63.4-2014 ANSI C63.10-2013 KDB 558074 D01 15.247 Meas Guidance v05r02
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5 General Information

5.1 Client Information

Applicant:	8Devices
Address:	Gedimino 47, Kaunas, LT-44242, Lithuania
Manufacturer/ Factory:	8Devices
Address:	Gedimino 47, Kaunas, LT-44242, Lithuania

5.2 General Description of E.U.T.

Product Name:	Komikan
Model No.:	Komikan
Operation Frequency:	2412MHz~2462MHz (802.11b/802.11g/802.11n(HT20)) 2422MHz~2452MHz (802.11n(HT40))
Channel numbers:	11 for 802.11b/802.11g/802.11(HT20) 7 for 802.11n(HT40)
Channel separation:	5MHz
Modulation technology: (IEEE 802.11b)	Direct Sequence Spread Spectrum (DSSS)
Modulation technology: (IEEE 802.11g/802.11n)	Orthogonal Frequency Division Multiplexing(OFDM)
Data speed (IEEE 802.11b):	1Mbps, 2Mbps, 5.5Mbps, 11Mbps
Data speed (IEEE 802.11g):	6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps, 54Mbps
Data speed (IEEE 802.11n):	Up to 150Mbps
Antenna Type:	Ceramic Antenna, Whip Antenna, Flex Antenna
Antenna gain:	Ceramic Antenna: 2.09 dBi Flex Antenna: 3.20 dBi Whip Antenna: 4.00 dBi
Power supply:	DC 3.3V
Test Sample Condition:	The test samples were provided in good working order with no visible defects.

Operation Frequency each of channel for 802.11b/g/n(HT20)							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2412MHz	4	2427MHz	7	2442MHz	10	2457MHz
2	2417MHz	5	2432MHz	8	2447MHz	11	2462MHz
3	2422MHz	6	2437MHz	9	2452MHz		

Note:

- For 802.11n-HT40 mode, the channel number is from 3 to 9;
- Channel 1, 6 & 11 selected for 802.11b/g/n- HT20 as Lowest, Middle and Highest channel. Channel 3, 6 & 9 selected for 802.11n-HT40 as Lowest, Middle and Highest Channel.

5.3 Test environment and test mode

Operating Environment:	
Temperature:	24.0 °C
Humidity:	54 % RH
Atmospheric Pressure:	1010 mbar
Test mode:	
Transmitting mode	Keep the EUT in continuous transmitting with modulation
Remark:	<i>Conducted Emission and Radiated Emission below 1GHz pre-scan Ceramic Antenna and Flex Antenna and Whip Antenna, found Whip Antenna was worse case mode, the report only reflects the worst mode</i>
Radiated Emission: The sample was placed 0.8m (below 1GHz)/1.5m (above 1GHz) above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages. We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:	
Per-scan all kind of data rate, the follow list were the worst case.	
Mode	Data rate
802.11b	1Mbps
802.11g	6Mbps
802.11n(HT20)	6.5Mbps
802.11n(HT40)	13.5Mbps

5.4 Description of Support Units

Manufacturer	Description	Model	Serial Number	FCC ID/DoC
DELL	PC	OPTIPLEX7070	2J8XSZ2	DoC
DELL	MONITOR	SE2018HR	3M7QPY2	DoC
DELL	KEYBOARD	KB216d	N/A	DoC
DELL	MOUSE	MS116t1	N/A	DoC

5.5 Measurement Uncertainty

Parameters	Expanded Uncertainty
Conducted Emission (9kHz ~ 30MHz)	±1.60 dB (k=2)
Radiated Emission (9kHz ~ 30MHz)	±3.12 dB (k=2)
Radiated Emission (30MHz ~ 1000MHz)	±4.32 dB (k=2)
Radiated Emission (1GHz ~ 18GHz)	±5.38 dB (k=2)
Radiated Emission (18GHz ~ 40GHz)	±3.36 dB (k=2)

5.6 Additions to, deviations, or exclusions from the method

No

5.7 Laboratory Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **FCC - Designation No.: CN1211**

Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 727551.

- **ISED – CAB identifier.: CN0021**

The 3m Semi-anechoic chamber of Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

- **CNAS - Registration No.: CNAS L6048**

Shenzhen Zhongjian Nanfang Testing Co., Ltd. is accredited to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L6048.

- **A2LA - Registration No.: 4346.01**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: <https://portal.a2la.org/scopepdf/4346-01.pdf>

5.8 Laboratory Location

Shenzhen Zhongjian Nanfang Testing Co., Ltd.
Address: No.110~116, Building B, Jinyuan Business Building, Xixiang Road,
Bao'an District, Shenzhen, Guangdong, China
Tel: +86-755-23118282, Fax: +86-755-23116366
Email: info@ccis-cb.com, Website: <http://www.ccis-cb.com>

5.9 Test Instruments list

Radiated Emission:					
Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
3m SAC	SAEMC	9m*6m*6m	966	07-22-2017	07-21-2020
Loop Antenna	SCHWARZBECK	FMZB1519B	044	03-07-2020	03-06-2021
BiConiLog Antenna	SCHWARZBECK	VULB9163	497	03-07-2020	03-06-2021
Horn Antenna	SCHWARZBECK	BBHA9120D	916	03-07-2020	03-06-2021
Horn Antenna	SCHWARZBECK	BBHA9120D	1805	06-22-2017	06-21-2020
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170582	11-18-2019	11-17-2020
EMI Test Software	AUDIX	E3	Version: 6.110919b		
Pre-amplifier	HP	8447D	2944A09358	03-07-2020	03-06-2021
Pre-amplifier	CD	PAP-1G18	11804	03-07-2020	03-06-2021
Spectrum analyzer	Rohde & Schwarz	FSP30	101454	03-05-2020	03-04-2021
Spectrum analyzer	Rohde & Schwarz	FSP40	100363	11-18-2019	11-17-2020
EMI Test Receiver	Rohde & Schwarz	ESRP7	101070	03-05-2020	03-04-2021
Cable	ZDECL	Z108-NJ-NJ-81	1608458	03-07-2020	03-06-2021
Cable	MICRO-COAX	MFR64639	K10742-5	03-07-2020	03-06-2021
Cable	SUHNER	SUCOFLEX100	58193/4PE	03-07-2020	03-06-2021
RF Switch Unit	MWRFTEST	MW200	N/A	N/A	N/A
Test Software	MWRFTEST	MTS8200	Version: 2.0.0.0		

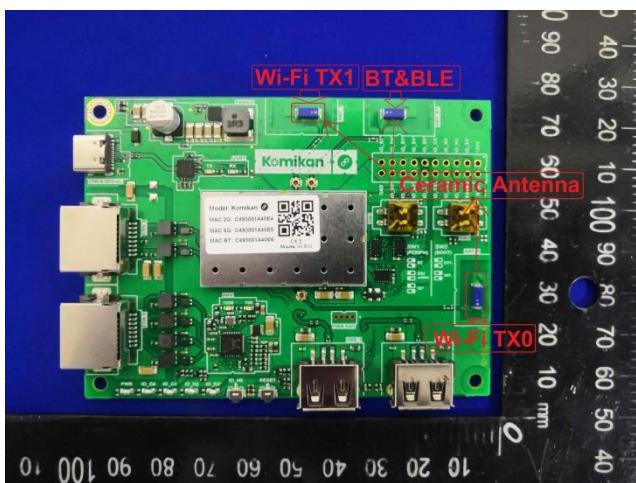
Conducted Emission:					
Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
EMI Test Receiver	Rohde & Schwarz	ESCI	101189	03-05-2020	03-04-2021
Pulse Limiter	SCHWARZBECK	OSRAM 2306	9731	03-05-2020	03-04-2021
LISN	CHASE	MN2050D	1447	03-05-2020	03-04-2021
LISN	Rohde & Schwarz	ESH3-Z5	8438621/010	07-21-2017	07-20-2020
Cable	HP	10503A	N/A	03-05-2020	03-04-2021
EMI Test Software	AUDIX	E3	Version: 6.110919b		

6 Test results and Measurement Data

6.1 Antenna requirement

Standard requirement:	FCC Part 15 C Section 15.203 /247(b)								
15.203 requirement:	An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.								
15.247(b) (4) requirement:	(4) The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.								
E.U.T Antenna: <i>The product is a professionally installed device which has two types of antennas for the application. The antennas information as below table:</i>									
<table border="1"><thead><tr><th>Antenna Type</th><th>Antenna Gain (dBi)</th></tr></thead><tbody><tr><td>Ceramic Antenna</td><td>2.09</td></tr><tr><td>Flex Antenna</td><td>3.20</td></tr><tr><td>Whip Antenna</td><td>4.00</td></tr></tbody></table>		Antenna Type	Antenna Gain (dBi)	Ceramic Antenna	2.09	Flex Antenna	3.20	Whip Antenna	4.00
Antenna Type	Antenna Gain (dBi)								
Ceramic Antenna	2.09								
Flex Antenna	3.20								
Whip Antenna	4.00								
<i>According to above information, the antennas meet the requirements of this section</i>									

Ceramic Antenna



Flex Antenna



Whip Antenna

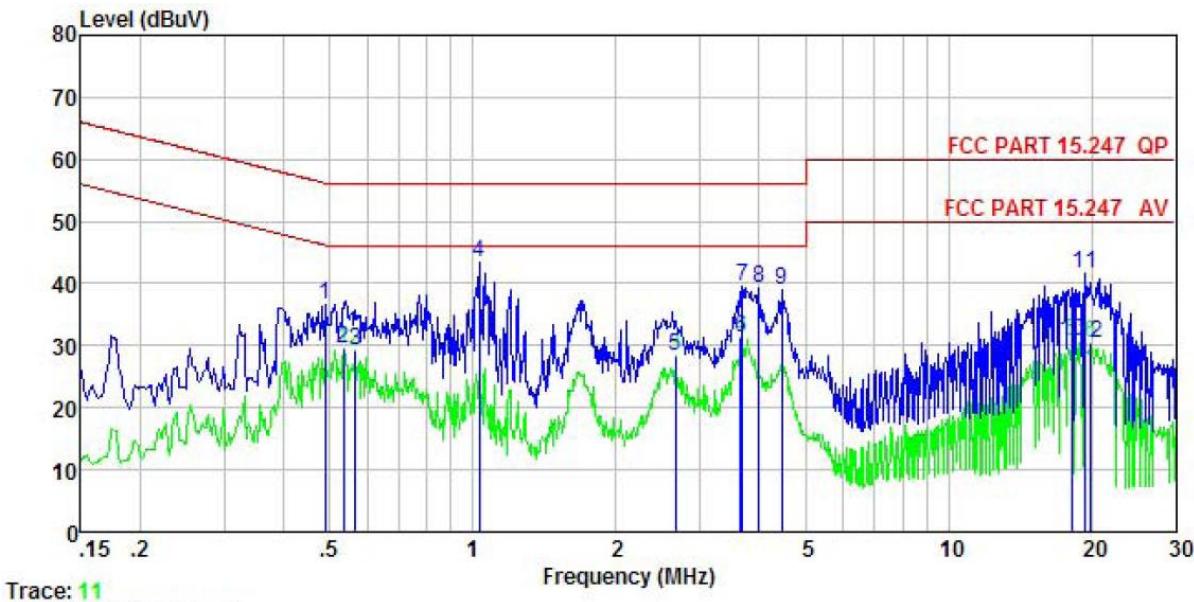


6.2 Conducted Emission

Test Requirement:	FCC Part 15 C Section 15.207		
Test Frequency Range:	150 kHz to 30 MHz		
Class / Severity:	Class B		
Receiver setup:	RBW=9 kHz, VBW=30 kHz		
Limit:	Frequency range (MHz)	Limit (dBuV)	
	0.15-0.5	Quasi-peak	Average
	0.5-5	56	46
	5-30	60	50
* Decreases with the logarithm of the frequency.			
Test procedure	<ol style="list-style-type: none"> The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.), which provides a 50ohm/50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10(latest version) on conducted measurement. 		
Test setup:	<p>Reference Plane</p> <p>LISN LISN</p> <p>↓ 40cm 80cm →</p> <p>AUX Equipment ————— E.U.T</p> <p>Test table/Insulation plane</p> <p>EMI Receiver</p> <p>Filter — AC power</p> <p><i>Remark</i> E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m</p>		
Test Instruments:	Refer to section 5.9 for details		
Test mode:	Refer to section 5.3 for details		
Test results:	Passed		

Measurement Data:

Product name:	Komikan	Product model:	Komikan
Test by:	Mike	Test mode:	Wi-Fi Tx mode
Test frequency:	150 kHz ~ 30 MHz	Phase:	Line
Test voltage:	AC 120 V/60 Hz	Environment:	Temp: 22.5°C Huni: 55%

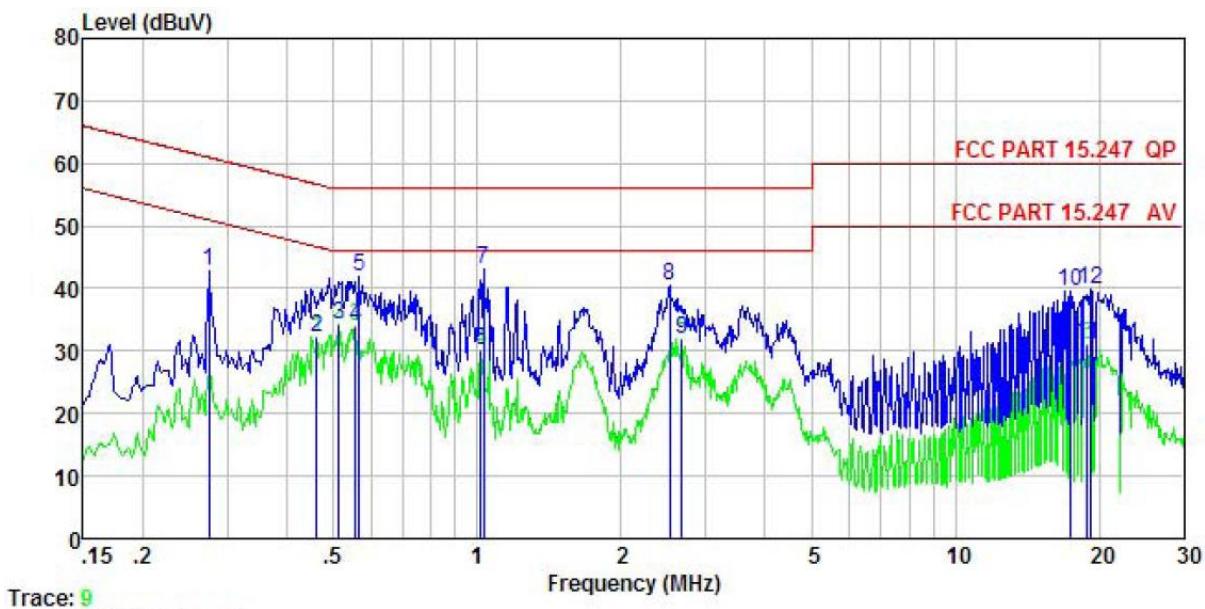


Freq	Read	LISN	Aux	Cable	Limit	Over	Remark	
	MHz	Level	Factor	Factor	Loss	Level	Line	
	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.489	26.63	-0.39	-0.26	10.76	36.74	56.19	-19.45 QP
2	0.535	19.54	-0.39	-0.36	10.76	29.55	46.00	-16.45 Average
3	0.567	19.25	-0.39	-0.37	10.76	29.25	46.00	-16.75 Average
4	1.032	32.51	-0.38	0.42	10.87	43.42	56.00	-12.58 QP
5	2.664	18.11	-0.43	-0.24	10.93	28.37	46.00	-17.63 Average
6	3.661	21.00	-0.46	-0.09	10.90	31.35	46.00	-14.65 Average
7	3.681	29.14	-0.46	-0.09	10.90	39.49	56.00	-16.51 QP
8	3.985	28.86	-0.46	-0.05	10.89	39.24	56.00	-16.76 QP
9	4.454	28.41	-0.47	0.02	10.87	38.83	56.00	-17.17 QP
10	18.135	18.79	-0.87	1.82	10.92	30.66	50.00	-19.34 Average
11	19.428	30.35	-0.94	1.20	10.93	41.54	60.00	-18.46 QP
12	19.950	19.69	-0.97	0.89	10.93	30.54	50.00	-19.46 Average

Notes:

- An initial pre-scan was performed on the line and neutral lines with peak detector.
- Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
- Final Level = Receiver Read level + LISN Factor + Aux Factor + Cable Loss.

Product name:	Komikan	Product model:	Komikan
Test by:	Mike	Test mode:	Wi-Fi Tx mode
Test frequency:	150 kHz ~ 30 MHz	Phase:	Neutral
Test voltage:	AC 120 V/60 Hz	Environment:	Temp: 22.5°C Huni: 55%

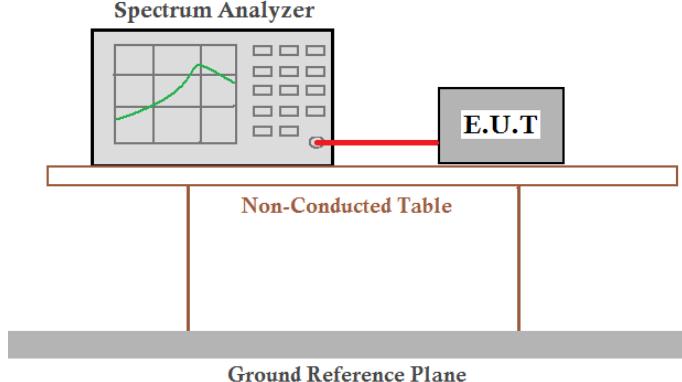


Freq MHz	Read Level dBuV	LISN Factor dB	Aux Factor dB	Cable Loss dB	Line Level dBuV	Limit Line dBuV	Over Limit dB	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.274	32.60	-0.64	0.01	10.74	42.71	60.98	-18.27 QP
2	0.461	22.11	-0.65	0.00	10.74	32.20	46.67	-14.47 Average
3	0.513	23.97	-0.65	0.03	10.76	34.11	46.00	-11.89 Average
4	0.555	23.70	-0.65	0.03	10.76	33.84	46.00	-12.16 Average
5	0.567	31.82	-0.65	0.03	10.76	41.96	56.00	-14.04 QP
6	1.016	19.86	-0.63	0.08	10.87	30.18	46.00	-15.82 Average
7	1.032	32.72	-0.63	0.08	10.87	43.04	56.00	-12.96 QP
8	2.527	29.78	-0.67	0.25	10.94	40.30	56.00	-15.70 QP
9	2.678	21.42	-0.67	0.27	10.93	31.95	46.00	-14.05 Average
10	17.383	28.06	-1.12	1.63	10.92	39.49	60.00	-20.51 QP
11	18.920	20.64	-1.29	0.81	10.92	31.08	50.00	-18.92 Average
12	19.122	29.39	-1.32	0.73	10.92	39.72	60.00	-20.28 QP

Notes:

- An initial pre-scan was performed on the line and neutral lines with peak detector.
- Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
- Final Level = Receiver Read level + LISN Factor + Aux Factor + Cable Loss.

6.3 Conducted Output Power

Test Requirement:	FCC Part 15 C Section 15.247 (b)(3)
Limit:	30dBm
Test setup:	
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data:

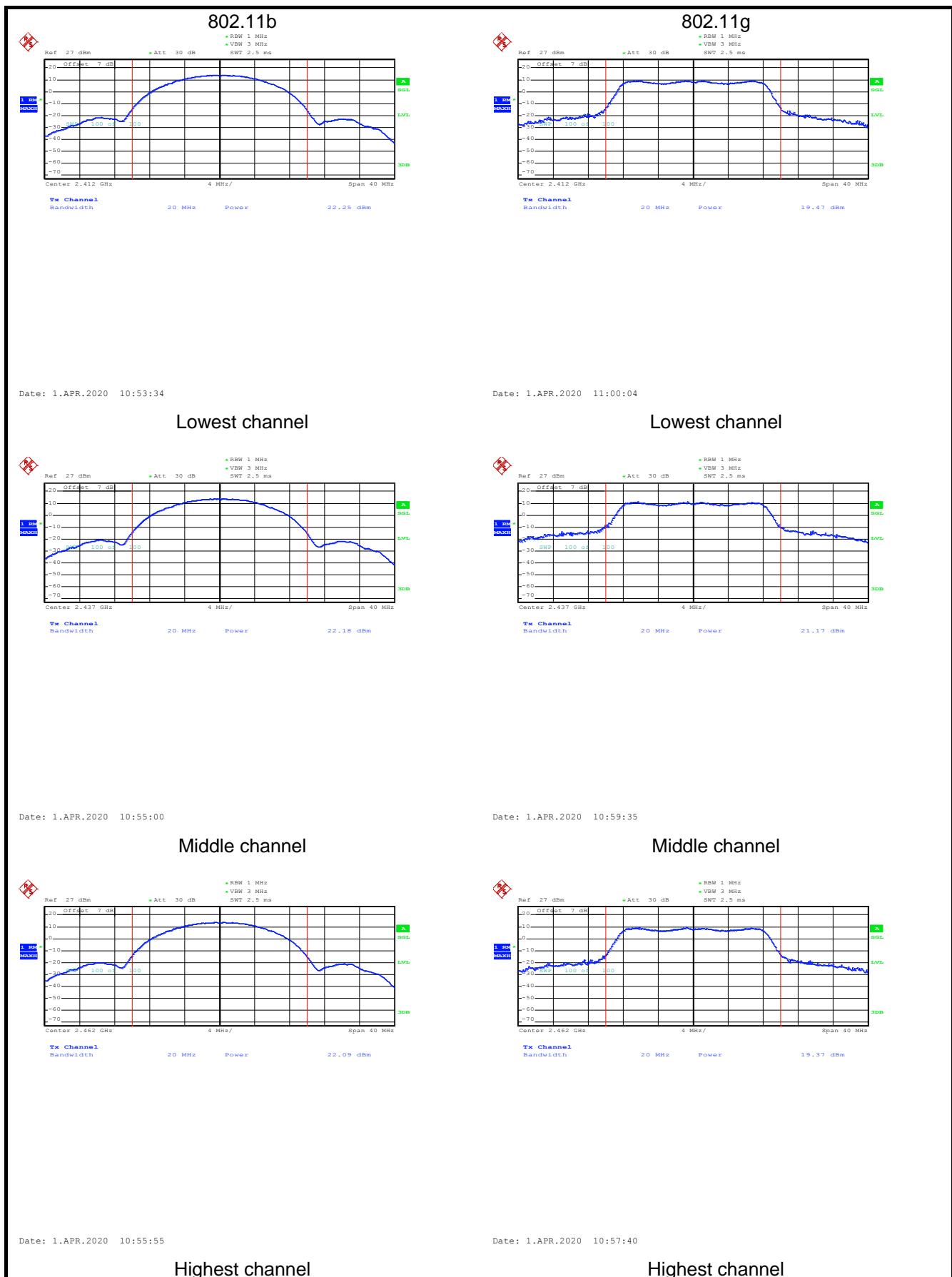
Mode	Test CH	Ant. Port	Conducted Output power(dBm)	Total power (dBm)	Limit (dBm)	Result		
802.11b (SISO)	Lowest	TX0	22.25	/	30.00	Pass		
		TX1	22.56					
	Middle	TX0	22.18					
		TX1	22.15					
	Highest	TX0	22.09					
		TX1	20.51					
802.11g (SISO)	Lowest	TX0	19.47	/	30.00	Pass		
		TX1	20.01					
	Middle	TX0	21.17					
		TX1	21.35					
	Highest	TX0	19.37					
		TX1	19.74					
802.11n(HT20) (MIMO)	Lowest	TX0	19.60	22.48	Ceramic Antenna:30 Flex Antenna:29.8 Whip Antenna:29.0	Pass		
		TX1	19.34					
	Middle	TX0	19.56	22.55				
		TX1	19.52					
	Highest	TX0	19.10	22.29				
		TX1	19.46					
802.11n(HT40) (MIMO)	Lowest	TX0	18.76	21.68	Ceramic Antenna:30 Flex Antenna:29.8 Whip Antenna:29.0	Pass		
		TX1	18.58					
	Middle	TX0	19.77	22.70				
		TX1	19.60					
	Highest	TX0	19.23	22.18				
		TX1	19.10					

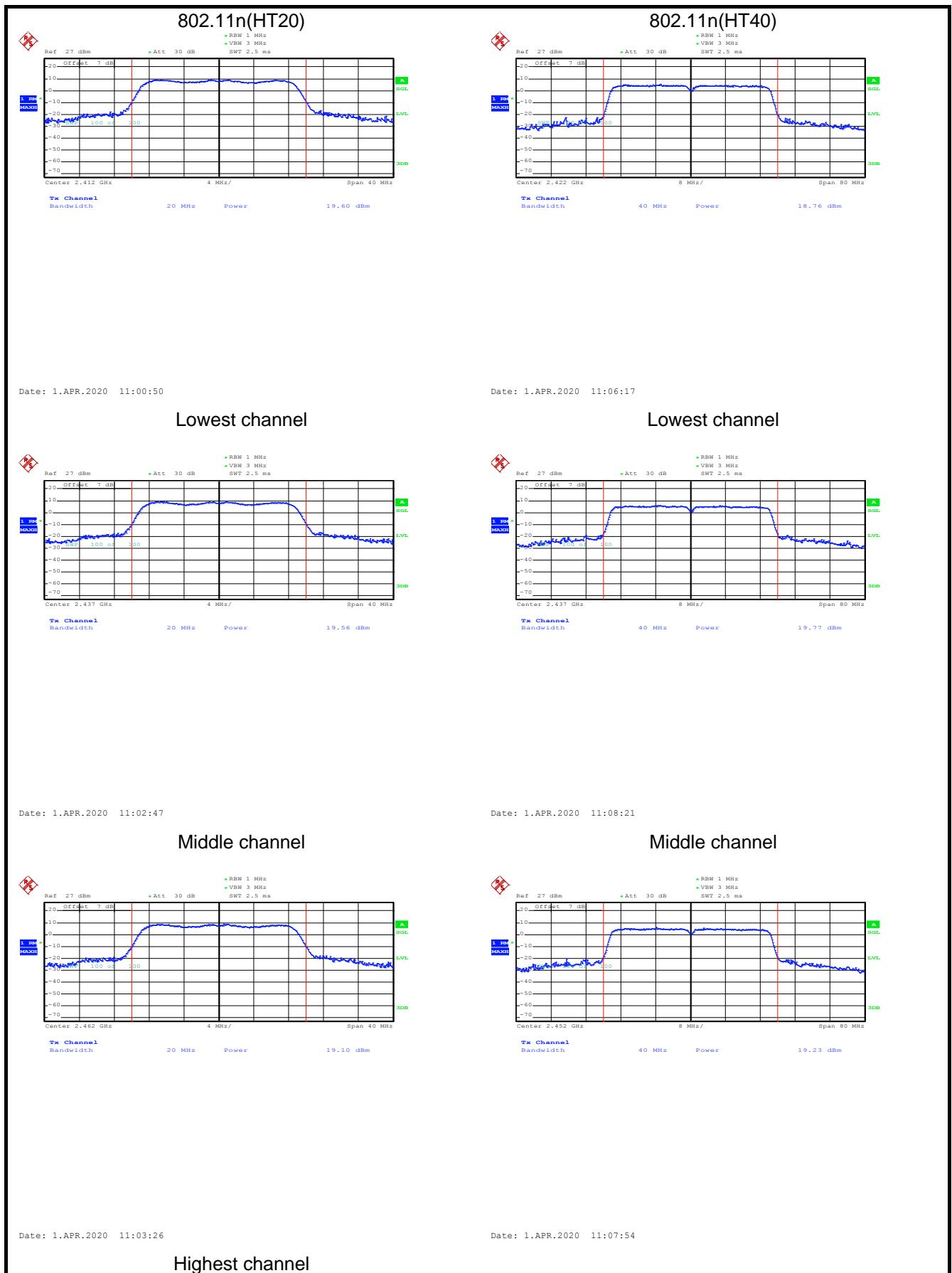
Remark:

- Because transmit signals are correlated, Directional gain = $G_{ANT} + 10 \log(N_{ANT})$ dB.
- So Ceramic Antenna: The Directional gain= $2.09 + 10 \log(2) = 5.09$ dB, The directional Gain of antenna is not exceed 6 dB, so the limit of power is 30 dBm(for 802.11n).
- Flex Antenna: The Directional gain= $3.2 + 10 \log(2) = 6.2$ dB, The directional Gain of antenna is greater than 6 dB, so the limit of power is 29.8 dBm(for 802.11n).
- Whip Antenna: The Directional gain= $4 + 10 \log(2) = 7.0$ dB, The directional Gain of antenna is greater than 6 dB, so the limit of power is 29.0 dBm(for 802.11n).

Test plot as follows:

TX 0:



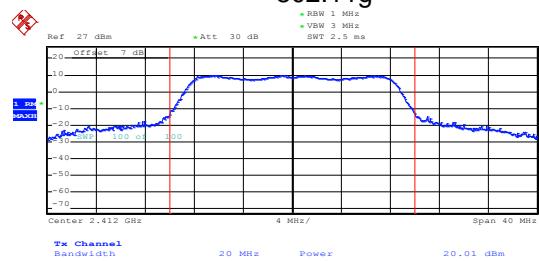


TX 1:

802.11b

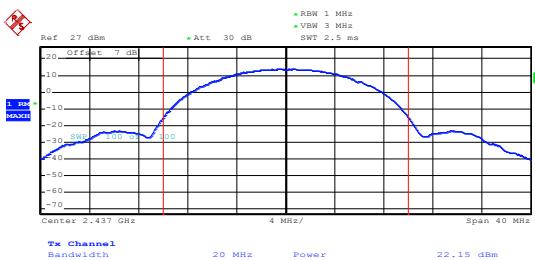


802.11g



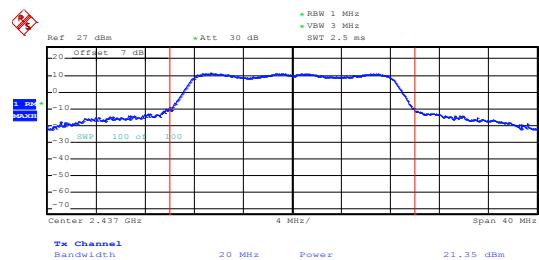
Date: 1.APR.2020 11:12:06

Lowest channel



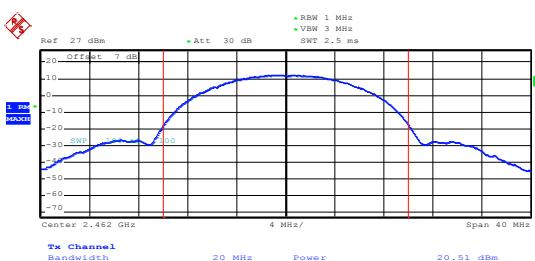
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Lowest channel



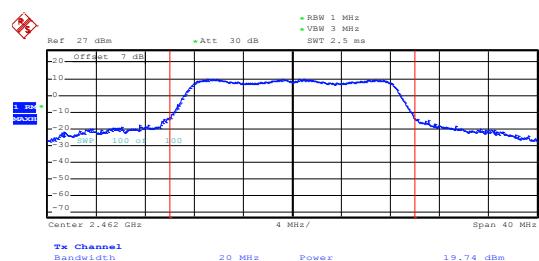
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Middle channel



Date: 1.APR.2020 11:15:45

Middle channel

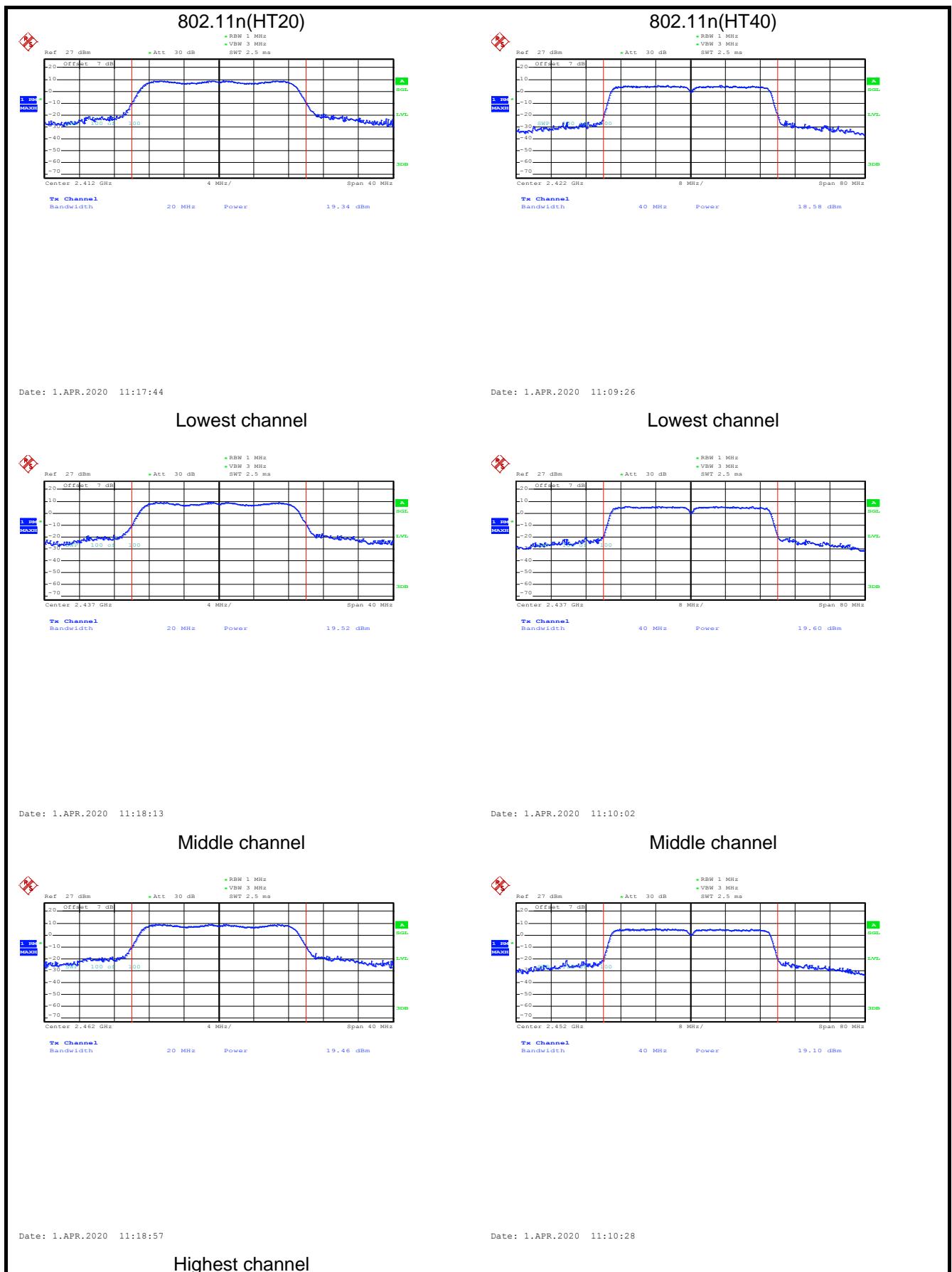


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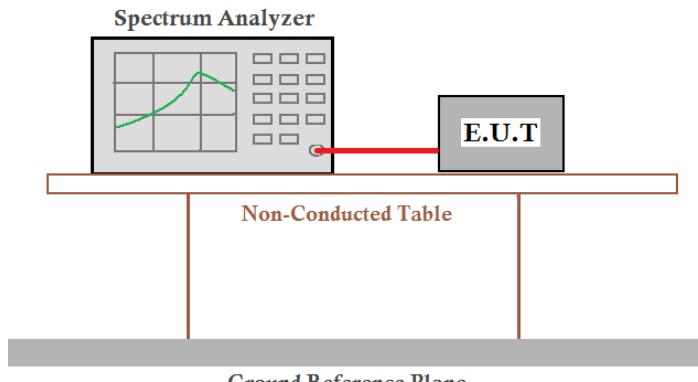
Highest channel

Date: 1.APR.2020 11:16:15

Highest channel



6.4 Occupy Bandwidth

Test Requirement:	FCC Part 15 C Section 15.247 (a)(2)
Limit:	>500kHz
Test setup:	 <p>The diagram shows a 'Spectrum Analyzer' with a graph displaying a signal. A red line connects it to a 'E.U.T.' (Equipment Under Test) box. This entire assembly is positioned on a 'Non-Conducted Table'. Below the table is a thick grey horizontal bar labeled 'Ground Reference Plane'.</p>
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data:

TX 0:

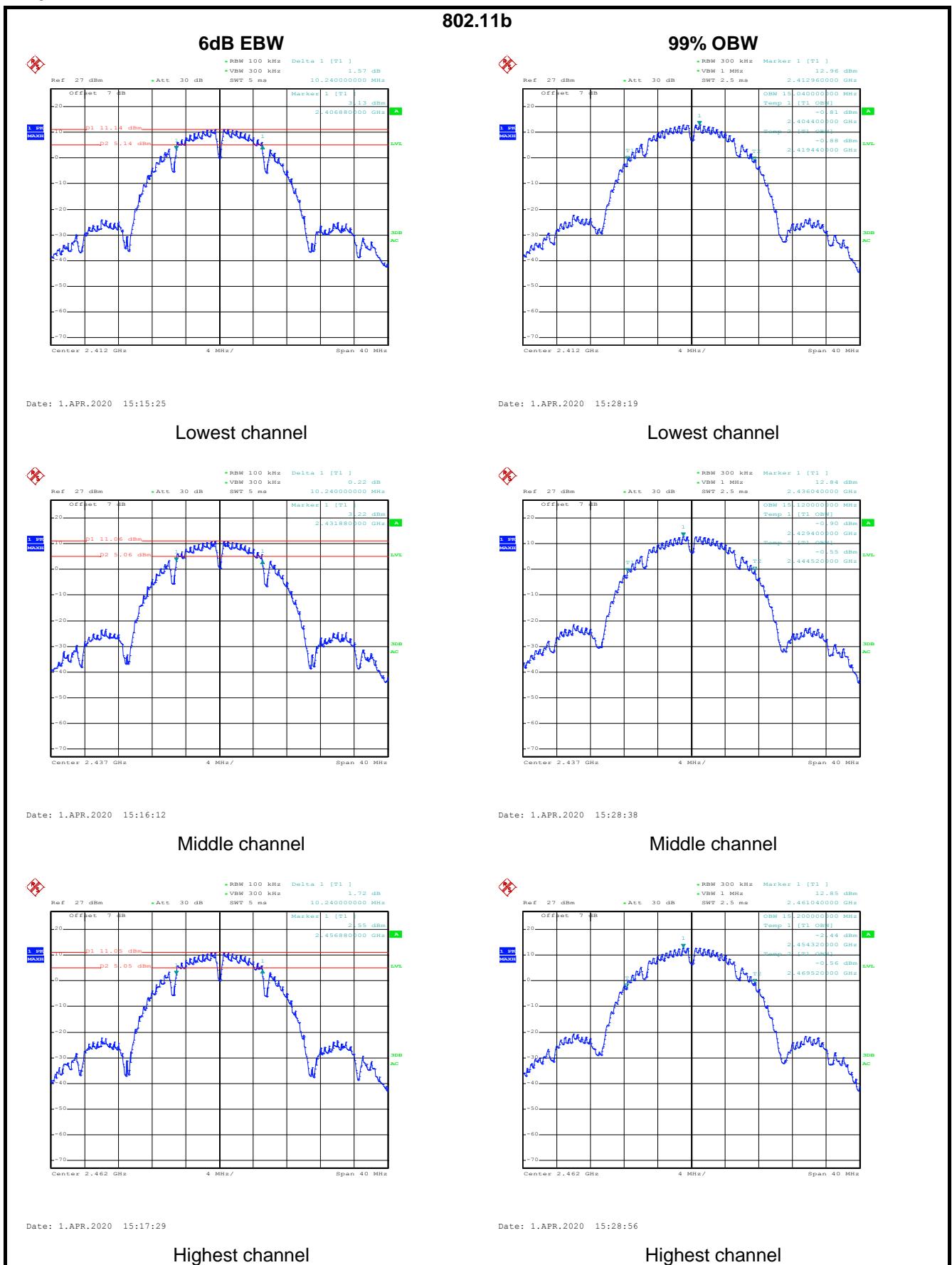
Test CH	6dB Emission Bandwidth (MHz)				Limit(kHz)	Result
	802.11b	802.11g	802.11n(HT20)	802.11n(HT40)		
Lowest	10.24	16.64	17.76	36.80	>500	Pass
Middle	10.24	16.64	17.76	36.80		
Highest	10.24	16.64	17.76	36.80		
Test CH	99% Occupy Bandwidth (MHz)				Limit(kHz)	Result
	802.11b	802.11g	802.11n(HT20)	802.11n(HT40)		
Lowest	15.04	16.80	17.60	36.32	N/A	N/A
Middle	15.12	17.04	17.68	36.48		
Highest	15.20	16.80	17.68	36.48		

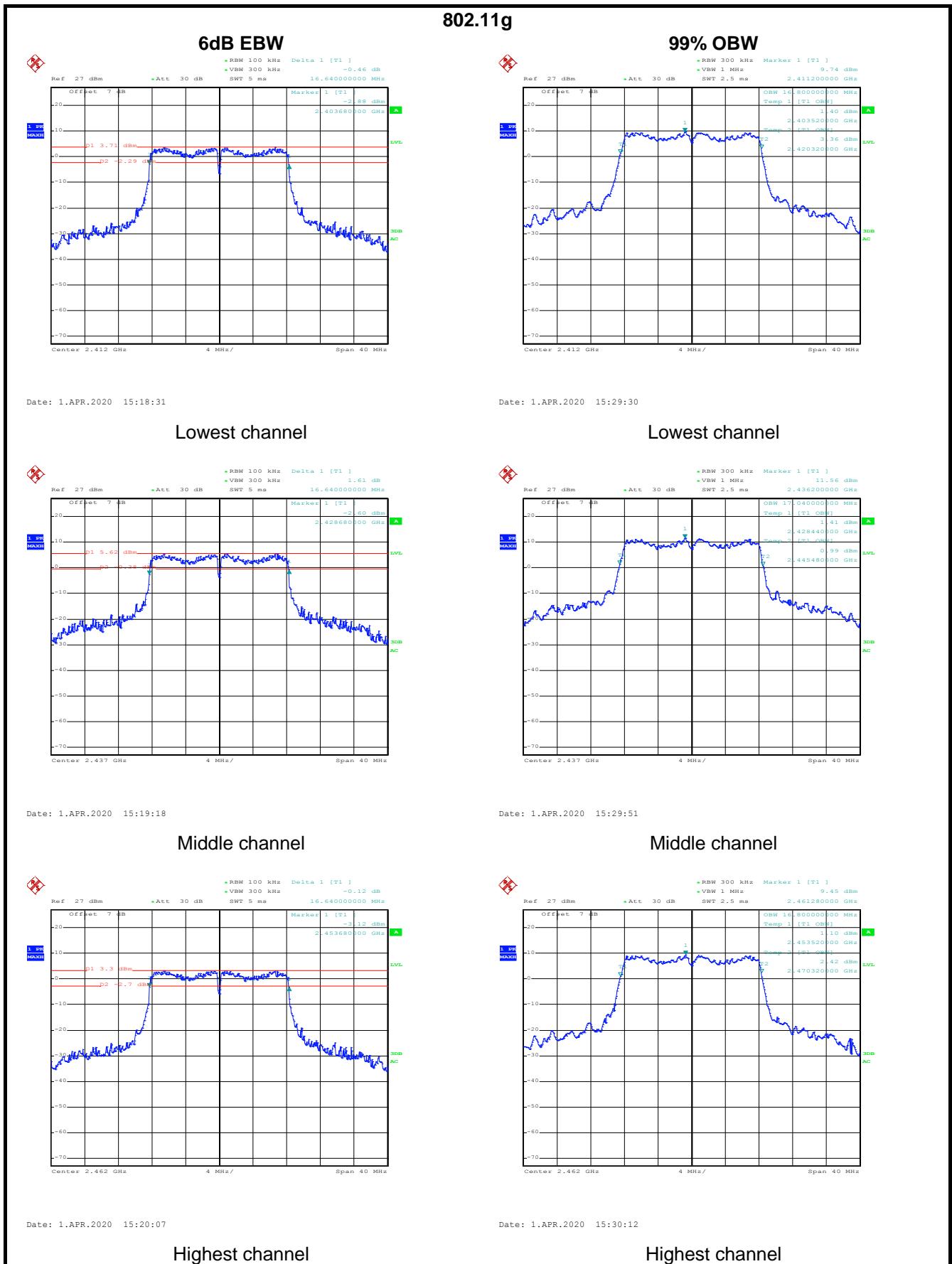
TX 1:

