

TEST REPORT

Reference No...... : WTD21D01009766W001 V2
FCC ID : 2ADCS6720
Applicant..... : Inforce Computing Inc.
Address..... : 48820 Kato Road, Ste 600B, Fremont, CA94538, United States of America.
Manufacturer : Inforce Computing Inc.
Address..... : 48820 Kato Road, Ste 600B, Fremont, CA94538, United States of America.
Product..... : Application Ready Platform 6720
Model(s) : 6720
Brand name : Smart
Standards..... : FCC CFR47 Part 15.247
Date of Receipt sample : 2021-02-19
Date of Test..... : 2021-02-20 to 2021-04-06
Date of Issue..... : 2021-05-12
Test Result..... : **Pass**

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

Prepared By:

Waltek Testing Group Co., Ltd.

Address: No. 77, Houjie Section, Guantai Road, Houjie Town, Dongguan City, Guangdong, China

Tel: +86-769-2267 6998

Fax: +86-769-2267 6828

Compiled by:

Levi Xiao

Levi Xiao / Project Engineer

Approved by:



Daniel Liu

Daniel Liu / Designated Reviewer

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3 Revision History

Test report No.	Date of Receipt sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTD21D01009766 W001	2021-02-19	2021-02-20 to 2021-04-06	2021-04-06	original	-	Replaced
WTD21D01009766 W001 V1	2021-02-19	2021-02-20 to 2021-04-06	2021-05-12	Version 1	Updated	Replaced
WTD21D01009766 W001 V2	2021-02-19	2021-02-20 to 2021-04-06	2021-05-12	Version 2	Updated	Valid

4 General Information

4.1 General Description of E.U.T.

Product:	Application Ready Platform 6720
Model(s):	6720
Wi-Fi Specification:	2.4G-802.11b/g/n HT20/n HT40 5G-802.11a/n/ac HT20 /n/ac HT40 /ac HT80
GPS:	Support
Bluetooth Version:	Bluetooth v5.0 with BLE
Hardware Version:	6720-P2
Software Version:	Android Q 10.0

4.2 Details of E.U.T.

Operation Frequency:	WiFi: 802.11b/g/n HT20: 2412~2462MHz 802.11n HT40: 2422~2452MHz BLE:2402-2480MHz
Max. RF output power:	WiFi(2.4G): ANT 0: 18.60dBm ANT 1: 17.61dBm Total:25.47dBm BLE: 5.84 dBm
Type of Modulation:	WiFi: DSSS, OFDM BLE:GFSK
Antenna installation:	WiFi/BLE: External antenna with RP-SMA connector
Antenna Gain:	5.3dBi
Ratings:	DC 12V For Battery

4.3 Channel List

WIFI

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
1	2412	2	2417	3	2422	4	2427
5	2432	6	2437	7	2442	8	2447
9	2452	10	2457	11	2462	12	-

BT BLE

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
0	2402	1	2404	2	2406	3	2408
4	2410	5	2412	6	2414	7	2416
8	2418	9	2420	10	2422	11	2424
12	2426	13	2428	14	2430	15	2432
16	2434	17	2436	18	2438	19	2440
20	2442	21	2444	22	2446	23	2448
24	2450	25	2452	26	2454	27	2456
28	2458	29	2460	30	2462	31	2464
32	2466	33	2468	34	2470	35	2472
36	2474	37	2476	38	2478	39	2480

4.4 Test Mode

Table 1 Tests Carried Out Under FCC part 15.247

Test Items	Mode	Data Rate	Channel	TX/RX
Maximum Peak Output Power	802.11b	1 Mbps	1/6/11	TX
	802.11g	6 Mbps	1/6/11	TX
	802.11n HT20	108 Mbps	1/6/11	TX
	802.11n HT40	150 Mbps	3/6/9	TX
Power Spectral Density	802.11b	1 Mbps	1/6/11	TX
	802.11g	6 Mbps	1/6/11	TX
	802.11n HT20	108 Mbps	1/6/11	TX
	802.11n HT40	150 Mbps	3/6/9	TX
6dB Bandwidth	802.11b	1 Mbps	1/6/11	TX
	802.11g	6 Mbps	1/6/11	TX
	802.11n HT20	108 Mbps	1/6/11	TX
	802.11n HT40	150 Mbps	3/6/9	TX
Band Edge	802.11b	1 Mbps	1/6/11	TX
	802.11g	6 Mbps	1/6/11	TX
	802.11n HT20	108 Mbps	1/6/11	TX
	802.11n HT40	150 Mbps	3/6/9	TX
Transmitter Spurious Emissions	802.11b	1 Mbps	1/6/11	TX
	802.11g	6 Mbps	1/6/11	TX
	802.11n HT20	108 Mbps	1/6/11	TX
	802.11n HT40	150 Mbps	3/6/9	TX

Table 2 Tests Carried Out Under FCC part 15.247

Test Items	Mode	Data Rate	Channel	TX/RX
Maximum Peak Output Power	BT BLE	1 Mbps	0/19/39	TX
Power Spectral Density	BT BLE	1 Mbps	0/19/39	TX
6dB Bandwidth	BT BLE	1 Mbps	0/19/39	TX
Band Edge	BT BLE	1 Mbps	0/19/39	TX
Transmitter Spurious Emissions	BT BLE	1 Mbps	0/19/39	TX

Note :Parameters set by test software during channel & power tests, the software provided by the customer was used to set the operating channels as well as the output power level. The RF output power set is the power expected by the manufacturer and is going to be fixed on the firmware of the final product .

5 Test Summary

Test Items	Test Requirement	Result
Radiated Spurious Emissions	15.247(d) 15.205(a) 15.209(a)	PASS
Conducted Spurious Emissions	15.247(d)	PASS
Conducted Emissions	15.207(a)	N/A
6dB Bandwidth	15.247(a)(2)	PASS
Maximum Peak Output Power	15.247(b)(3),(4)	PASS
Power Spectral Density	15.247(e)	PASS
Band Edge	15.247(d)	PASS
Antenna Requirement	15.203	PASS
Maximum Permissible Exposure (Exposure of Humans to RF Fields)	1.1307(b)(1)	PASS

6 Equipment Used during Test

6.1 Equipments List

3m Semi-anechoic Chamber for Radiation Emissions Test site 1#						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Calibration Date	Calibration Due Date
1	Spectrum Analyzer	R&S	FSP30	100091	2020-04-20	2021-04-19
2	Amplifier	Agilent	8447D	2944A10178	2020-04-20	2021-04-19
3	Trilog Broadband Antenna	SCHWARZBECK	VULB9163	336	2020-08-22	2021-08-21
4	Coaxial Cable (below 1GHz)	Top	TYPE16(13M)	-	2020-04-20	2021-04-19
5	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9120 D	667	2020-04-25	2021-04-24
6	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9170	335	2020-04-20	2021-04-19
7	Broadband Preamplifier	COMPLIANCE DIRECTION	PAP-1G18	2004	2020-04-20	2021-04-19
8	Coaxial Cable (above 1GHz)	ZT26-NJ-NJ-8M/FA	1GHz-18GHz	NA	2020-04-20	2021-04-19
3m Semi-anechoic Chamber for Radiation Emissions Test site 2#						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Calibration Date	Calibration Due Date
1	Test Receiver	R&S	ESCI	101296	2020-04-20	2021-04-19
2	Trilog Broadband Antenna	SCHWARZBECK	VULB9160	9160-3325	2020-04-25	2021-04-24
3	Active Loop Antenna	Com-Power Corp.	AL-130R	10160007	2020-05-06	2021-05-05
4	Amplifier	ANRITSU	MH648A	M43381	2020-04-20	2021-04-19
5	Cable	HUBER+SUHNER	CBL2	525178	2020-04-20	2021-04-19
RF Conducted Testing						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Calibration Date	Calibration Due Date
1.	EMC Analyzer (9k~26.5GHz)	Agilent	E7405A	MY45114943	2020-04-20	2021-04-19
2.	Spectrum Analyzer	R&S	FSP30	100091	2020-04-20	2021-04-19
3.	EXA Signal Analyzer	Malaysia Keysight	N9010A	MY50520207	2020-04-20	2021-04-19

6.2 Description of Support Units

Equipment	Manufacturer	Model No.	Series No.
Computer	Dell	K053	/
Mouse	Lenovo	AP01	/

6.3 Measurement Uncertainty

Parameter	Uncertainty
Radio Frequency	$\pm 1 \times 10^{-6}$
RF Power	± 1.0 dB
RF Power Density	± 2.2 dB
Radiated Spurious Emissions test	± 5.03 dB (Bilog antenna 30M~1000MHz)
	± 5.47 dB (Horn antenna 1000M~25000MHz)
Conducted Emissions test	± 3.64 dB (AC mains 150KHz~30MHz)
Conducted Spurious Emissions test	± 3.12 dB (9kHz~30MHz)
	± 4.21 dB (30M~1000MHz)
	± 5.14 dB (1000M~26500MHz)

6.4 Test Facility

The test facility has a test site registered with the following organizations:

ISED CAB identifier: CN0013. Test Firm Registration No.: 7760A.

Waltek Testing Group Co., Ltd. Has been registered and fully described in a report filed with the Industry Canada. The acceptance letter from the Industry Canada is maintained in our files. Registration number 7760A, October 15, 2016.

FCC Designation No.: CN1201. Test Firm Registration No.: 523476. Certificate Number: 4243.01

Waltek Testing Group Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration number 523476, September 10, 2019.

6.5 Test Equipment Calibration

All the test equipments used are valid and calibrated by CEPREI Certification Body that address is No.110 Dongguan Zhuang RD. Guangzhou, P.R.China.

7 Radiated Emissions

Test Requirement: FCC CFR47 Part 15 Section 15.209 & 15.247

Test Method: KDB 558074 D01 15.247 Meas Guidance v05 August 24, 2018;
ANSI C63.10:2013

Test Result: PASS

Measurement Distance: 3m

Limit:

Frequency (MHz)	Field Strength		Field Strength Limit at 3m Measurement Dist	
	uV/m	Distance (m)	uV/m	dBuV/m
0.009 ~ 0.490	2400/F(kHz)	300	10000 * 2400/F(kHz)	$20\log^{(2400/F(kHz))} + 80$
0.490 ~ 1.705	24000/F(kHz)	30	100 * 24000/F(kHz)	$20\log^{(24000/F(kHz))} + 40$
1.705 ~ 30	30	30	100 * 30	$20\log^{(30)} + 40$
30 ~ 88	100	3	100	$20\log^{(100)}$
88 ~ 216	150	3	150	$20\log^{(150)}$
216 ~ 960	200	3	200	$20\log^{(200)}$
Above 960	500	3	500	$20\log^{(500)}$

7.1 EUT Operation

Operating Environment :

Temperature: 23.5 °C

Humidity: 52.1 % RH

Atmospheric Pressure: 101.2kPa

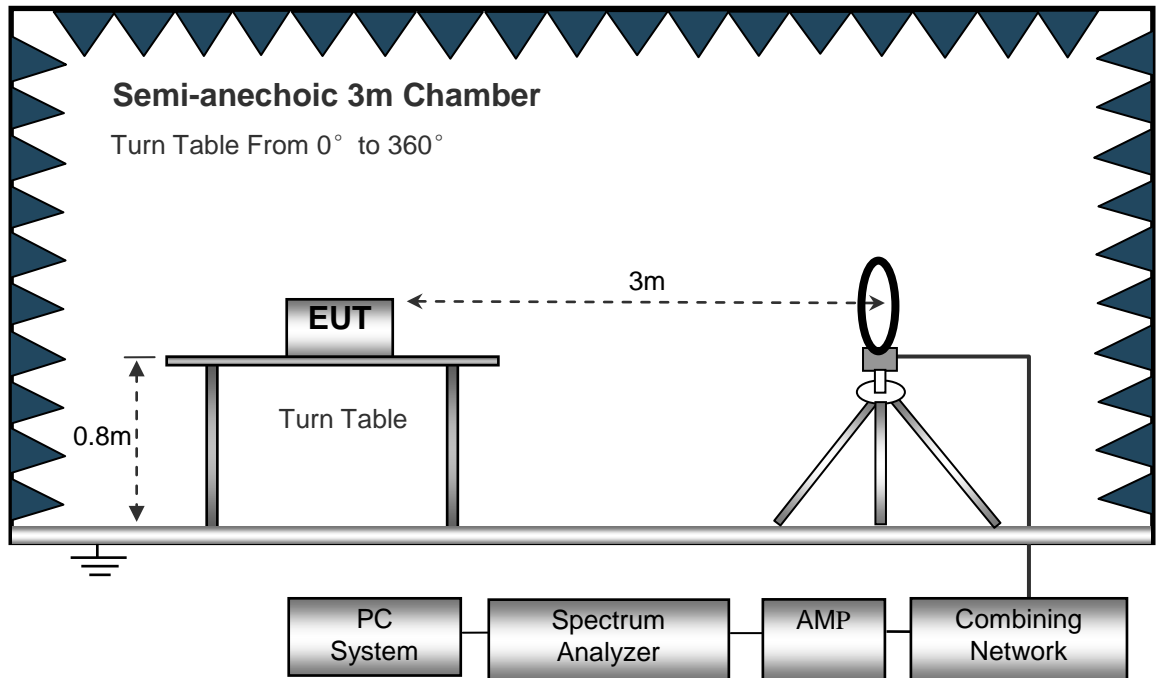
EUT Operation :

The test was performed in WIFI link and BLE link mode, the test data were shown in the report.

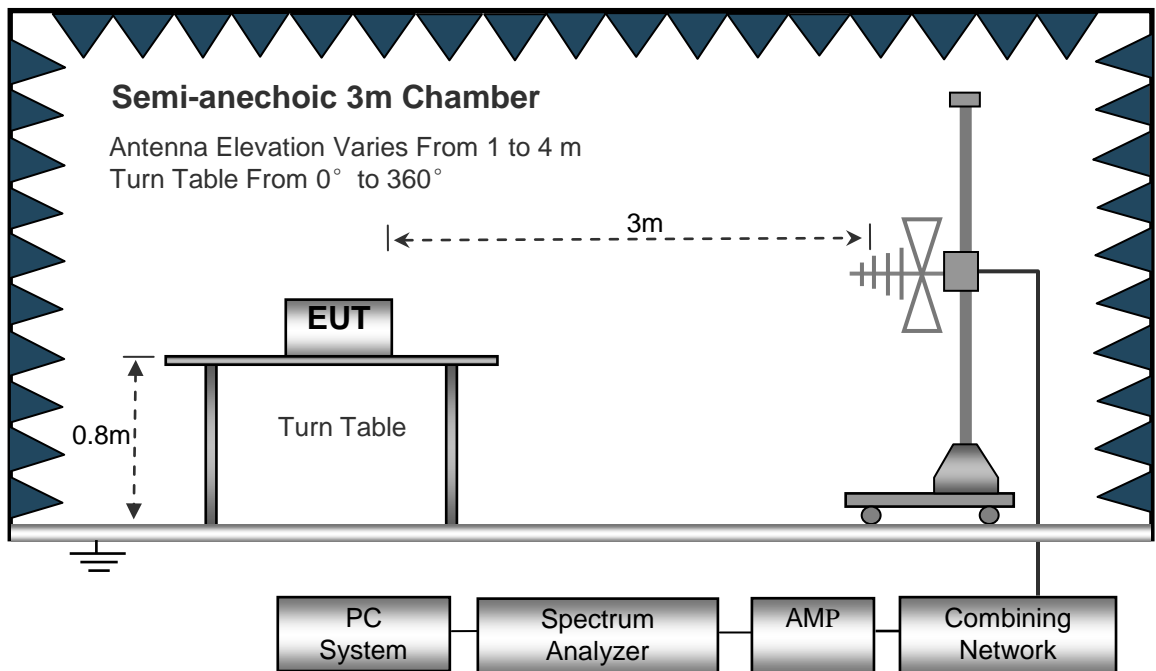
7.2 Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the ANSI C63.10.

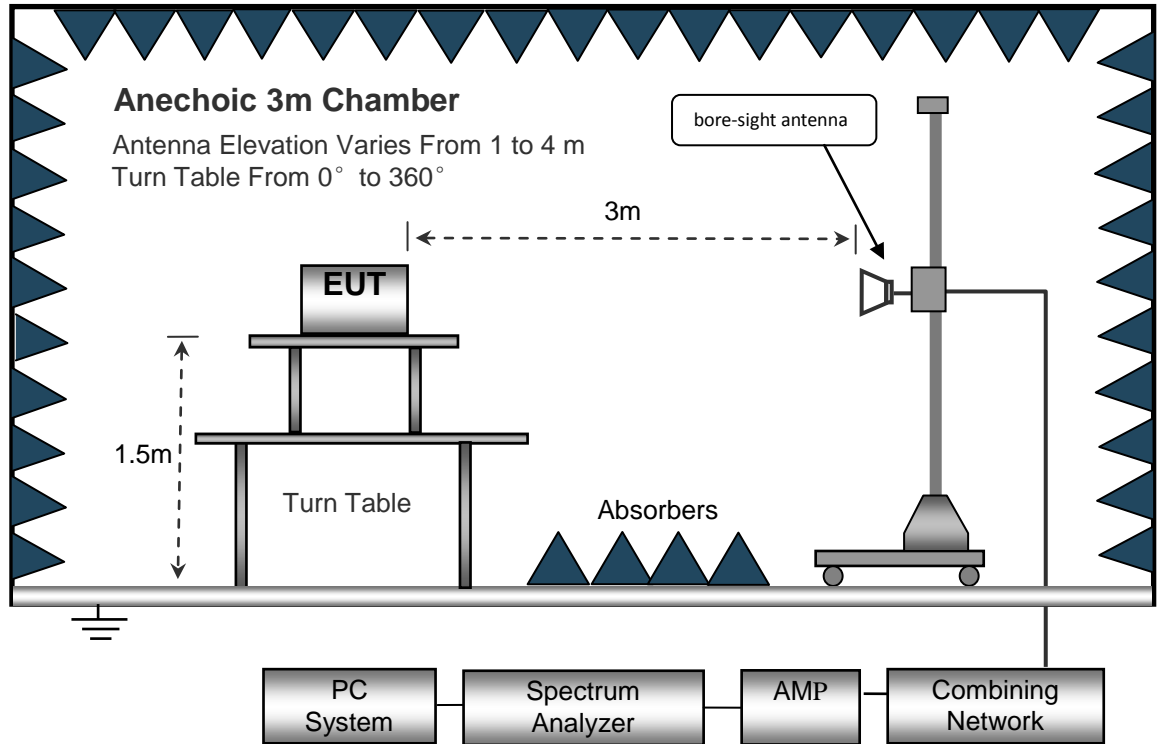
The test setup for emission measurement below 30MHz.