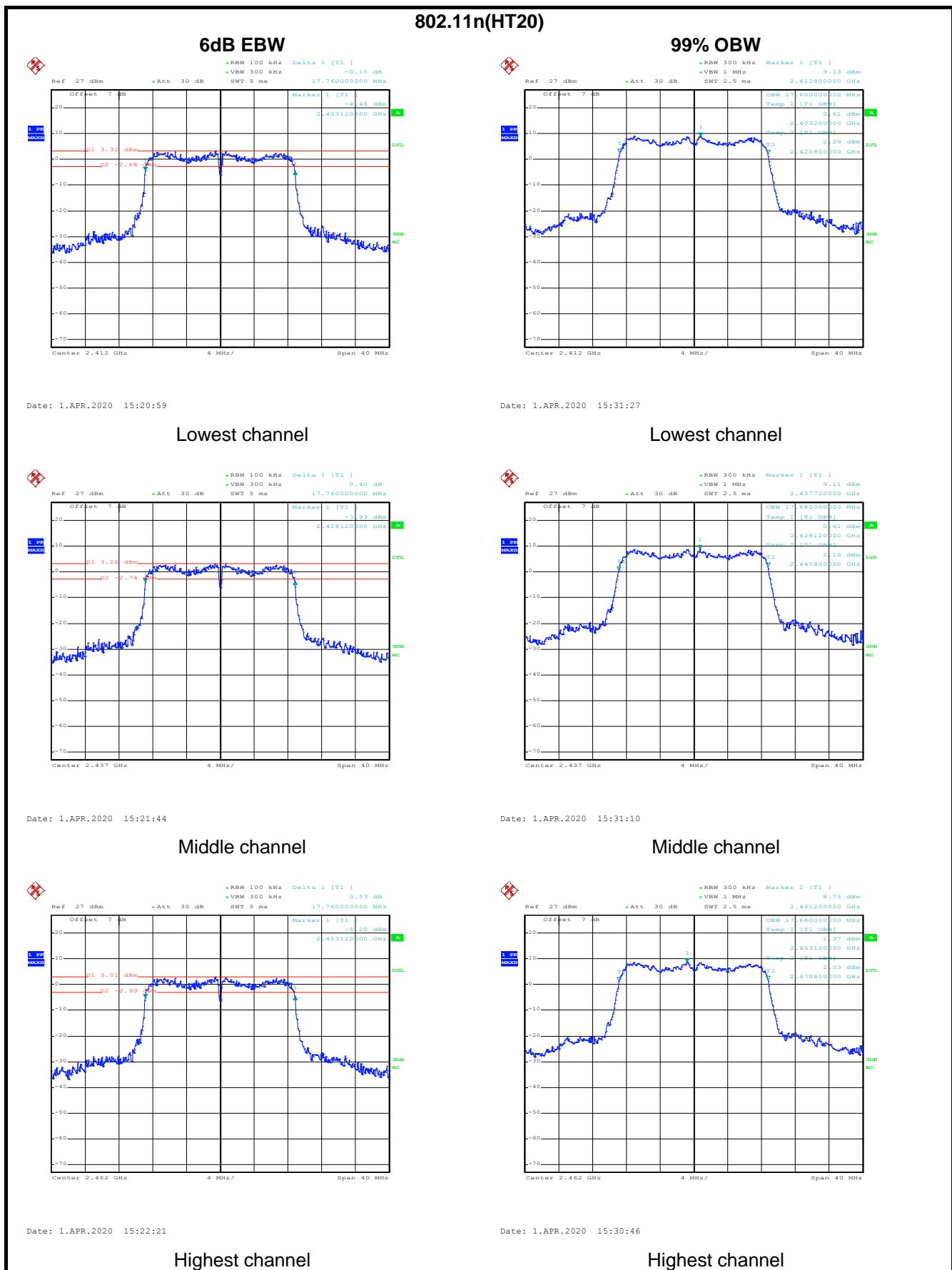
Test CH	6dB Emission Bandwidth (MHz)				Limit(kHz)	Result
	802.11b	802.11g	802.11n(HT20)	802.11n(HT40)		
Lowest	10.24	16.64	17.76	36.80	>500	Pass
Middle	10.24	16.64	17.76	36.80		
Highest	10.24	16.64	17.76	36.80		
Test CH	99% Occupy Bandwidth (MHz)				Limit(kHz)	Result
	802.11b	802.11g	802.11n(HT20)	802.11n(HT40)		
Lowest	15.04	16.72	17.60	36.32	N/A	N/A
Middle	15.04	16.88	17.60	36.48		
Highest	15.04	16.80	17.60	36.48		

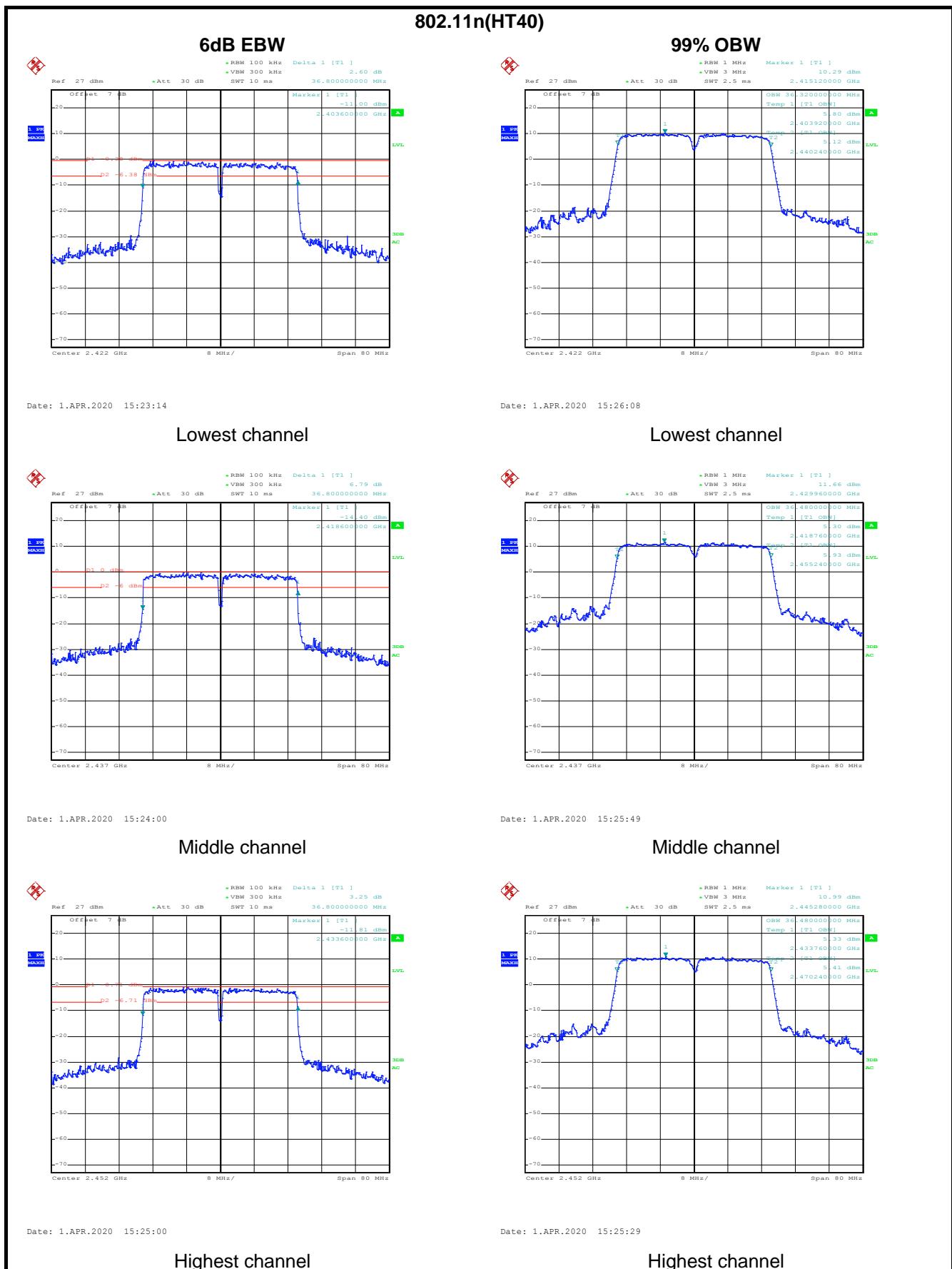
Test plot as follows:

TX 0:

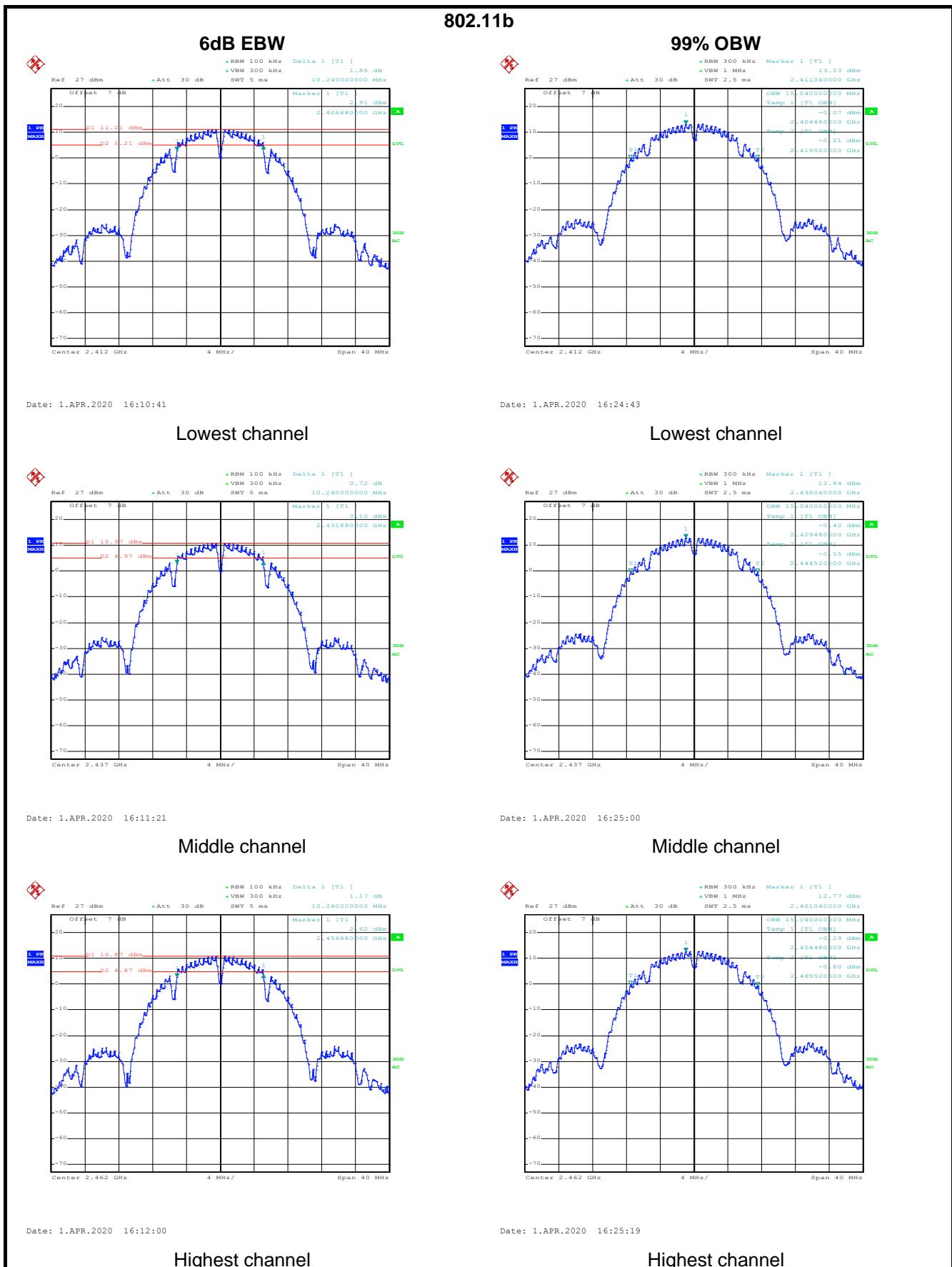


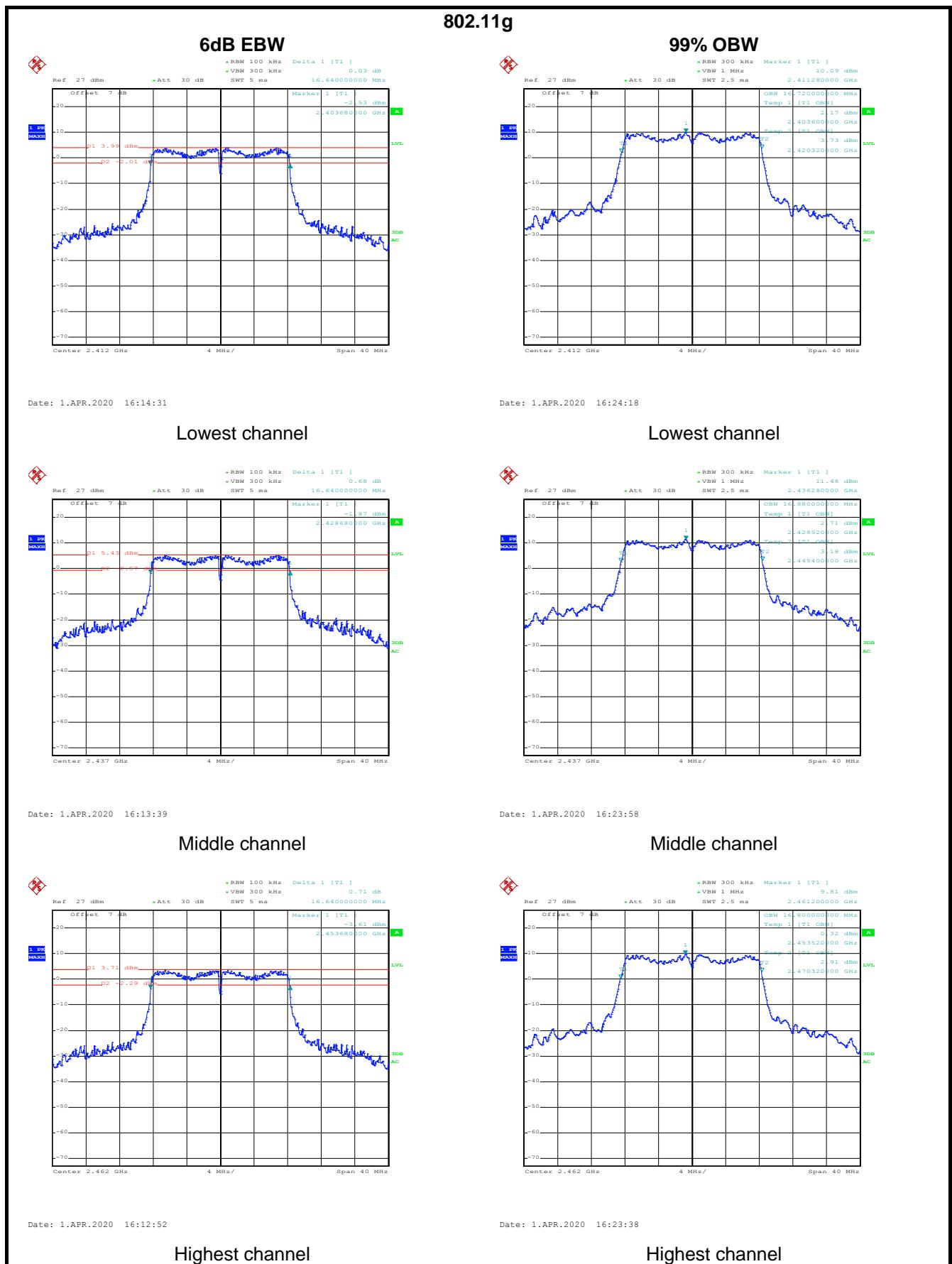


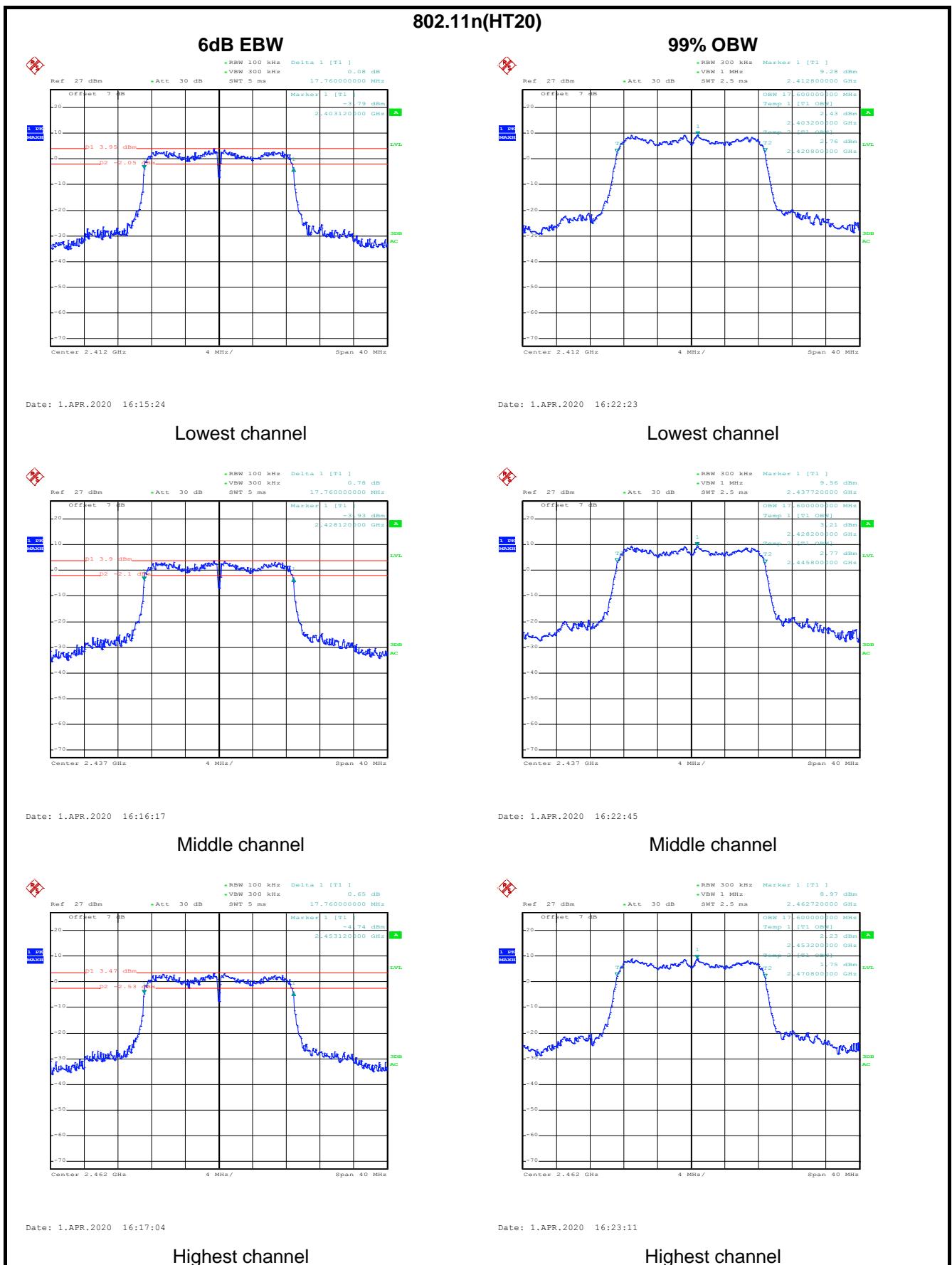


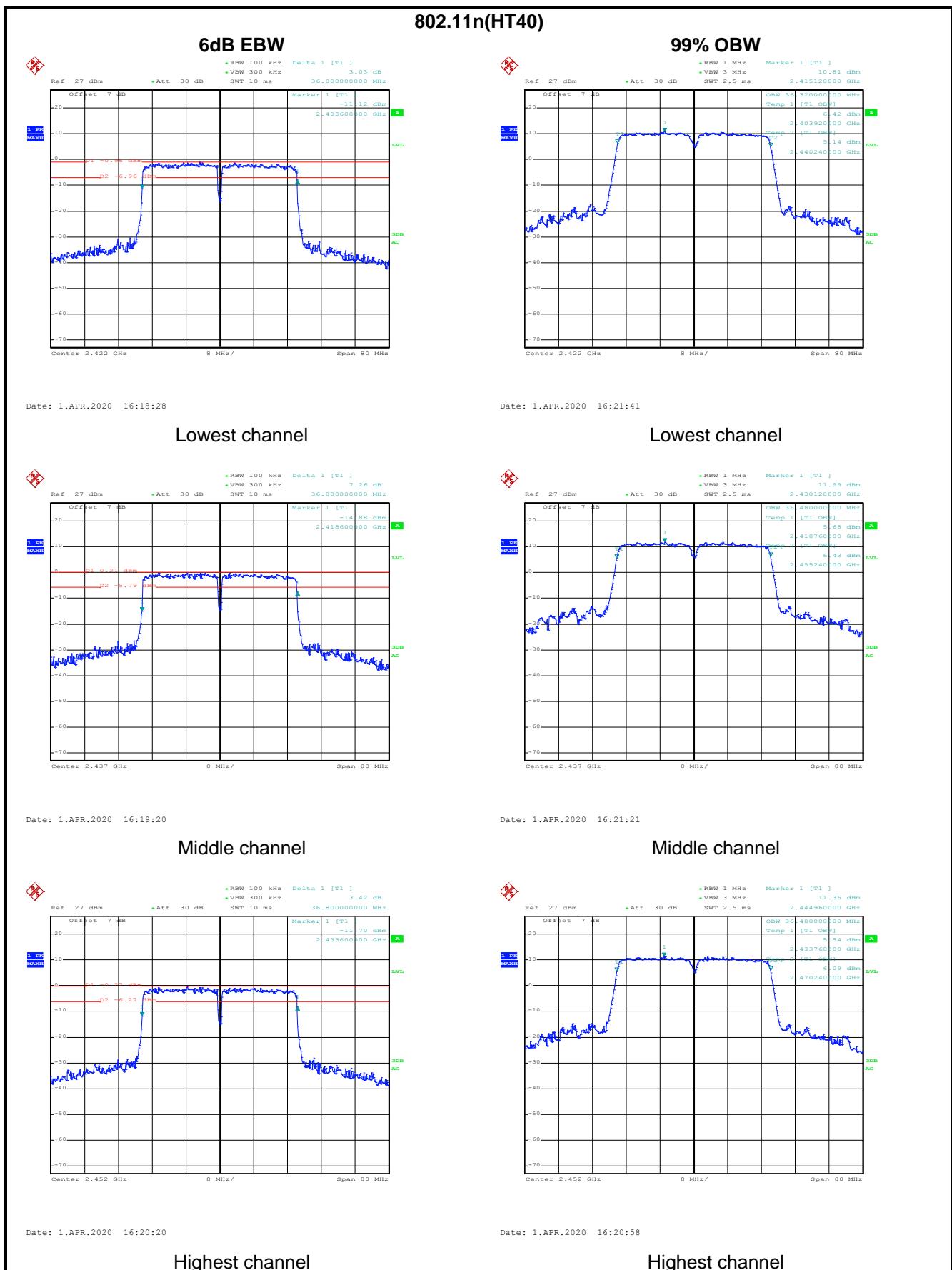


TX 1:

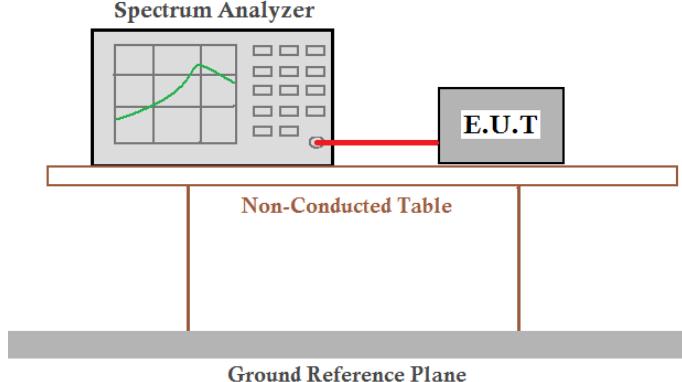








6.5 Power Spectral Density

Test Requirement:	FCC Part 15 C Section 15.247 (e)
Limit:	8dBm/3kHz
Test setup:	
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data:

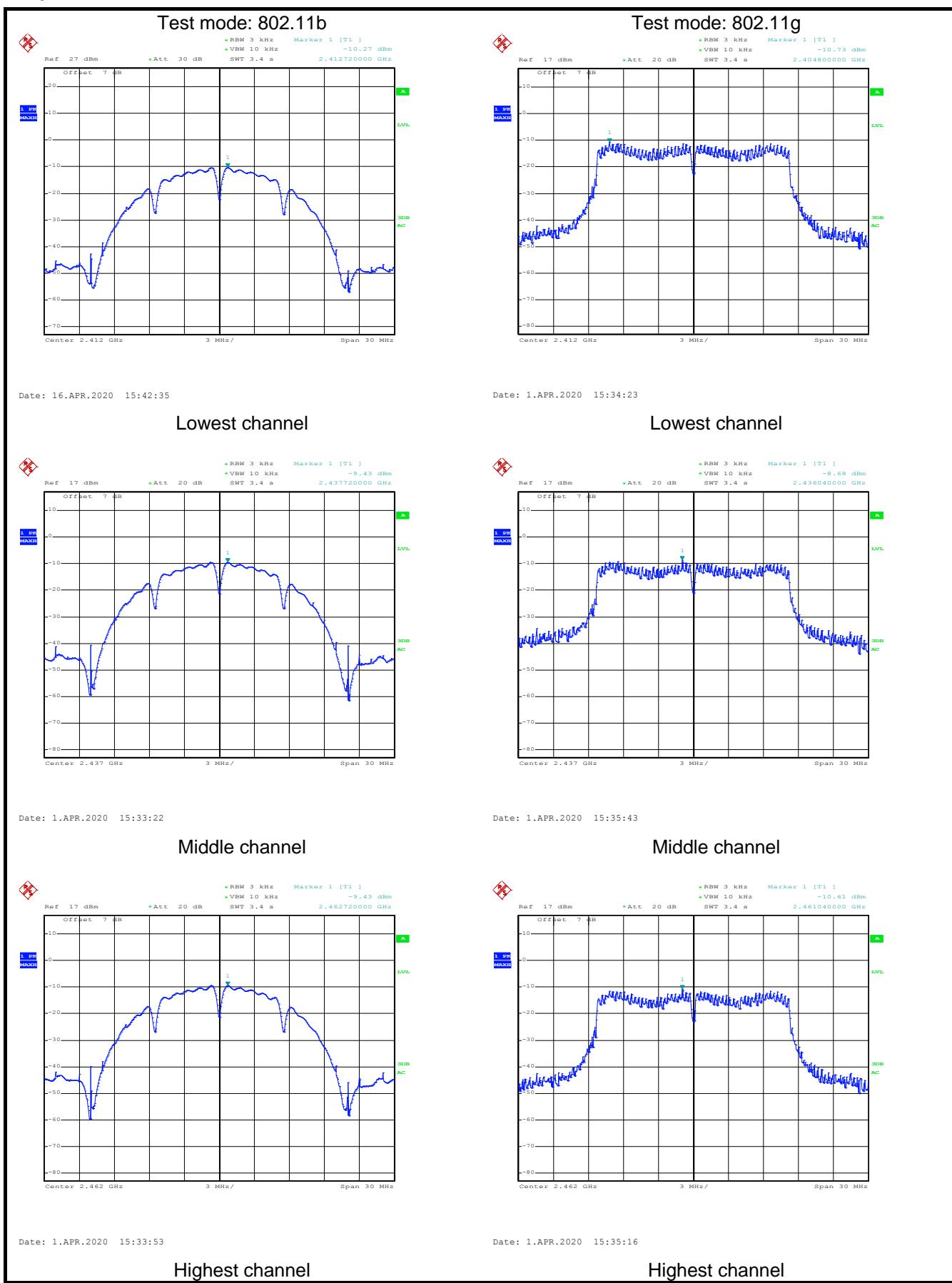
Mode	Test CH	Ant. Port	Conducted P.S.D(dBm/3KHz)	Total P.S.D (dBm/3KHz)	Limit (dBm/3KHz)	Result		
802.11b (SISO)	Lowest	TX0	-10.27	/	8.0	Pass		
		TX1	-9.18					
	Middle	TX0	-9.43					
		TX1	-9.45					
	Highest	TX0	-9.43					
		TX1	-9.50					
802.11g (SISO)	Lowest	TX0	-10.73	/	8.0	Pass		
		TX1	-9.93					
	Middle	TX0	-8.68					
		TX1	-8.66					
	Highest	TX0	-10.61					
		TX1	-10.18					
802.11n(HT20) (MIMO)	Lowest	TX0	-10.16	-6.84	Ceramic Antenna:8.0 Flex Antenna:7.8 Whip Antenna:7.0	Pass		
		TX1	-9.57					
	Middle	TX0	-11.30	-7.83				
		TX1	-10.42					
	Highest	TX0	-10.63	-7.50				
		TX1	-10.40					
802.11n(HT40) (MIMO)	Lowest	TX0	-14.46	-10.59	Ceramic Antenna:8.0 Flex Antenna:7.8 Whip Antenna:7.0	Pass		
		TX1	-12.88					
	Middle	TX0	-13.70	-11.29				
		TX1	-14.99					
	Highest	TX0	-13.99	-10.86				
		TX1	-13.76					

Remark:

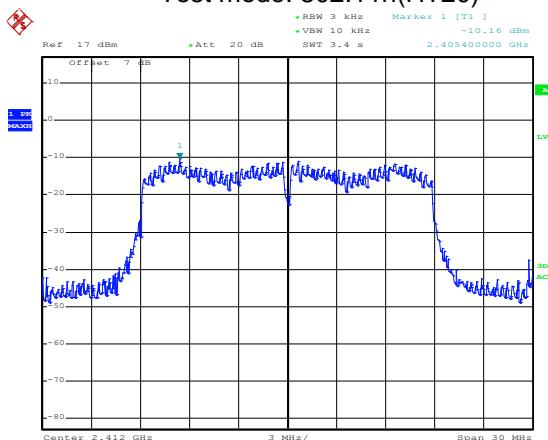
- Because transmit signals are correlated, Directional gain = $G_{ANT} + 10 \log(N_{ANT})$ dB.
- So Ceramic Antenna: The Directional gain= $2.09 + 10 \log(2) = 5.09$ dB, The directional Gain of antenna is not exceed 6 dB, so the limit of P.S.D is 8 dBm/3KHz (for 802.11n).
- Flex Antenna: The Directional gain= $3.2 + 10 \log(2) = 6.2$ dB, The directional Gain of antenna is greater than 6 dB, so the limit of P.S.D is 7.8 dBm/3KHz (for 802.11n).
- Whip Antenna: The Directional gain= $4 + 10 \log(2) = 7.0$ dB, The directional Gain of antenna is greater than 6 dB, so the limit of P.S.D is 7 dBm/3KHz (for 802.11n).

Test plot as follows:

TX 0:

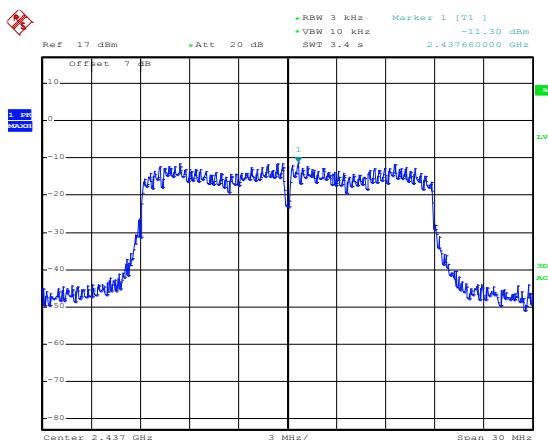


Test mode: 802.11n(HT20)



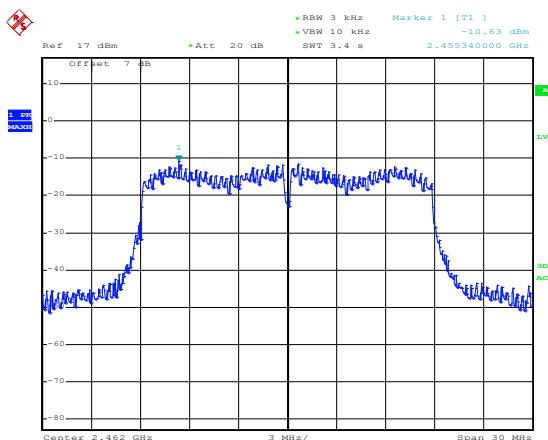
Date: 1.APR.2020 15:36:34

Lowest channel



Date: 1.APR.2020 15:37:04

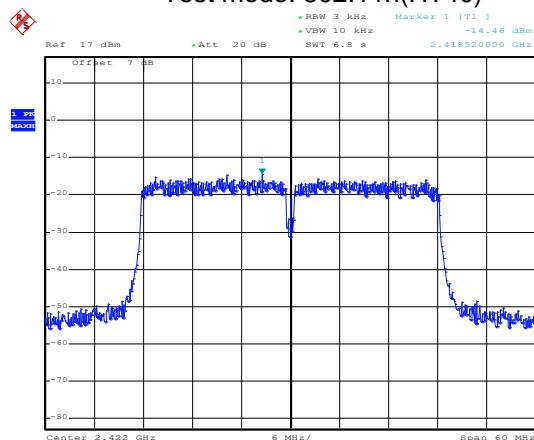
Middle channel



Date: 1.APR.2020 15:37:25

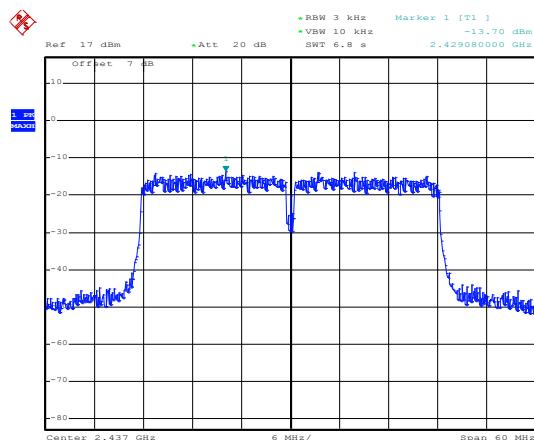
Highest channel

Test mode: 802.11n(HT40)



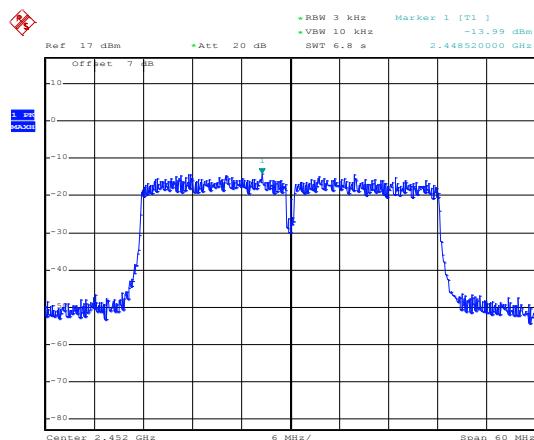
Date: 1.APR.2020 15:41:40

Lowest channel



Date: 1.APR.2020 15:41:05

Middle channel



Date: 1.APR.2020 15:40:10

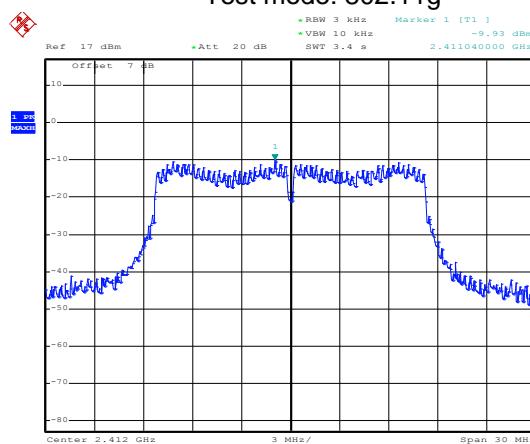
Highest channel

TX 1:

Test mode: 802.11b

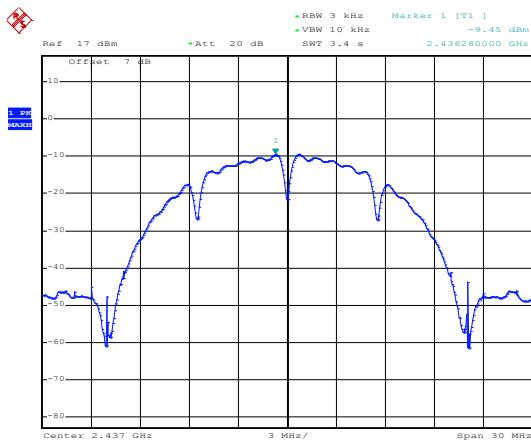


Test mode: 802.11g



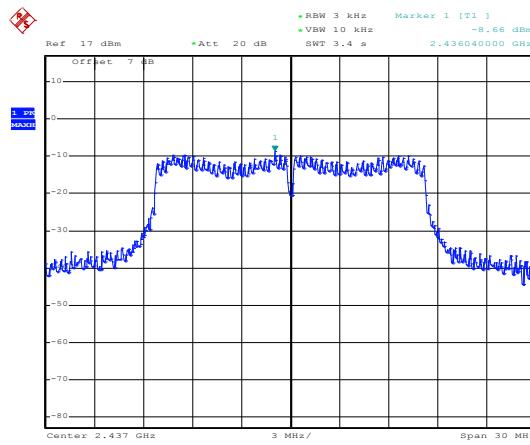
Date: 1.APR.2020 16:26:46

Lowest channel



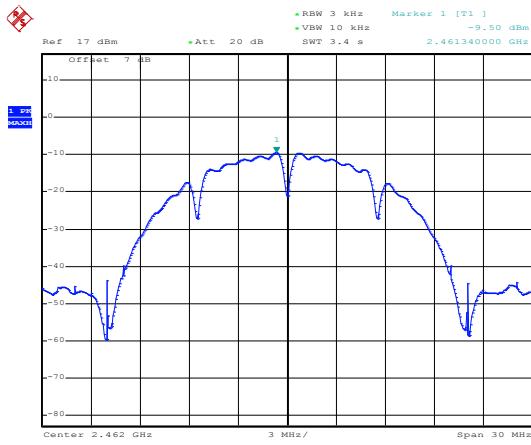
Date: 1.APR.2020 15:50:59

Lowest channel



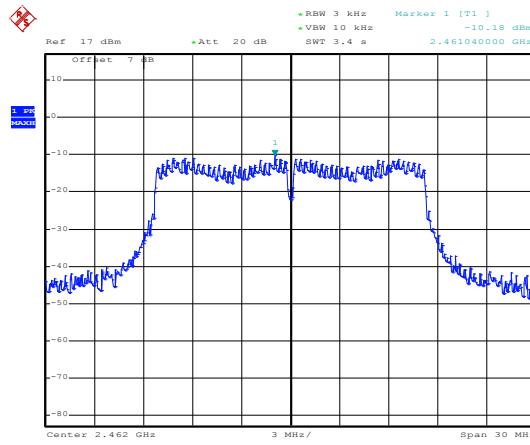
Date: 1.APR.2020 16:27:06

Middle channel



Date: 1.APR.2020 15:51:30

Middle channel



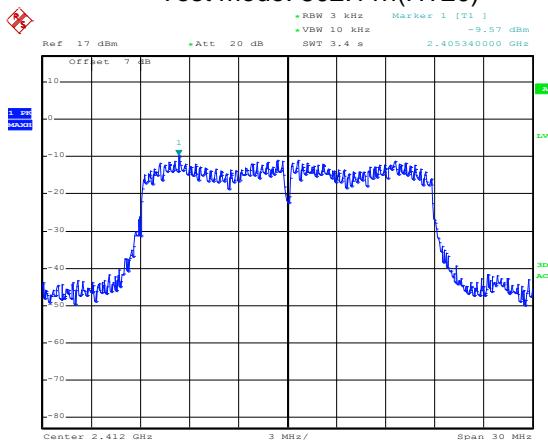
Date: 1.APR.2020 16:26:21

Highest channel

Date: 1.APR.2020 15:51:57

Highest channel

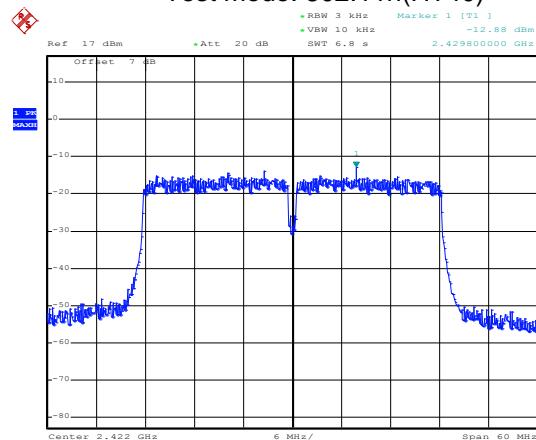
Test mode: 802.11n(HT20)



Date: 1.APR.2020 15:45:22

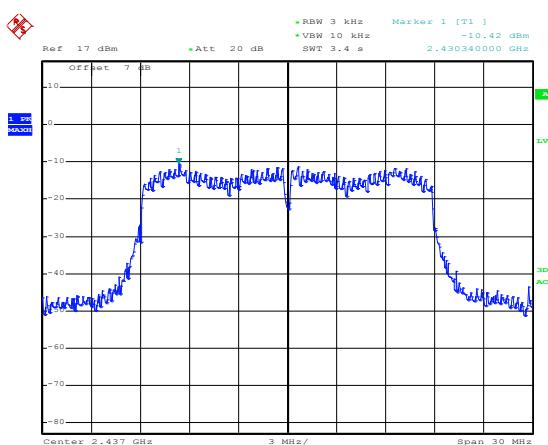
Lowest channel

Test mode: 802.11n(HT40)