The test setup for emission measurement from 30 MHz to 1 GHz.



The test setup for emission measurement above 1 GHz.



7.3 Spectrum Analyzer Setup

Below 30MHz

- Sweep Speed Auto
- IF Bandwidth..... 10kHz
- Video Bandwidth..... 10kHz
- Resolution Bandwidth..... 10kHz

30MHz ~ 1GHz

- Sweep Speed Auto
- Detector PK
- Resolution Bandwidth..... 100kHz
- Video Bandwidth..... 300kHz

Above 1GHz

- Sweep Speed Auto
- Detector PK
- Resolution Bandwidth..... 1MHz
- Video Bandwidth..... 3MHz
- Detector Ave.
- Resolution Bandwidth..... 1MHz
- Video Bandwidth..... 10Hz

7.4 Test Procedure

1. The EUT is placed on a turntable, which is 0.8m above ground plane for below 1GHz and 1.5m for above 1GHz.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is moved from 1m to 4m to find out the maximum emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.
7. The radiation measurements are performed in X,Y and Z axis positioning(X denotes lying on the table, Y denotes side stand and Z denotes vertical stand),the worst condition was tested putting the eut in Z axis,so the worst data were shown as follow.
8. A 2.4GHz high –pass filter is used druing radiated emissions above 1GHz measurement.

7.5 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Antenna Factor} + \text{Cable Factor} - \text{Amplifier Gain}$$

The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB means the emission is 7dB below the maximum limit for Class B. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{Limit}$$

7.6 Summary of Test Results

Remark: For the WIFI, Both antenna 0 and antenna 1 are tested, and only the worst data antenna 0 is put in the report

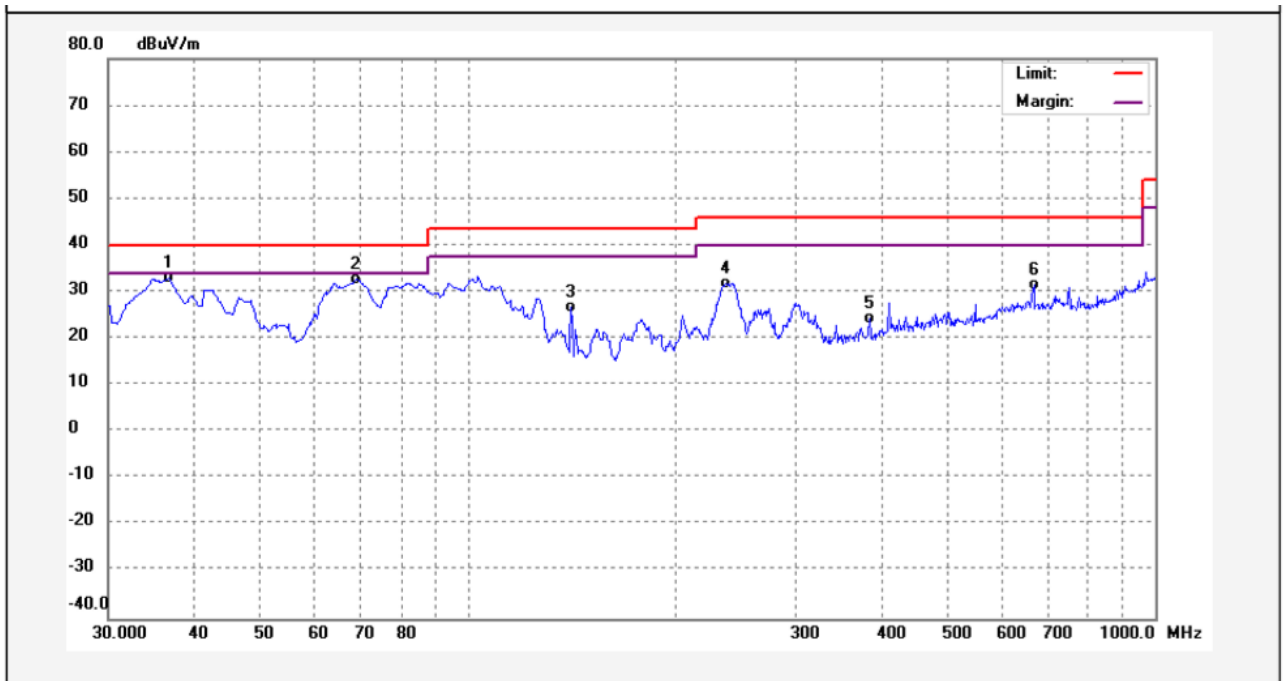
Wifi:

Test Frequency: 9KHz~30MHz

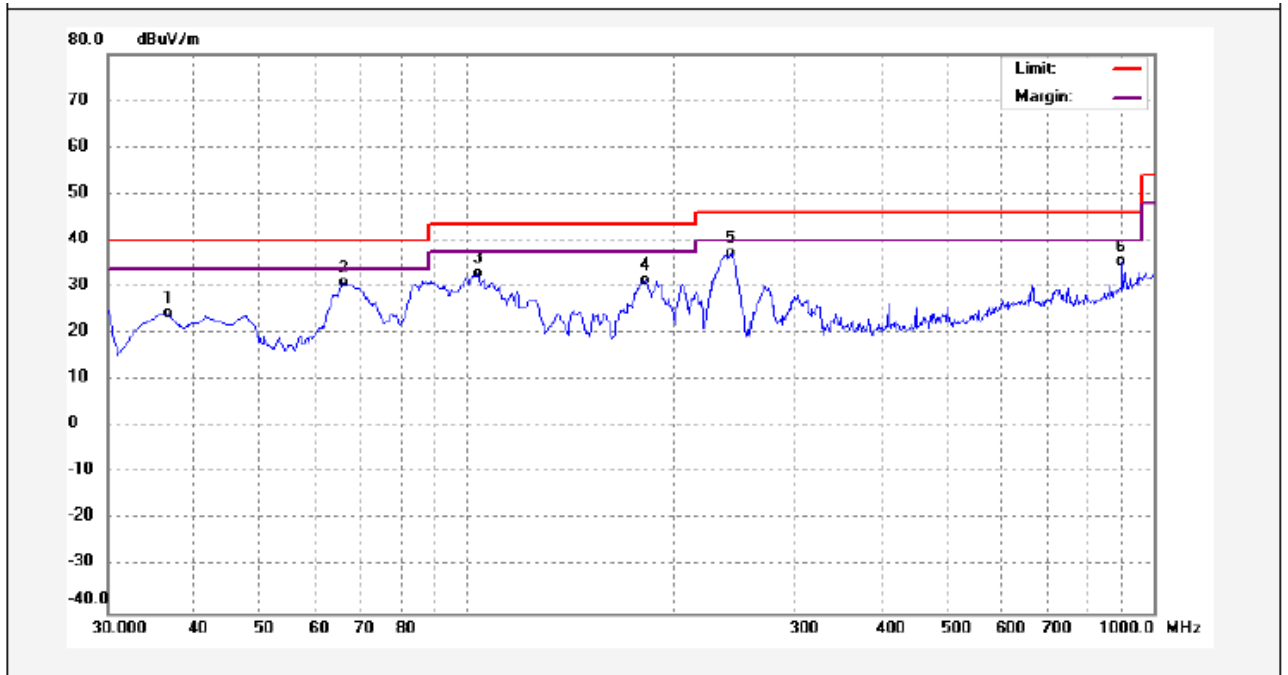
The measurements were more than 20 dB below the limit and not reported.

Test Frequency : 30MHz ~ 1GHz (only the worst-case plots for each mode)

802.11b: Middle Channel 2437MHz (Vertical)

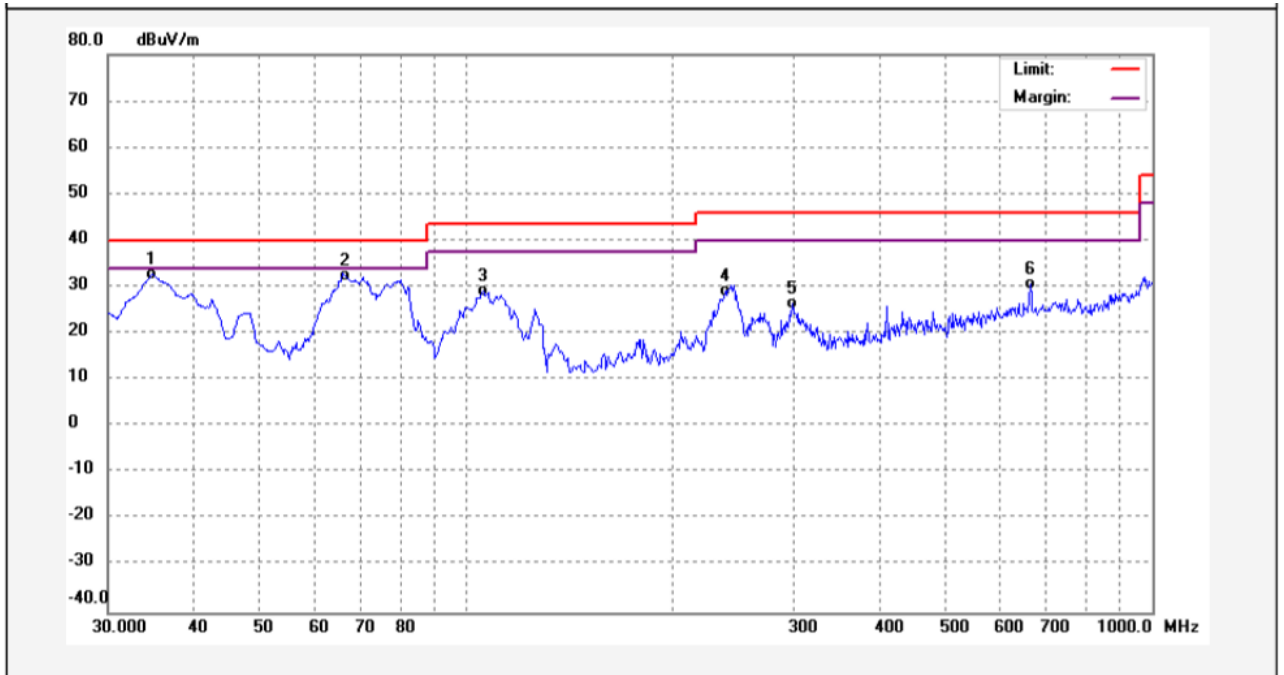


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	36.7900	48.22	-15.28	32.94	40.00	-7.06	QP	
2	68.8000	47.68	-14.87	32.81	40.00	-7.19	QP	
3	141.5500	43.11	-16.27	26.84	43.50	-16.66	QP	
4	237.5800	43.15	-11.25	31.90	46.00	-14.10	QP	
5	384.0500	30.99	-6.69	24.30	46.00	-21.70	QP	
6	666.3200	32.15	-0.60	31.55	46.00	-14.45	QP	

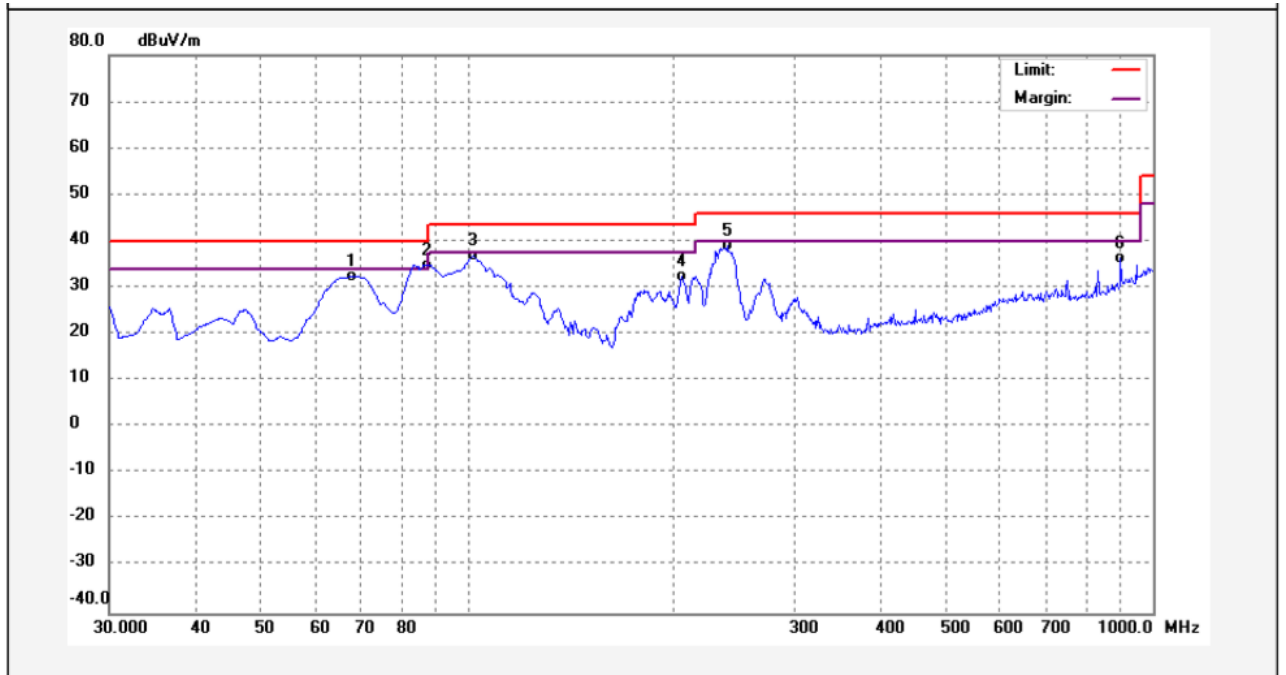
802.11b: Middle Channel 2437MHz (Horizontal)

No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	36.7900	39.67	-15.28	24.39	40.00	-15.61	QP	
2	66.2662	45.50	-14.60	30.90	40.00	-9.10	QP	
3	103.8055	46.23	-13.25	32.98	43.50	-10.52	QP	
4	182.2899	45.66	-14.19	31.47	43.50	-12.03	QP	
5	242.4300	48.39	-11.14	37.25	46.00	-8.75	QP	
6	900.0900	32.59	2.75	35.34	46.00	-10.66	QP	

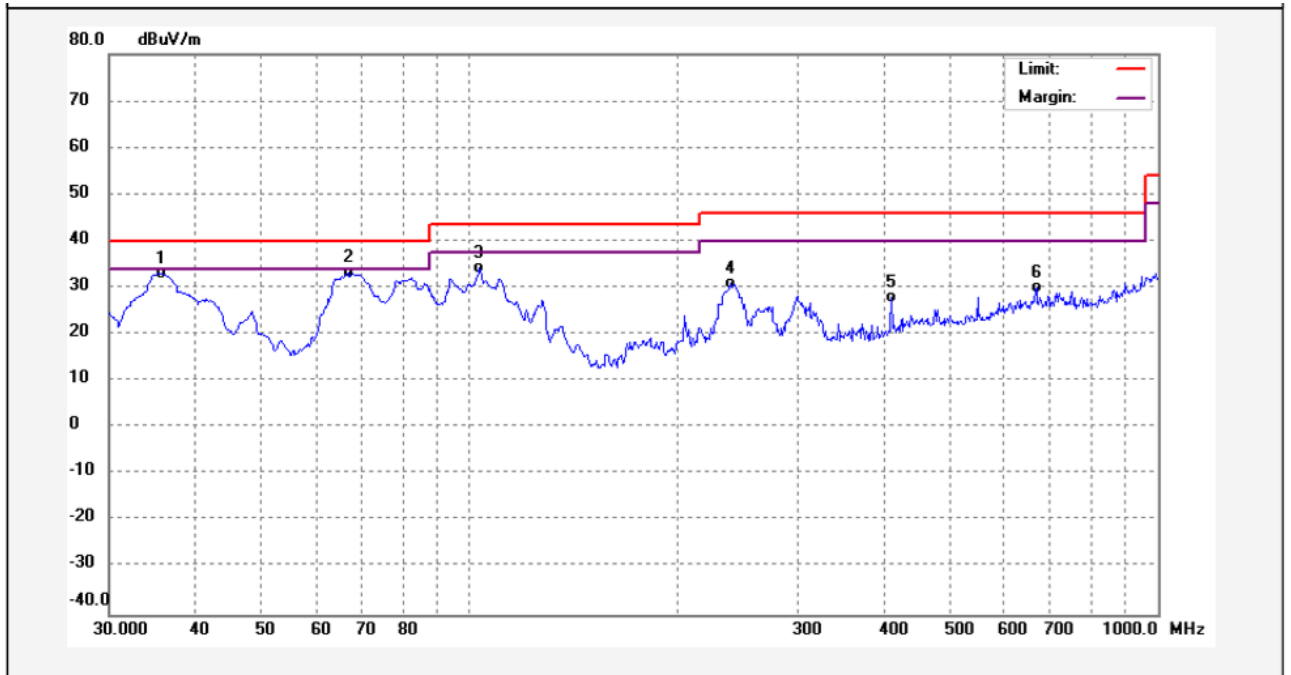
802.11g: Middle Channel 2437MHz (Vertical)