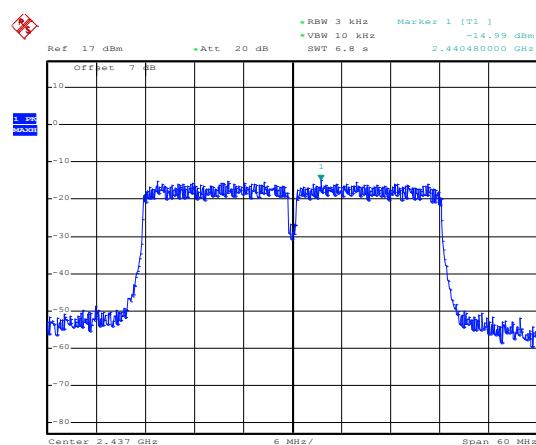
Date: 1.APR.2020 15:42:37

Lowest channel



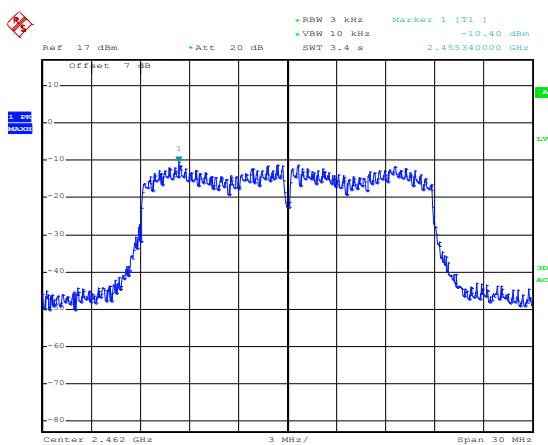
Date: 1.APR.2020 15:46:58

Middle channel



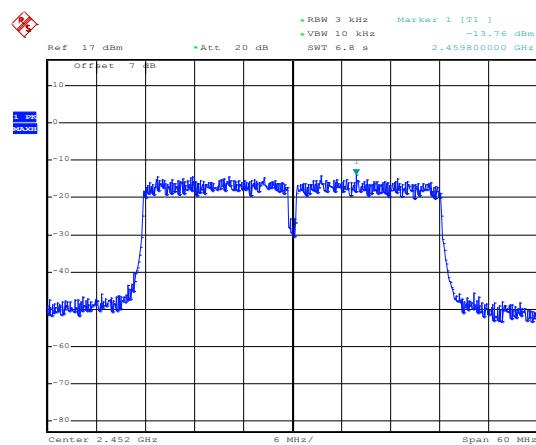
Date: 1.APR.2020 15:43:13

Middle channel



Date: 1.APR.2020 15:47:37

Highest channel

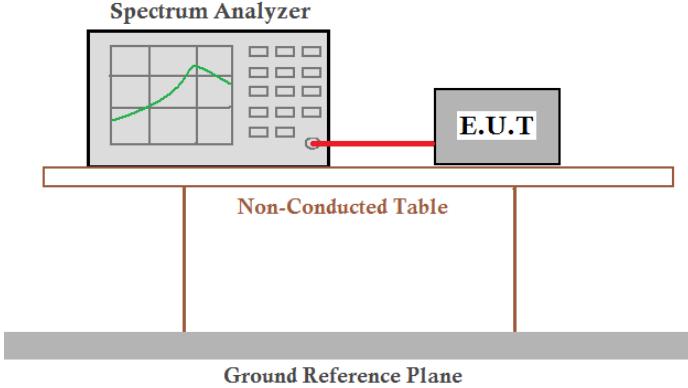


Date: 1.APR.2020 15:44:07

Highest channel

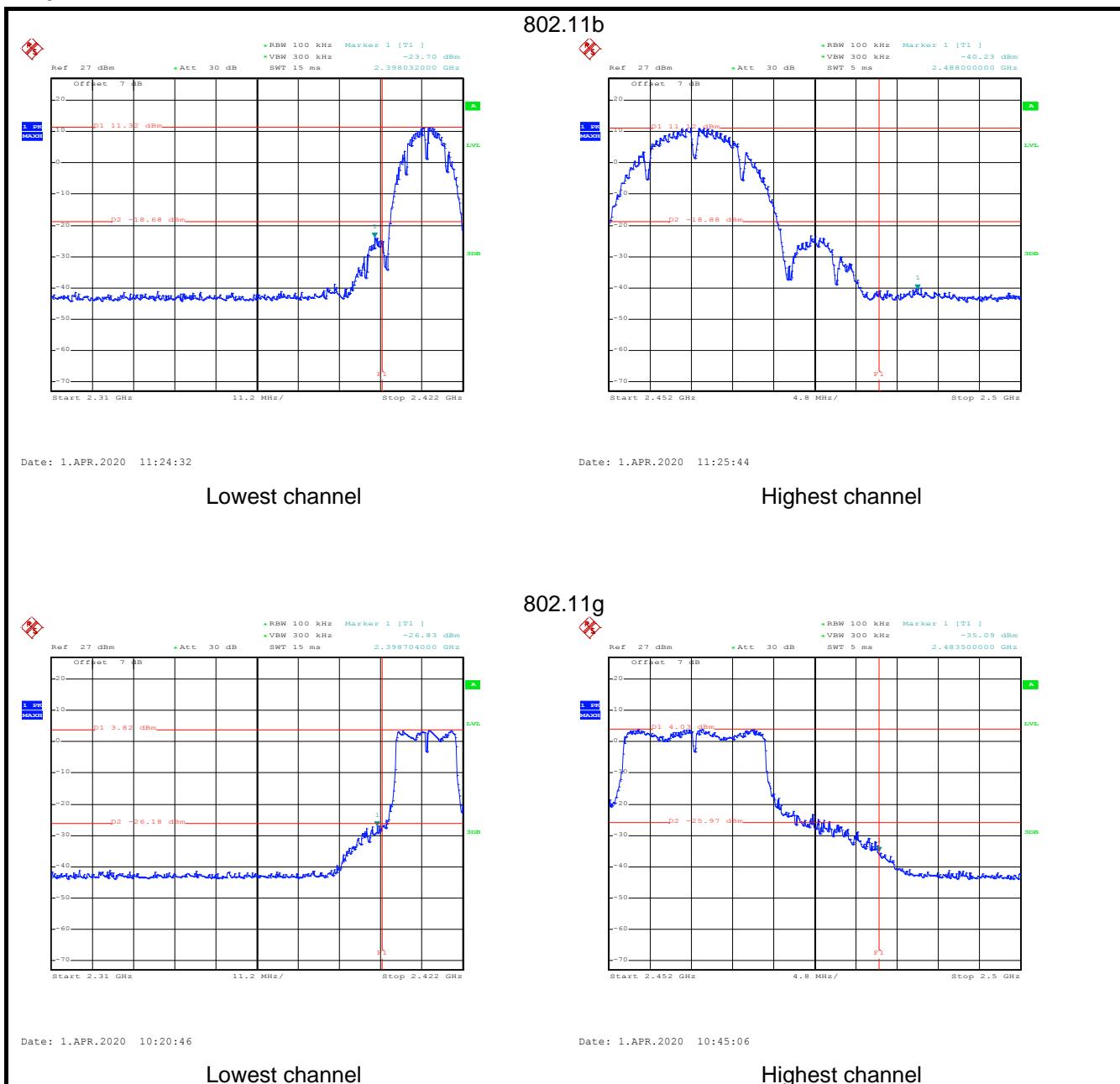
6.6 Band Edge

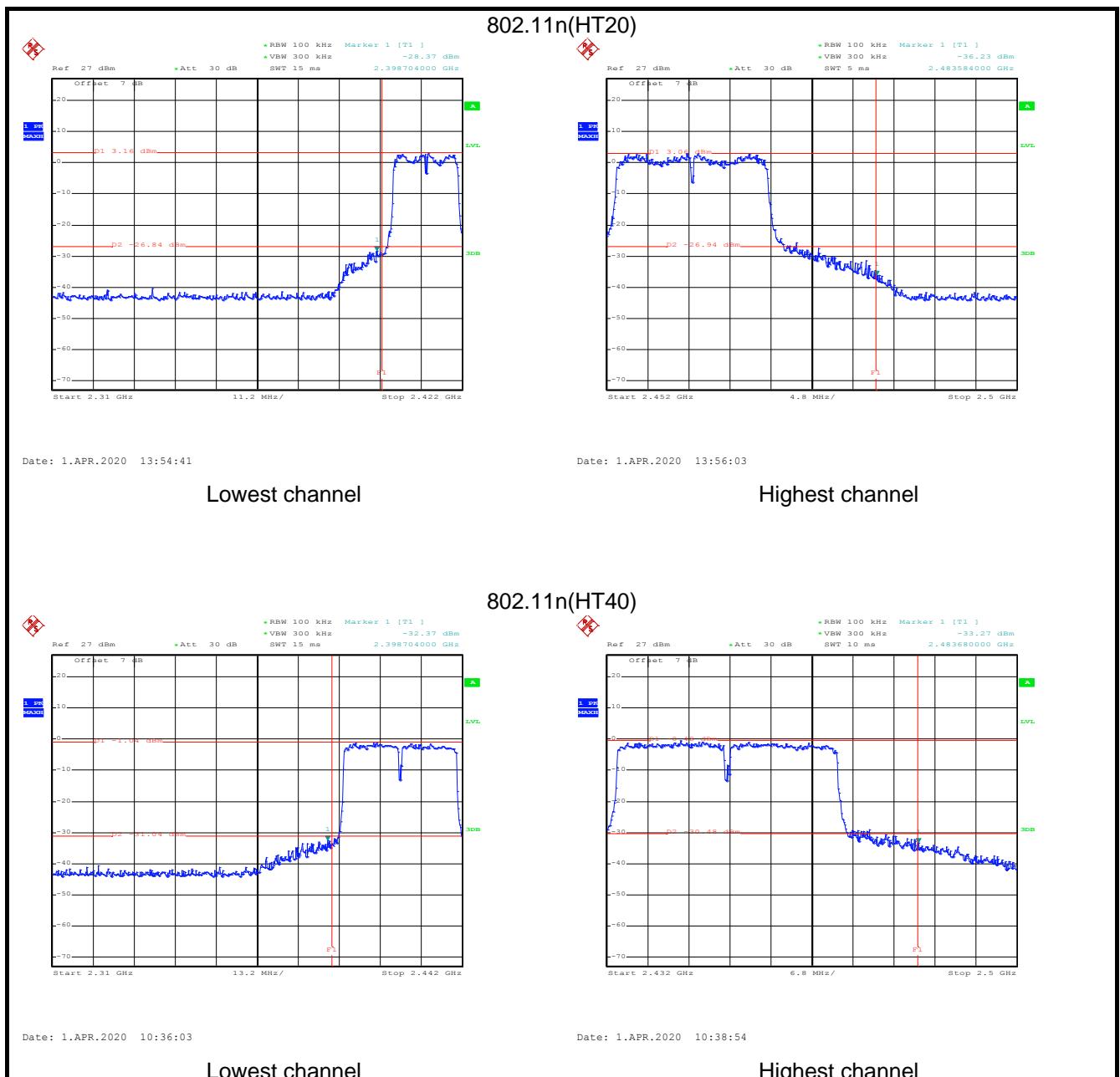
6.6.1 Conducted Emission Method

Test Requirement:	FCC Part 15 C Section 15.247 (d)
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph(b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.
Test setup:	
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

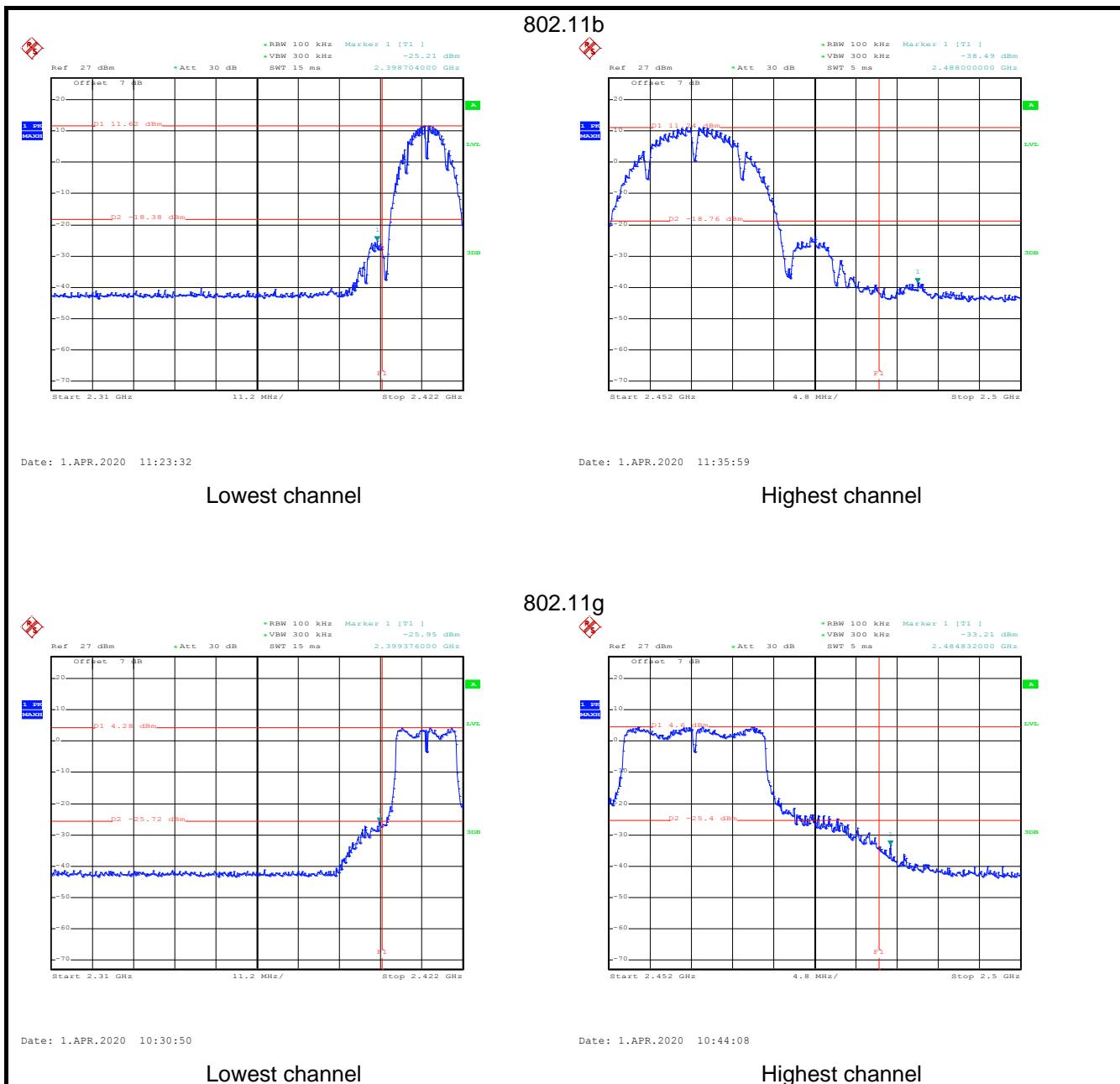
Test plot as follows:

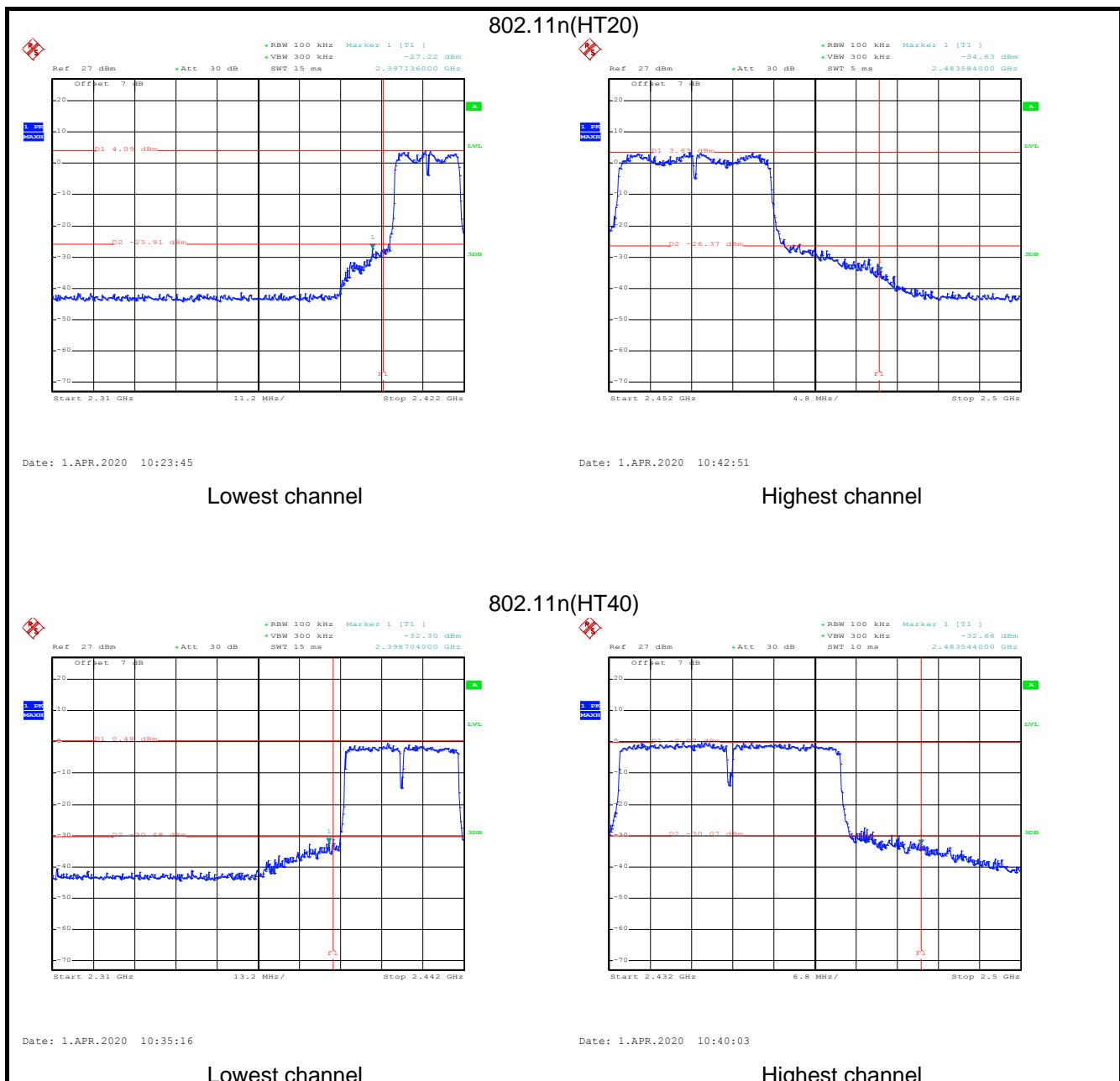
TX 0:



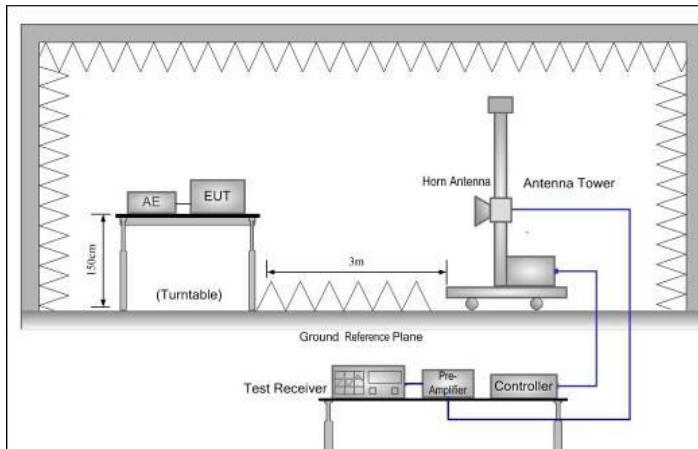


TX 1:



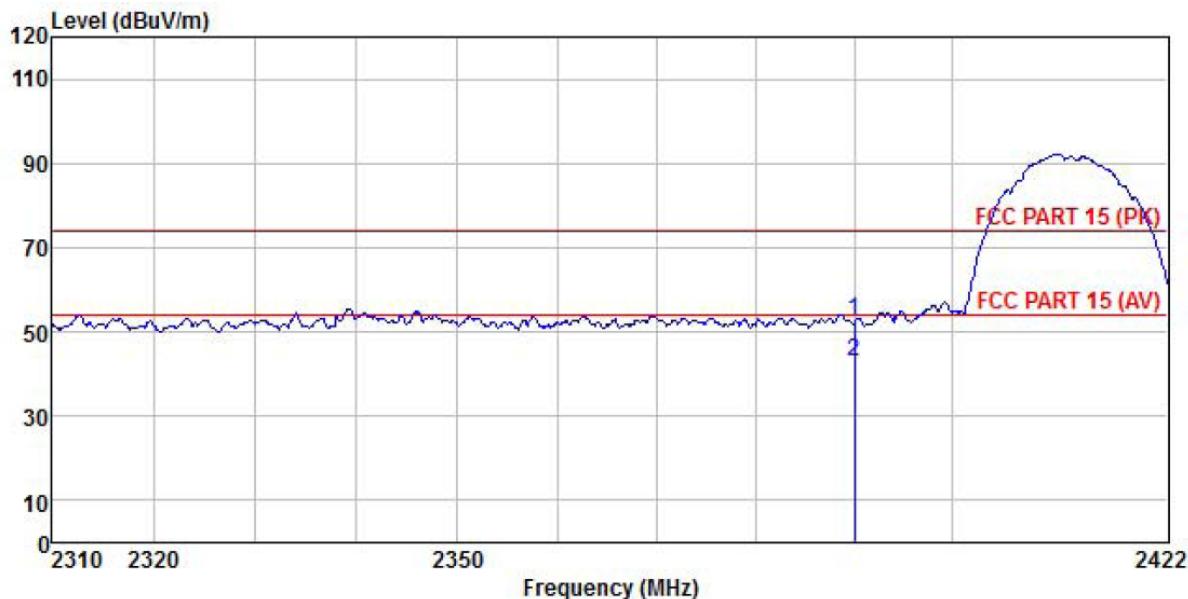


6.6.2 Radiated Emission Method

Test Requirement:	FCC Part 15 C Section 15.209 and 15.205										
Test Frequency Range:	2310 MHz to 2390 MHz and 2483.5 MHz to 2500 MHz										
Test Distance:	3m										
Receiver setup:	Frequency	Detector	RBW	VBW	Remark						
	Above 1GHz	Peak	1MHz	3MHz	Peak Value						
Limit:	Frequency	Limit (dBuV/m @3m)		Remark							
	Above 1GHz	54.00		Average Value							
Test Procedure:		<ol style="list-style-type: none"> The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. 									
Test setup:											
Test Instruments:	Refer to section 5.9 for details										
Test mode:	Refer to section 5.3 for details										
Test results:	Passed										

Ceramic Antenna:**802.11b mode TX0:**

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11b Tx mode
Test Channel:	Lowest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

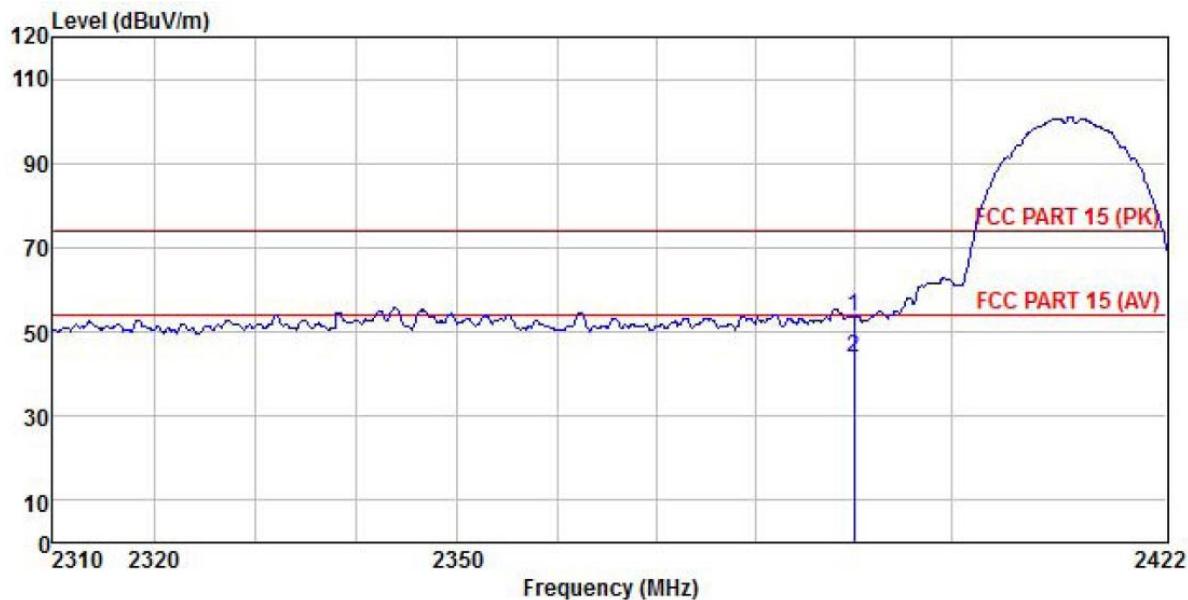


Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Line Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	21.03	27.07	4.69	0.00	52.79	74.00	-21.21 Peak
2	2390.000	11.40	27.07	4.69	0.00	43.16	54.00	-10.84 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11b Tx mode
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

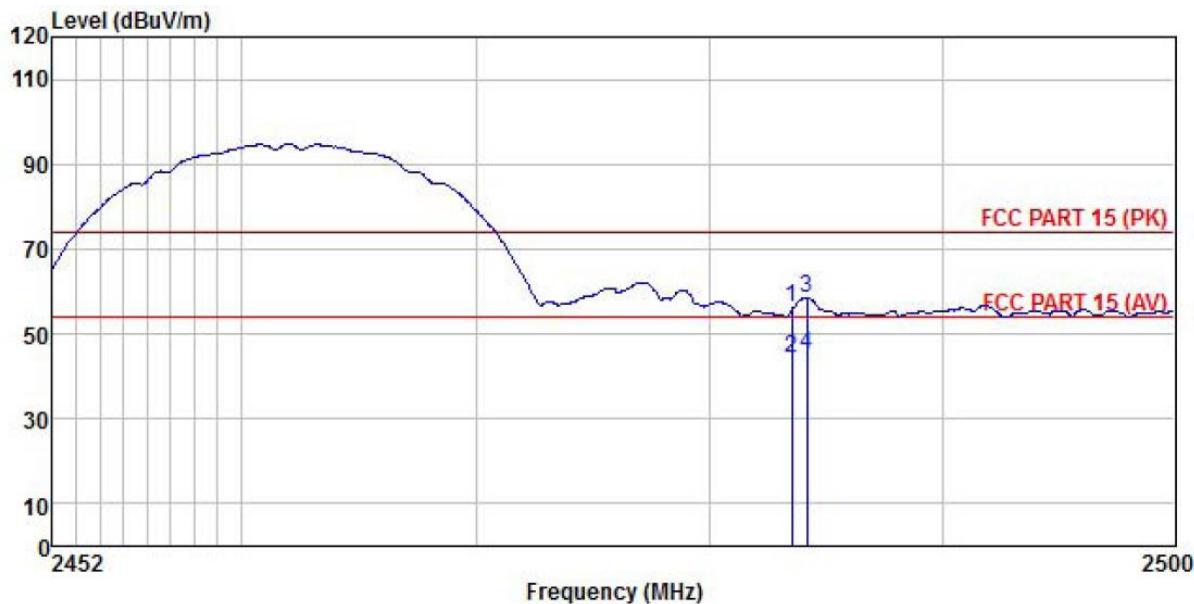


	ReadAntenna Freq	Level Factor	Cable Loss Factor	Preamp Factor	Limit Level	Over Line Limit	Over Line Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2390.000	21.69	27.08	4.69	0.00	53.46	74.00	-20.54 Peak
2	2390.000	12.25	27.08	4.69	0.00	44.02	54.00	-9.98 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11b Tx mode
Test Channel:	Highest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

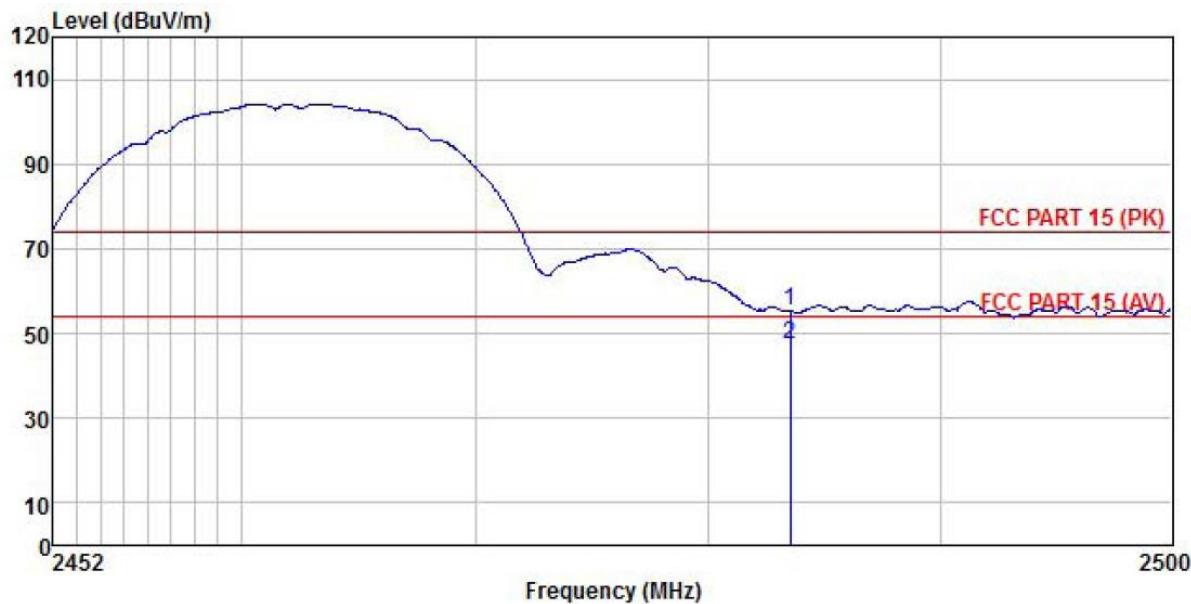


Freq	Read	Antenna	Cable	Preamp	Limit	Over		
	Freq	Level	Factor	Loss	Factor	Line	Line	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2483.500	23.85	27.36	4.81	0.00	56.02	74.00	-17.98 Peak
2	2483.500	12.07	27.36	4.81	0.00	44.24	54.00	-9.76 Average
3	2484.153	26.40	27.36	4.81	0.00	58.57	74.00	-15.43 Peak
4	2484.153	12.82	27.36	4.81	0.00	44.99	54.00	-9.01 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11b Tx mode
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%



Freq MHz	Read Level dBuV	Antenna Factor dB/m	Cable Loss Factor dB	Preamp Level dB	Line Level dBuV/m	Limit Line dBuV/m	Over Line dB	Over Line Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	2483.500	23.19	27.35	4.81	0.00	55.35	74.00	-18.65 Peak
2	2483.500	15.19	27.35	4.81	0.00	47.35	54.00	-6.65 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

802.11b mode TX1:

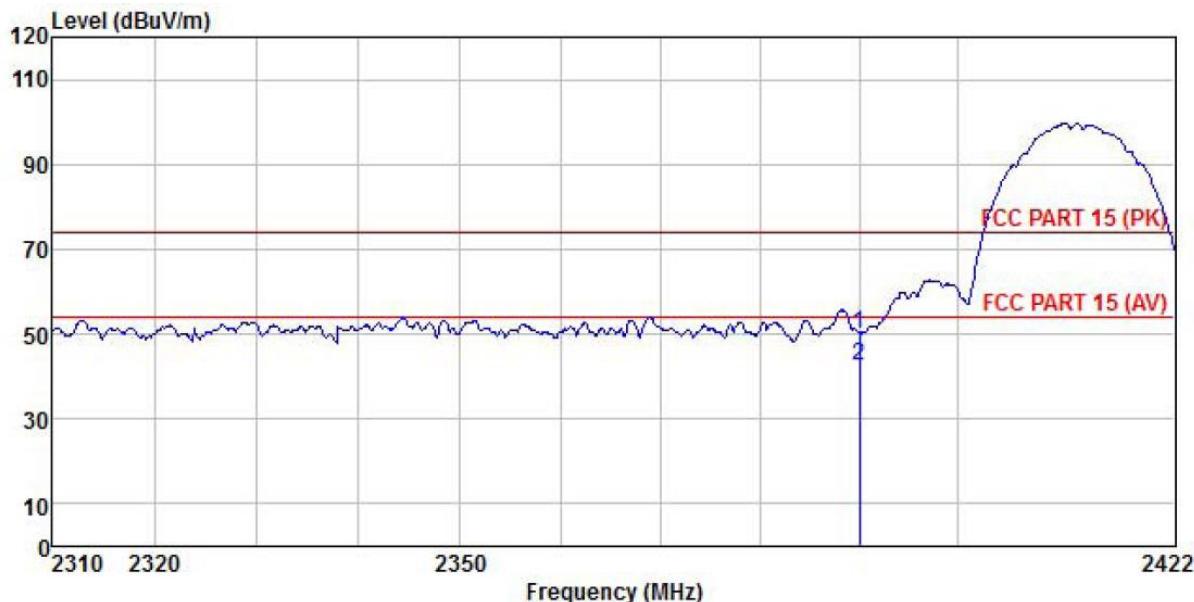
Product Name:	Komikan		Product Model:	Komikan	
Test By:	Mike		Test mode:	802.11b Tx mode	
Test Channel:	Lowest channel		Polarization:	Vertical	
Test Voltage:	AC 120/60Hz		Environment:	Temp: 24°C Huni: 57%	

Freq	ReadAntenna Level	Cable Loss	Preamp Factor	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB
1	2390.000	21.93	27.07	4.69	0.00	53.69 74.00 -20.31 Peak
2	2390.000	11.05	27.07	4.69	0.00	42.81 54.00 -11.19 Average

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11b Tx mode
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

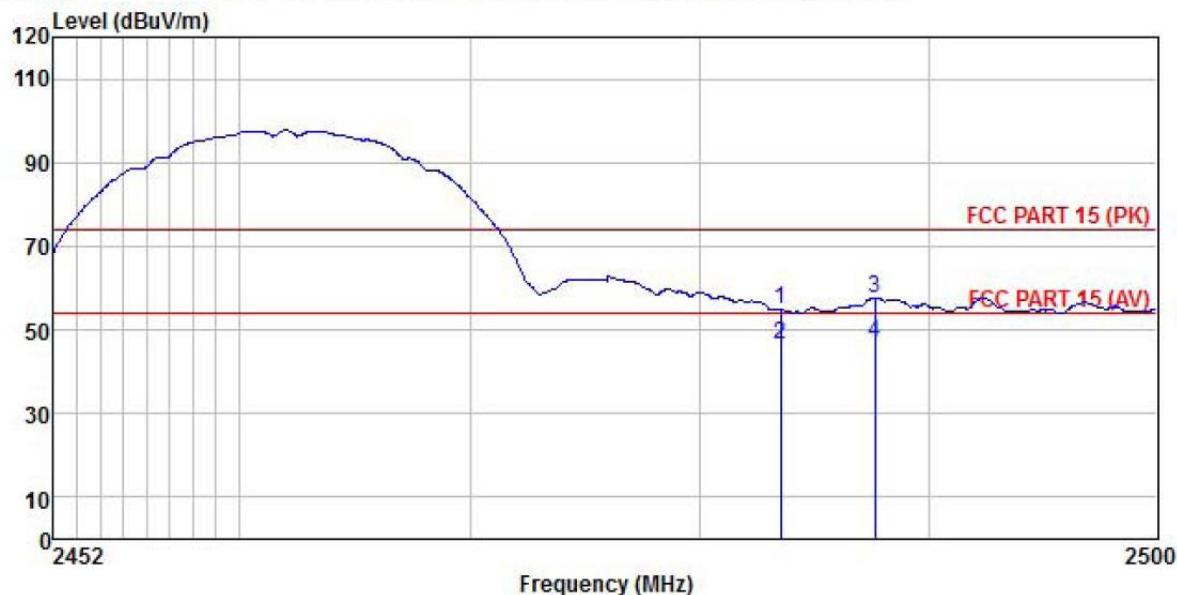


Freq	Read Antenna Level	Antenna Factor	Cable Loss	Preamp Factor	Line Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	18.48	27.08	4.69	0.00	50.25	74.00	-23.75 Peak
2	2390.000	10.76	27.08	4.69	0.00	42.53	54.00	-11.47 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11b Tx mode
Test Channel:	Highest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

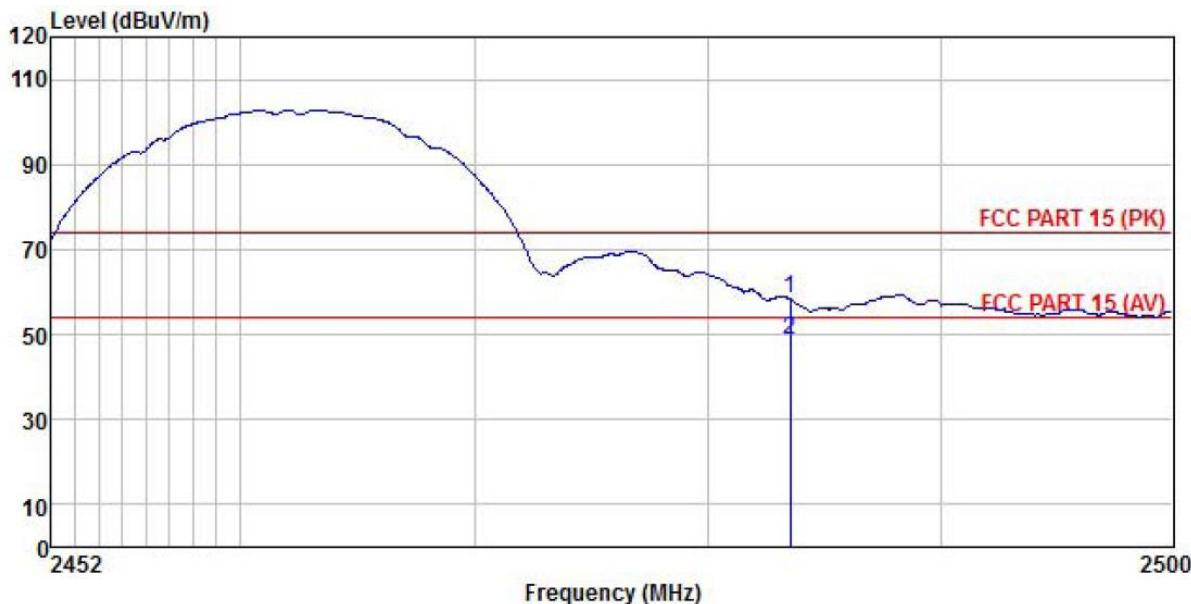


Freq	Read	Antenna	Cable	Preamp	Limit	Over	Over	
	MHz	dBuV	dB/m	dB				Remark
1	2483.500	22.65	27.36	4.81	0.00	54.82	74.00	-19.18 Peak
2	2483.500	14.29	27.36	4.81	0.00	46.46	54.00	-7.54 Average
3	2487.623	25.48	27.36	4.81	0.00	57.65	74.00	-16.35 Peak
4	2487.623	14.61	27.36	4.81	0.00	46.78	54.00	-7.22 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11b Tx mode
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%



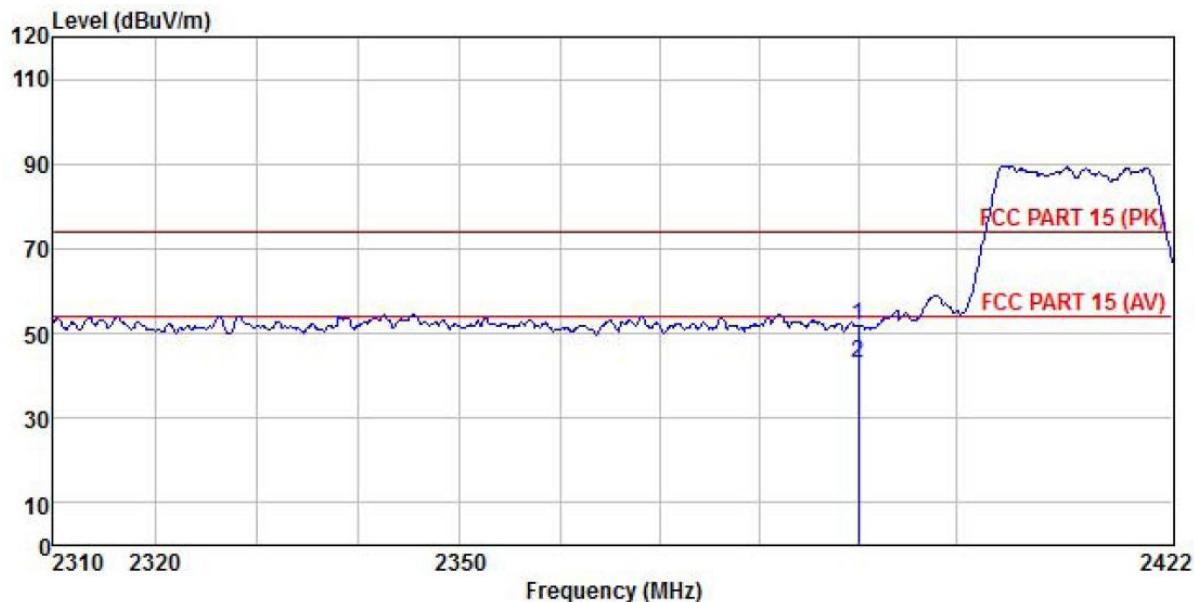
Freq MHz	Read Level dBuV	Antenna Factor dB/m	Cable Loss Factor dB	Preamp Level dB	Line Level dBuV/m	Limit Line dBuV/m	Over Line dB	Over Limit Remark
1 2483.500	26.07	27.35	4.81	0.00	58.23	74.00	-15.77	Peak
2 2483.500	16.45	27.35	4.81	0.00	48.61	54.00	-5.39	Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

802.11g mode TX0:

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11g Tx mode
Test Channel:	Lowest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%



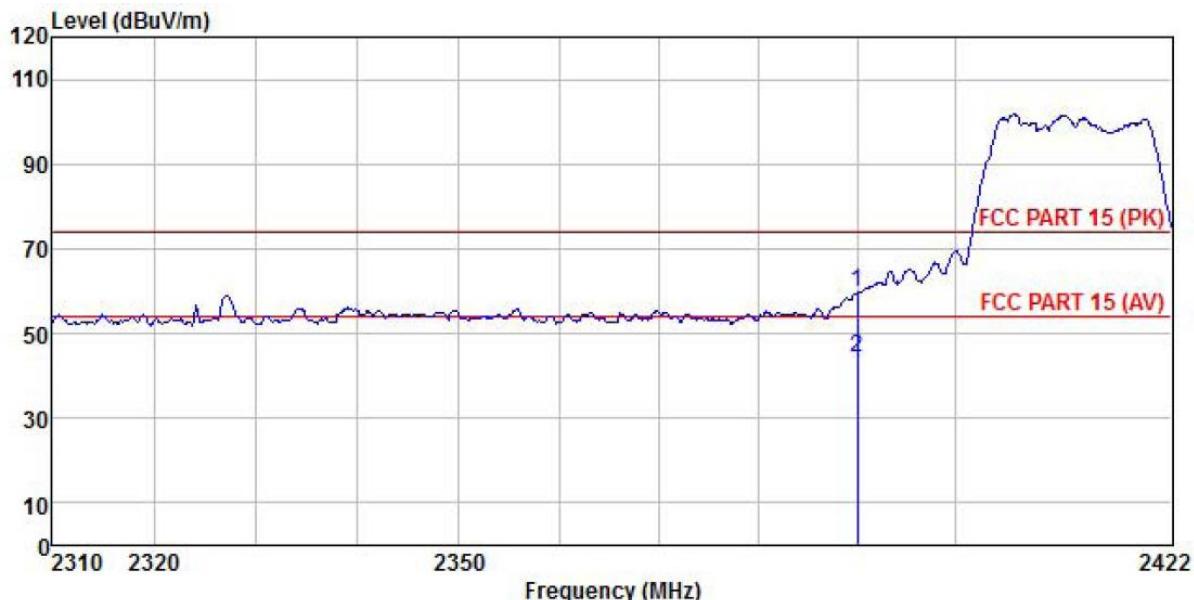
Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
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MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	20.23	27.07	4.69	0.00	51.99	74.00	-22.01 Peak
2	2390.000	11.29	27.07	4.69	0.00	43.05	54.00	-10.95 Average

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11g Tx mode
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

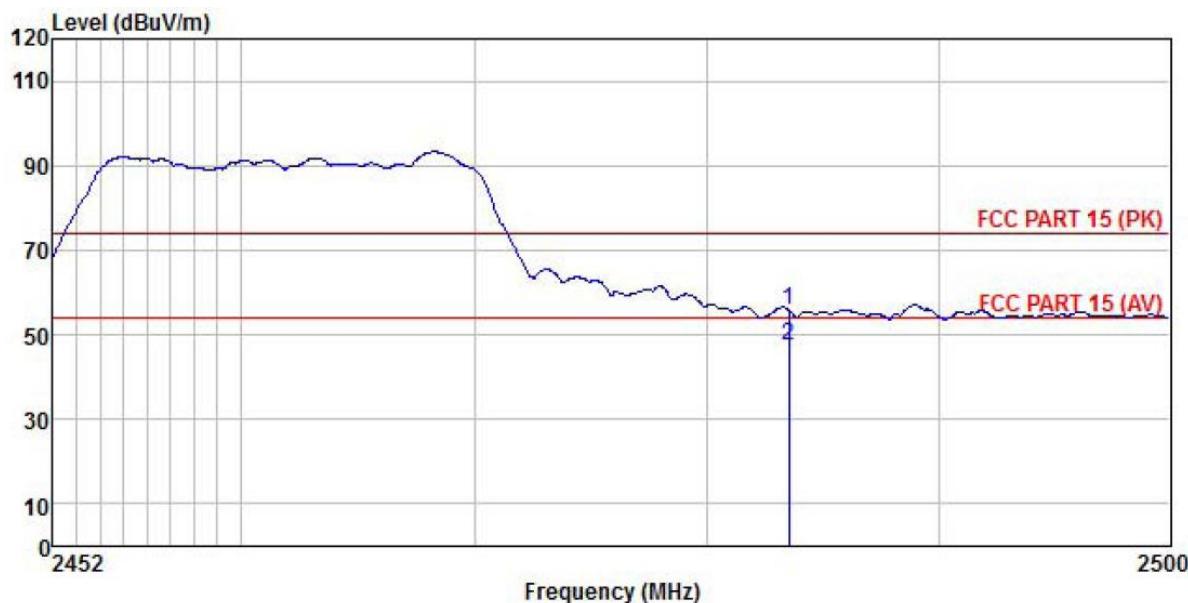


Freq	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	28.09	27.08	4.69	0.00	59.86	74.00	-14.14 Peak
2	2390.000	12.72	27.08	4.69	0.00	44.49	54.00	-9.51 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11g Tx mode
Test Channel:	Highest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

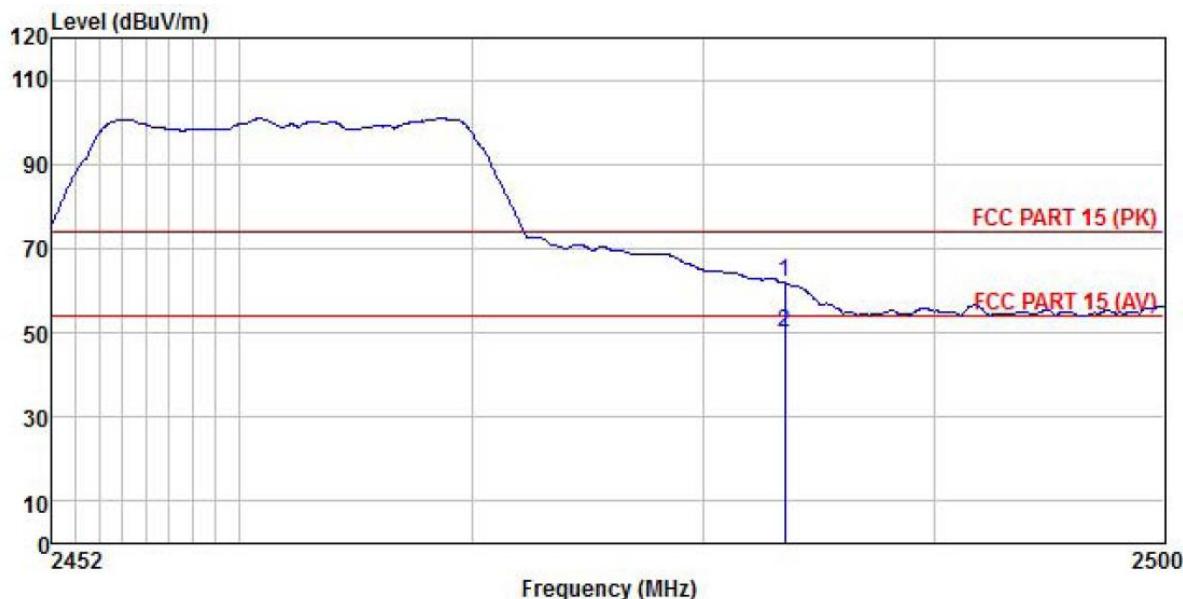


Freq MHz	Read Level dBuV	Antenna Factor	Cable Loss dB	Preamp Factor	Line Level dB	Limit Line dBuV/m	Over Line dB	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2483.500	23.41	27.36	4.81	0.00	55.58	74.00	-18.42 Peak
2	2483.500	15.17	27.36	4.81	0.00	47.34	54.00	-6.66 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11g Tx mode
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%



Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Line Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1 2483.500	29.63	27.35	4.81	0.00	61.79	74.00	-12.21	Peak
2 2483.500	18.07	27.35	4.81	0.00	50.23	54.00	-3.77	Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

802.11g mode TX1:

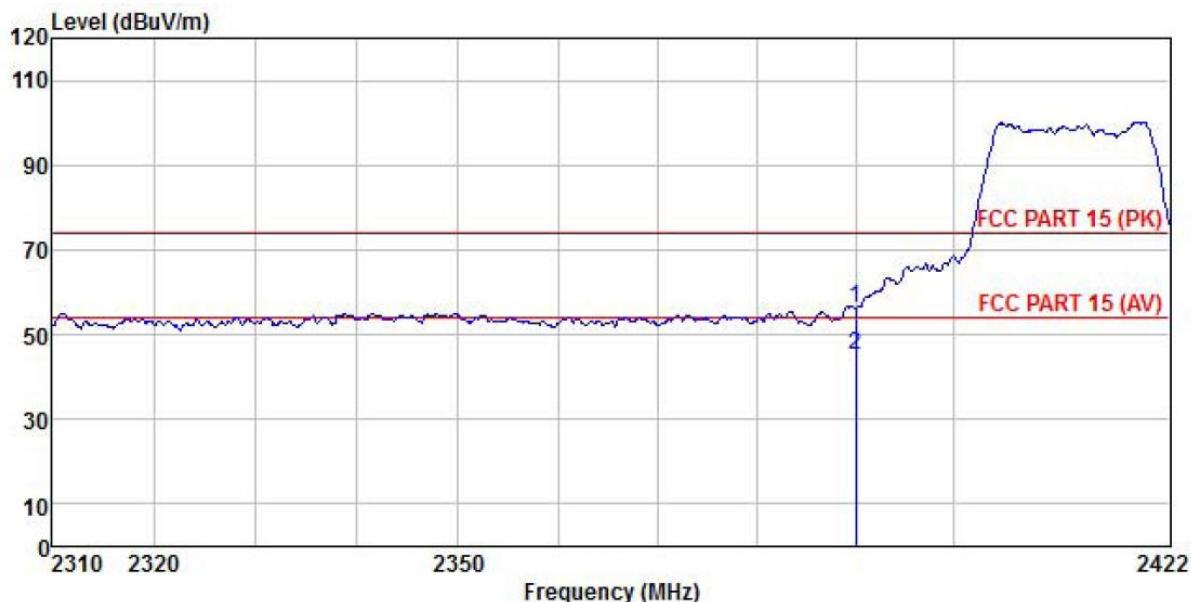
Product Name:	Komikan		Product Model:	Komikan	
Test By:	Mike		Test mode:	802.11g Tx mode	
Test Channel:	Lowest channel		Polarization:	Vertical	
Test Voltage:	AC 120/60Hz		Environment:	Temp: 24°C Huni: 57%	

Freq	Read Antenna Level	Antenna Factor	Cable Loss	Preamp Factor	Line Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	21.85	27.07	4.69	0.00	53.61	74.00	-20.39 Peak
2	2390.000	12.73	27.07	4.69	0.00	44.49	54.00	-9.51 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11g Tx mode
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

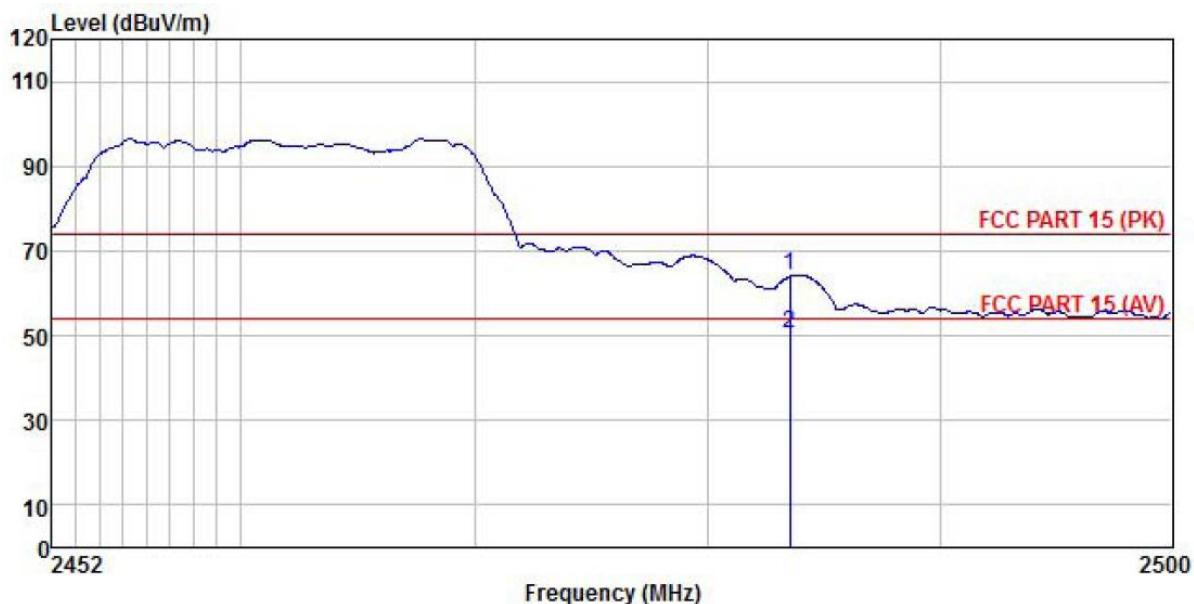


Freq	Read Antenna Level	Antenna Factor	Cable Loss	Preamp Factor	Line Level	Limit Line	Over Line Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	24.43	27.08	4.69	0.00	56.20	74.00	-17.80 Peak
2	2390.000	13.31	27.08	4.69	0.00	45.08	54.00	-8.92 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11g Tx mode
Test Channel:	Highest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

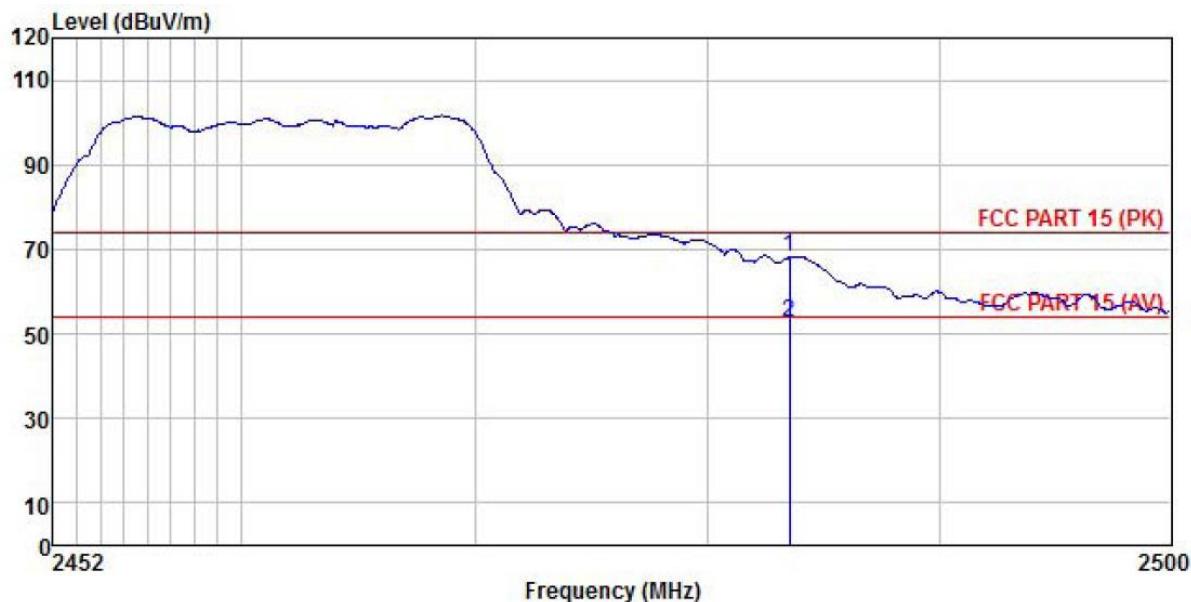


Freq	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Line Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	31.95	27.36	4.81	0.00	64.12	74.00	-9.88 Peak
2	2483.500	18.13	27.36	4.81	0.00	50.30	54.00	-3.70 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11g Tx mode
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%



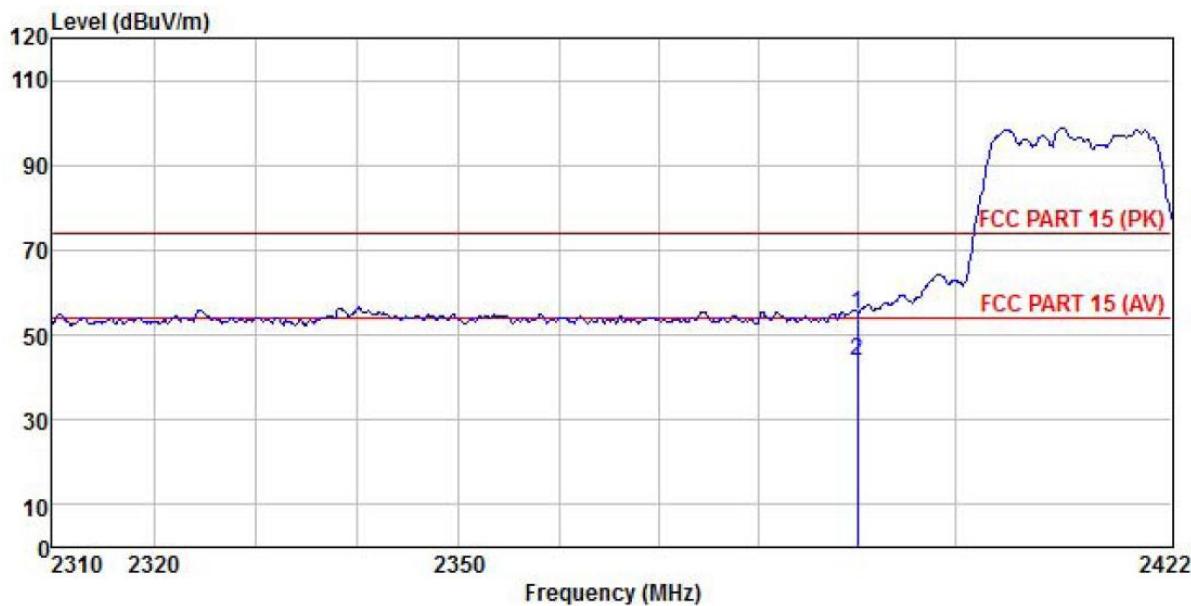
Freq	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dB	dBuV/m	dBuV/m	dB
1	2483.500	36.07	27.35	4.81	0.00	68.23	74.00	-5.77 Peak
2	2483.500	20.63	27.35	4.81	0.00	52.79	54.00	-1.21 Average

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

802.11n-HT20 (MIMO):

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11n(HT20) Tx mode
Test Channel:	Lowest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

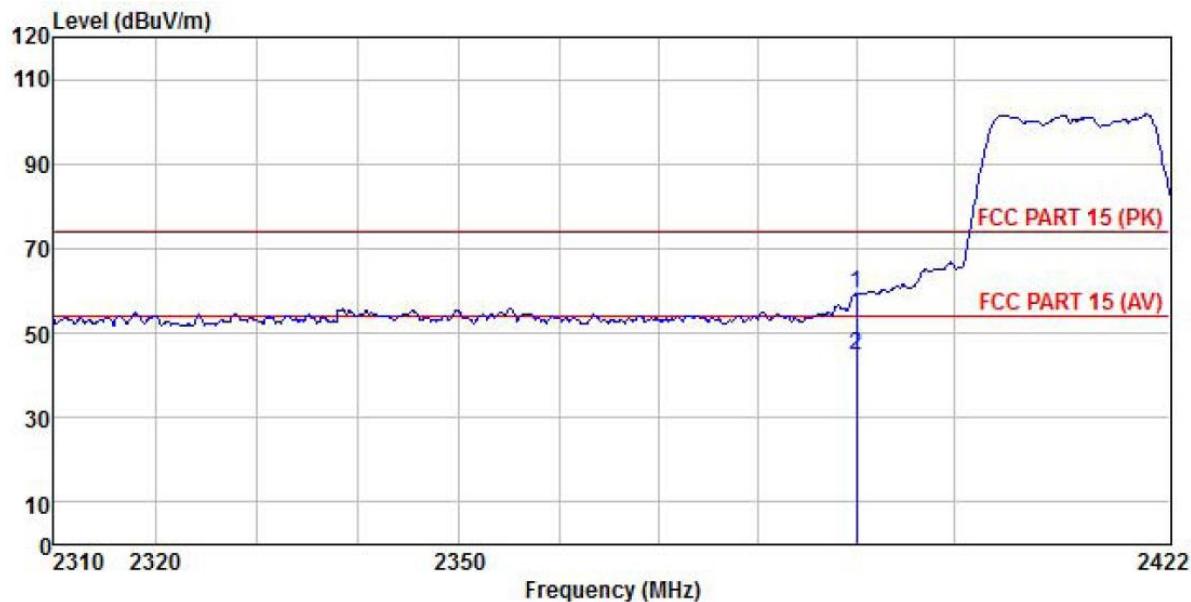


Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	23.33	27.07	4.69	0.00	55.09	74.00	-18.91 Peak
2	2390.000	12.20	27.07	4.69	0.00	43.96	54.00	-10.04 Average

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11n(HT20) Tx mode
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

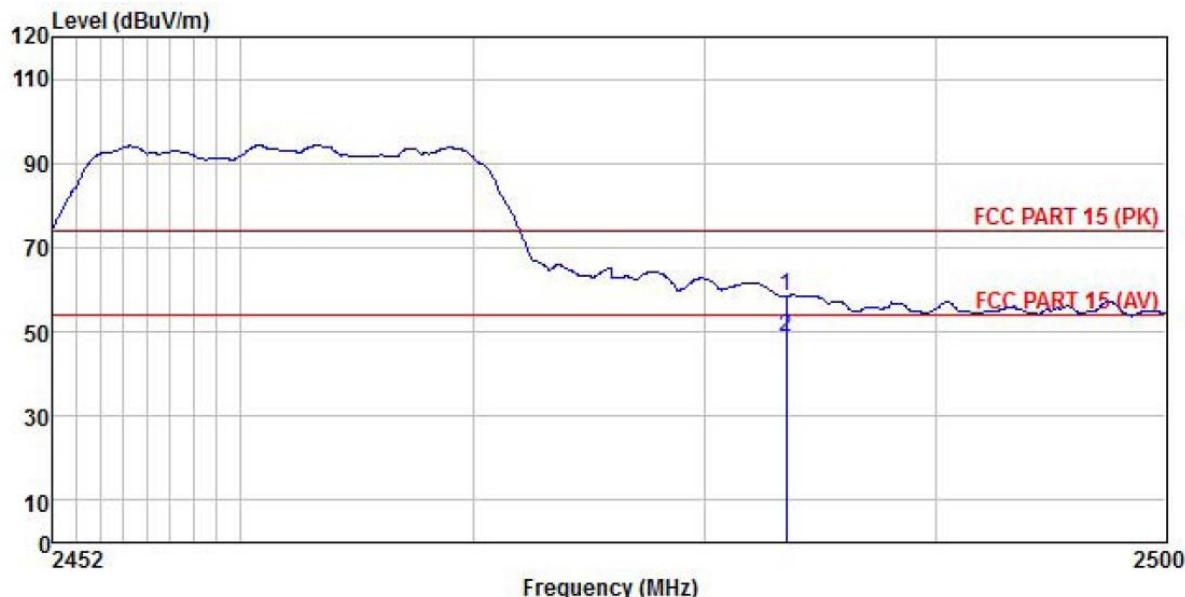


Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	27.54	27.08	4.69	0.00	59.31	74.00	-14.69 Peak
2	2390.000	13.07	27.08	4.69	0.00	44.84	54.00	-9.16 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11n(HT20) Tx mode
Test Channel:	Highest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

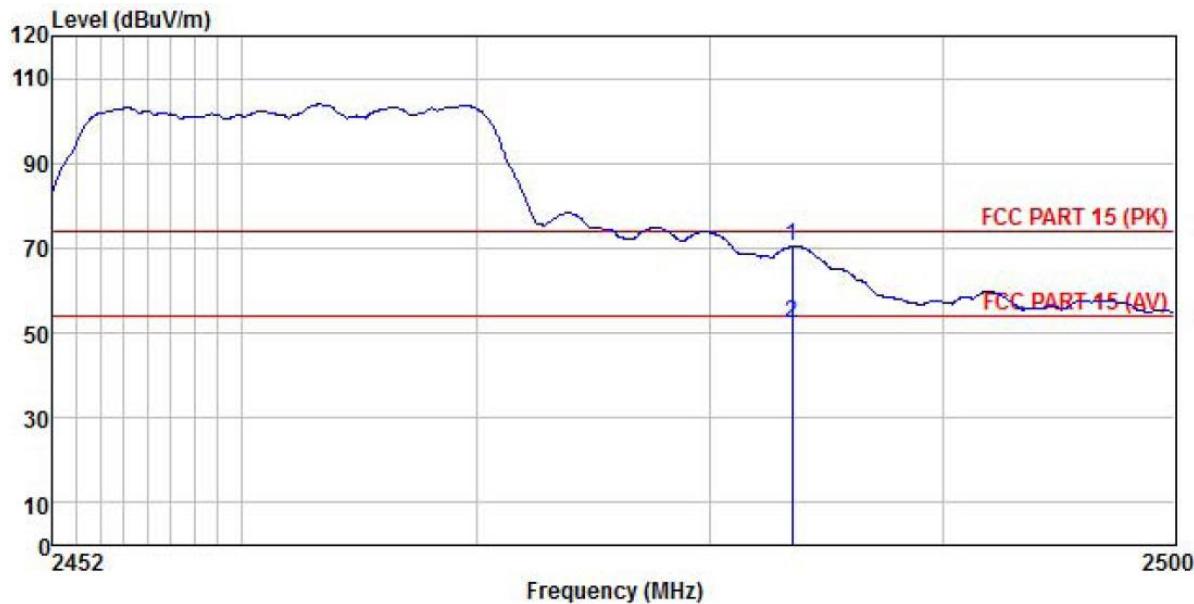


Freq	Read Antenna Level Factor		Cable Preamp Loss Factor		Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB
1	2483.500	26.28	27.36	4.81	0.00	58.45	74.00 -15.55 Peak
2	2483.500	16.60	27.36	4.81	0.00	48.77	54.00 -5.23 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11n(HT20) Tx mode
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%



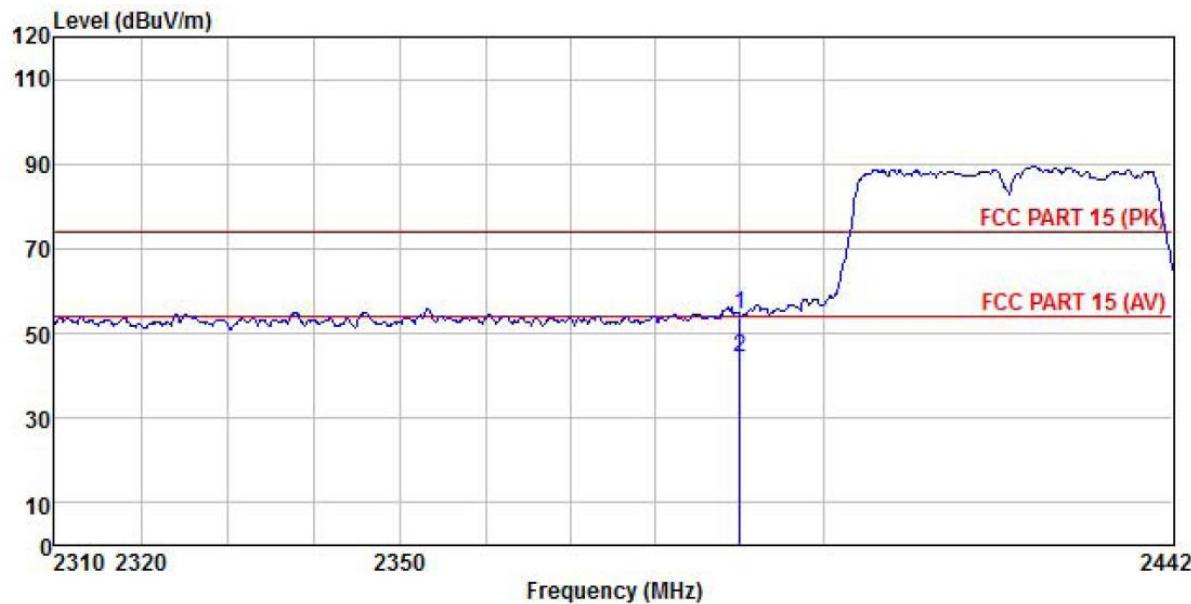
Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	dB	
1	2483.500	38.22	27.35	4.81	0.00	70.38	74.00	-3.62	Peak
2	2483.500	20.14	27.35	4.81	0.00	52.30	54.00	-1.70	Average

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

802.11n-HT40 (MIMO):

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11n(HT40) Tx mode
Test Channel:	Lowest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

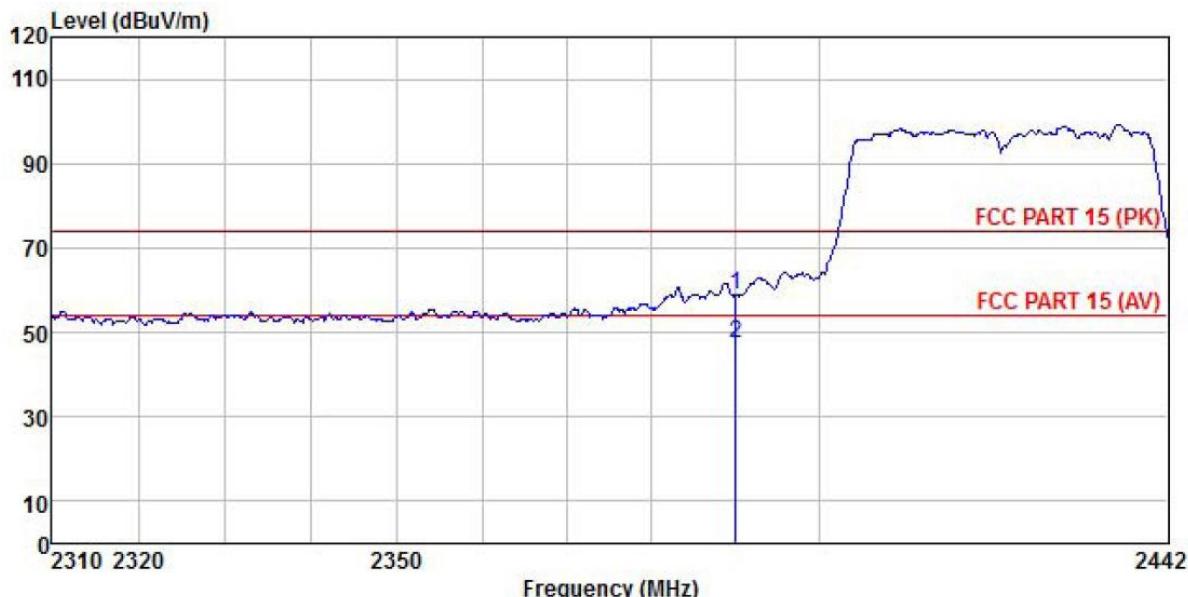


Freq	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	22.54	27.07	4.69	0.00	54.30	74.00	-19.70 Peak
2	2390.000	12.48	27.07	4.69	0.00	44.24	54.00	-9.76 Average

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11n(HT40) Tx mode
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

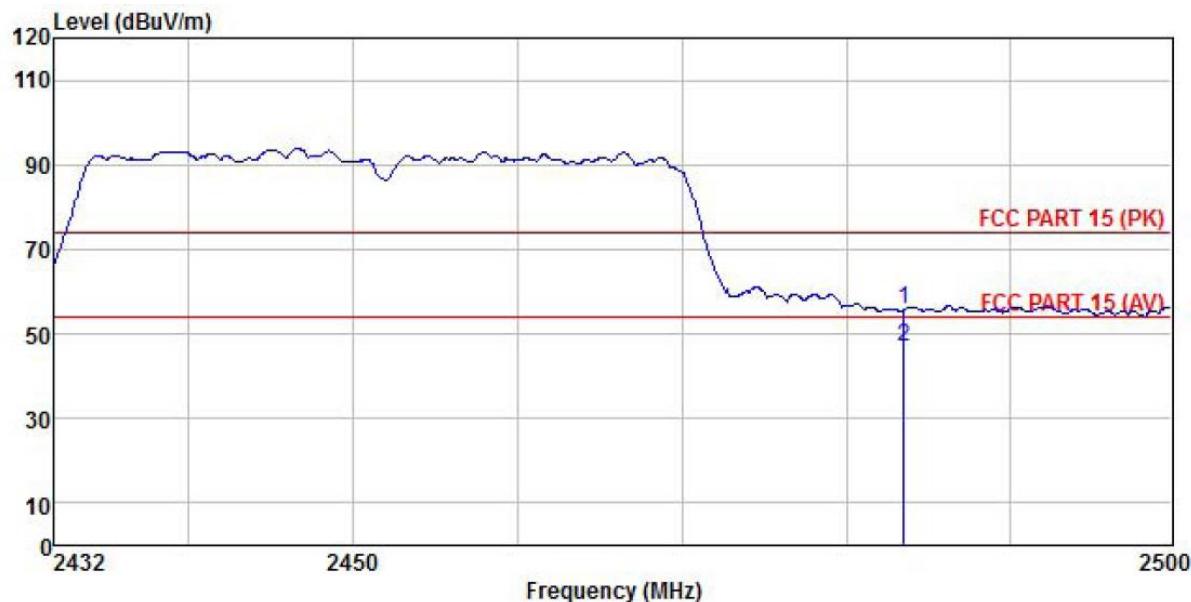


	Read	Antenna	Cable	Preamp	Limit	Over	Over	Remark
Freq	Level	Factor	Loss	Factor	Level	Line	Line	
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	27.25	27.08	4.69	0.00	59.02	74.00	-14.98 Peak
2	2390.000	15.48	27.08	4.69	0.00	47.25	54.00	-6.75 Average

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11n(HT40) Tx mode
Test Channel:	Highest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

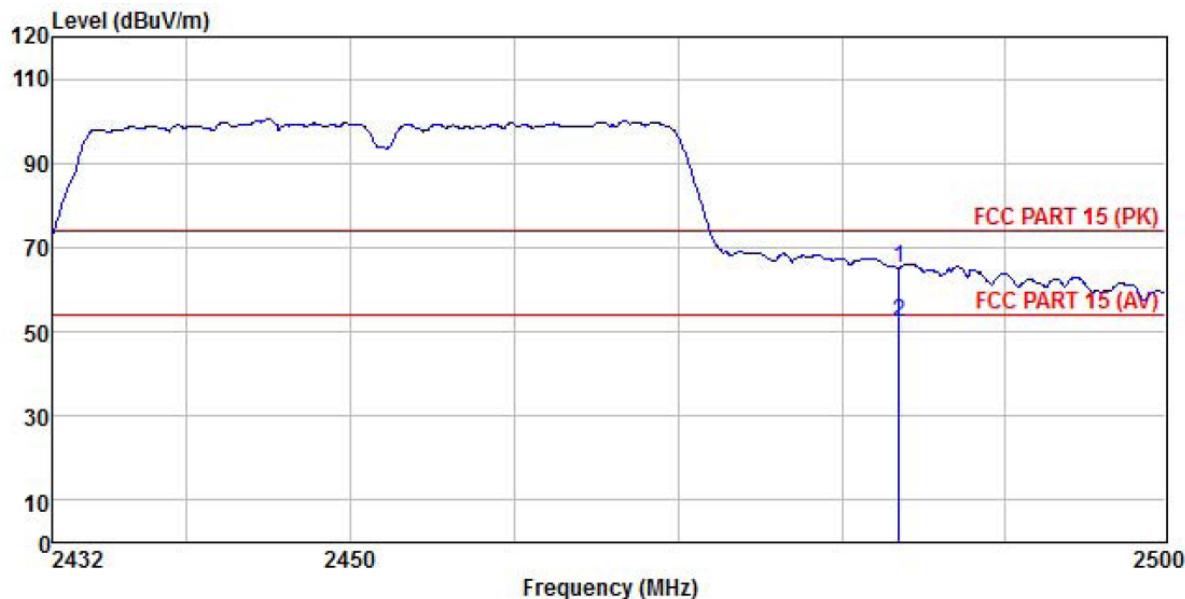


Freq	Read Antenna Level	Antenna Factor	Cable Loss	Preamp Factor	Line Level	Line Limit	Over Line Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	23.80	27.36	4.81	0.00	55.97	74.00	-18.03 Peak
2	2483.500	14.61	27.36	4.81	0.00	46.78	54.00	-7.22 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11n(HT40) Tx mode
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%



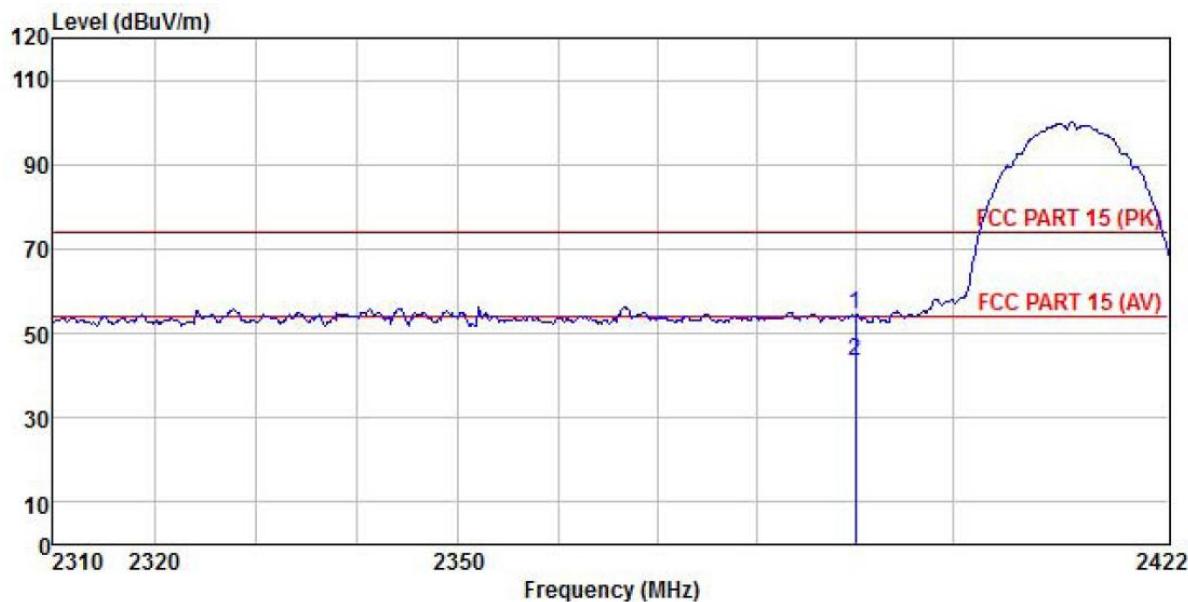
Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Line Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	32.92	27.35	4.81	0.00	65.08	74.00	-8.92 Peak
2	2483.500	19.97	27.35	4.81	0.00	52.13	54.00	-1.87 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Flex Antenna:**802.11b mode TX0:**

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11b Tx mode
Test Channel:	Lowest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

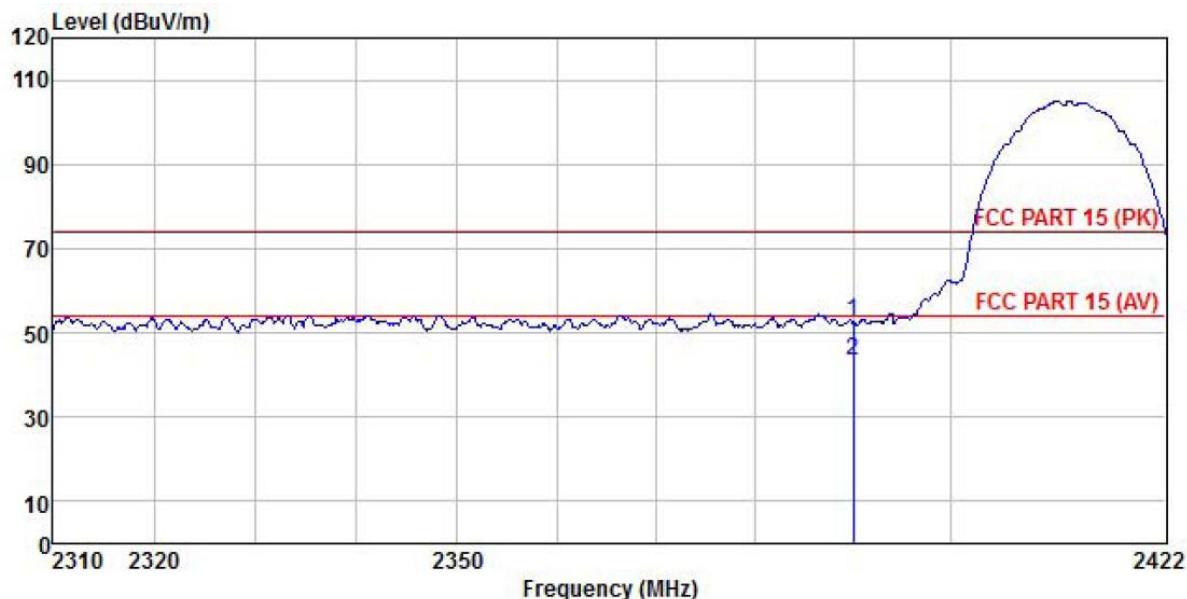


Freq	ReadAntenna Level	Cable Loss	Preamp Factor	Limit Level	Line Limit	Over Line Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2390.000	22.60	27.07	4.69	0.00	54.36	74.00 -19.64 Peak
2	2390.000	11.50	27.07	4.69	0.00	43.26	54.00 -10.74 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11b Tx mode
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

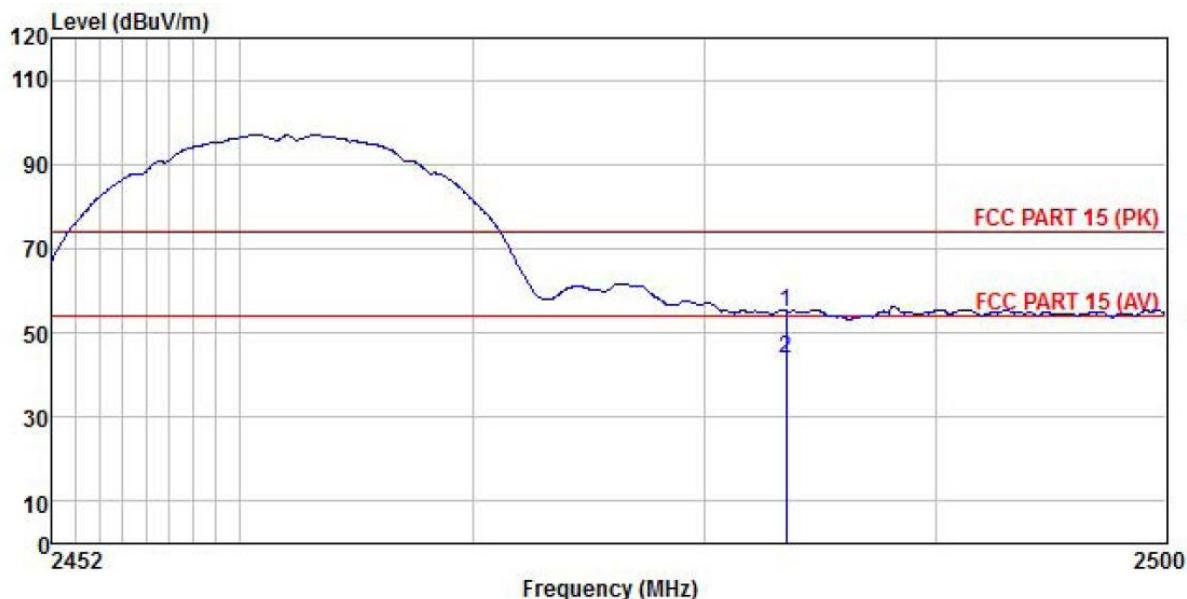


Freq	Read	Antenna	Cable	Preamp	Limit	Over	Line	Limit	Remark
	Freq	Level	Factor	Loss					
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	dB	
1	2390.000	20.80	27.08	4.69	0.00	52.57	74.00	-21.43	Peak
2	2390.000	11.70	27.08	4.69	0.00	43.47	54.00	-10.53	Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11b Tx mode
Test Channel:	Highest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

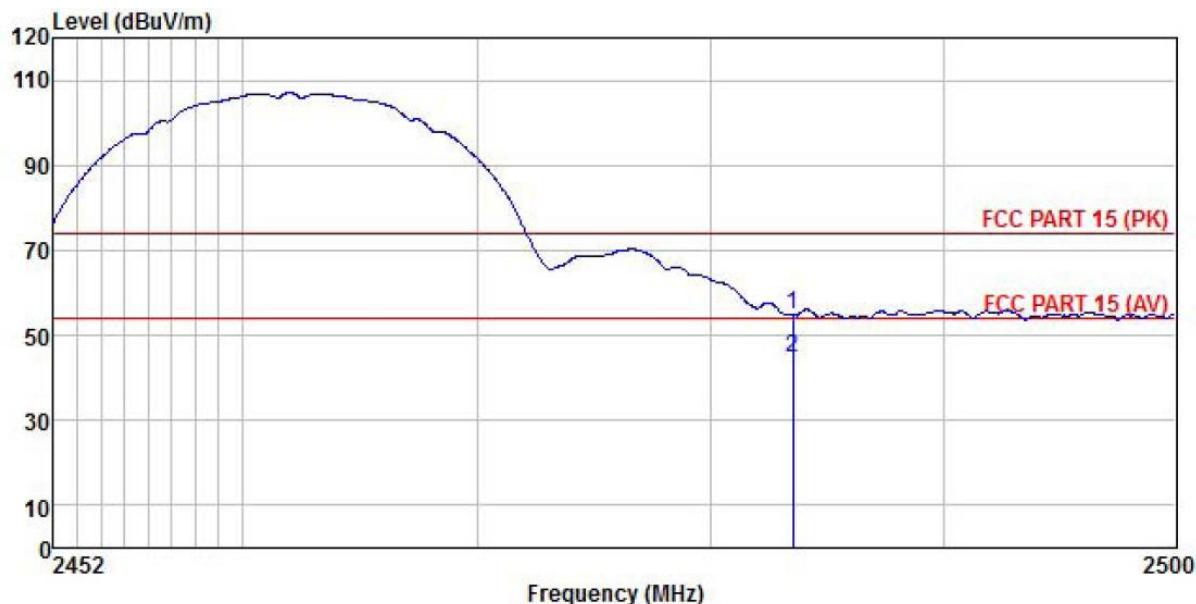


Freq	ReadAntenna	Cable	Preamp	Limit	Over	Line	Limit	Remark
	Freq	Level	Factor					
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dBuV/m	dB
1	2483.500	22.87	27.36	4.81	0.00	55.04	74.00	-18.96 Peak
2	2483.500	11.82	27.36	4.81	0.00	43.99	54.00	-10.01 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11b Tx mode
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%