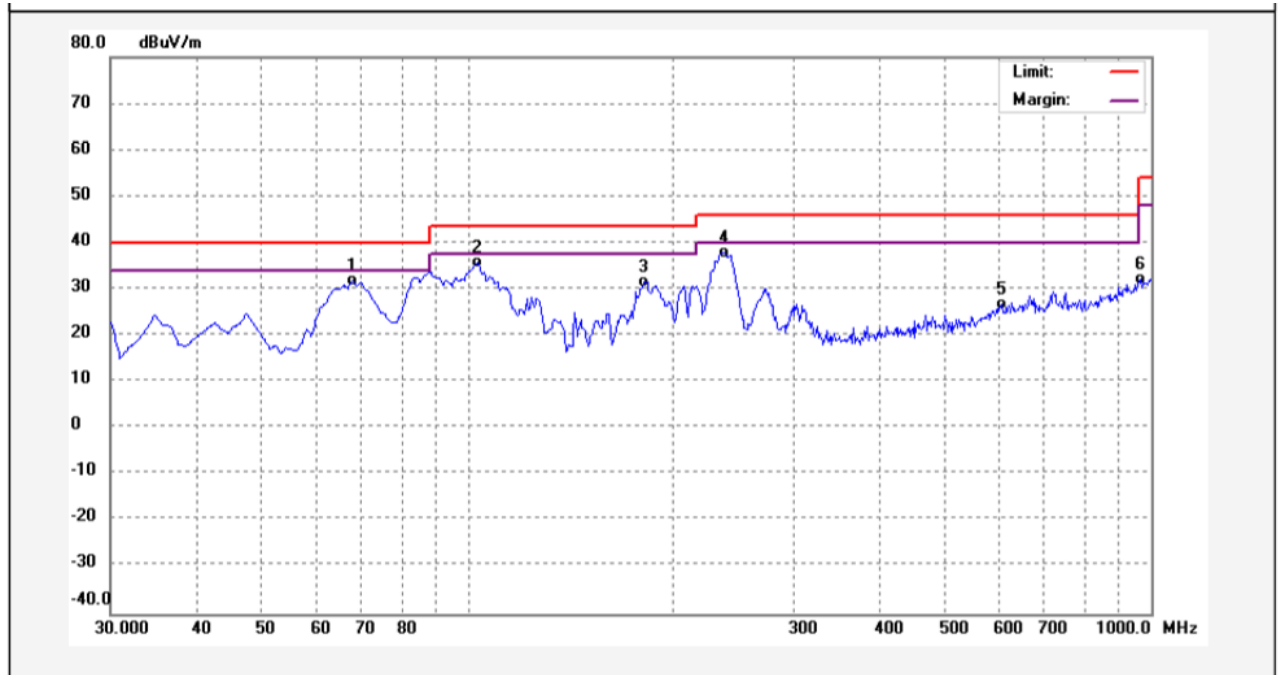
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	34.8500	48.73	-15.94	32.79	40.00	-7.21	QP	
2	66.4989	47.09	-14.62	32.47	40.00	-7.53	QP	
3	105.6600	42.40	-13.32	29.08	43.50	-14.42	QP	
4	238.5500	40.25	-11.23	29.02	46.00	-16.98	QP	
5	298.6900	34.19	-7.87	26.32	46.00	-19.68	QP	
6	664.3800	31.15	-0.63	30.52	46.00	-15.48	QP	

802.11g: Middle Channel 2437MHz (Horizontal)

No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	67.8300	47.35	-14.76	32.59	40.00	-7.41	QP	
2	87.2300	50.52	-15.52	35.00	40.00	-5.00	QP	
3	101.7800	50.15	-13.20	36.95	43.50	-6.55	QP	
4	205.5700	44.42	-12.04	32.38	43.50	-11.12	QP	
5	239.5200	50.14	-11.21	38.93	46.00	-7.07	QP	
6	900.0900	33.53	2.75	36.28	46.00	-9.72	QP	

802.11n: Middle Channel 2437MHz (Vertical)

No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	35.8200	48.59	-15.63	32.96	40.00	-7.04	QP	
2	66.8600	47.93	-14.65	33.28	40.00	-6.72	QP	
3	103.7200	47.59	-13.24	34.35	43.50	-9.15	QP	
4	239.5200	42.03	-11.21	30.82	46.00	-15.18	QP	
5	411.2100	34.26	-6.24	28.02	46.00	-17.98	QP	
6	666.3200	30.60	-0.60	30.00	46.00	-16.00	QP	

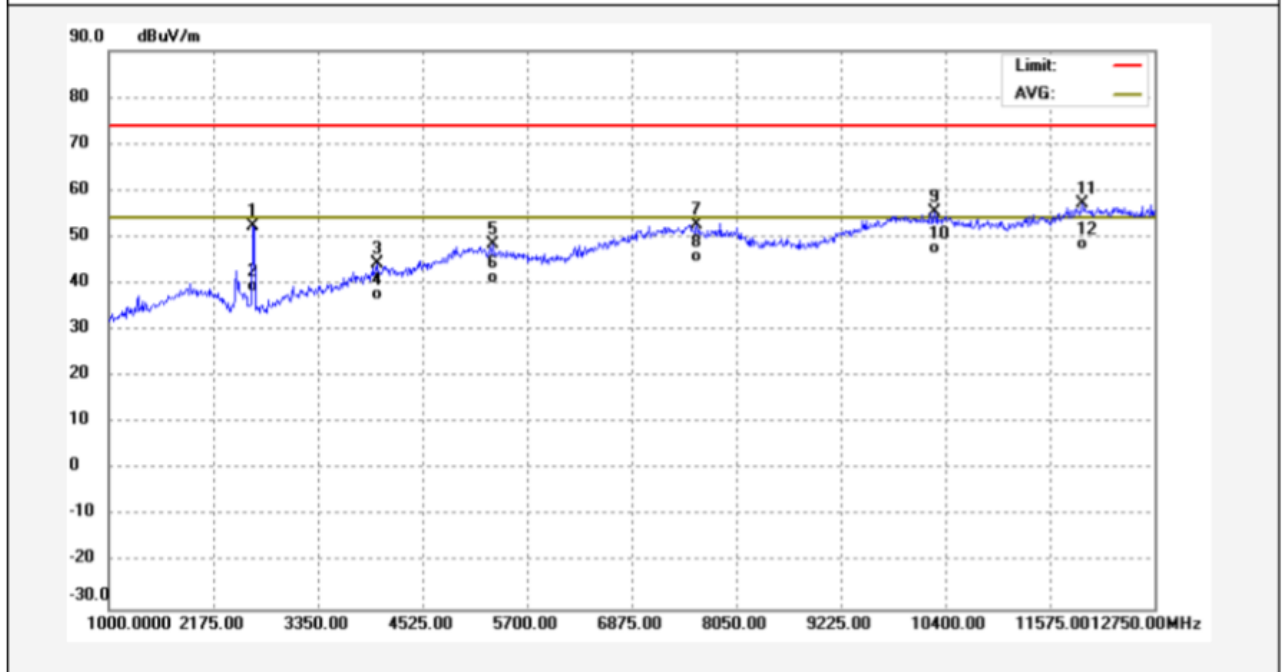
802.11n: Middle Channel 2437MHz (Horizontal)

No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	67.8300	46.75	-14.76	31.99	40.00	-8.01	QP	
2	103.7200	49.00	-13.24	35.76	43.50	-7.74	QP	
3	181.3200	45.83	-14.28	31.55	43.50	-11.95	QP	
4	237.5800	49.14	-11.25	37.89	46.00	-8.11	QP	
5	604.2400	27.90	-1.22	26.68	46.00	-19.32	QP	
6	967.9900	27.17	4.98	32.15	54.00	-21.85	QP	

Test Frequency: 1GHz~12.75GHz (only the worst-case plots for each mode)

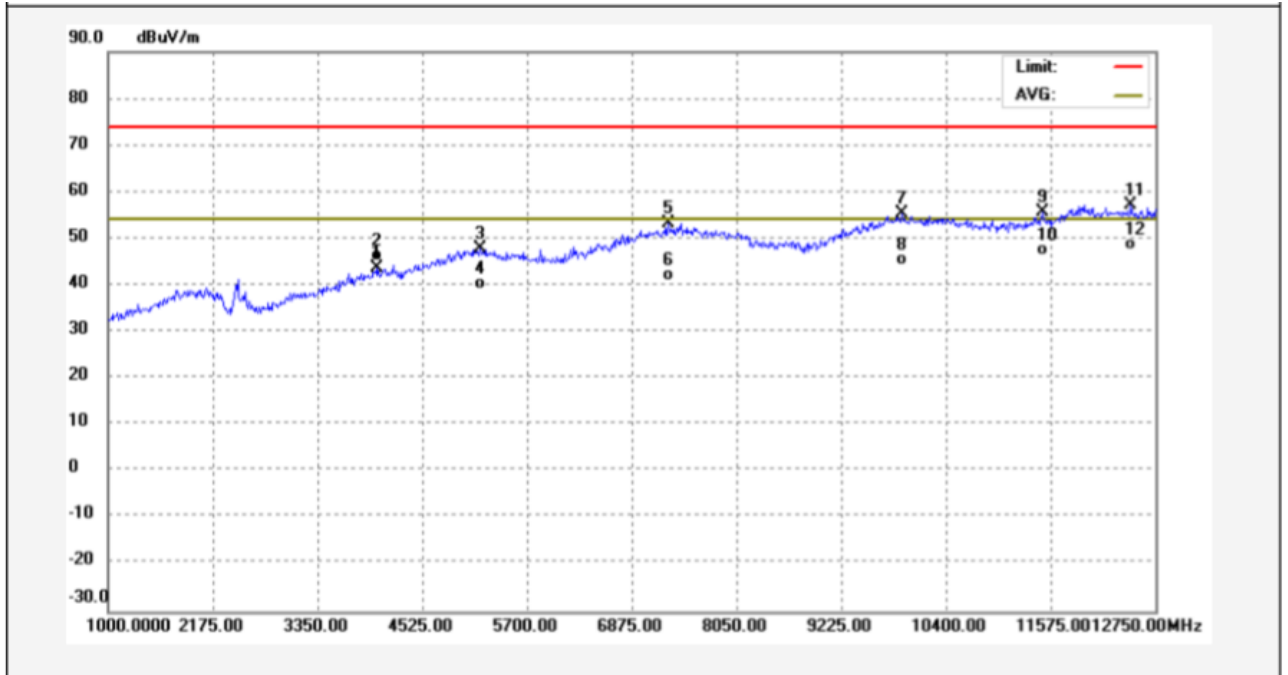
Remark: The current test plots doesn't have the fundamental signal, It's blocked by the filter

802.11b: Middle Channel 2437MHz (Vertical)



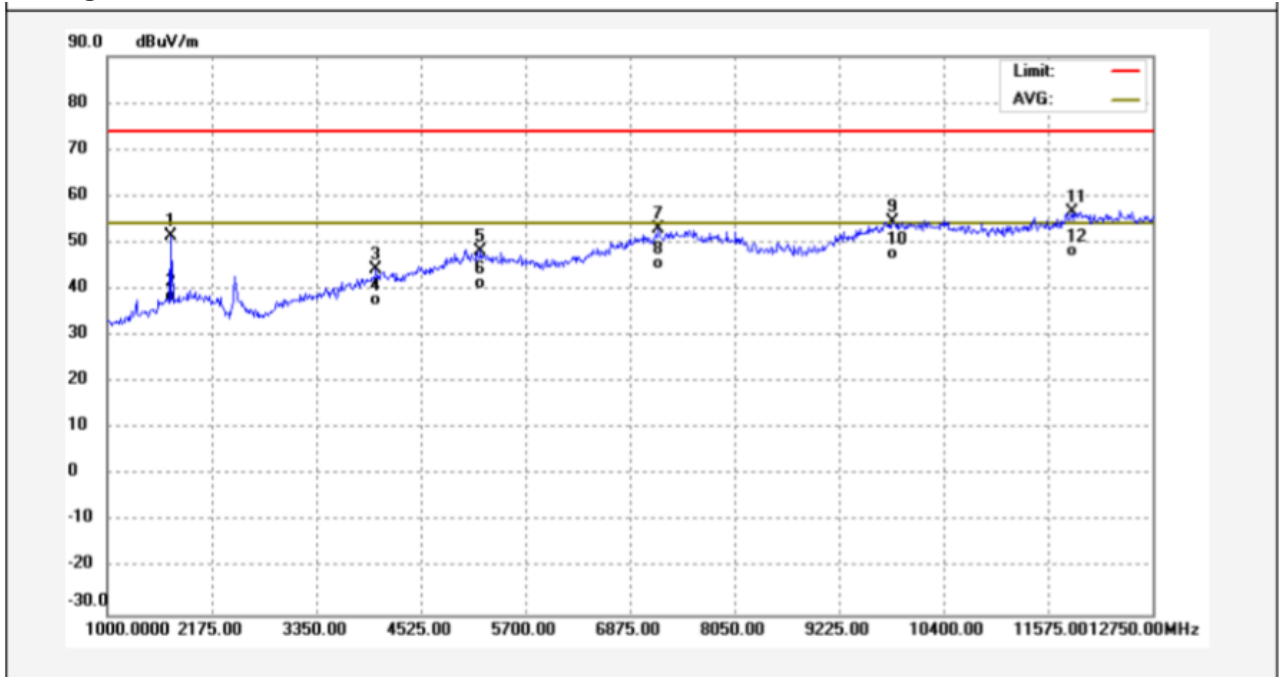
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	2621.500	64.19	-11.83	52.36	74.00	-21.64	peak	
2	2621.500	51.25	-11.83	39.42	54.00	-14.58	AVG	
3	4008.000	51.00	-6.78	44.22	74.00	-29.78	peak	
4	4008.000	44.42	-6.78	37.64	54.00	-16.36	AVG	
5	5312.250	50.93	-2.48	48.45	74.00	-25.55	peak	
6	5312.250	43.74	-2.48	41.26	54.00	-12.74	AVG	
7	7603.500	50.59	2.00	52.59	74.00	-21.41	peak	
8	7603.500	43.74	2.00	45.74	54.00	-8.26	AVG	
9	10282.500	51.06	4.30	55.36	74.00	-18.64	peak	
10	10282.500	43.28	4.30	47.58	54.00	-6.42	AVG	
11	11939.250	50.88	6.26	57.14	74.00	-16.86	peak	
12	11939.250	42.12	6.26	48.38	54.00	-5.62	AVG	

802.11b: Middle Channel 2437MHz (Horizontal)



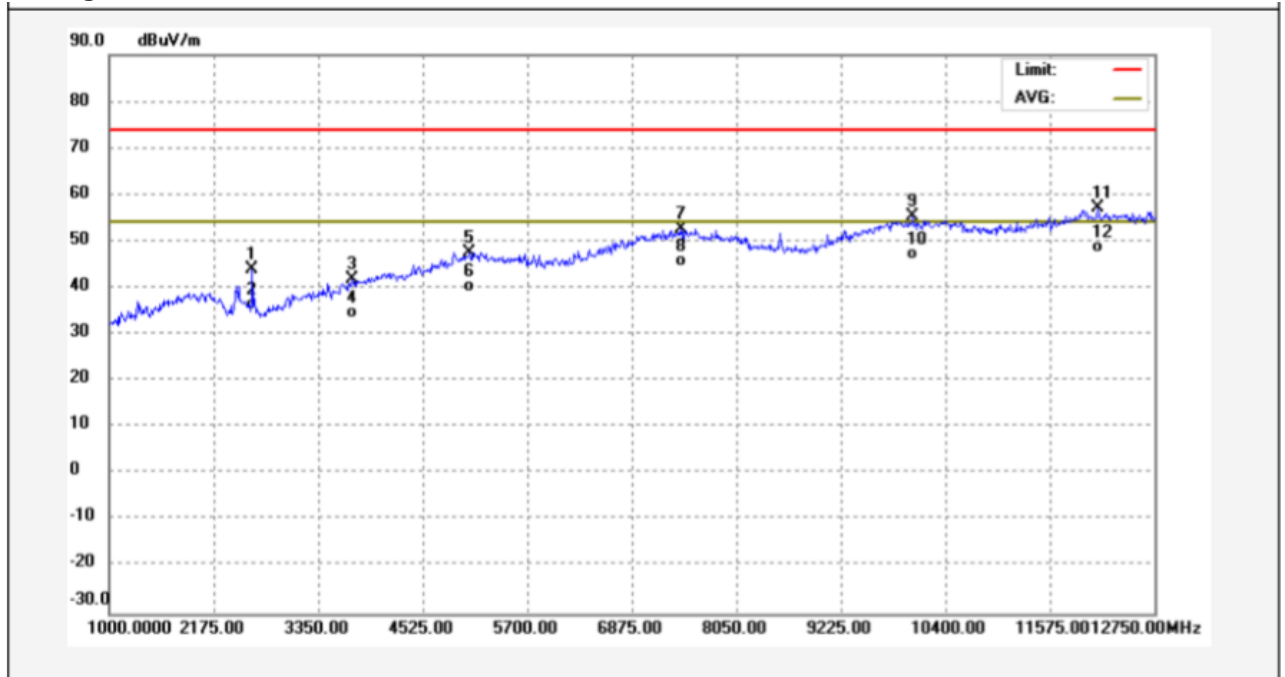
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	4019.750	50.24	-6.47	43.77	74.00	-30.23	peak	
2	4019.750	52.84	-6.47	46.37	54.00	-7.63	AVG	
3	5171.250	51.64	-3.68	47.96	74.00	-26.04	peak	
4	5171.250	44.00	-3.68	40.32	54.00	-13.68	AVG	
5	7286.250	50.66	2.56	53.22	74.00	-20.78	peak	
6	7286.250	39.69	2.56	42.25	54.00	-11.75	AVG	
7	9906.500	50.38	4.93	55.31	74.00	-18.69	peak	
8	9906.500	40.44	4.93	45.37	54.00	-8.63	AVG	
9	11492.750	48.95	6.67	55.62	74.00	-18.38	peak	
10	11492.750	40.94	6.67	47.61	54.00	-6.39	AVG	
11	12479.750	50.44	6.85	57.29	74.00	-16.71	peak	
12	12479.750	41.82	6.85	48.67	54.00	-5.33	AVG	