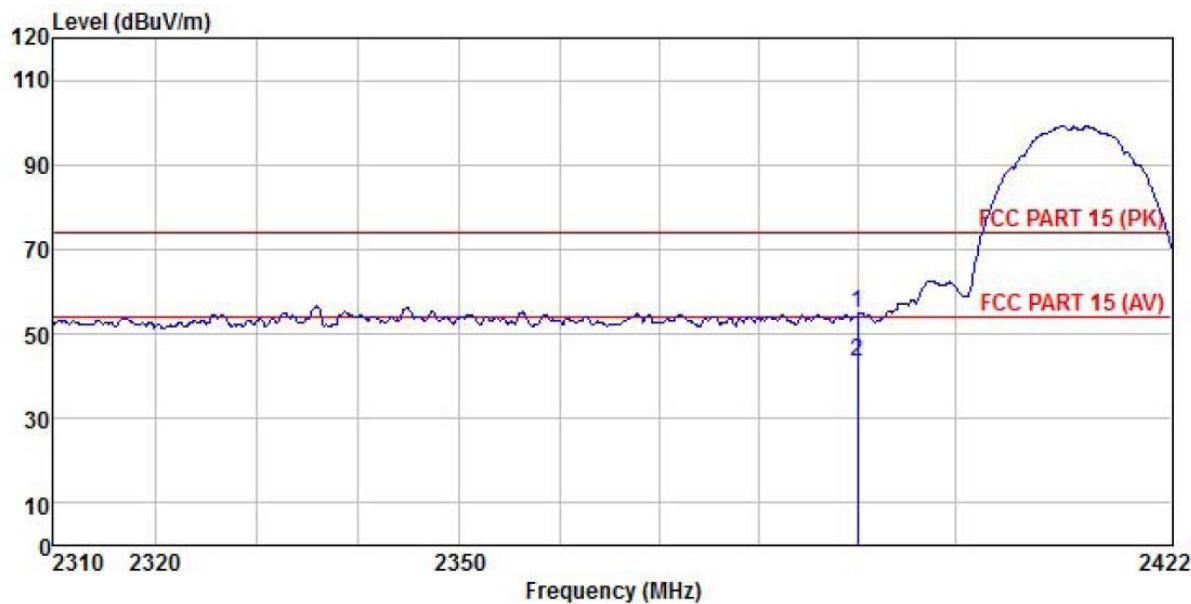
Freq MHz	Read		Antenna		Cable	Preamp	Limit Line dB	Over Line Limit dB	Remark
	Level dBuV	Factor dB/m	Level Factor dB	Loss Factor dB	Level dB	dBuV/m			
1 2483.500	22.67	27.35	4.81	0.00	54.83	74.00	-19.17	Peak	
2 2483.500	12.43	27.35	4.81	0.00	44.59	54.00	-9.41	Average	

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

802.11b mode TX1:

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11b Tx mode
Test Channel:	Lowest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

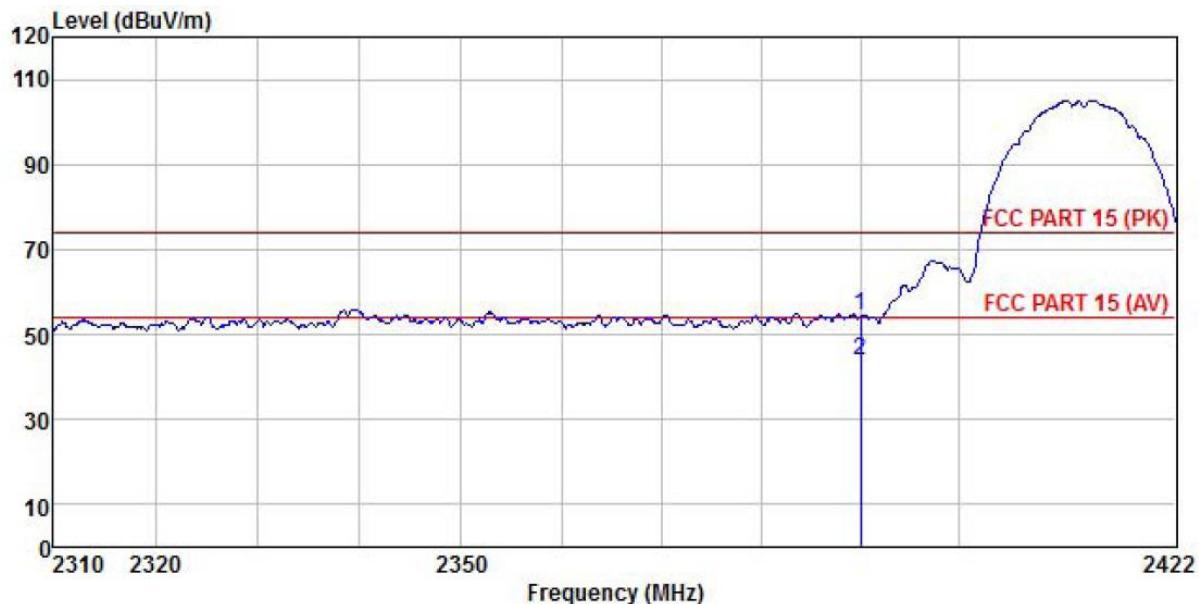


Freq MHz	Read Level dBuV	Antenna Factor dB	Cable Loss Factor dB	Preamp Level dB	Limit Line dBuV/m	Over Line dBuV/m	Over Line dB	Remark
1 2390.000	21.56	27.07	4.69	0.00	55.00	74.00	-19.00	Peak
2 2390.000	10.06	27.07	4.69	0.00	43.50	54.00	-10.50	Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11b Tx mode
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

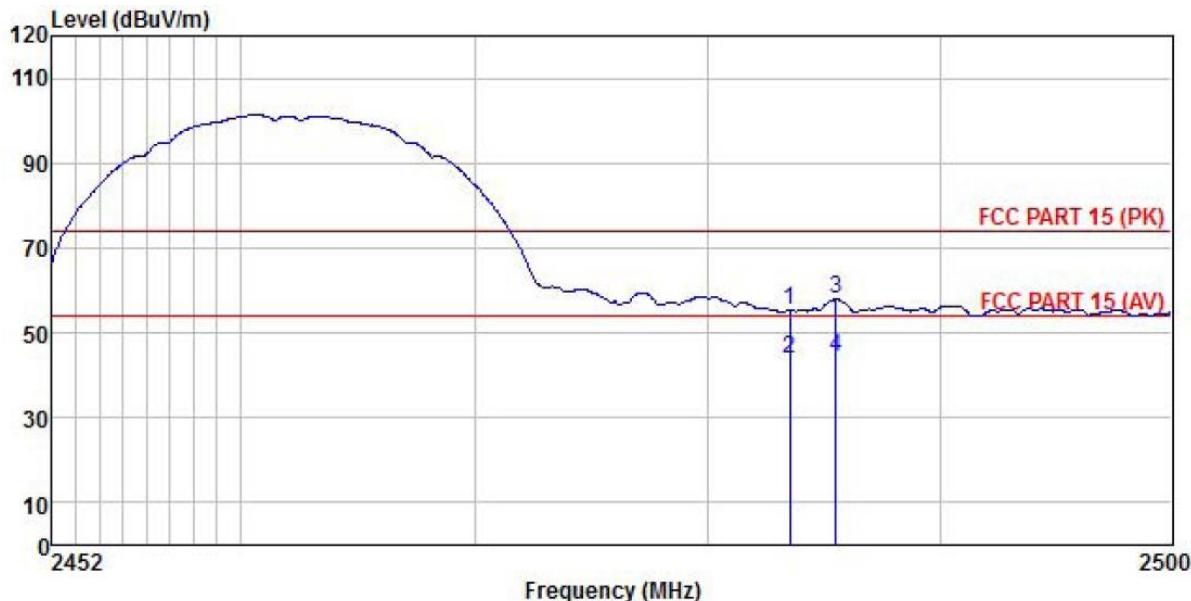


Freq	Read Antenna Level	Antenna Factor	Cable Loss	Preamp Factor	Line Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	21.05	27.08	4.69	0.00	54.50	74.00	-19.50 Peak
2	2390.000	10.54	27.08	4.69	0.00	43.99	54.00	-10.01 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11b Tx mode
Test Channel:	Highest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

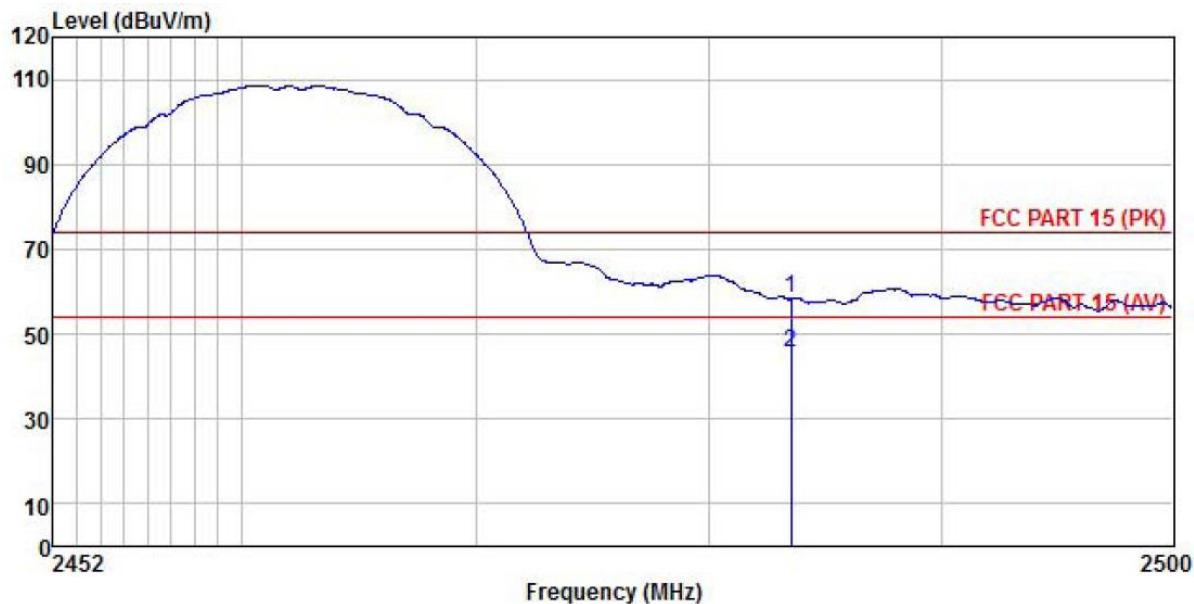


Freq	Read		Antenna		Cable	Preamp	Limit	Over	Over	Over
	Freq	Level	Level	Factor	Loss	Factor				
	MHz	dBuV	dB/m		dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	21.47	27.36	4.81	0.00	55.34	74.00	-18.66	Peak	
2	2483.500	10.05	27.36	4.81	0.00	43.92	54.00	-10.08	Average	
3	2485.502	24.00	27.36	4.81	0.00	57.87	74.00	-16.13	Peak	
4	2485.502	10.40	27.36	4.81	0.00	44.27	54.00	-9.73	Average	

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11b Tx mode
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%



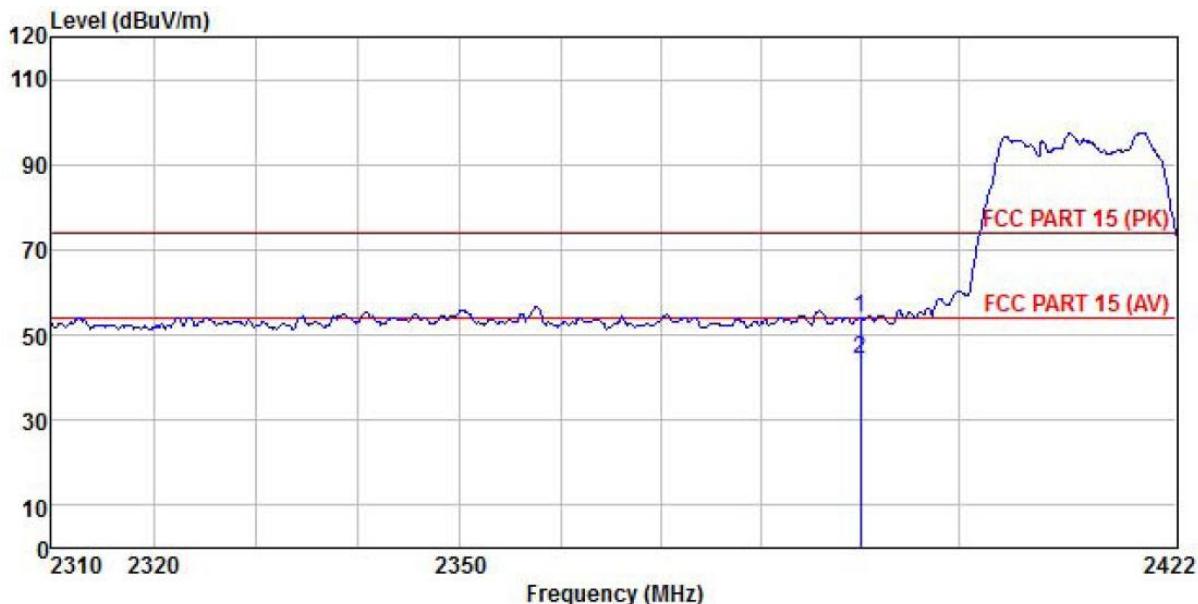
Freq MHz	Read Level dBuV	Antenna Factor dB/m	Cable Loss Factor dB	Preamp Level dB	Line Level dBuV/m	Limit Line dBuV/m	Over Line dB	Remark
1 2483.500	24.53	27.35	4.81	0.00	58.39	74.00	-15.61	Peak
2 2483.500	11.79	27.35	4.81	0.00	45.65	54.00	-8.35	Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

802.11g mode TX0:

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11g Tx mode
Test Channel:	Lowest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

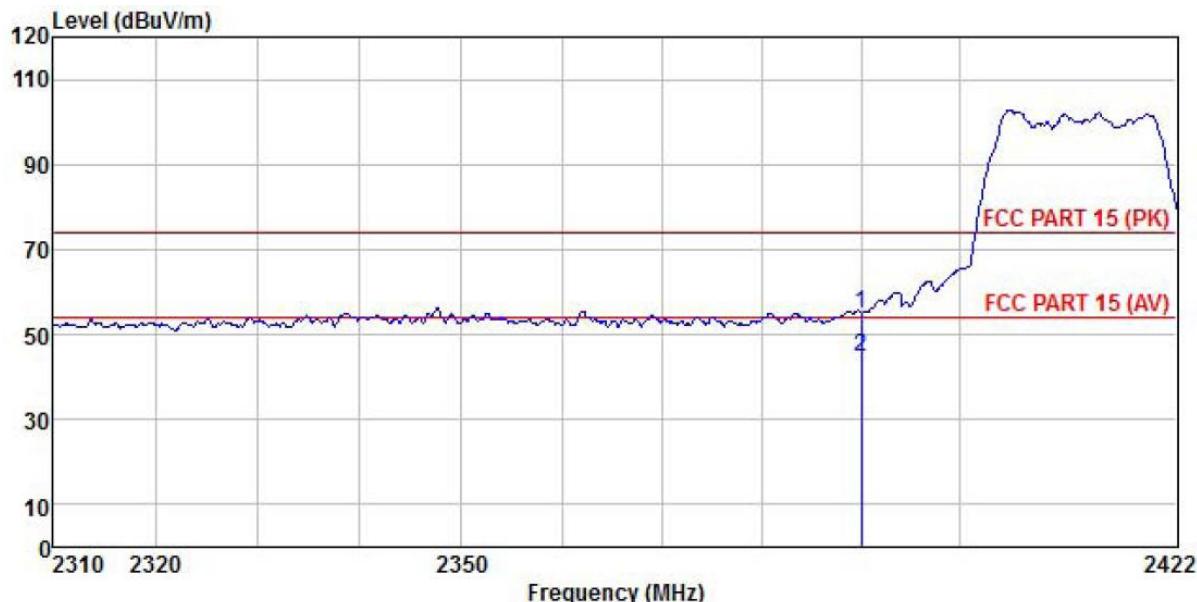


Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	22.38	27.07	4.69	0.00	54.14	74.00	-19.86 Peak
2	2390.000	12.51	27.07	4.69	0.00	44.27	54.00	-9.73 Average

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11g Tx mode
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

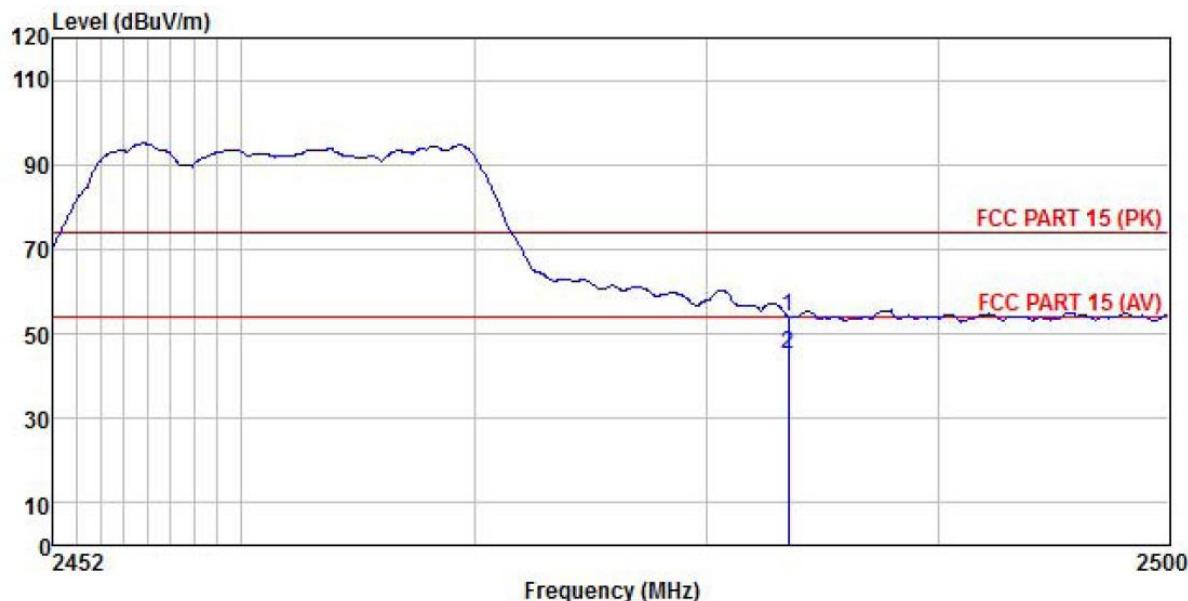


Freq	Read Antenna Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	23.27	27.08	4.69	0.00	55.04	74.00	-18.96 Peak
2	2390.000	12.97	27.08	4.69	0.00	44.74	54.00	-9.26 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11g Tx mode
Test Channel:	Highest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

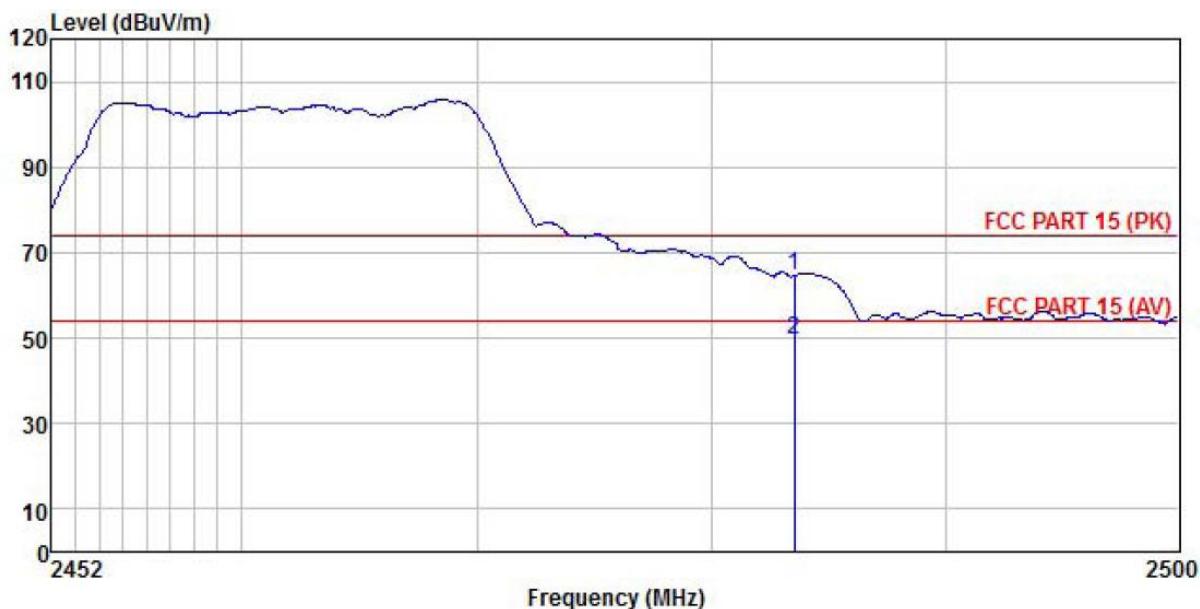


	Read	Antenna	Cable	Preamp	Limit	Over	
Freq	Level	Factor	Loss	Factor	Level	Line	Line
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2483.500	21.89	27.36	4.81	0.00	54.06	74.00 -19.94 Peak
2	2483.500	13.16	27.36	4.81	0.00	45.33	54.00 -8.67 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11g Tx mode
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%



Freq	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	32.62	27.35	4.81	0.00	64.78	74.00	-9.22 Peak
2	2483.500	17.29	27.35	4.81	0.00	49.45	54.00	-4.55 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

802.11g mode TX1:

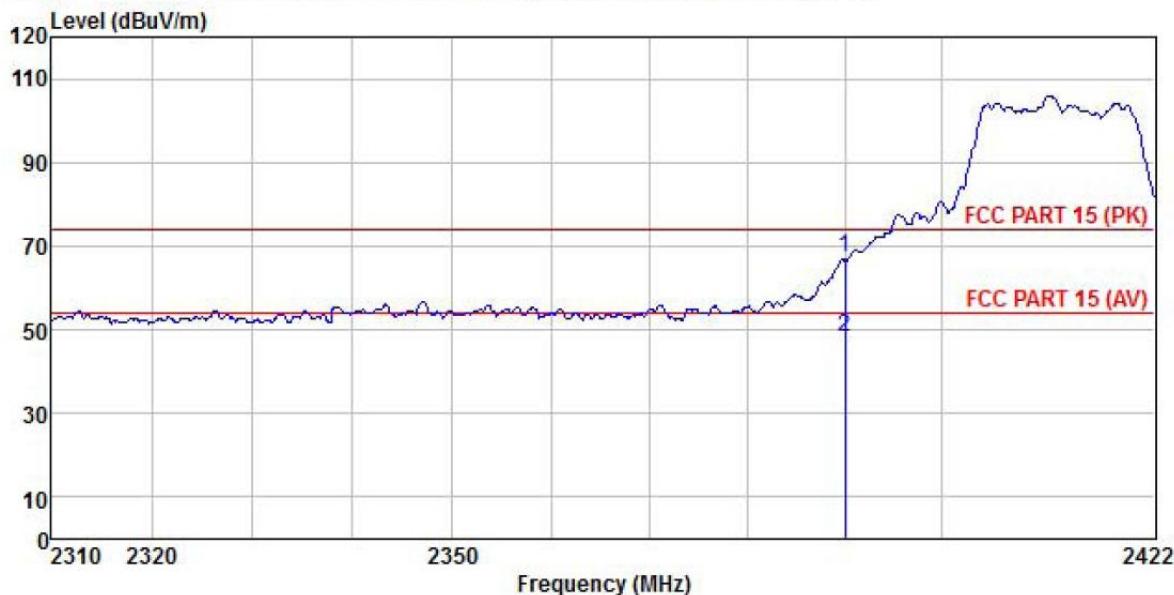
Product Name:	Komikan		Product Model:	Komikan	
Test By:	Mike		Test mode:	802.11g Tx mode	
Test Channel:	Lowest channel		Polarization:	Vertical	
Test Voltage:	AC 120/60Hz		Environment:	Temp: 24°C Huni: 57%	

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Line Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	29.06	27.07	4.69	0.00	62.50	74.00	-11.50 Peak
2	2390.000	13.71	27.07	4.69	0.00	47.15	54.00	-6.85 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11g Tx mode
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

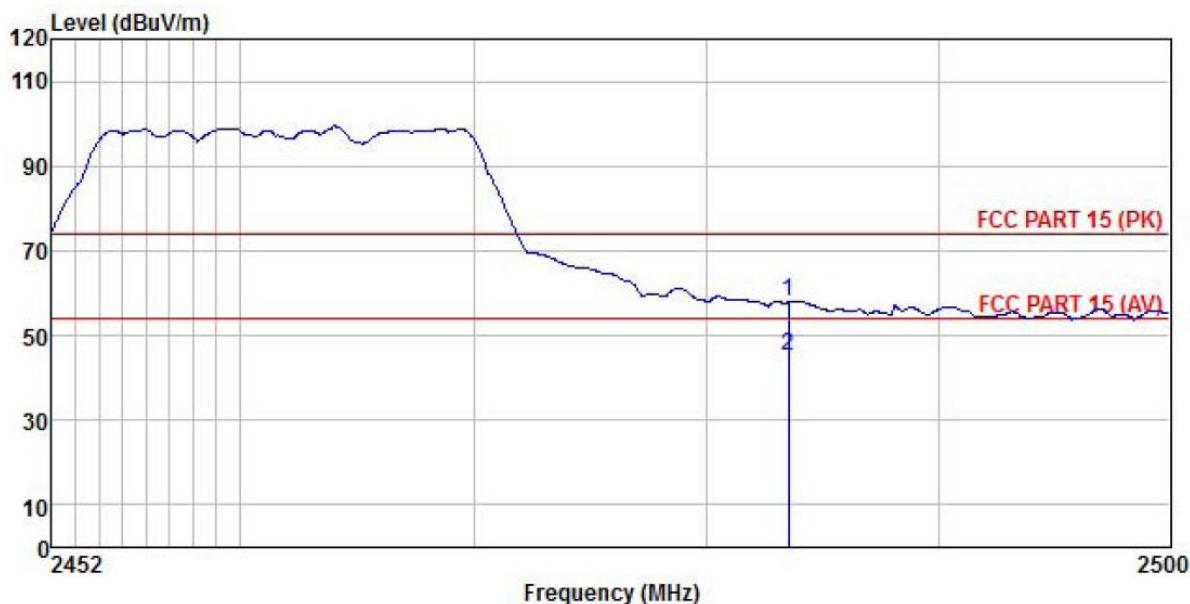


Freq	Read		Antenna		Cable	Preamp	Limit	Over	Line	Limit	Remark
	Freq	Level	Antenna	Factor	Loss	Factor					
MHz	dBuV				dB		dBuV/m	dBuV/m	dB		
1	2390.000	33.68	27.08	4.69	0.00	67.13	74.00	-6.87	Peak		
2	2390.000	14.91	27.08	4.69	0.00	48.36	54.00	-5.64	Average		

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11g Tx mode
Test Channel:	Highest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

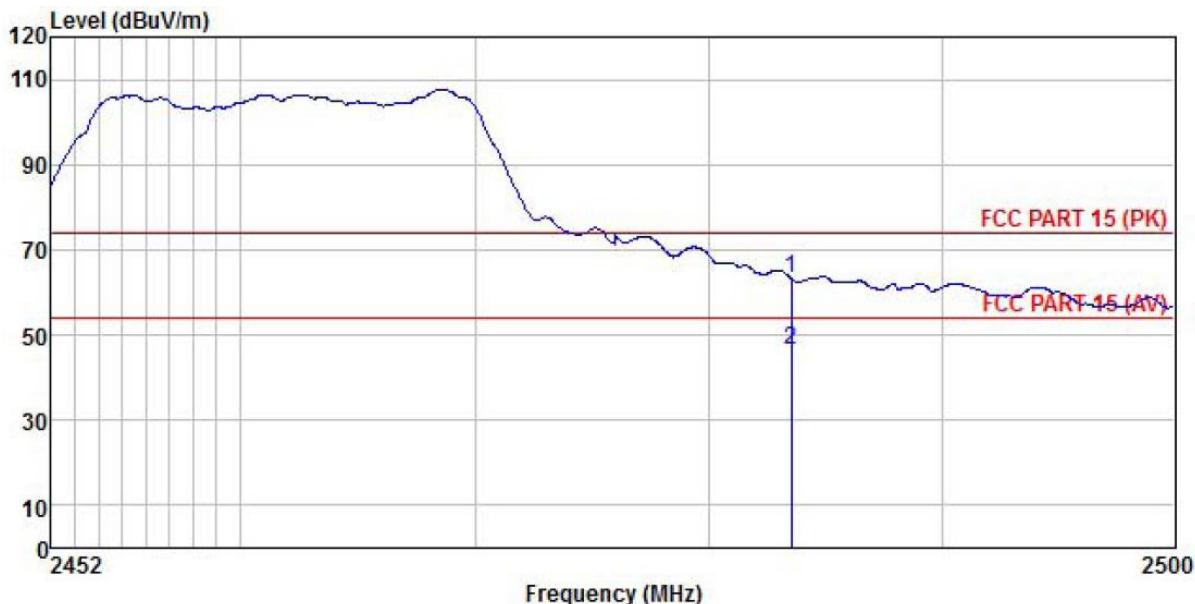


Freq	Read	Antenna	Cable	Preamp	Limit	Over	Line	Limit	Remark	
	Freq	Level	Factor	Loss						
MHz	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dBuV/m	dBuV/m	dB
1	2483.500	24.02	27.36	4.81	0.00	57.89	74.00	-16.11	Peak	
2	2483.500	11.27	27.36	4.81	0.00	45.14	54.00	-8.86	Average	

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11g Tx mode
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%



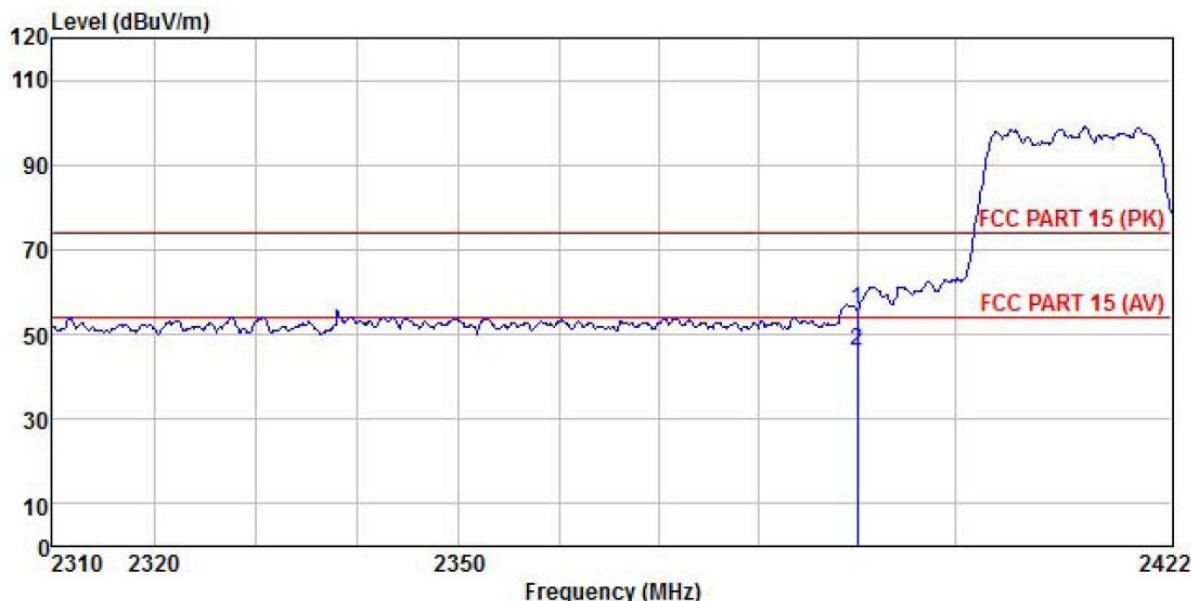
Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	29.34	27.35	4.81	0.00	63.20	74.00	-10.80 Peak
2	2483.500	12.55	27.35	4.81	0.00	46.41	54.00	-7.59 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

802.11n-HT20 (MIMO):

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11n(HT20) Tx mode
Test Channel:	Lowest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

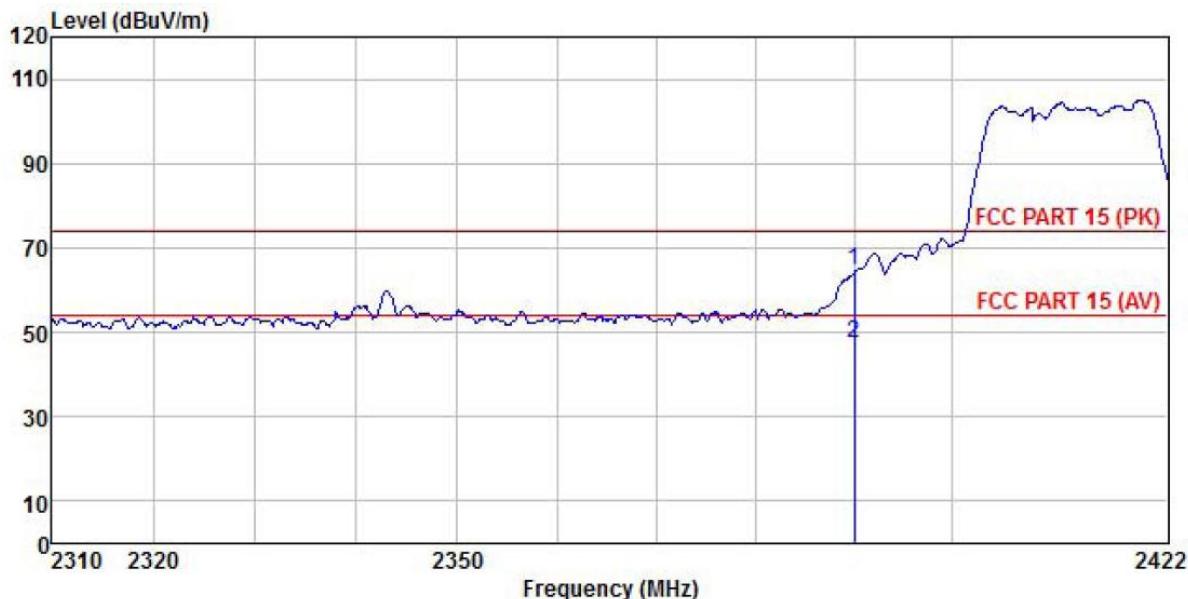


Freq MHz	Read Level dBuV	Antenna Factor dB/m	Cable Loss dB	Preamp Factor dB	Line Level dBuV/m	Limit Line dBuV/m	Over Limit dB	Remark
1 2390.000	24.24	27.07	4.69	0.00	56.00	74.00	-18.00	Peak
2 2390.000	14.38	27.07	4.69	0.00	46.14	54.00	-7.86	Average

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11n(HT20) Tx mode
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

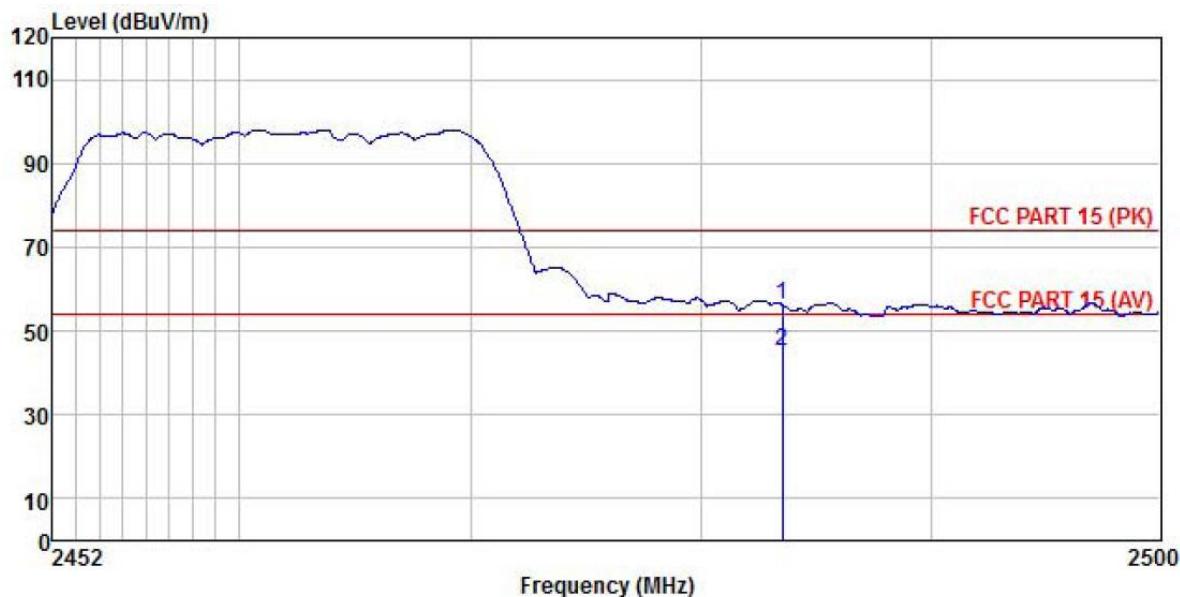


Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	32.70	27.08	4.69	0.00	64.47	74.00	-9.53 Peak
2	2390.000	15.48	27.08	4.69	0.00	47.25	54.00	-6.75 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11n(HT20) Tx mode
Test Channel:	Highest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

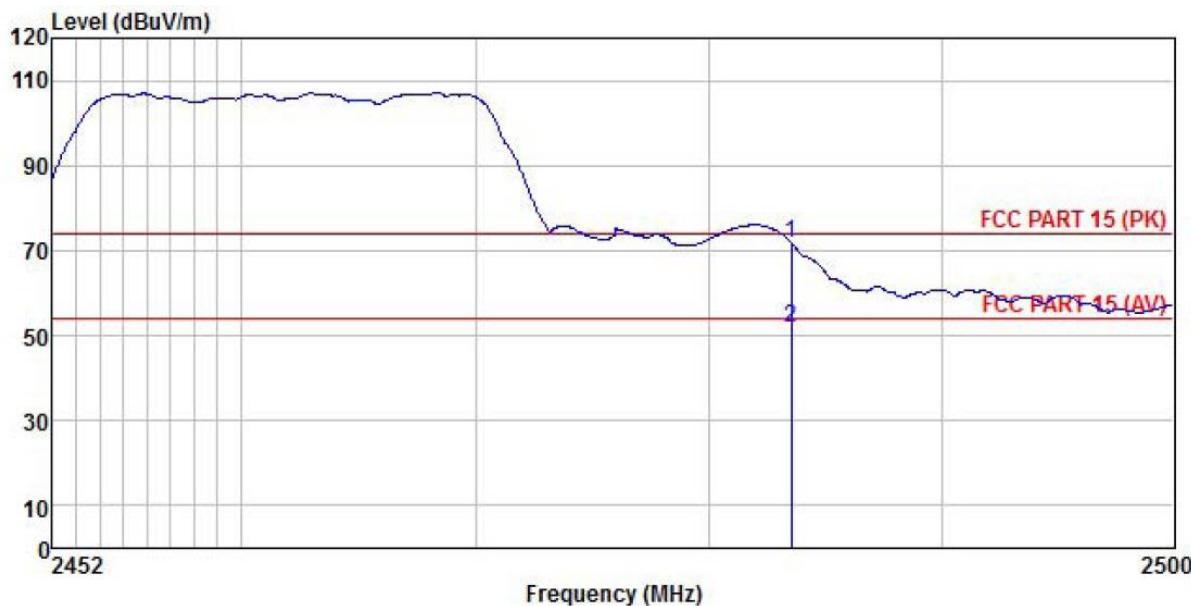


Freq	Read	Antenna	Cable	Preamp	Limit	Over	Remark
MHz	Level	Factor	Loss	Level	Line	Line	
	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2483.500	24.12	27.36	4.81	0.00	56.29	74.00 -17.71 Peak
2	2483.500	13.12	27.36	4.81	0.00	45.29	54.00 -8.71 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11n(HT20) Tx mode
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%



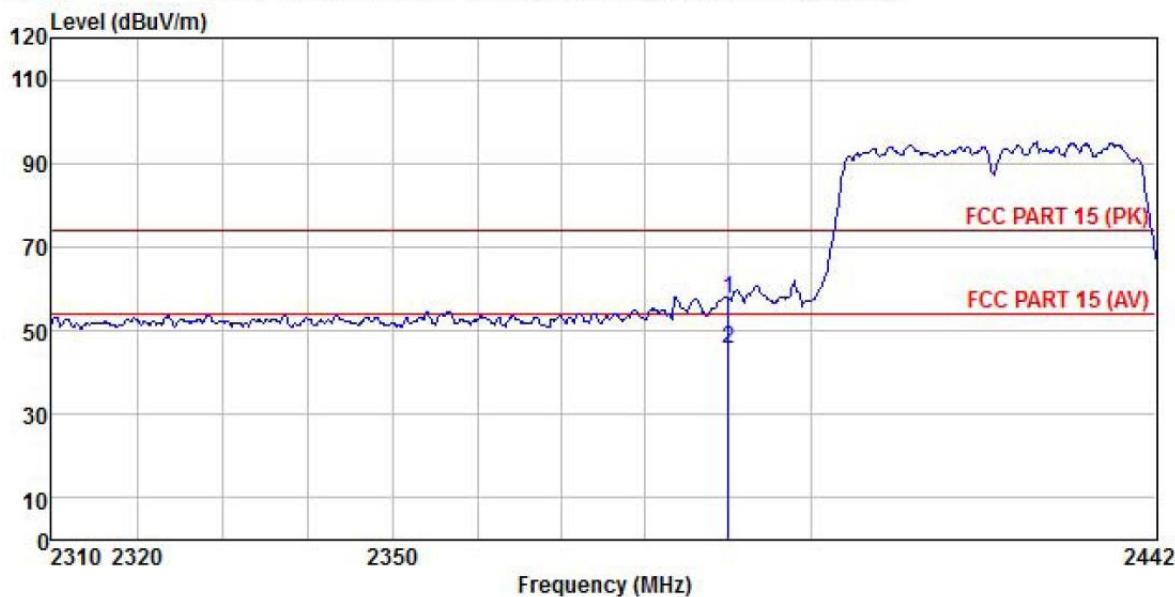
Freq	Read Level	Antenna Factor	Cable Loss	Preampl Factor	Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	39.61	27.35	4.81	0.00	71.77	74.00	-2.23 Peak
2	2483.500	19.70	27.35	4.81	0.00	51.86	54.00	-2.14 Average

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

802.11n-HT40 (MIMO):

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11n(HT40) Tx mode
Test Channel:	Lowest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