802.11g: Middle Channel 2437MHz (Vertical)



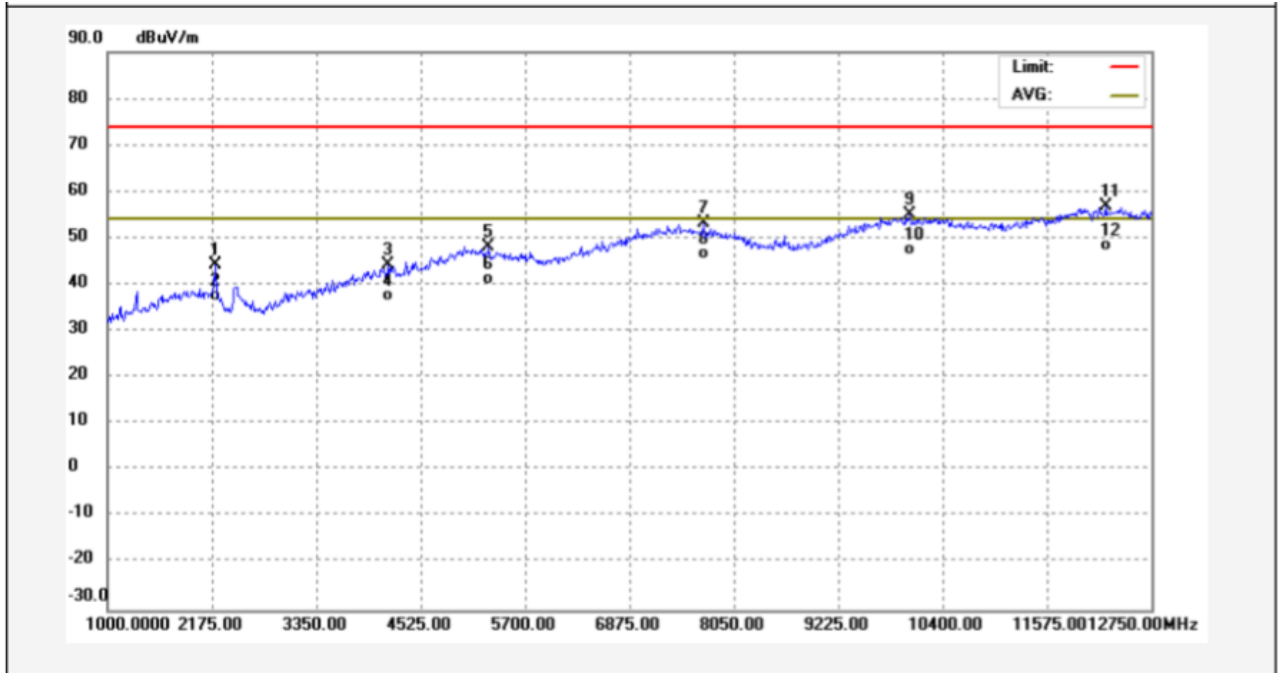
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	1705.000	63.74	-12.35	51.39	74.00	-22.61	peak	
2	1705.000	50.80	-12.35	38.45	54.00	-15.55	AVG	
3	4019.750	51.01	-6.75	44.26	74.00	-29.74	peak	
4	4019.750	44.33	-6.75	37.58	54.00	-16.42	AVG	
5	5194.750	50.35	-2.05	48.30	74.00	-25.70	peak	
6	5194.750	43.35	-2.05	41.30	54.00	-12.70	AVG	
7	7192.250	50.47	2.36	52.83	74.00	-21.17	peak	
8	7192.250	43.06	2.36	45.42	54.00	-8.58	AVG	
9	9824.250	50.76	3.74	54.50	74.00	-19.50	peak	
10	9824.250	43.88	3.74	47.62	54.00	-6.38	AVG	
11	11845.250	50.36	6.22	56.58	74.00	-17.42	peak	
12	11845.250	42.03	6.22	48.25	54.00	-5.75	AVG	

802.11g: Middle Channel 2437MHz (Horizontal)



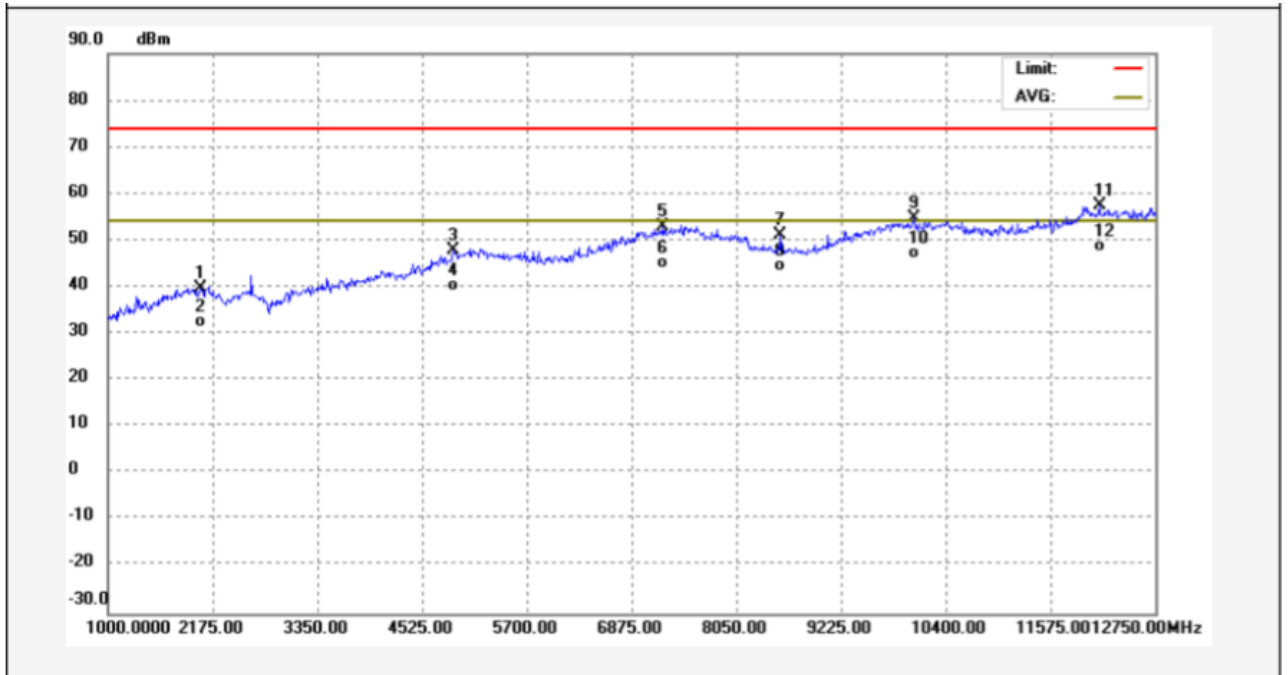
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	2609.750	51.75	-7.80	43.95	74.00	-30.05	peak	
2	2609.750	44.25	-7.80	36.45	54.00	-17.55	AVG	
3	3726.000	48.61	-6.79	41.82	74.00	-32.18	peak	
4	3726.000	41.45	-6.79	34.66	54.00	-19.34	AVG	
5	5053.750	51.48	-3.93	47.55	74.00	-26.45	peak	
6	5053.750	44.28	-3.93	40.35	54.00	-13.65	AVG	
7	7427.250	50.06	2.68	52.74	74.00	-21.26	peak	
8	7427.250	42.96	2.68	45.64	54.00	-8.36	AVG	
9	10035.750	50.17	5.12	55.29	74.00	-18.71	peak	
10	10035.750	42.13	5.12	47.25	54.00	-6.75	AVG	
11	12115.500	50.61	6.42	57.03	74.00	-16.97	peak	
12	12115.500	42.20	6.42	48.62	54.00	-5.38	AVG	