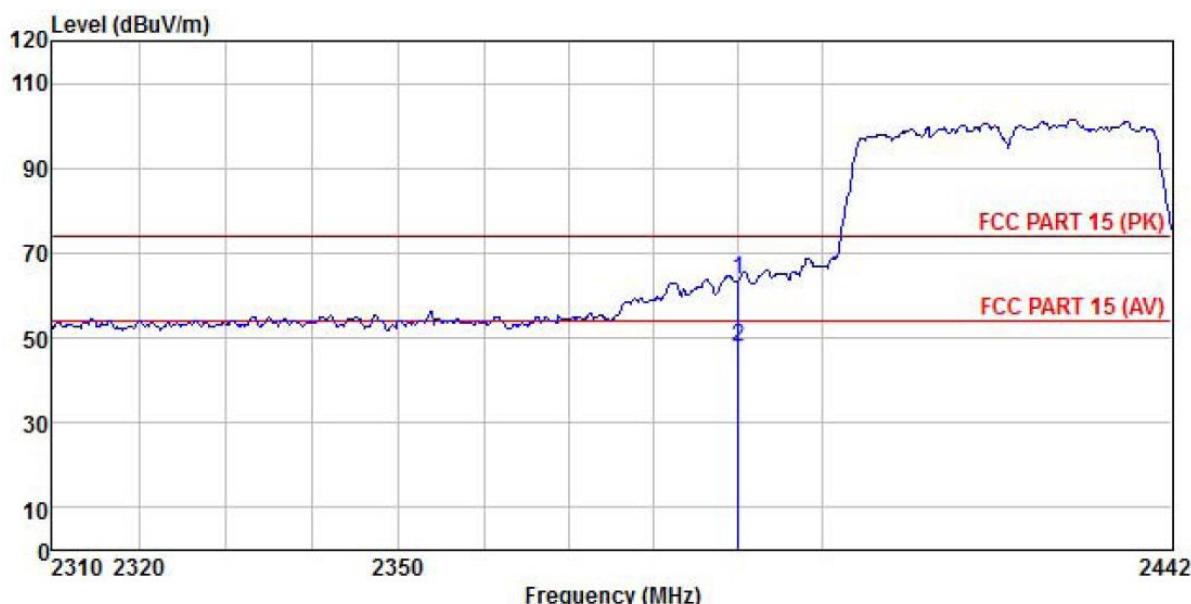


Freq	Read Antenna Level	Antenna Factor	Cable Loss	Preamp Factor	Line Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	25.71	27.07	4.69	0.00	57.47	74.00	-16.53 Peak
2	2390.000	14.03	27.07	4.69	0.00	45.79	54.00	-8.21 Average

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11n(HT40) Tx mode
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

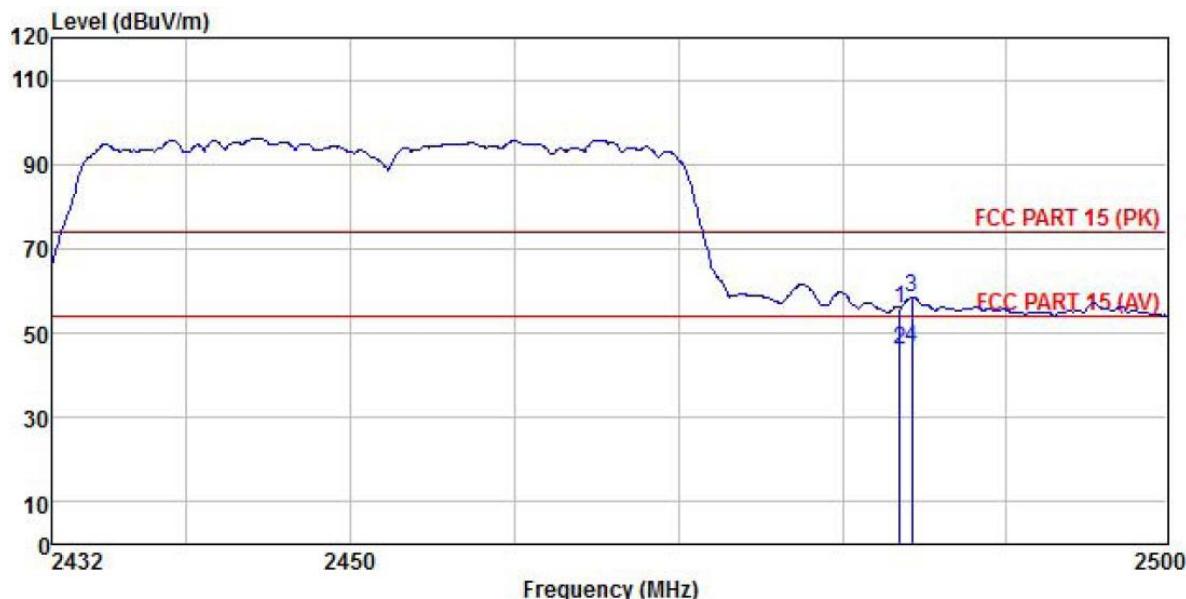


Freq	Read Antenna Level	Antenna Factor	Cable Loss	Preamp Factor	Line Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	32.17	27.08	4.69	0.00	63.94	74.00	-10.06 Peak
2	2390.000	15.97	27.08	4.69	0.00	47.74	54.00	-6.26 Average

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11n(HT40) Tx mode
Test Channel:	Highest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

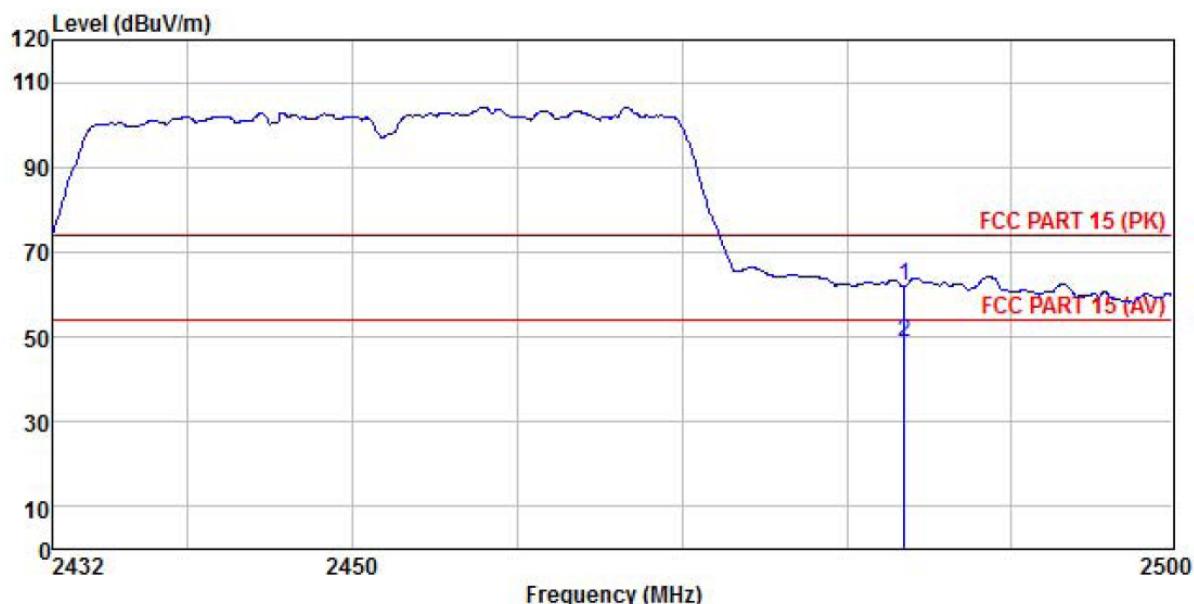


Freq MHz	Read	Antenna Level	Cable Loss	Preamp Factor	Line Level	Limit dBuV/m	Over Line dBuV/m	Over Limit dB	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1 2483.500	23.83	27.36	4.81	0.00	56.00	74.00	-18.00	Peak	
2 2483.500	14.03	27.36	4.81	0.00	46.20	54.00	-7.80	Average	
3 2484.262	26.26	27.36	4.81	0.00	58.43	74.00	-15.57	Peak	
4 2484.262	14.52	27.36	4.81	0.00	46.69	54.00	-7.31	Average	

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11n(HT40) Tx mode
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%



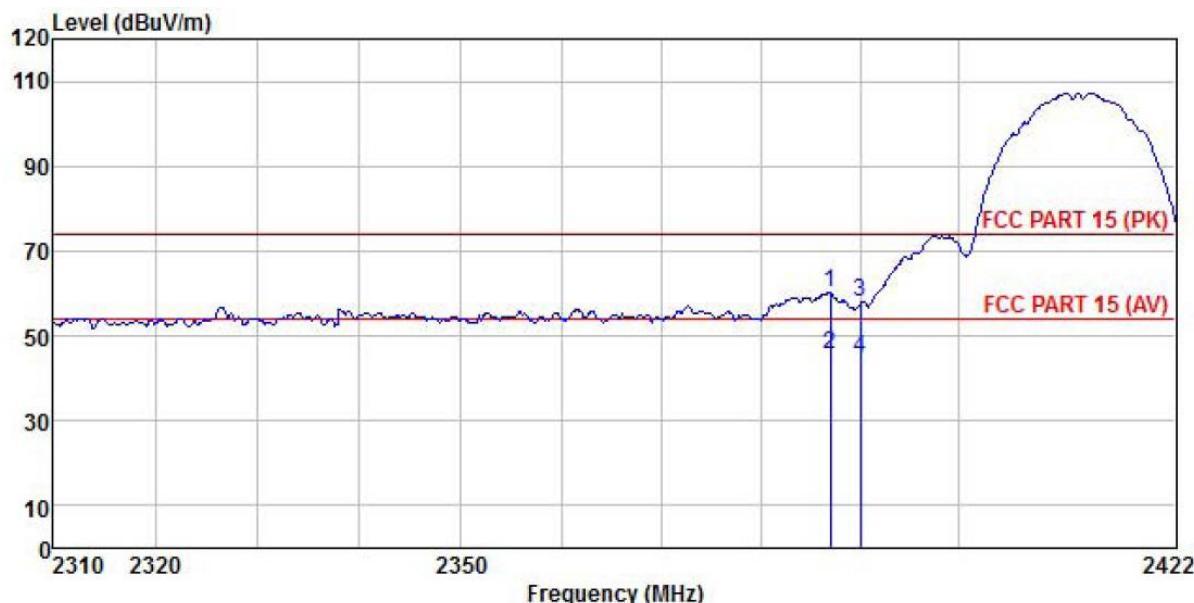
Freq	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Line Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	29.65	27.35	4.81	0.00	61.81	74.00	-12.19 Peak
2	2483.500	16.61	27.35	4.81	0.00	48.77	54.00	-5.23 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Whip Antenna:**802.11b mode TX0:**

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11b Tx mode
Test Channel:	Lowest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

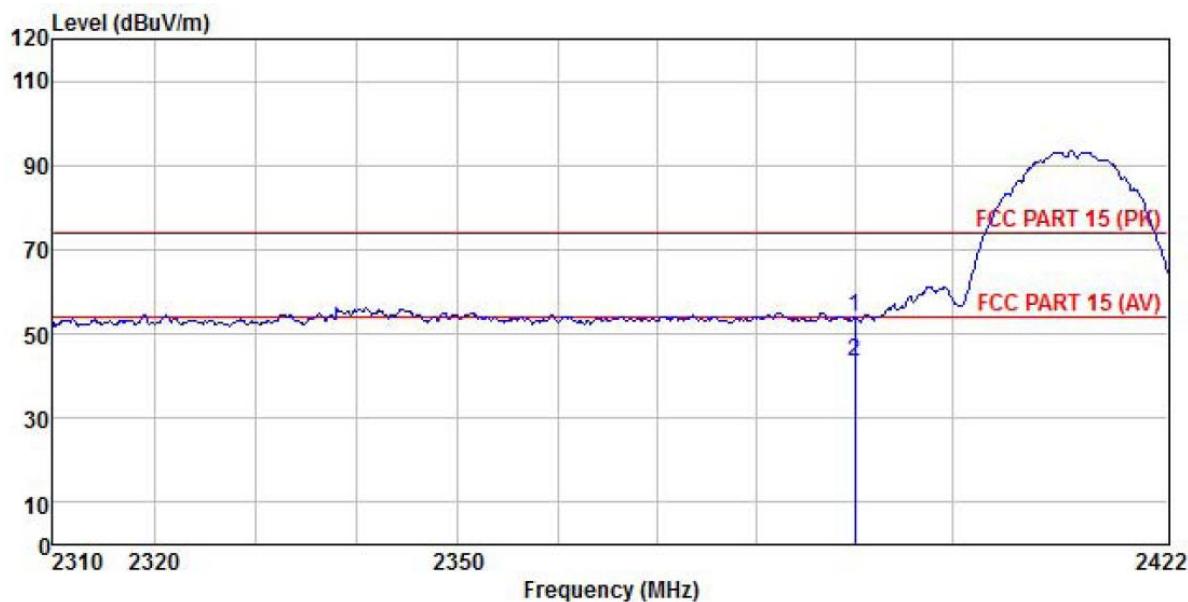


Freq MHz	Read Level dBuV	Antenna Factor dB/m	Cable Loss Factor dB	Preamp Level dB	Limit Line dBuV/m	Over Line dBuV/m	Over Limit dB	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2386.937	28.55	27.07	4.69	0.00	60.31	74.00	-13.69 Peak
2	2386.937	13.65	27.07	4.69	0.00	45.41	54.00	-8.59 Average
3	2390.000	26.07	27.07	4.69	0.00	57.83	74.00	-16.17 Peak
4	2390.000	13.10	27.07	4.69	0.00	44.86	54.00	-9.14 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11b Tx mode
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

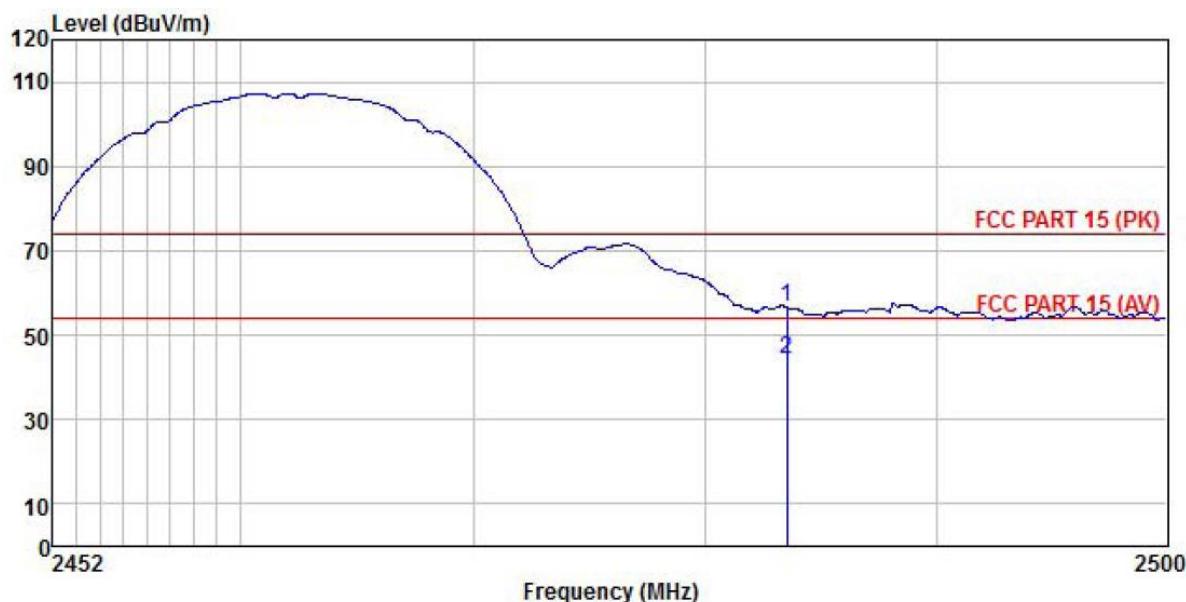


Freq	ReadAntenna		Cable		Preamp	Limit	Over	Remark
	Freq	Level	Factor	Loss	Factor			
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	dB
1	2390.000	22.18	27.08	4.69	0.00	53.95	74.00	-20.05 Peak
2	2390.000	11.77	27.08	4.69	0.00	43.54	54.00	-10.46 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11b Tx mode
Test Channel:	Highest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

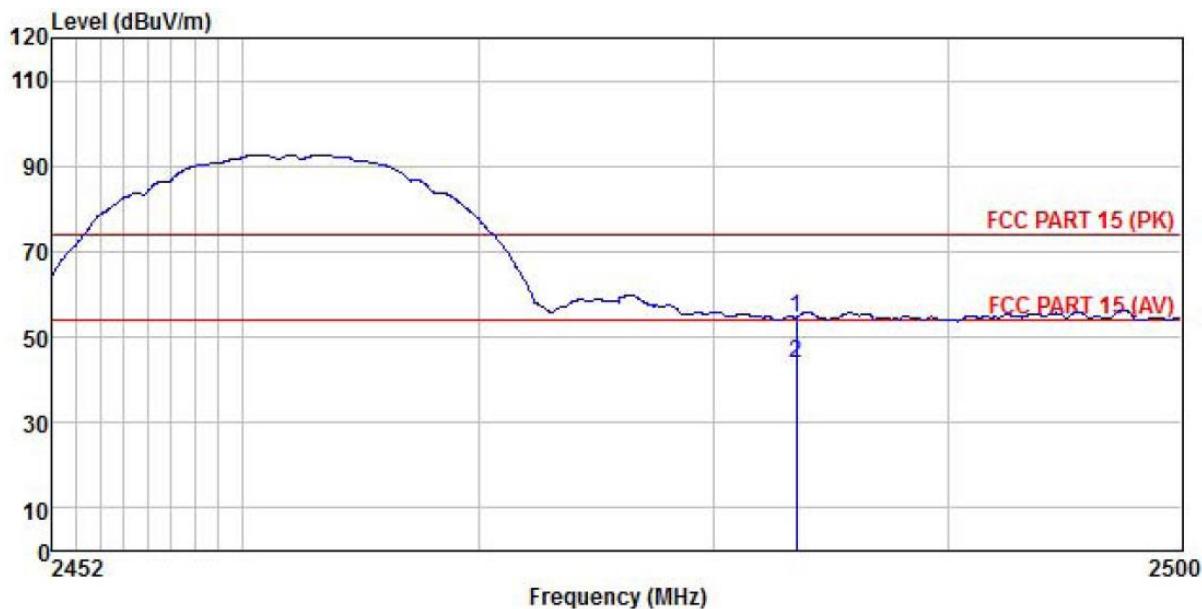


	Read	Antenna	Cable	Preamp	Limit	Over		
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	24.32	27.36	4.81	0.00	56.49	74.00	-17.51 Peak
2	2483.500	12.14	27.36	4.81	0.00	44.31	54.00	-9.69 Average

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11b Tx mode
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%



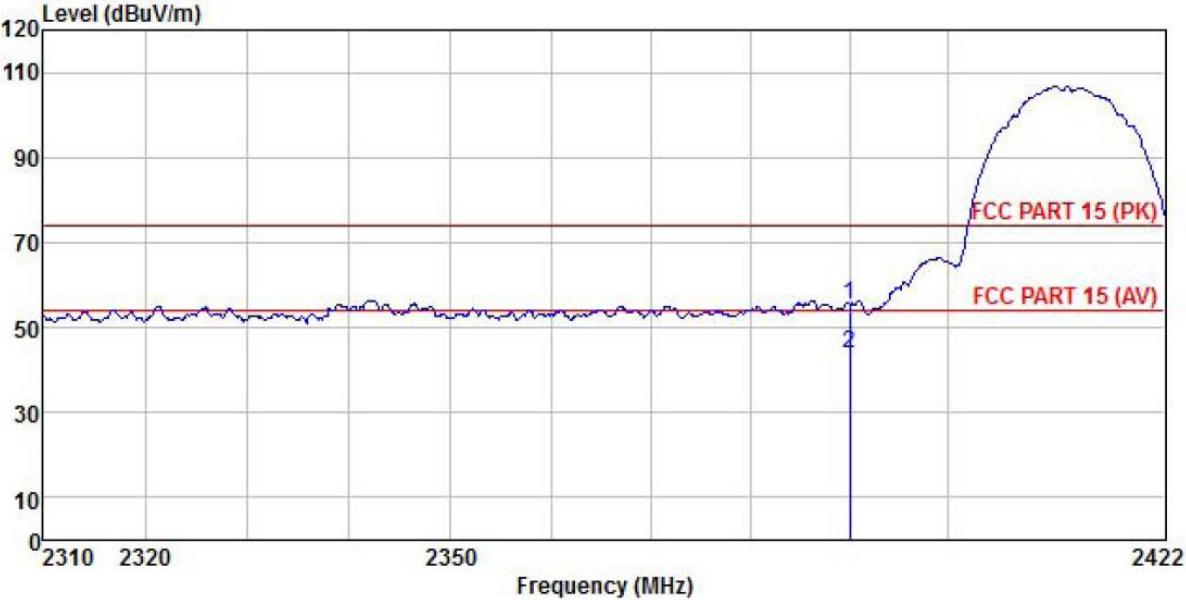
Freq	Read	Antenna	Cable	Preamp	Limit	Over	Remark
	Level	Factor	Loss	Factor			
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2483.500	22.33	27.35	4.81	0.00	54.49	74.00 -19.51 Peak
2	2483.500	11.79	27.35	4.81	0.00	43.95	54.00 -10.05 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

802.11b mode TX1:

Product Name:	Komikan		Product Model:	Komikan	
Test By:	Mike		Test mode:	802.11b Tx mode	
Test Channel:	Lowest channel		Polarization:	Vertical	
Test Voltage:	AC 120/60Hz		Environment:	Temp: 24°C Huni: 57%	

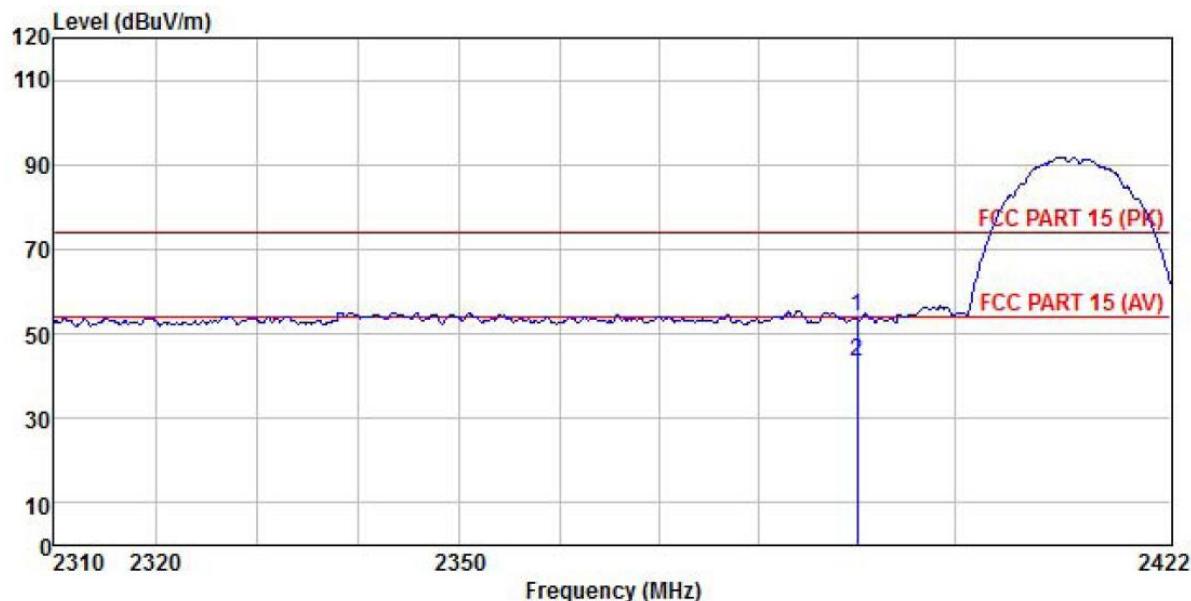


Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Line Limit	Over Line Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2390.000	23.71	27.07	4.69	0.00	55.47	74.00 -18.53 Peak
2	2390.000	12.16	27.07	4.69	0.00	43.92	54.00 -10.08 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11b Tx mode
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

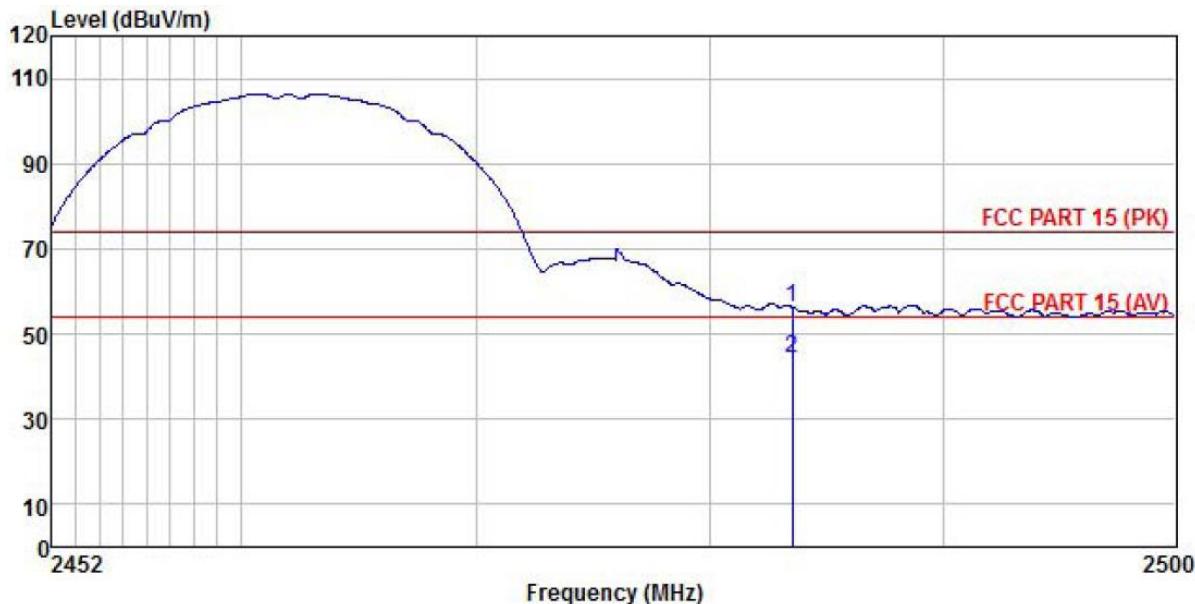


	Read	Antenna	Cable	Preamp	Limit	Over		
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	22.38	27.08	4.69	0.00	54.15	74.00	-19.85 Peak
2	2390.000	11.67	27.08	4.69	0.00	43.44	54.00	-10.56 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11b Tx mode
Test Channel:	Highest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

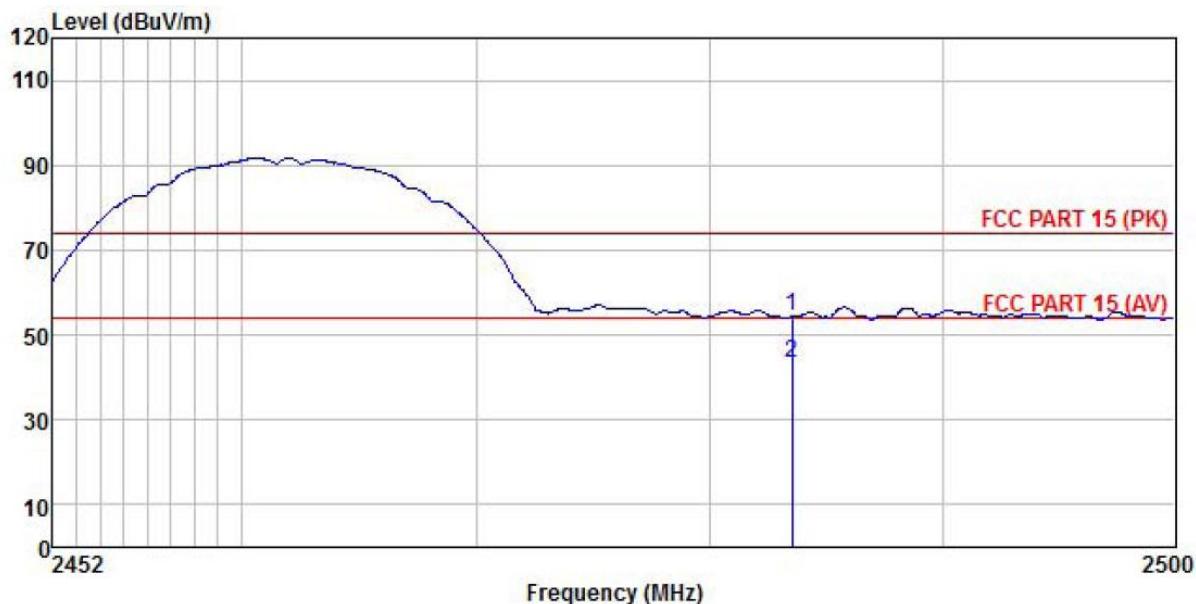


Freq	Read	Antenna	Cable	Preamp	Limit	Over	Line	Limit	Remark
	Freq	Level	Factor	Loss					
MHz	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	24.13	27.36	4.81	0.00	56.30	74.00	-17.70	Peak
2	2483.500	11.96	27.36	4.81	0.00	44.13	54.00	-9.87	Average

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11b Tx mode
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%



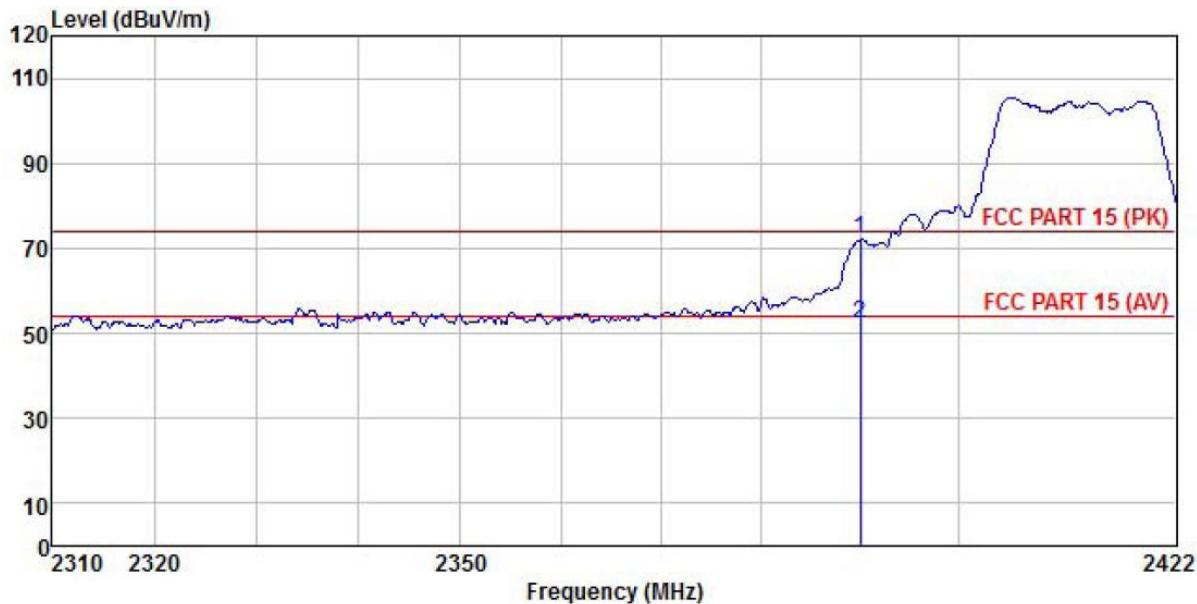
Freq	Read	Antenna	Cable	Preamp	Limit	Over	Line	Limit	Remark
	Freq	Level	Factor	Loss					
MHz	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	22.23	27.35	4.81	0.00	54.39	74.00	-19.61	Peak
2	2483.500	11.26	27.35	4.81	0.00	43.42	54.00	-10.58	Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

802.11g mode TX0:

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11g Tx mode
Test Channel:	Lowest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

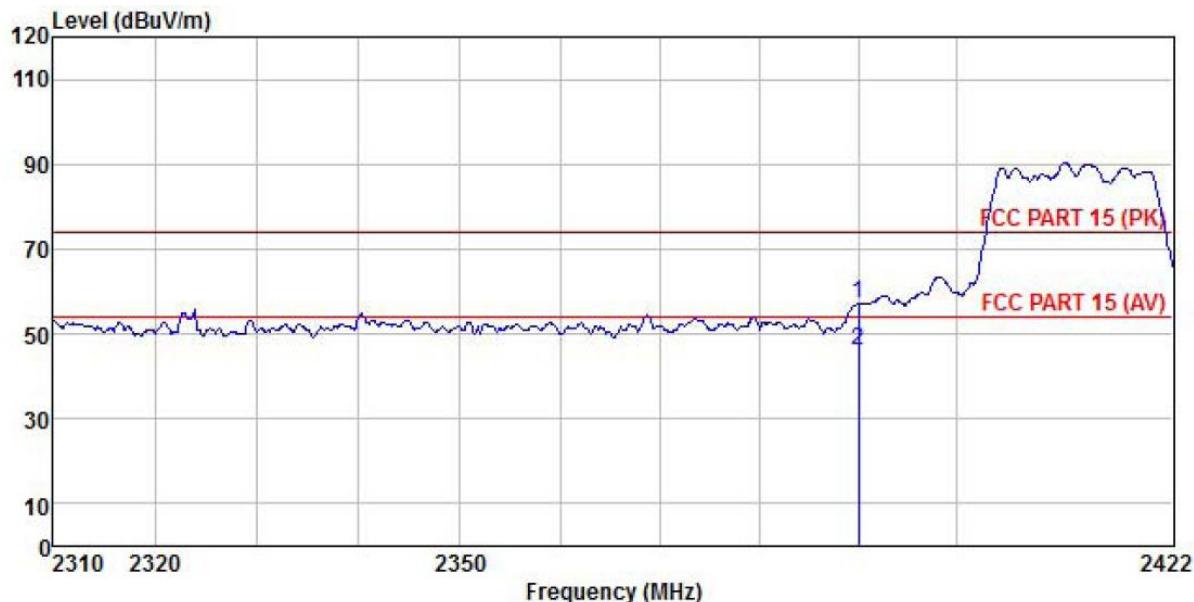


Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	40.28	27.07	4.69	0.00	72.04	74.00	-1.96 Peak
2	2390.000	20.62	27.07	4.69	0.00	52.38	54.00	-1.62 Average

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11g Tx mode
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

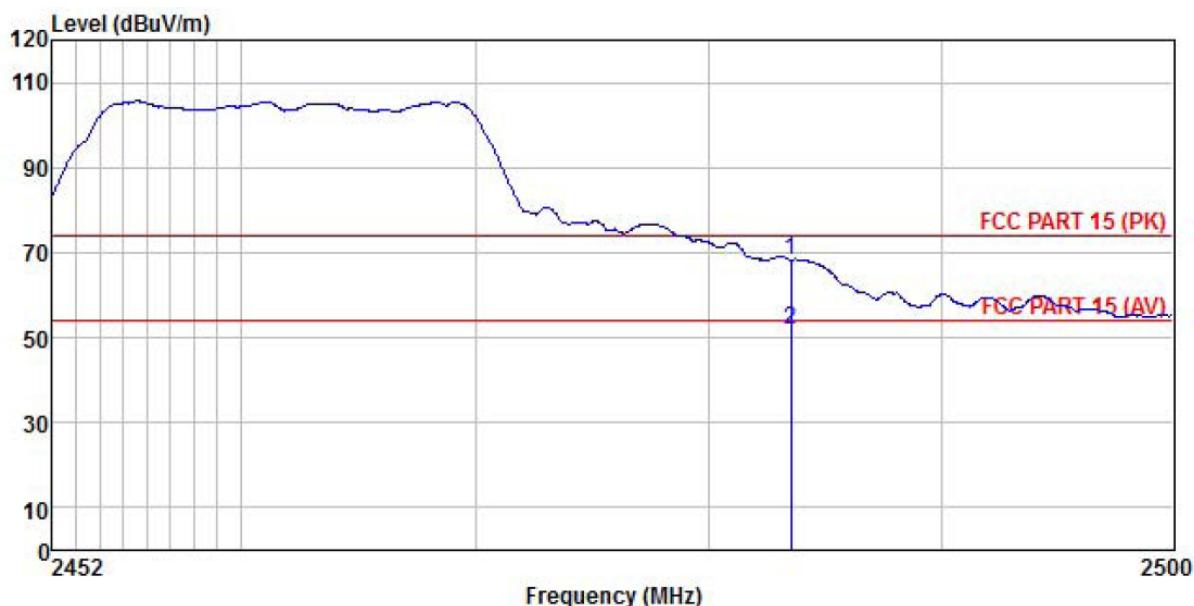


Freq	Read	Antenna	Cable	Preamp	Limit	Over	Line	Limit	Remark
	Freq	Level	Factor	Loss					
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	25.39	27.08	4.69	0.00	57.16	74.00	-16.84	Peak
2	2390.000	14.06	27.08	4.69	0.00	45.83	54.00	-8.17	Average

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11g Tx mode
Test Channel:	Highest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

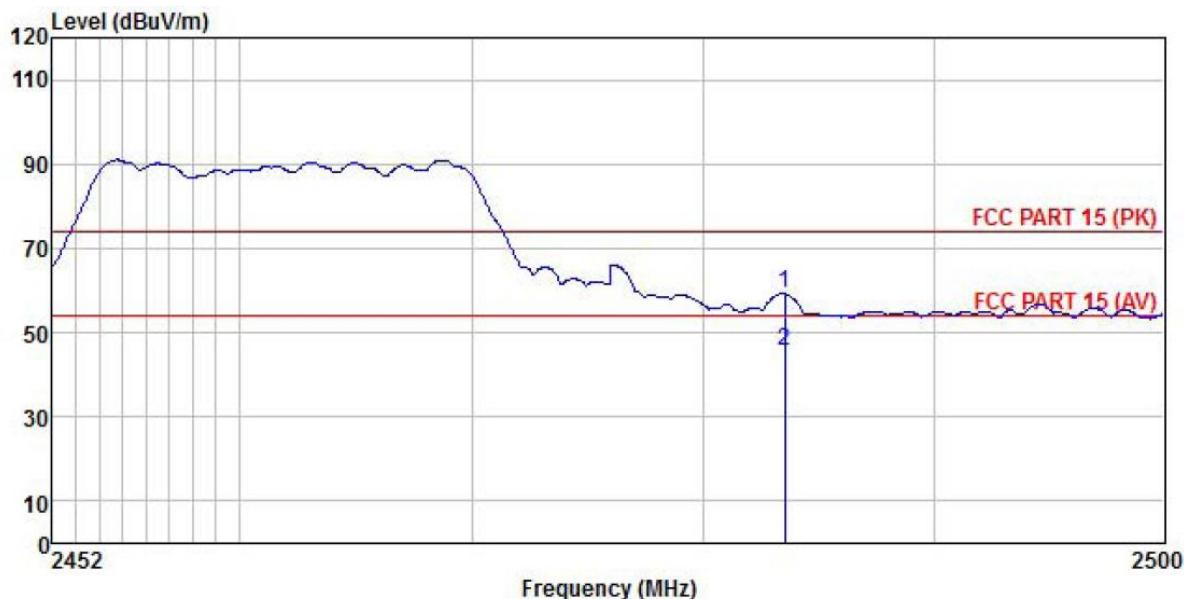


	Read	Antenna	Cable	Preamp	Limit	Over		
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	36.20	27.36	4.81	0.00	68.37	74.00	-5.63 Peak
2	2483.500	19.55	27.36	4.81	0.00	51.72	54.00	-2.28 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11g Tx mode
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%



Freq	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	26.99	27.35	4.81	0.00	59.15	74.00	-14.85	Peak
2	2483.500	13.60	27.35	4.81	0.00	45.76	54.00	-8.24	Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

802.11g mode TX1:

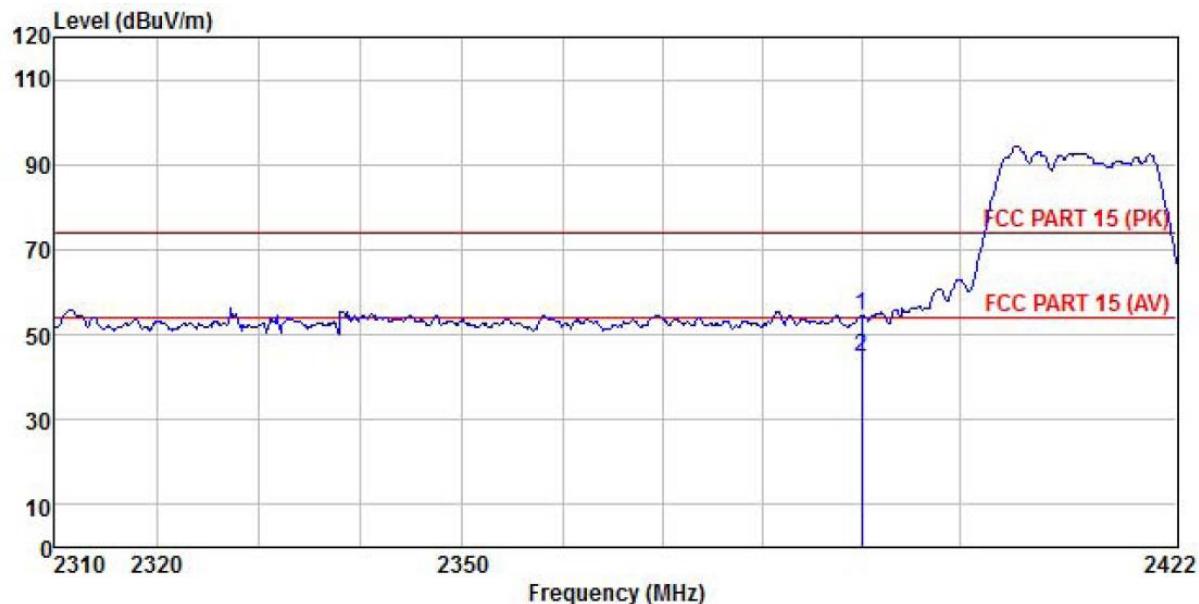
Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11g Tx mode
Test Channel:	Lowest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

Freq	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Limit Level	Line Limit	Over Line Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	30.67	27.07	4.69	0.00	62.43	74.00	-11.57 Peak
2	2390.000	15.13	27.07	4.69	0.00	46.89	54.00	-7.11 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11g Tx mode
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

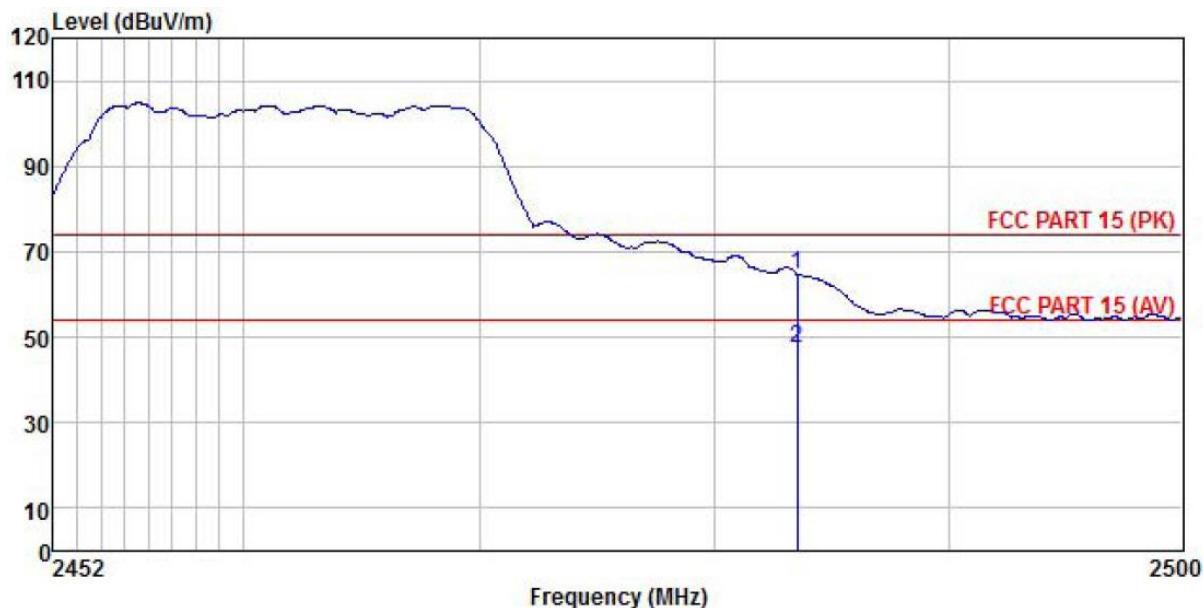


Freq	Read Antenna Level	Antenna Factor	Cable Loss	Preamp Factor	Final Level	Line Limit	Over Line Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	22.74	27.08	4.69	0.00	54.51	74.00	-19.49 Peak
2	2390.000	12.94	27.08	4.69	0.00	44.71	54.00	-9.29 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11g Tx mode
Test Channel:	Highest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

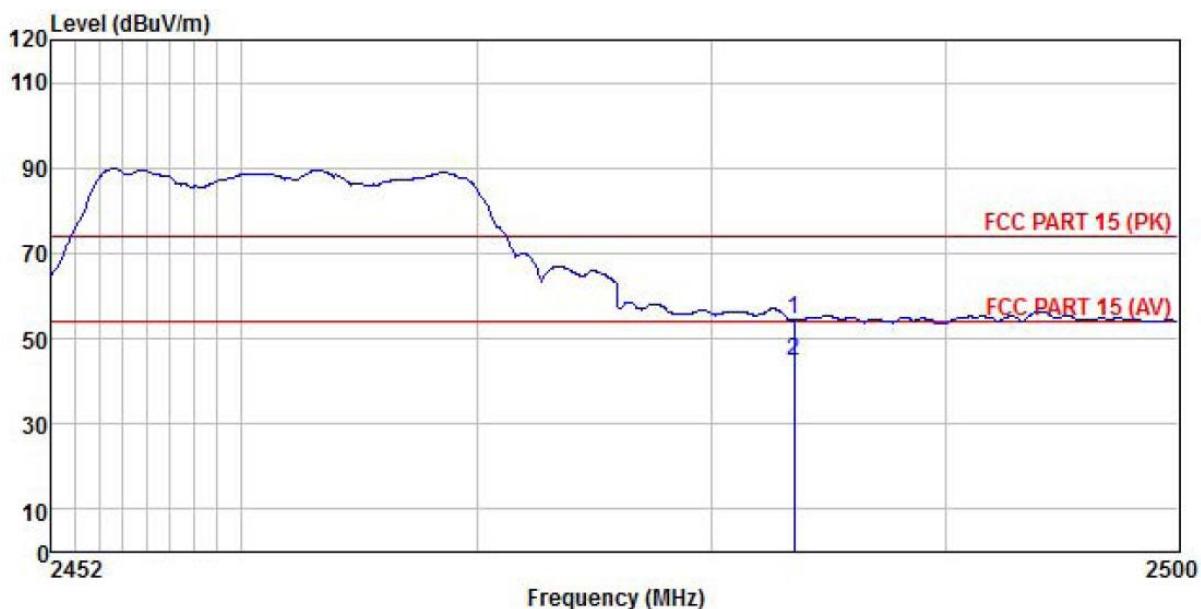


	Read	Antenna	Cable	Preamp	Limit	Over		
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	32.28	27.36	4.81	0.00	64.45	74.00	-9.55 Peak
2	2483.500	15.28	27.36	4.81	0.00	47.45	54.00	-6.55 Average

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11g Tx mode
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%



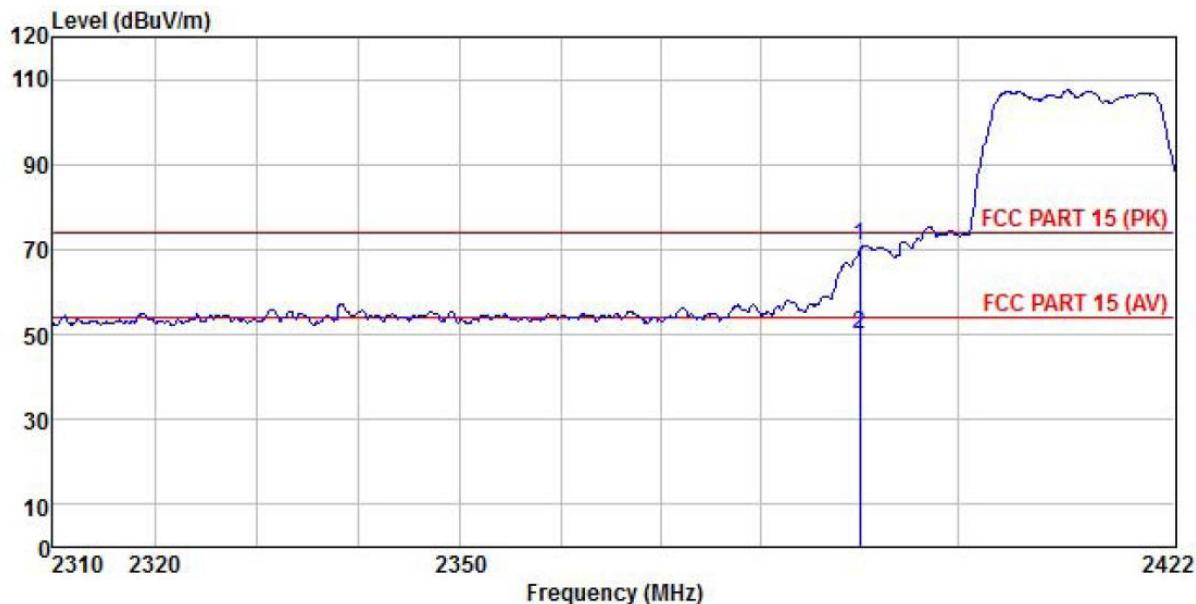
Freq	Read	Antenna	Cable	Preamp	Limit	Over	Over
MHz	Level	Factor	Loss	Level	Line	Line	Remark
	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2483.500	22.26	27.35	4.81	0.00	54.42	74.00 -19.58 Peak
2	2483.500	12.56	27.35	4.81	0.00	44.72	54.00 -9.28 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

802.11n-HT20(MIMO):

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11n(HT20) Tx mode
Test Channel:	Lowest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

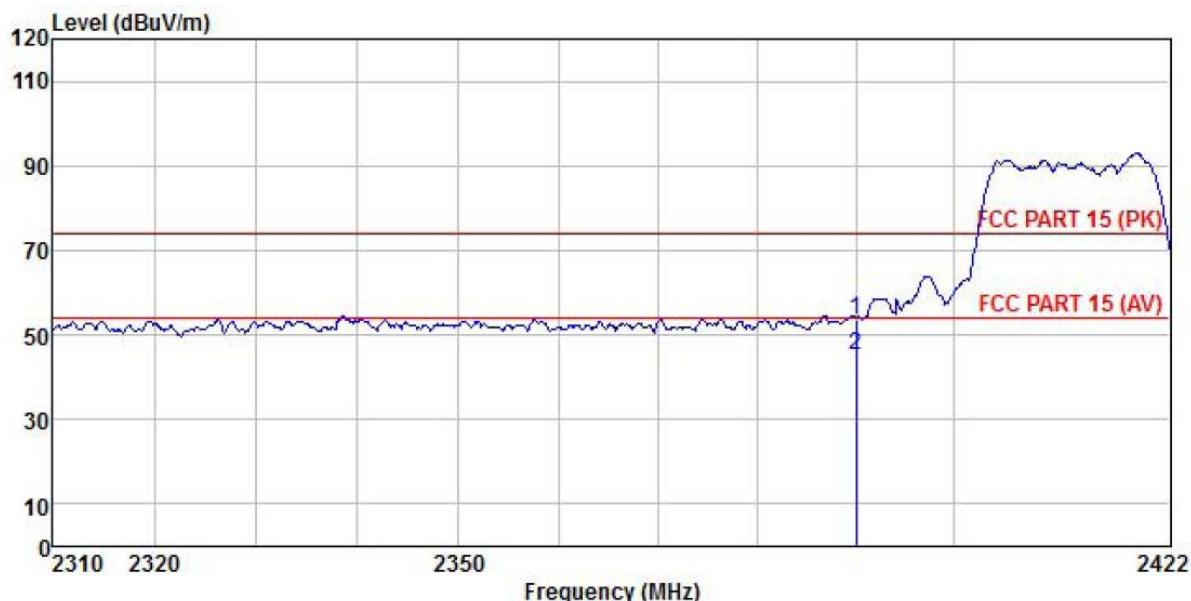


Freq MHz	Read	Antenna	Cable	Preamp	Limit Line dB	Over Line dB	Remark
	Level dBuV	Factor dB/m	Loss Factor dB	Level dB			
1 2390.000	39.13	27.07	4.69	0.00	70.89	74.00	-3.11 Peak
2 2390.000	18.33	27.07	4.69	0.00	50.09	54.00	-3.91 Average

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11n(HT20) Tx mode
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

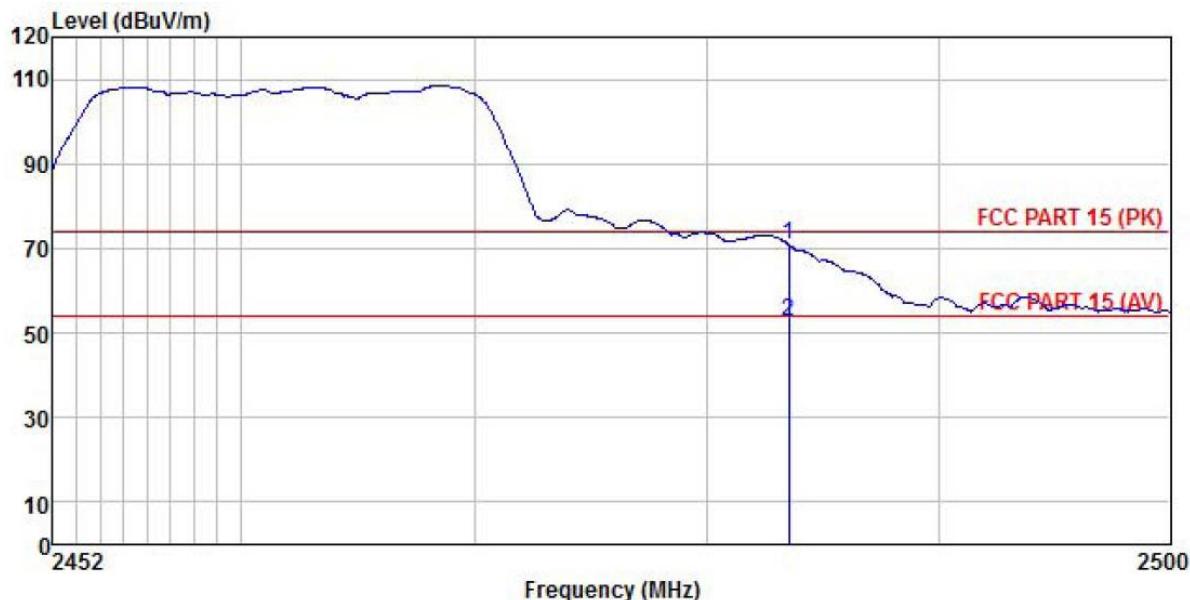


Freq	Read	Antenna	Cable	Preamp	Limit	Over	Limit	Over
	Level	Factor	Loss	Level				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2390.000	21.96	27.08	4.69	0.00	53.73	74.00	-20.27 Peak
2	2390.000	13.53	27.08	4.69	0.00	45.30	54.00	-8.70 Average

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11n(HT20) Tx mode
Test Channel:	Highest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

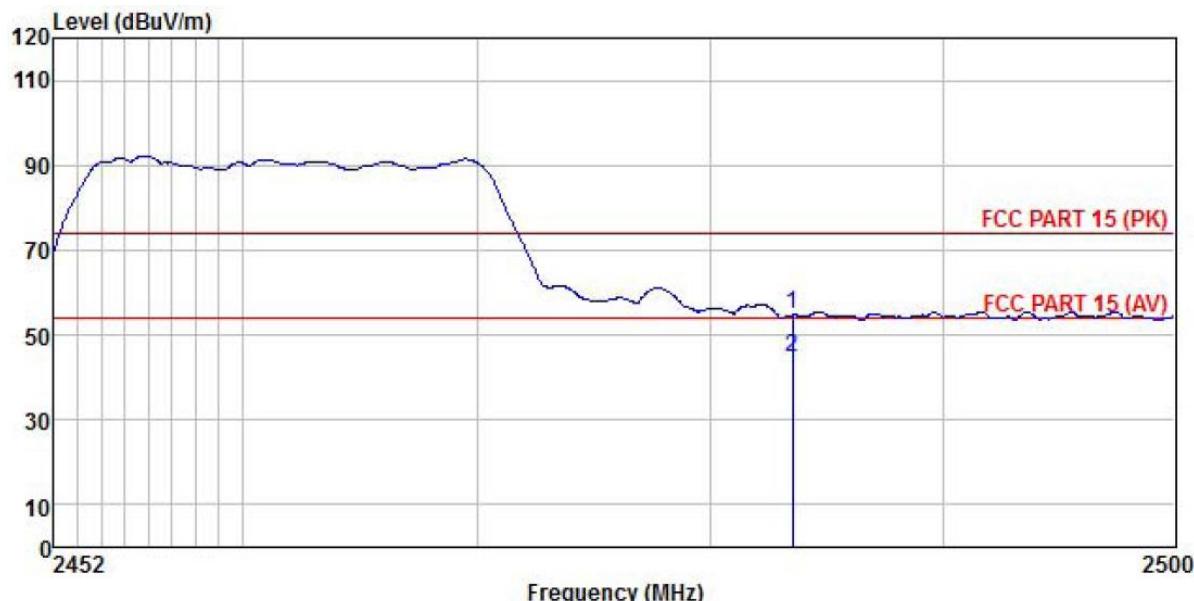


Freq	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	38.70	27.36	4.81	0.00	70.87	74.00	-3.13 Peak
2	2483.500	20.46	27.36	4.81	0.00	52.63	54.00	-1.37 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11n(HT20) Tx mode
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%



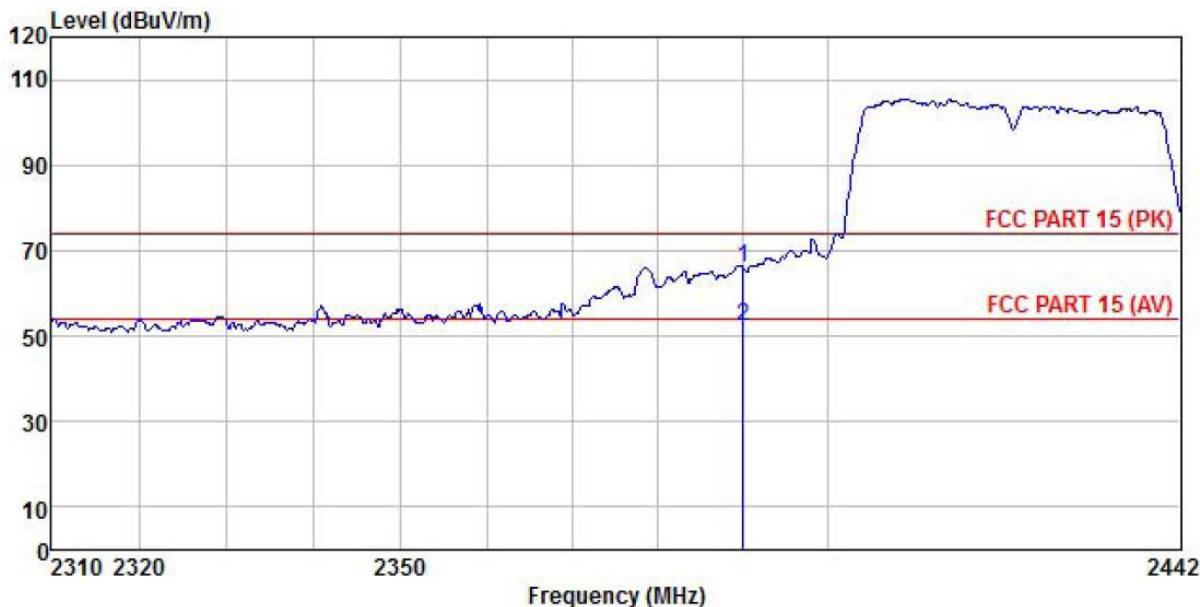
Freq MHz	Read Level dBuV	Antenna Factor dB/m	Cable Loss dB	Preamp Factor dB	Level dBuV/m	Limit Line dBuV/m	Over Line Limit dB	Over Limit Remark
1 2483.500	22.55	27.35	4.81	0.00	54.71	74.00	-19.29	Peak
2 2483.500	12.36	27.35	4.81	0.00	44.52	54.00	-9.48	Average

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

802.11n-HT40 (MIMO):

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11n(HT40) Tx mode
Test Channel:	Lowest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

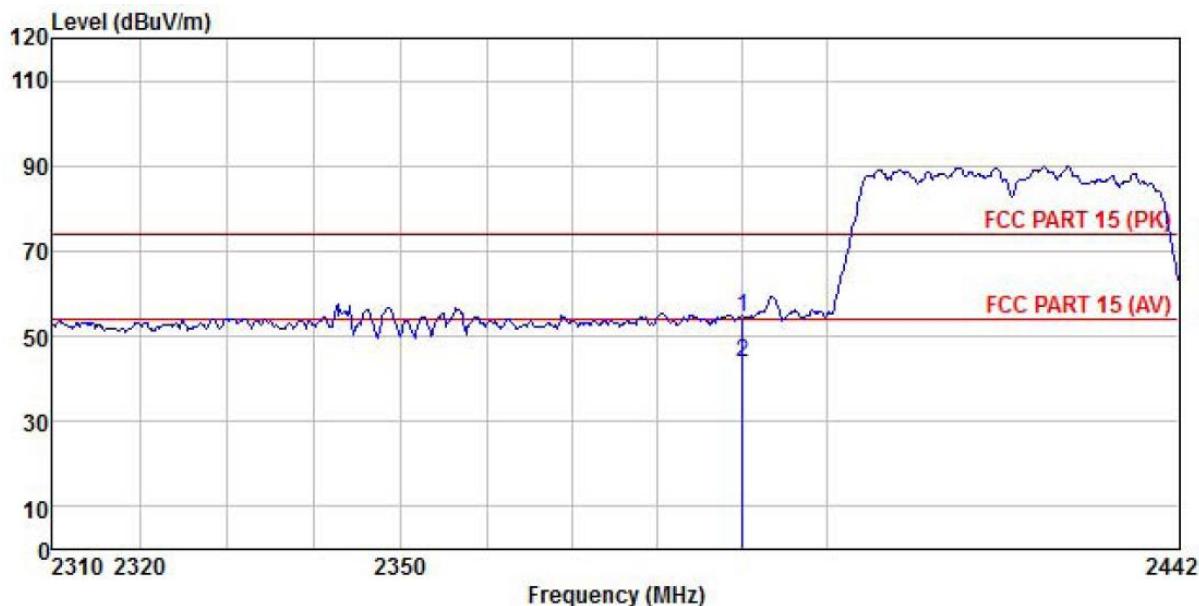


Freq	Read	Antenna	Cable	Preamp	Limit	Over	Remark	
	Freq	Level	Factor	Loss				
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	2390.000	34.08	27.07	4.69	0.00	65.84	74.00	-8.16 Peak
2	2390.000	20.62	27.07	4.69	0.00	52.38	54.00	-1.62 Average

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11n(HT40) Tx mode
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

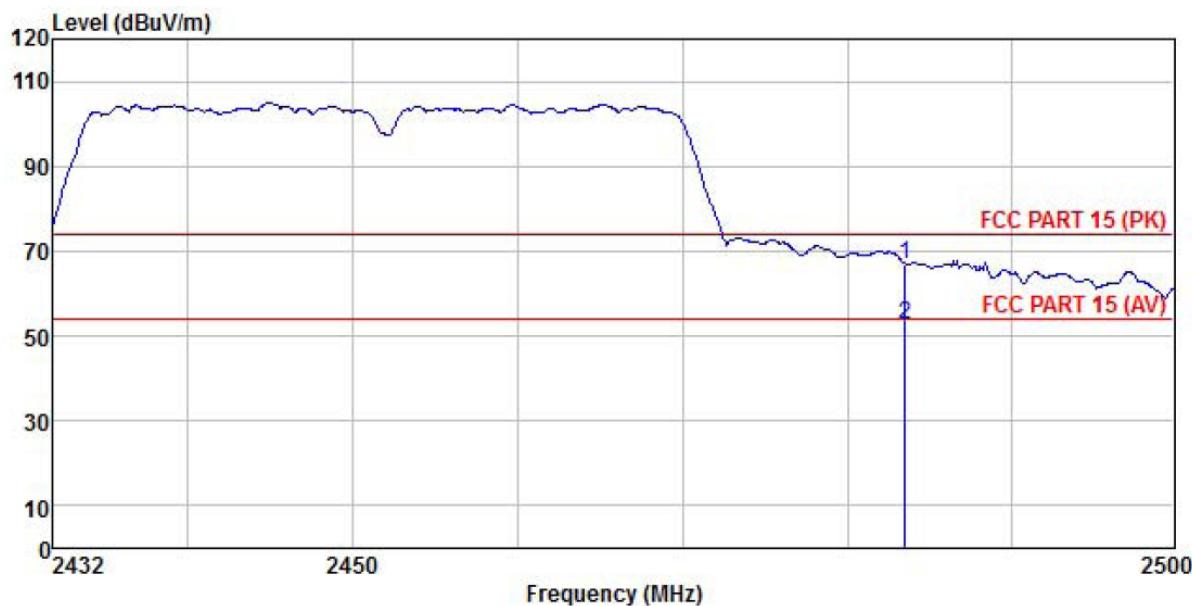


Freq	Read Level MHz	Antenna Factor	Cable Loss dB	Preamp Factor	Level dBuV/m	Limit Line dBuV/m	Over Line dB	Remark
1	2390.000	22.63	27.08	4.69	0.00	54.40	74.00	-19.60 Peak
2	2390.000	12.21	27.08	4.69	0.00	43.98	54.00	-10.02 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11n(HT40) Tx mode
Test Channel:	Highest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%

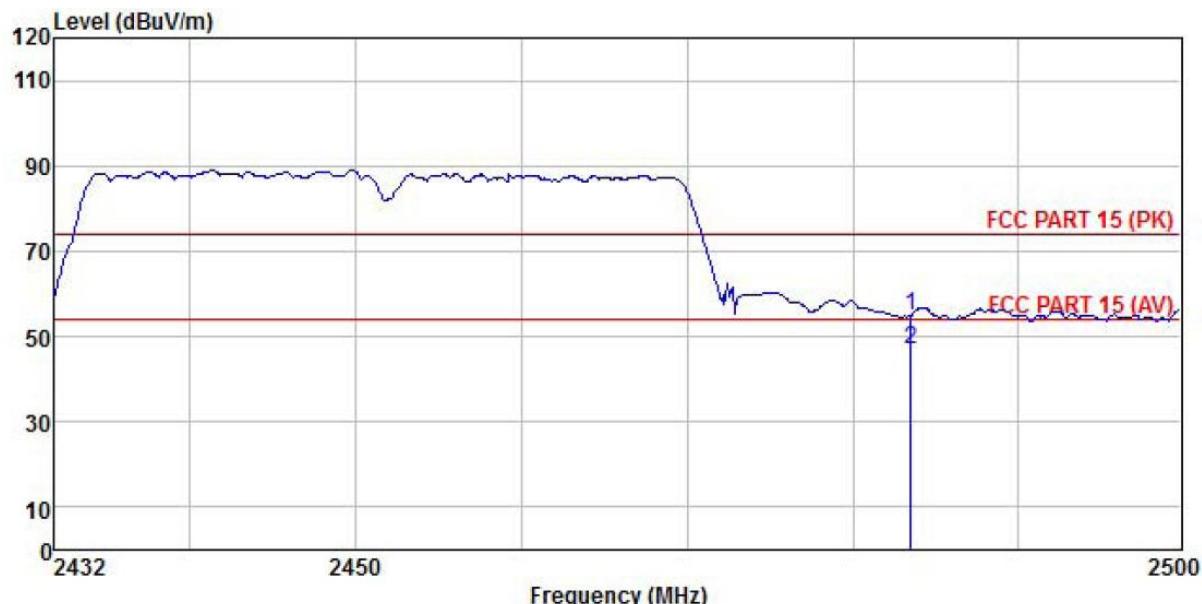


Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	34.77	27.36	4.81	0.00	66.94	74.00	-7.06 Peak
2	2483.500	20.69	27.36	4.81	0.00	52.86	54.00	-1.14 Average

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	802.11n(HT40) Tx mode
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%



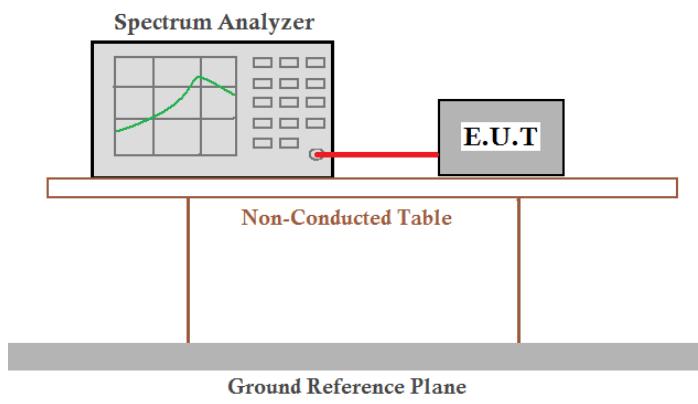
Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	22.80	27.35	4.81	0.00	54.96	74.00	-19.04 Peak
2	2483.500	14.73	27.35	4.81	0.00	46.89	54.00	-7.11 Average

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

6.7 Spurious Emission

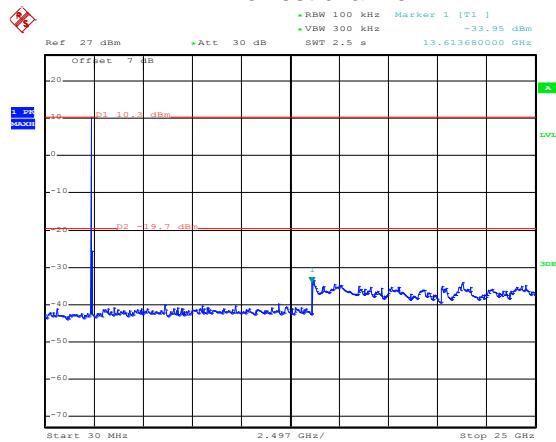
6.7.1 Conducted Emission Method

Test Requirement:	FCC Part 15 C Section 15.247 (d)
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph(b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.
Test setup:	
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Test plot as follows:

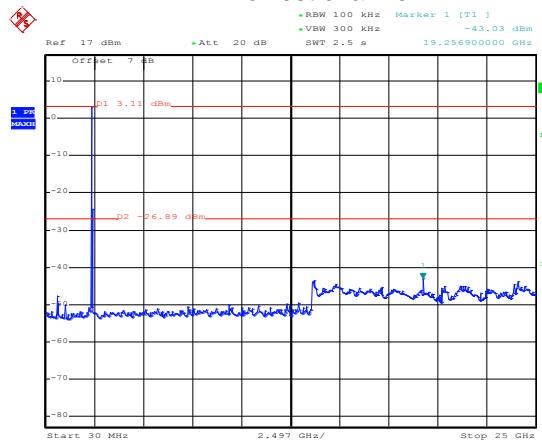
TX 0:

**Test mode: 802.11b
Lowest channel**



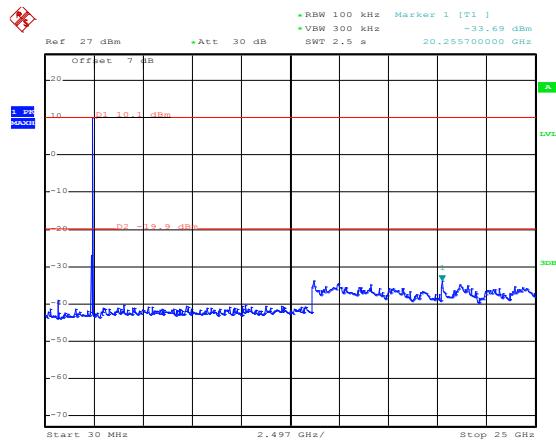
Date: 1.APR.2020 13:48:46

**Test mode: 802.11g
Lowest channel**



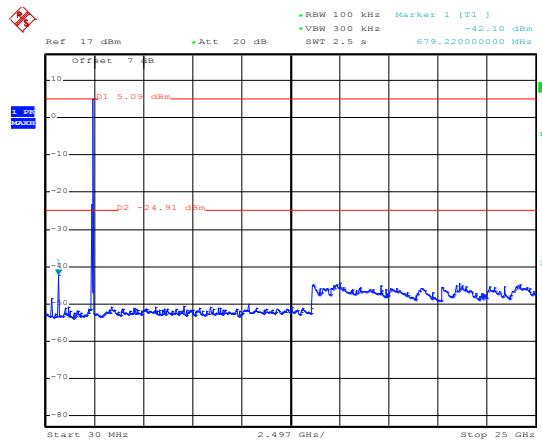
Date: 1.APR.2020 13:53:07

Middle channel



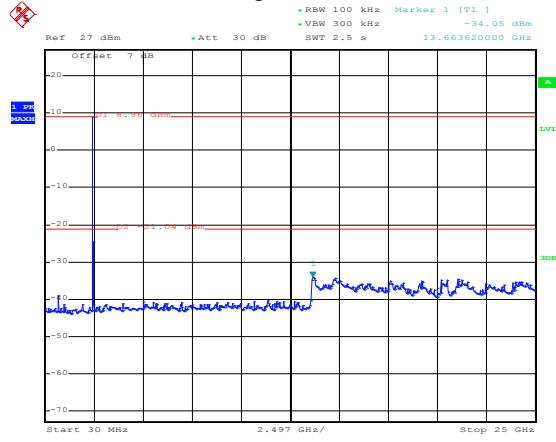
Date: 1.APR.2020 13:49:30

Middle channel



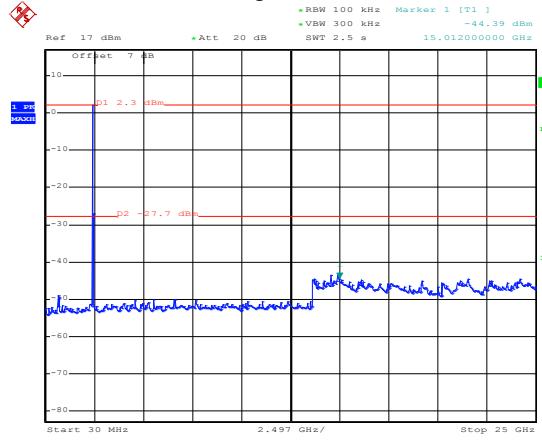
Date: 1.APR.2020 13:52:09

Highest channel

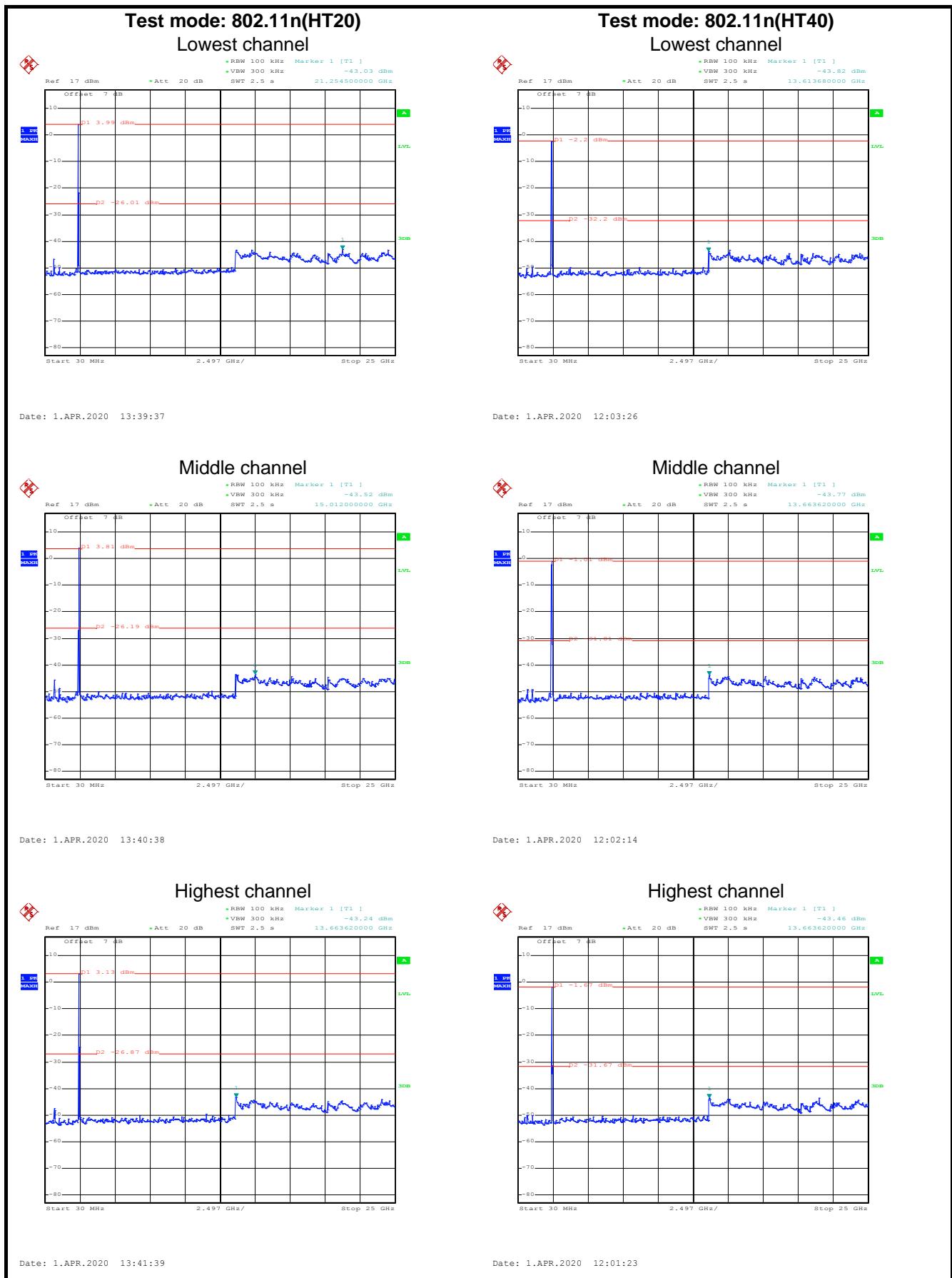


Date: 1.APR.2020 13:50:13

Highest channel



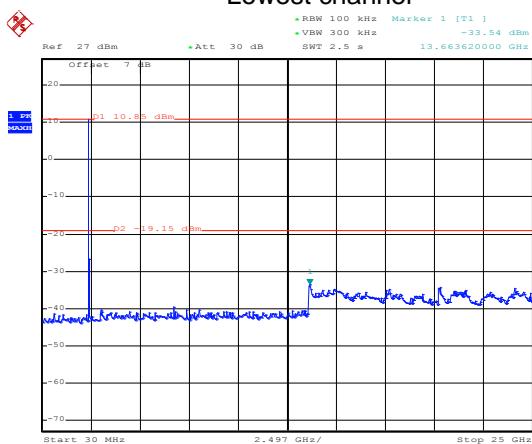
Date: 1.APR.2020 13:51:19



TX 1:

Test mode: 802.11b

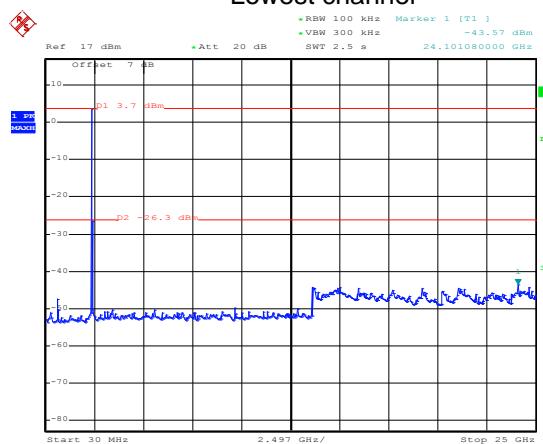
Lowest channel



Date: 1.APR.2020 11:47:10

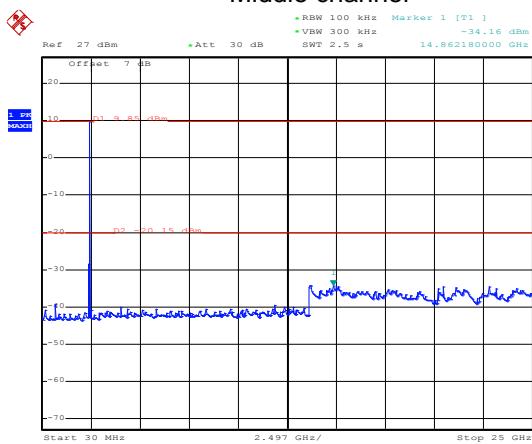
Test mode: 802.11g

Lowest channel



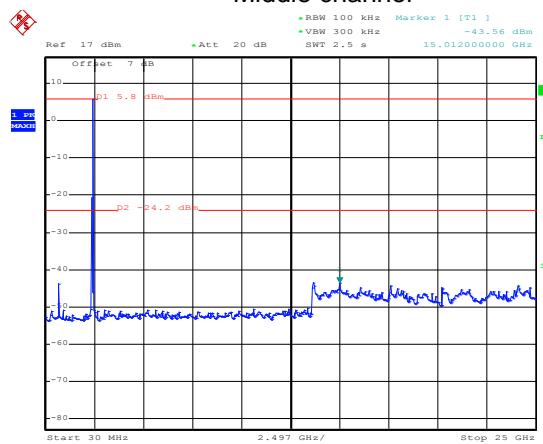
Date: 1.APR.2020 11:52:18

Middle channel



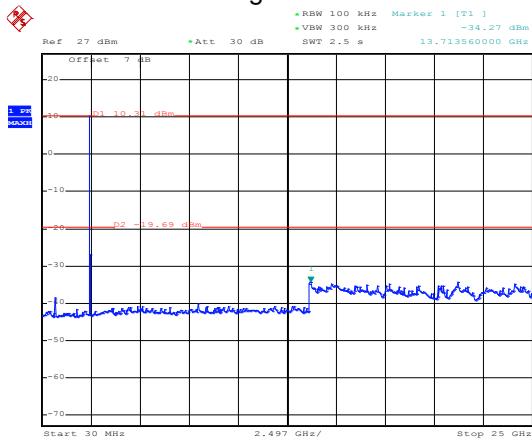
Date: 1.APR.2020 11:47:58

Middle channel



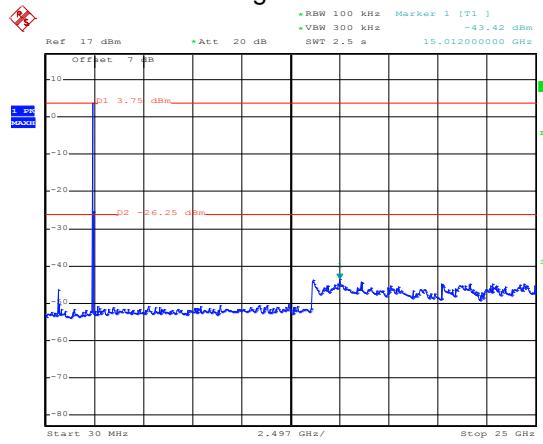
Date: 1.APR.2020 11:51:30

Highest channel

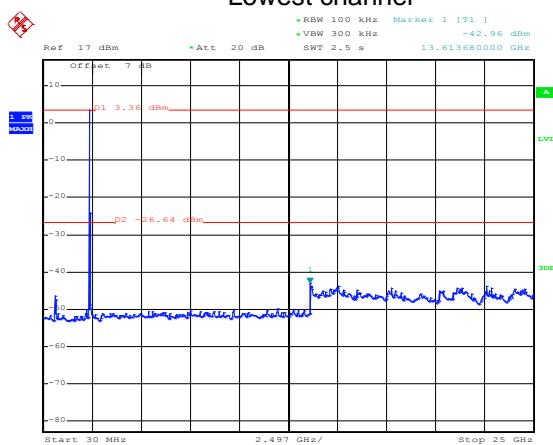


Date: 1.APR.2020 11:49:01

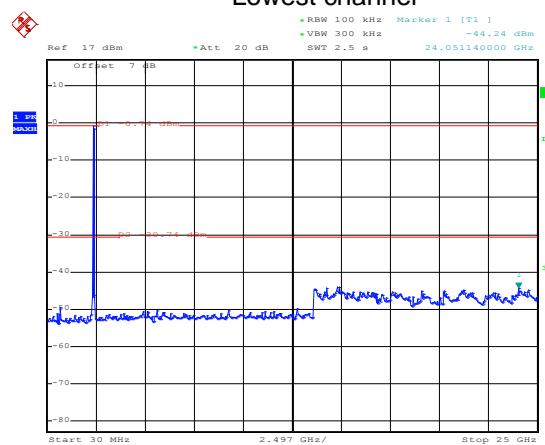
Highest channel



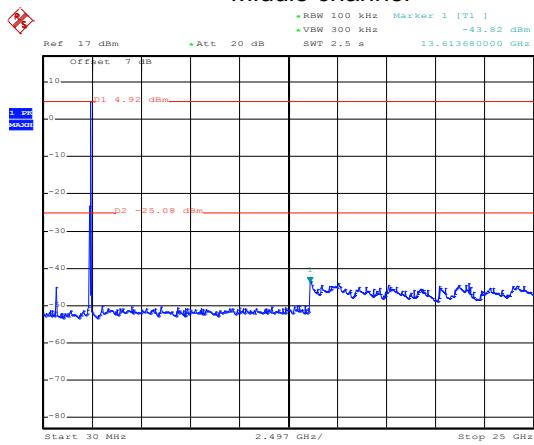
Date: 1.APR.2020 11:50:48

Test mode: 802.11n(HT20)**Lowest channel**

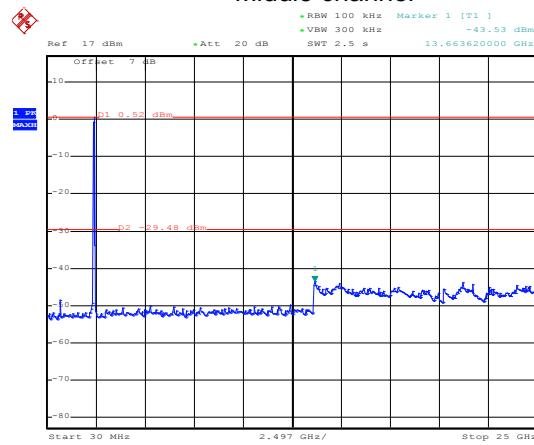
Date: 1.APR.2020 11:54:12

Test mode: 802.11n(HT40)**Lowest channel**

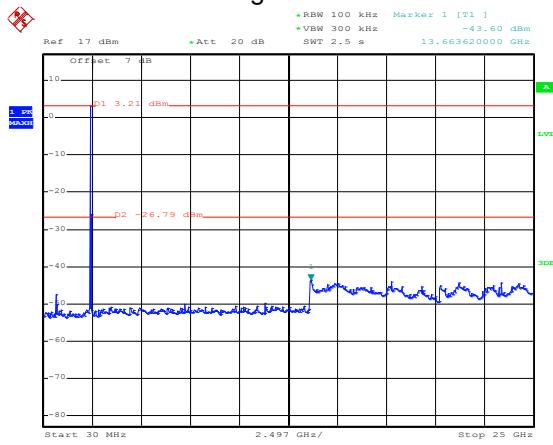
Date: 1.APR.2020 11:57:45

Middle channel

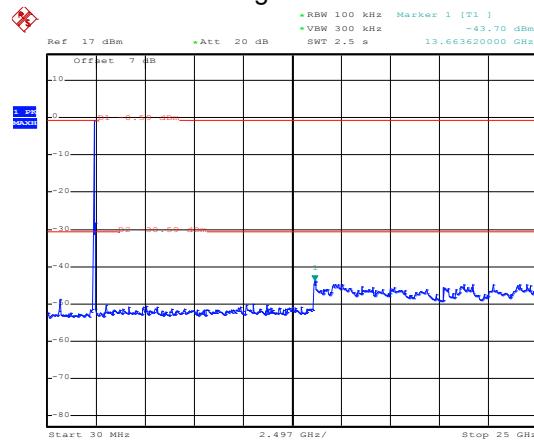
Date: 1.APR.2020 11:55:36

Middle channel

Date: 1.APR.2020 11:58:53

Highest channel

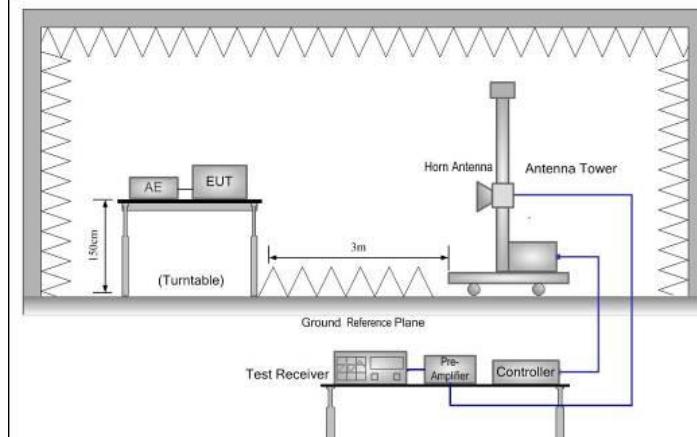
Date: 1.APR.2020 11:56:42

Highest channel

Date: 1.APR.2020 11:59:41

6.7.2 Radiated Emission Method

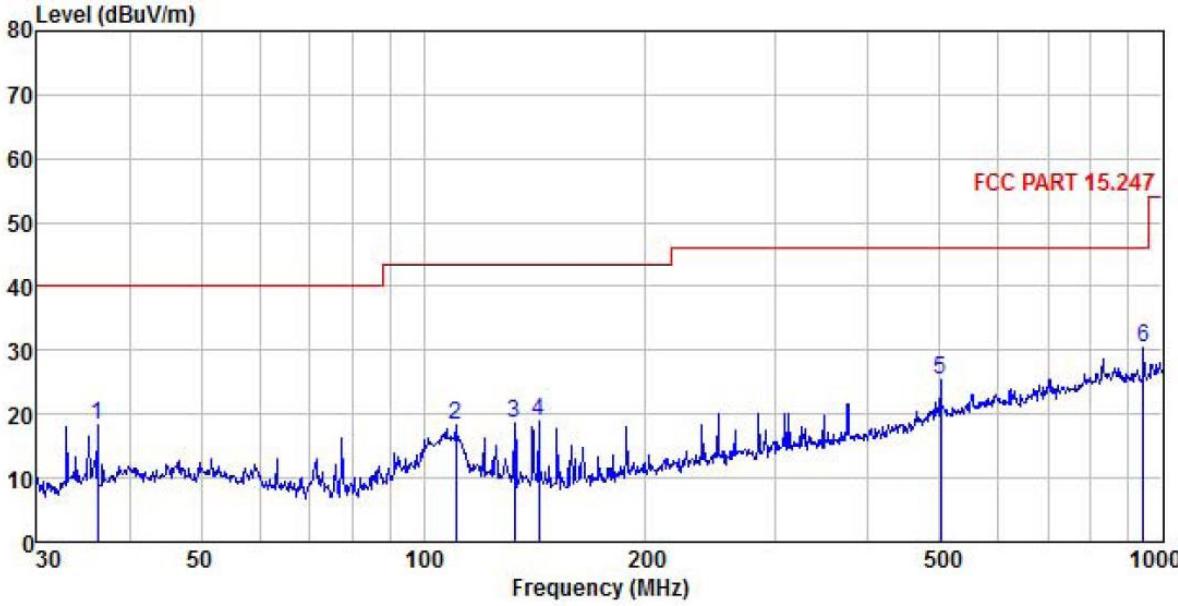
Test Requirement:	FCC Part 15 C Section 15.209 and 15.205				
Test Frequency Range:	9kHz to 25GHz				
Test Distance:	3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Remark
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
Limit:	RMS	1MHz	3MHz	3MHz	Average Value
	Frequency	Limit (dBuV/m @3m)		Remark	
	30MHz-88MHz	40.0		Quasi-peak Value	
	88MHz-216MHz	43.5		Quasi-peak Value	
	216MHz-960MHz	46.0		Quasi-peak Value	
	960MHz-1GHz	54.0		Quasi-peak Value	
Test Procedure:	Above 1GHz	54.0		Average Value	
		74.0		Peak Value	
Test setup:	<p>Below 1GHz</p> <p>Above 1GHz</p>				



Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed
Remark:	<ol style="list-style-type: none">Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis is the worst case.9 kHz to 30MHz is lower than the limit 20dB, so only shows the data of above 30MHz in this report.

Measurement Data (worst case):**Below 1GHz:**

Product Name:	Komikan			Product Model:	Komikan		
Test By:	Mike			Test mode:	Wi-Fi Tx mode		
Test Frequency:	30 MHz ~ 1 GHz			Polarization:	Vertical		
Test Voltage:	AC 120/60Hz			Environment:	Temp: 24°C Huni: 57%		

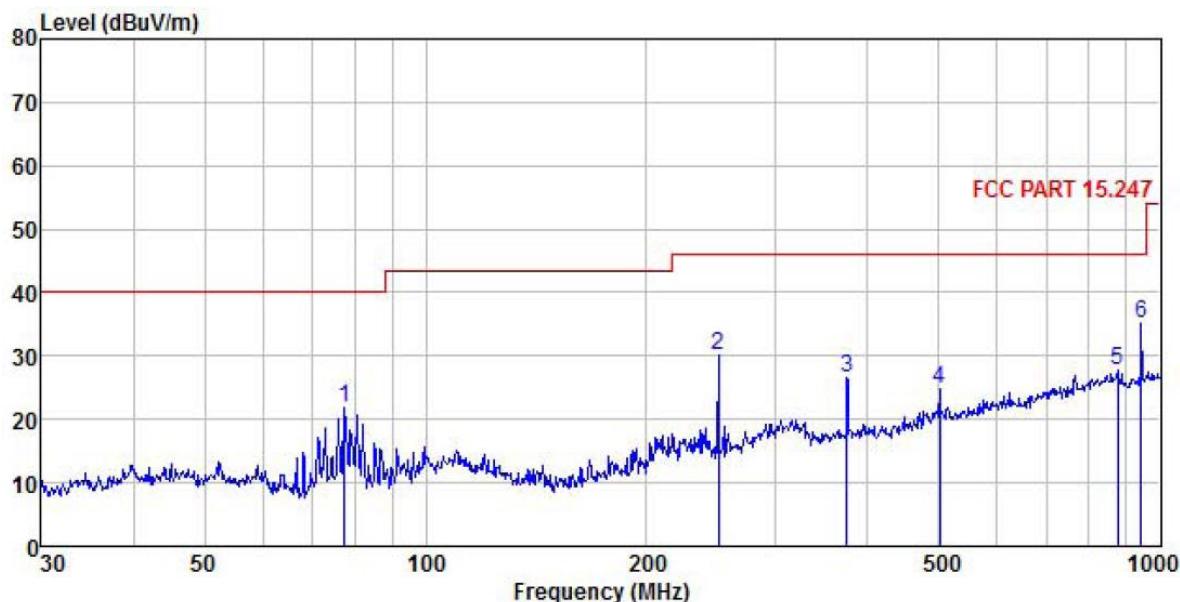


Freq	Read Level	Antenna Factor	Cable Loss	Aux Factor	Preamplifier Factor	Limit Level	Line Limit	Over Line Limit	Remark
MHz	dBuV	dB/m	dB	dB	dB	dBuV/m	dBuV/m	dB	
1	36.254	35.75	11.50	1.11	0.00	29.94	18.42	40.00	-21.58 QP
2	110.569	34.11	11.60	2.05	0.00	29.45	18.31	43.50	-25.19 QP
3	132.685	35.58	9.99	2.32	0.00	29.31	18.58	43.50	-24.92 QP
4	143.326	36.31	9.31	2.44	0.00	29.25	18.81	43.50	-24.69 QP
5	501.179	32.66	18.20	3.63	0.00	28.96	25.53	46.00	-20.47 QP
6	942.131	31.25	22.67	4.13	0.00	27.75	30.30	46.00	-15.70 QP

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Product Name:	Komikan	Product Model:	Komikan
Test By:	Mike	Test mode:	Wi-Fi Tx mode
Test Frequency:	30 MHz ~ 1 GHz	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%



Freq MHz	Read Level dBuV	Antenna Factor dB	Cable Loss dB	Aux Factor dB	Preamplifier Factor dB	Limit Level dBuV/m	Line Limit dBuV/m	Over Line Limit dB	Over Limit Remark
	MHz	dBuV	dB/m	dB	dB	dB	dBuV/m	dBuV/m	dB
1 77.593	42.29	7.70	1.64	0.00	29.66	21.97	40.00	-18.03	QP
2 250.301	43.10	12.70	2.81	0.00	28.54	30.07	46.00	-15.93	QP
3 374.623	37.25	14.95	3.09	0.00	28.67	26.62	46.00	-19.38	QP
4 501.179	32.01	18.20	3.63	0.00	28.96	24.88	46.00	-21.12	QP
5 875.247	29.33	22.55	3.95	0.00	27.94	27.89	46.00	-18.11	QP
6 942.131	35.95	22.67	4.13	0.00	27.75	35.00	46.00	-11.00	QP

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Ceramic Antenna:**Above 1GHz**

802.11b-TX0									
Test channel: Lowest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	47.41	31.06	6.81	2.46	41.82	45.92	74.00	-28.08	Vertical
4824.00	47.31	31.06	6.81	2.46	41.82	45.82	74.00	-28.18	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	38.36	31.06	6.81	2.46	41.82	36.87	54.00	-17.13	Vertical
4824.00	38.68	31.06	6.81	2.46	41.82	37.19	54.00	-16.81	Horizontal
Test channel: Middle channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	47.19	31.16	6.85	2.47	41.84	45.83	74.00	-28.17	Vertical
4874.00	47.07	31.16	6.85	2.47	41.84	45.71	74.00	-28.29	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	38.13	31.16	6.85	2.47	41.84	36.77	54.00	-17.23	Vertical
4874.00	38.89	31.16	6.85	2.47	41.84	37.53	54.00	-16.47	Horizontal
Test channel: Highest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	47.23	31.25	6.89	2.48	41.86	45.99	74.00	-28.01	Vertical
4924.00	46.74	31.25	6.89	2.48	41.86	45.50	74.00	-28.50	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	43.63	31.25	6.89	2.48	41.86	42.39	54.00	-11.61	Vertical
4924.00	42.98	31.25	6.89	2.48	41.86	41.74	54.00	-12.26	Horizontal

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss + Aux Factor – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

802.11b-TX1									
Test channel: Lowest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	54.68	31.06	6.81	2.46	41.82	53.19	74.00	-20.81	Vertical
4824.00	54.63	31.06	6.81	2.46	41.82	53.14	74.00	-20.86	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	52.56	31.06	6.81	2.46	41.82	51.07	54.00	-2.93	Vertical
4824.00	52.67	31.06	6.81	2.46	41.82	51.18	54.00	-2.82	Horizontal
Test channel: Middle channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	53.47	31.16	6.85	2.47	41.84	52.11	74.00	-21.89	Vertical
4874.00	57.43	31.16	6.85	2.47	41.84	56.07	74.00	-17.93	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	50.19	31.16	6.85	2.47	41.84	48.83	54.00	-5.17	Vertical
4874.00	54.84	31.16	6.85	2.47	41.84	53.48	54.00	-0.52	Horizontal
Test channel: Highest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	53.41	31.25	6.89	2.48	41.86	52.17	74.00	-21.83	Vertical
4924.00	56.66	31.25	6.89	2.48	41.86	55.42	74.00	-18.58	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	51.47	31.25	6.89	2.48	41.86	50.23	54.00	-3.77	Vertical
4924.00	54.74	31.25	6.89	2.48	41.86	53.50	54.00	-0.50	Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss + Aux Factor – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

802.11g-TX0									
Test channel: Lowest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	46.98	31.06	6.81	2.46	41.82	45.49	74.00	-28.51	Vertical
4824.00	47.36	31.06	6.81	2.46	41.82	45.87	74.00	-28.13	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	38.50	31.06	6.81	2.46	41.82	37.01	54.00	-16.99	Vertical
4824.00	39.14	31.06	6.81	2.46	41.82	37.65	54.00	-16.35	Horizontal
Test channel: Middle channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	46.56	31.16	6.85	2.47	41.84	45.20	74.00	-28.80	Vertical
4874.00	47.34	31.16	6.85	2.47	41.84	45.98	74.00	-28.02	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	38.43	31.16	6.85	2.47	41.84	37.07	54.00	-16.93	Vertical
4874.00	39.14	31.16	6.85	2.47	41.84	37.78	54.00	-16.22	Horizontal
Test channel: Highest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	46.24	31.25	6.89	2.48	41.86	45.00	74.00	-29.00	Vertical
4924.00	46.86	31.25	6.89	2.48	41.86	45.62	74.00	-28.38	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	38.33	31.25	6.89	2.48	41.86	37.09	54.00	-16.91	Vertical
4924.00	38.72	31.25	6.89	2.48	41.86	37.48	54.00	-16.52	Horizontal

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss + Aux Factor – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

802.11g-TX1									
Test channel: Lowest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	51.68	31.06	6.81	2.46	41.82	50.19	74.00	-23.81	Vertical
4824.00	52.34	31.06	6.81	2.46	41.82	50.85	74.00	-23.15	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	48.67	31.06	6.81	2.46	41.82	47.18	54.00	-6.82	Vertical
4824.00	50.89	31.06	6.81	2.46	41.82	49.40	54.00	-4.60	Horizontal
Test channel: Middle channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	51.54	31.16	6.85	2.47	41.84	50.18	74.00	-23.82	Vertical
4874.00	52.17	31.16	6.85	2.47	41.84	50.81	74.00	-23.19	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	48.40	31.16	6.85	2.47	41.84	47.04	54.00	-6.96	Vertical
4874.00	50.59	31.16	6.85	2.47	41.84	49.23	54.00	-4.77	Horizontal
Test channel: Highest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	51.53	31.25	6.89	2.48	41.86	50.29	74.00	-23.71	Vertical
4924.00	52.05	31.25	6.89	2.48	41.86	50.81	74.00	-23.19	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	48.78	31.25	6.89	2.48	41.86	47.54	54.00	-6.46	Vertical
4924.00	50.62	31.25	6.89	2.48	41.86	49.38	54.00	-4.62	Horizontal

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss + Aux Factor – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

802.11n-HT20(MIMO)									
Test channel: Lowest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	49.52	31.06	6.81	2.46	41.82	48.03	74.00	-25.97	Vertical
4824.00	52.47	31.06	6.81	2.46	41.82	50.98	74.00	-23.02	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	46.44	31.06	6.81	2.46	41.82	44.95	54.00	-9.05	Vertical
4824.00	49.65	31.06	6.81	2.46	41.82	48.16	54.00	-5.84	Horizontal
Test channel: Middle channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	49.63	31.16	6.85	2.47	41.84	48.27	74.00	-25.73	Vertical
4874.00	52.64	31.16	6.85	2.47	41.84	51.28	74.00	-22.72	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	46.35	31.16	6.85	2.47	41.84	44.99	54.00	-9.01	Vertical
4874.00	49.33	31.16	6.85	2.47	41.84	47.97	54.00	-6.03	Horizontal
Test channel: Highest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	49.10	31.25	6.89	2.48	41.86	47.86	74.00	-26.14	Vertical
4924.00	52.58	31.25	6.89	2.48	41.86	51.34	74.00	-22.66	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	46.37	31.25	6.89	2.48	41.86	45.13	54.00	-8.87	Vertical
4924.00	49.86	31.25	6.89	2.48	41.86	48.62	54.00	-5.38	Horizontal

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss + Aux Factor – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

802.11n-HT40(MIMO)									
Test channel: Lowest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4844.00	49.93	31.10	6.83	2.46	41.83	48.49	74.00	-25.51	Vertical
4844.00	52.94	31.10	6.83	2.46	41.83	51.50	74.00	-22.50	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4844.00	46.76	31.10	6.83	2.46	41.83	45.32	54.00	-8.68	Vertical
4844.00	49.29	31.10	6.83	2.46	41.83	47.85	54.00	-6.15	Horizontal
Test channel: Middle channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	49.63	31.16	6.85	2.47	41.84	48.27	74.00	-25.73	Vertical
4874.00	53.40	31.16	6.85	2.47	41.84	52.04	74.00	-21.96	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	47.24	31.16	6.85	2.47	41.84	45.88	54.00	-8.12	Vertical
4874.00	49.50	31.16	6.85	2.47	41.84	48.14	54.00	-5.86	Horizontal
Test channel: Highest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4904.00	49.35	31.22	6.87	2.48	41.85	48.07	74.00	-25.93	Vertical
4904.00	53.77	31.22	6.87	2.48	41.85	52.49	74.00	-21.51	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4904.00	47.00	31.22	6.87	2.48	41.85	45.72	54.00	-8.28	Vertical
4904.00	49.92	31.22	6.87	2.48	41.85	48.64	54.00	-5.36	Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Flex Antenna:**Above 1GHz**

802.11b-TX0									
Test channel: Lowest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	48.85	31.06	6.81	2.46	41.82	47.36	74.00	-26.64	Vertical
4824.00	47.80	31.06	6.81	2.46	41.82	46.31	74.00	-27.69	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	43.65	31.06	6.81	2.46	41.82	42.16	54.00	-11.84	Vertical
4824.00	43.61	31.06	6.81	2.46	41.82	42.12	54.00	-11.88	Horizontal
Test channel: Middle channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	48.93	31.16	6.85	2.47	41.84	47.57	74.00	-26.43	Vertical
4874.00	47.80	31.16	6.85	2.47	41.84	46.44	74.00	-27.56	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	43.99	31.16	6.85	2.47	41.84	42.63	54.00	-11.37	Vertical
4874.00	43.73	31.16	6.85	2.47	41.84	42.37	54.00	-11.63	Horizontal
Test channel: Highest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	49.09	31.25	6.89	2.48	41.86	47.85	74.00	-26.15	Vertical
4924.00	47.72	31.25	6.89	2.48	41.86	46.48	74.00	-27.52	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	43.53	31.25	6.89	2.48	41.86	42.29	54.00	-11.71	Vertical
4924.00	43.39	31.25	6.89	2.48	41.86	42.15	54.00	-11.85	Horizontal

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss + Aux Factor – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

802.11b-TX1									
Test channel: Lowest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	51.21	31.06	6.81	2.46	41.82	49.72	74.00	-24.28	Vertical
4824.00	50.14	31.06	6.81	2.46	41.82	48.65	74.00	-25.35	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	42.05	31.06	6.81	2.46	41.82	40.56	54.00	-13.44	Vertical
4824.00	41.36	31.06	6.81	2.46	41.82	39.87	54.00	-14.13	Horizontal
Test channel: Middle channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	50.43	31.16	6.85	2.47	41.84	49.07	74.00	-24.93	Vertical
4874.00	52.55	31.16	6.85	2.47	41.84	51.19	74.00	-22.81	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	48.15	31.16	6.85	2.47	41.84	46.79	54.00	-7.21	Vertical
4874.00	50.42	31.16	6.85	2.47	41.84	49.06	54.00	-4.94	Horizontal
Test channel: Highest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	50.87	31.25	6.89	2.48	41.86	49.63	74.00	-24.37	Vertical
4924.00	52.68	31.25	6.89	2.48	41.86	51.44	74.00	-22.56	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	48.41	31.25	6.89	2.48	41.86	47.17	54.00	-6.83	Vertical
4924.00	50.08	31.25	6.89	2.48	41.86	48.84	54.00	-5.16	Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss + Aux Factor – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

802.11g-TX0									
Test channel: Lowest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	49.03	31.06	6.81	2.46	41.82	47.54	74.00	-26.46	Vertical
4824.00	47.56	31.06	6.81	2.46	41.82	46.07	74.00	-27.93	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	43.51	31.06	6.81	2.46	41.82	42.02	54.00	-11.98	Vertical
4824.00	43.02	31.06	6.81	2.46	41.82	41.53	54.00	-12.47	Horizontal
Test channel: Middle channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	49.11	31.16	6.85	2.47	41.84	47.75	74.00	-26.25	Vertical
4874.00	47.16	31.16	6.85	2.47	41.84	45.80	74.00	-28.20	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	43.93	31.16	6.85	2.47	41.84	42.57	54.00	-11.43	Vertical
4874.00	42.53	31.16	6.85	2.47	41.84	41.17	54.00	-12.83	Horizontal
Test channel: Highest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	49.57	31.25	6.89	2.48	41.86	48.33	74.00	-25.67	Vertical
4924.00	47.58	31.25	6.89	2.48	41.86	46.34	74.00	-27.66	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	43.67	31.25	6.89	2.48	41.86	42.43	54.00	-11.57	Vertical
4924.00	42.35	31.25	6.89	2.48	41.86	41.11	54.00	-12.89	Horizontal

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss + Aux Factor – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

802.11g-TX1									
Test channel: Lowest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	50.25	31.06	6.81	2.46	41.82	48.76	74.00	-25.24	Vertical
4824.00	52.12	31.06	6.81	2.46	41.82	50.63	74.00	-23.37	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	48.56	31.06	6.81	2.46	41.82	47.07	54.00	-6.93	Vertical
4824.00	50.21	31.06	6.81	2.46	41.82	48.72	54.00	-5.28	Horizontal
Test channel: Middle channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	50.28	31.16	6.85	2.47	41.84	48.92	74.00	-25.08	Vertical
4874.00	52.33	31.16	6.85	2.47	41.84	50.97	74.00	-23.03	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	48.82	31.16	6.85	2.47	41.84	47.46	54.00	-6.54	Vertical
4874.00	50.40	31.16	6.85	2.47	41.84	49.04	54.00	-4.96	Horizontal
Test channel: Highest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	50.74	31.25	6.89	2.48	41.86	49.50	74.00	-24.50	Vertical
4924.00	52.42	31.25	6.89	2.48	41.86	51.18	74.00	-22.82	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	48.46	31.25	6.89	2.48	41.86	47.22	54.00	-6.78	Vertical
4924.00	50.76	31.25	6.89	2.48	41.86	49.52	54.00	-4.48	Horizontal

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss + Aux Factor – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

802.11n-HT20(MIMO)									
Test channel: Lowest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	47.75	31.06	6.81	2.46	41.82	46.26	74.00	-27.74	Vertical
4824.00	47.24	31.06	6.81	2.46	41.82	45.75	74.00	-28.25	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	40.05	31.06	6.81	2.46	41.82	38.56	54.00	-15.44	Vertical
4824.00	39.48	31.06	6.81	2.46	41.82	37.99	54.00	-16.01	Horizontal
Test channel: Middle channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	47.55	31.16	6.85	2.47	41.84	46.19	74.00	-27.81	Vertical
4874.00	47.13	31.16	6.85	2.47	41.84	45.77	74.00	-28.23	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	39.83	31.16	6.85	2.47	41.84	38.47	54.00	-15.53	Vertical
4874.00	39.58	31.16	6.85	2.47	41.84	38.22	54.00	-15.78	Horizontal
Test channel: Highest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	47.40	31.25	6.89	2.48	41.86	46.16	74.00	-27.84	Vertical
4924.00	46.80	31.25	6.89	2.48	41.86	45.56	74.00	-28.44	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	39.87	31.25	6.89	2.48	41.86	38.63	54.00	-15.37	Vertical
4924.00	39.73	31.25	6.89	2.48	41.86	38.49	54.00	-15.51	Horizontal

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss + Aux Factor – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

802.11n-HT40(MIMO)									
Test channel: Lowest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4844.00	48.18	31.10	6.83	2.46	41.83	46.74	74.00	-27.26	Vertical
4844.00	47.58	31.10	6.83	2.46	41.83	46.14	74.00	-27.86	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4844.00	40.26	31.10	6.83	2.46	41.83	38.82	54.00	-15.18	Vertical
4844.00	39.41	31.10	6.83	2.46	41.83	37.97	54.00	-16.03	Horizontal
Test channel: Middle channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	48.50	31.16	6.85	2.47	41.84	47.14	74.00	-26.86	Vertical
4874.00	47.32	31.16	6.85	2.47	41.84	45.96	74.00	-28.04	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	40.34	31.16	6.85	2.47	41.84	38.98	54.00	-15.02	Vertical
4874.00	39.68	31.16	6.85	2.47	41.84	38.32	54.00	-15.68	Horizontal
Test channel: Highest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4904.00	48.75	31.22	6.87	2.48	41.85	47.47	74.00	-26.53	Vertical
4904.00	47.10	31.22	6.87	2.48	41.85	45.82	74.00	-28.18	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4904.00	39.94	31.22	6.87	2.48	41.85	38.66	54.00	-15.34	Vertical
4904.00	39.55	31.22	6.87	2.48	41.85	38.27	54.00	-15.73	Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss + Aux Factor – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

Whip Antenna:**Above 1GHz**

802.11b-TX0									
Test channel: Lowest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	49.17	31.06	6.81	2.46	41.82	47.68	74.00	-26.32	Vertical
4824.00	47.66	31.06	6.81	2.46	41.82	46.17	74.00	-27.83	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	40.03	31.06	6.81	2.46	41.82	38.54	54.00	-15.46	Vertical
4824.00	38.66	31.06	6.81	2.46	41.82	37.17	54.00	-16.83	Horizontal
Test channel: Middle channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	48.76	31.16	6.85	2.47	41.84	47.40	74.00	-26.60	Vertical
4874.00	48.10	31.16	6.85	2.47	41.84	46.74	74.00	-27.26	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	39.68	31.16	6.85	2.47	41.84	38.32	54.00	-15.68	Vertical
4874.00	38.62	31.16	6.85	2.47	41.84	37.26	54.00	-16.74	Horizontal
Test channel: Highest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	48.88	31.25	6.89	2.48	41.86	47.64	74.00	-26.36	Vertical
4924.00	48.10	31.25	6.89	2.48	41.86	46.86	74.00	-27.14	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	39.97	31.25	6.89	2.48	41.86	38.73	54.00	-15.27	Vertical
4924.00	38.31	31.25	6.89	2.48	41.86	37.07	54.00	-16.93	Horizontal

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss + Aux Factor – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

802.11b-TX1									
Test channel: Lowest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	53.73	31.06	6.81	2.46	41.82	52.24	74.00	-21.76	Vertical
4824.00	48.74	31.06	6.81	2.46	41.82	47.25	74.00	-26.75	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	51.50	31.06	6.81	2.46	41.82	50.01	54.00	-3.99	Vertical
4824.00	45.85	31.06	6.81	2.46	41.82	44.36	54.00	-9.64	Horizontal
Test channel: Middle channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	53.79	31.16	6.85	2.47	41.84	52.43	74.00	-21.57	Vertical
4874.00	48.28	31.16	6.85	2.47	41.84	46.92	74.00	-27.08	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	51.59	31.16	6.85	2.47	41.84	50.23	54.00	-3.77	Vertical
4874.00	45.40	31.16	6.85	2.47	41.84	44.04	54.00	-9.96	Horizontal
Test channel: Highest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	53.84	31.25	6.89	2.48	41.86	52.60	74.00	-21.40	Vertical
4924.00	48.93	31.25	6.89	2.48	41.86	47.69	74.00	-26.31	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	51.63	31.25	6.89	2.48	41.86	50.39	54.00	-3.61	Vertical
4924.00	46.05	31.25	6.89	2.48	41.86	44.81	54.00	-9.19	Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss + Aux Factor – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

802.11g-TX0									
Test channel: Lowest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	47.43	31.06	6.81	2.46	41.82	45.94	74.00	-28.06	Vertical
4824.00	47.21	31.06	6.81	2.46	41.82	45.72	74.00	-28.28	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	38.83	31.06	6.81	2.46	41.82	37.34	54.00	-16.66	Vertical
4824.00	39.40	31.06	6.81	2.46	41.82	37.91	54.00	-16.09	Horizontal
Test channel: Middle channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	47.36	31.16	6.85	2.47	41.84	46.00	74.00	-28.00	Vertical
4874.00	46.76	31.16	6.85	2.47	41.84	45.40	74.00	-28.60	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	39.15	31.16	6.85	2.47	41.84	37.79	54.00	-16.21	Vertical
4874.00	39.34	31.16	6.85	2.47	41.84	37.98	54.00	-16.02	Horizontal
Test channel: Highest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	47.03	31.25	6.89	2.48	41.86	45.79	74.00	-28.21	Vertical
4924.00	47.16	31.25	6.89	2.48	41.86	45.92	74.00	-28.08	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	39.14	31.25	6.89	2.48	41.86	37.90	54.00	-16.10	Vertical
4924.00	39.75	31.25	6.89	2.48	41.86	38.51	54.00	-15.49	Horizontal

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss + Aux Factor – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

802.11g-TX1									
Test channel: Lowest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	50.21	31.06	6.81	2.46	41.82	48.72	74.00	-25.28	Vertical
4824.00	48.96	31.06	6.81	2.46	41.82	47.47	74.00	-26.53	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	46.37	31.06	6.81	2.46	41.82	44.88	54.00	-9.12	Vertical
4824.00	39.89	31.06	6.81	2.46	41.82	38.40	54.00	-15.60	Horizontal
Test channel: Middle channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	50.69	31.16	6.85	2.47	41.84	49.33	74.00	-24.67	Vertical
4874.00	48.74	31.16	6.85	2.47	41.84	47.38	74.00	-26.62	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	46.11	31.16	6.85	2.47	41.84	44.75	54.00	-9.25	Vertical
4874.00	40.21	31.16	6.85	2.47	41.84	38.85	54.00	-15.15	Horizontal
Test channel: Highest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	50.71	31.25	6.89	2.48	41.86	49.47	74.00	-24.53	Vertical
4924.00	48.97	31.25	6.89	2.48	41.86	47.73	74.00	-26.27	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	46.59	31.25	6.89	2.48	41.86	45.35	54.00	-8.65	Vertical
4924.00	40.34	31.25	6.89	2.48	41.86	39.10	54.00	-14.90	Horizontal

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss + Aux Factor – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

802.11n-HT20(MIMO)									
Test channel: Lowest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	47.28	31.06	6.81	2.46	41.82	45.79	74.00	-28.21	Vertical
4824.00	48.29	31.06	6.81	2.46	41.82	46.80	74.00	-27.20	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4824.00	38.85	31.06	6.81	2.46	41.82	37.36	54.00	-16.64	Vertical
4824.00	39.19	31.06	6.81	2.46	41.82	37.70	54.00	-16.30	Horizontal
Test channel: Middle channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	47.08	31.16	6.85	2.47	41.84	45.72	74.00	-28.28	Vertical
4874.00	48.45	31.16	6.85	2.47	41.84	47.09	74.00	-26.91	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	38.97	31.16	6.85	2.47	41.84	37.61	54.00	-16.39	Vertical
4874.00	38.89	31.16	6.85	2.47	41.84	37.53	54.00	-16.47	Horizontal
Test channel: Highest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	47.09	31.25	6.89	2.48	41.86	45.85	74.00	-28.15	Vertical
4924.00	48.48	31.25	6.89	2.48	41.86	47.24	74.00	-26.76	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4924.00	39.29	31.25	6.89	2.48	41.86	38.05	54.00	-15.95	Vertical
4924.00	38.93	31.25	6.89	2.48	41.86	37.69	54.00	-16.31	Horizontal

Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss + Aux Factor – Preamplifier Factor.
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

802.11n(HT40)									
Test channel: Lowest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4844.00	46.60	31.10	6.83	2.46	41.83	45.16	74.00	-28.84	Vertical
4844.00	48.10	31.10	6.83	2.46	41.83	46.66	74.00	-27.34	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4844.00	39.27	31.10	6.83	2.46	41.83	37.83	54.00	-16.17	Vertical
4844.00	39.09	31.10	6.83	2.46	41.83	37.65	54.00	-16.35	Horizontal
Test channel: Middle channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	46.16	31.16	6.85	2.47	41.84	44.80	74.00	-29.20	Vertical
4874.00	48.28	31.16	6.85	2.47	41.84	46.92	74.00	-27.08	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4874.00	38.87	31.16	6.85	2.47	41.84	37.51	54.00	-16.49	Vertical
4874.00	39.14	31.16	6.85	2.47	41.84	37.78	54.00	-16.22	Horizontal
Test channel: Highest channel									
Detector: Peak Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4904.00	45.72	31.22	6.87	2.48	41.85	44.44	74.00	-29.56	Vertical
4904.00	48.45	31.22	6.87	2.48	41.85	47.17	74.00	-26.83	Horizontal
Detector: Average Value									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Aux Factor (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4904.00	38.92	31.22	6.87	2.48	41.85	37.64	54.00	-16.36	Vertical
4904.00	38.67	31.22	6.87	2.48	41.85	37.39	54.00	-16.61	Horizontal

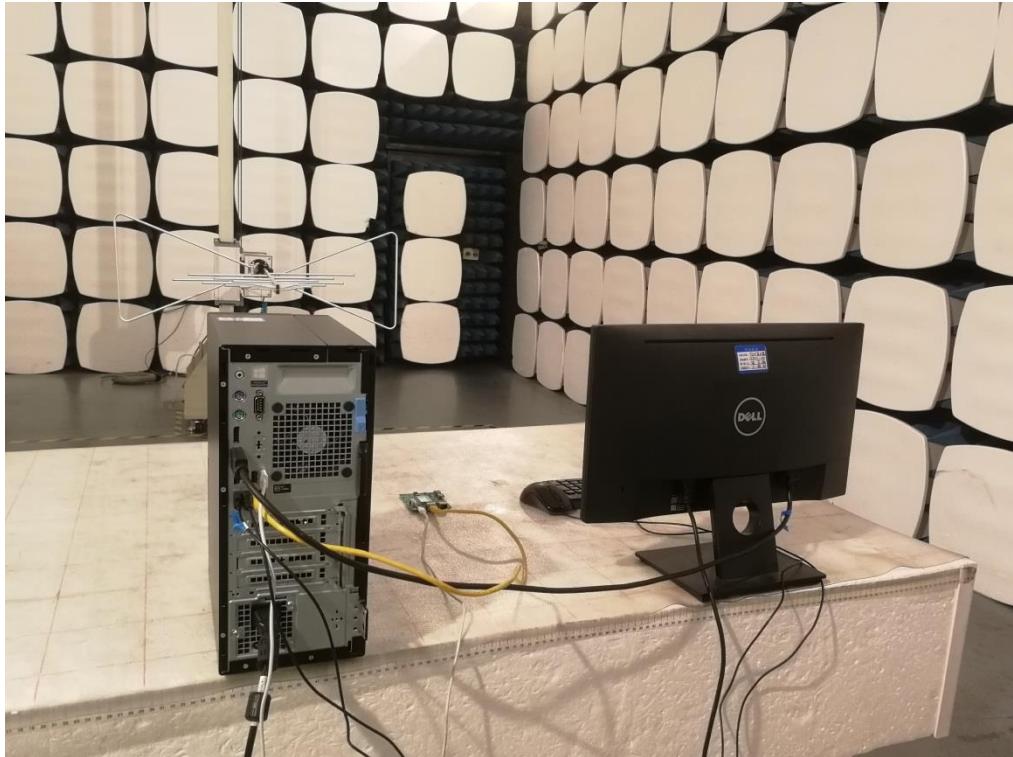
Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss + Aux Factor – Preamplifier Factor.
2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

7 Test Setup Photo

Radiated Spurious Emission (Ceramic Antenna)

Below 1GHz

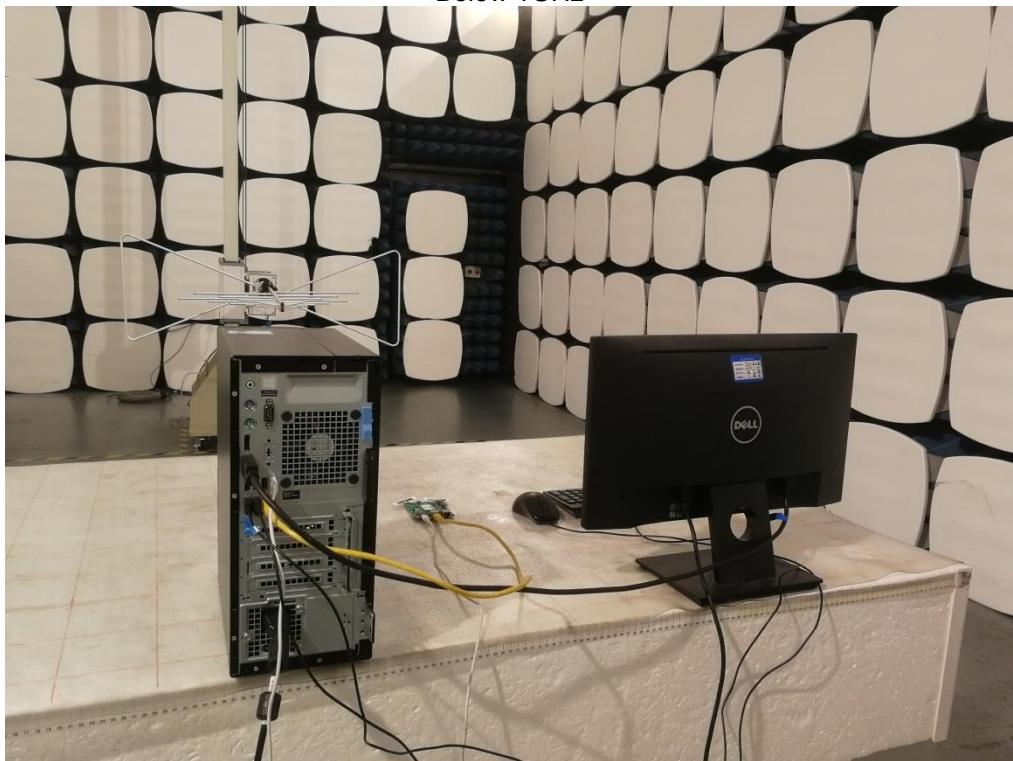


Above 1GHz



Radiated Spurious Emission (Flex Antenna)

Below 1GHz

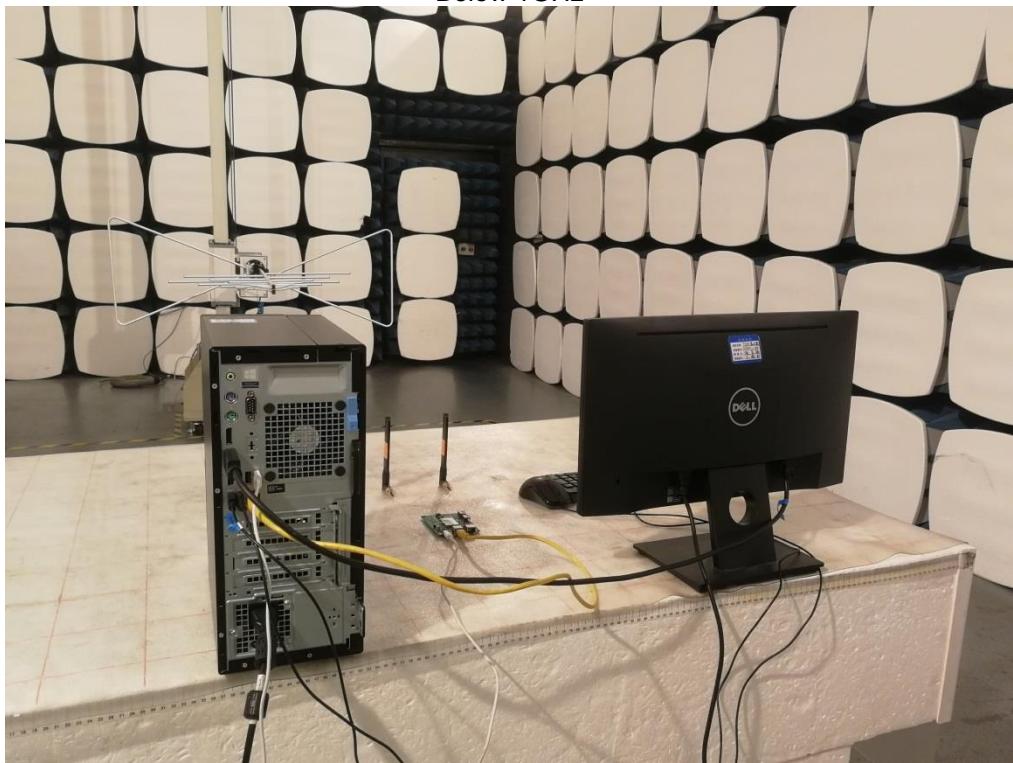


Above 1GHz

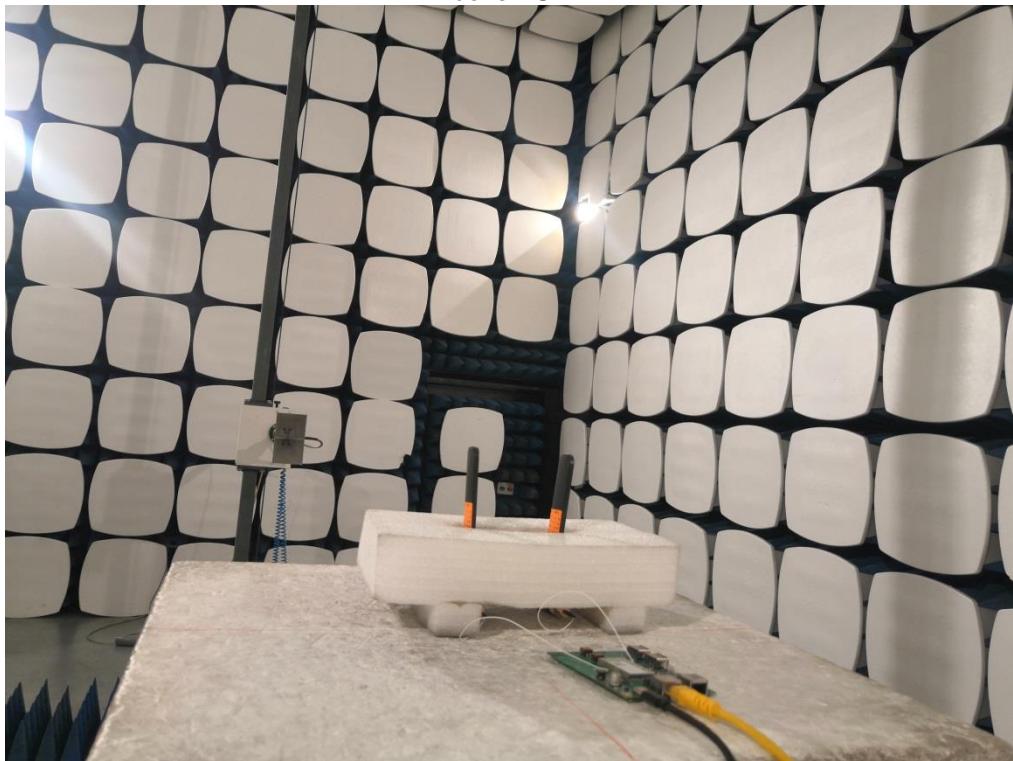


Radiated Spurious Emission (Whip Antenna)

Below 1GHz



Above 1GHz



Conducted Emission**8 EUT Constructional Details**

Reference to the test report No.: CCISE200308001

-----End of report-----