802.11n: Middle Channel 2437MHz (Vertical)



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	2210.250	55.35	-11.14	44.21	74.00	-29.79	peak	
2	2210.250	48.68	-11.14	37.54	54.00	-16.46	AVG	
3	4160.750	50.66	-6.32	44.34	74.00	-29.66	peak	
4	4160.750	44.00	-6.32	37.68	54.00	-16.32	AVG	
5	5288.750	50.63	-2.39	48.24	74.00	-25.76	peak	
6	5288.750	43.73	-2.39	41.34	54.00	-12.66	AVG	
7	7709.250	51.08	2.07	53.15	74.00	-20.85	peak	
8	7709.250	44.45	2.07	46.52	54.00	-7.48	AVG	
9	10035.750	51.01	3.93	54.94	74.00	-19.06	peak	
10	10035.750	43.68	3.93	47.61	54.00	-6.39	AVG	
11	12233.000	50.18	6.65	56.83	74.00	-17.17	peak	
12	12233.000	41.88	6.65	48.53	54.00	-5.47	AVG	

802.11n: Middle Channel 2437MHz (Horizontal)



No.	Freq. (MHz)	Reading (dBm)	Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Detector	Remark
1	2035.035	48.30	-8.53	39.77	74.00	-34.23	peak	
2	2035.035	40.94	-8.53	32.41	54.00	-21.59	AVG	
3	4881.381	52.39	-4.41	47.98	74.00	-26.02	peak	
4	4881.381	44.73	-4.41	40.32	54.00	-13.68	AVG	
5	7233.734	50.32	2.51	52.83	74.00	-21.17	peak	
6	7233.734	42.72	2.51	45.23	54.00	-8.77	AVG	
7	8551.051	47.93	3.19	51.12	74.00	-22.88	peak	
8	8551.051	41.33	3.19	44.52	54.00	-9.48	AVG	
9	10044.795	49.67	5.13	54.80	74.00	-19.20	peak	
10	10044.795	42.15	5.13	47.28	54.00	-6.72	AVG	
11	12126.627	51.10	6.44	57.54	74.00	-16.46	peak	
12	12126.627	42.25	6.44	48.69	54.00	-5.31	AVG	

Test Frequency : 12.75GHz ~ 25GHz

The measurements were more than 20 dB below the limit and not reported.

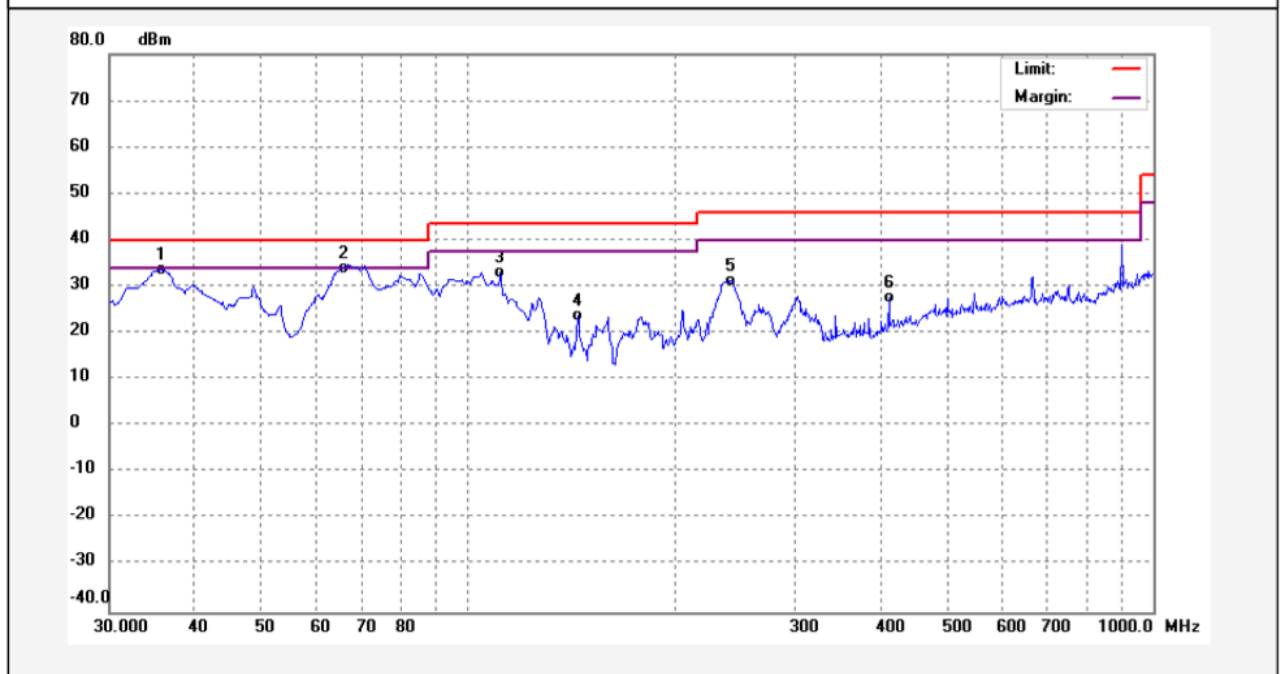
BT BLE:

Test Frequency: 9KHz~30MHz

The measurements were more than 20 dB below the limit and not reported.

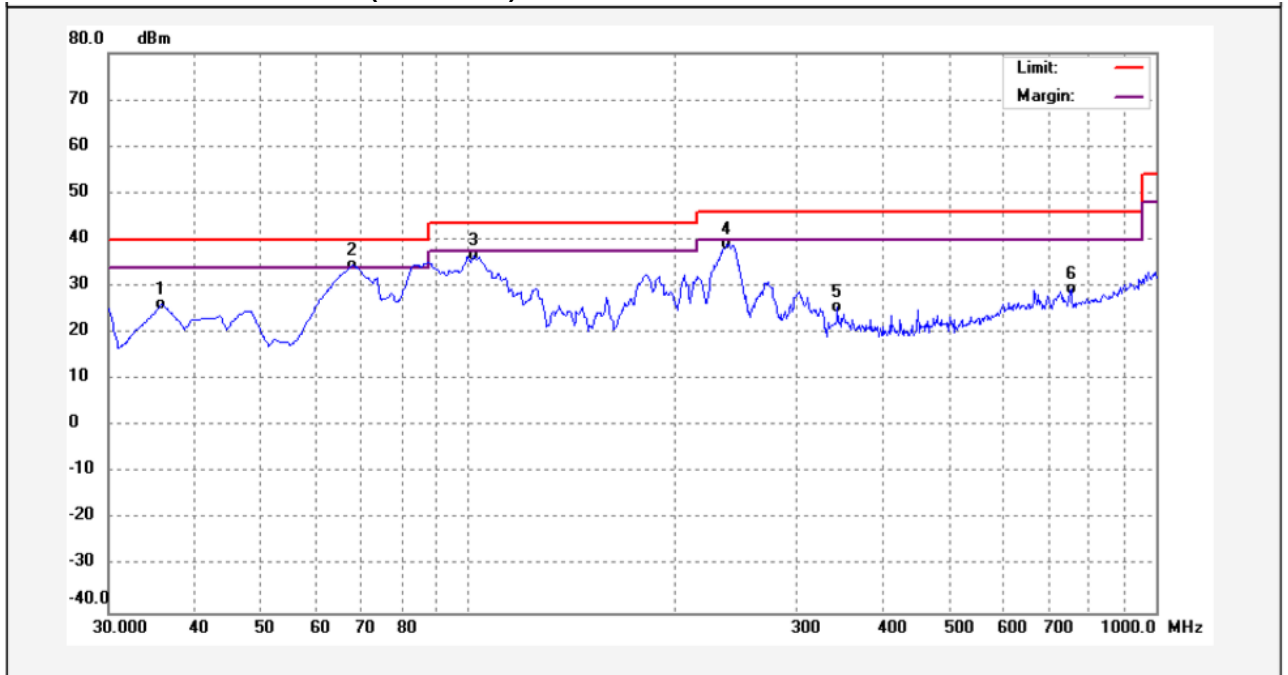
Test Frequency : 30MHz ~ 1GHz

GFSK Low Channel 2402MHz(Vertical)



No.	Freq. (MHz)	Reading (dBm)	Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Detector	Remark
1	35.7552	49.36	-15.65	33.71	40.00	-6.29	QP	
2	65.6239	48.50	-14.53	33.97	40.00	-6.03	QP	
3	111.4930	46.64	-13.71	32.93	43.50	-10.57	QP	
4	144.5619	40.11	-16.23	23.88	43.50	-19.62	QP	
5	242.1814	42.54	-11.14	31.40	46.00	-14.60	QP	
6	411.4583	33.93	-6.25	27.68	46.00	-18.32	QP	

GFSK Low Channel 2402MHz(Horizontal)

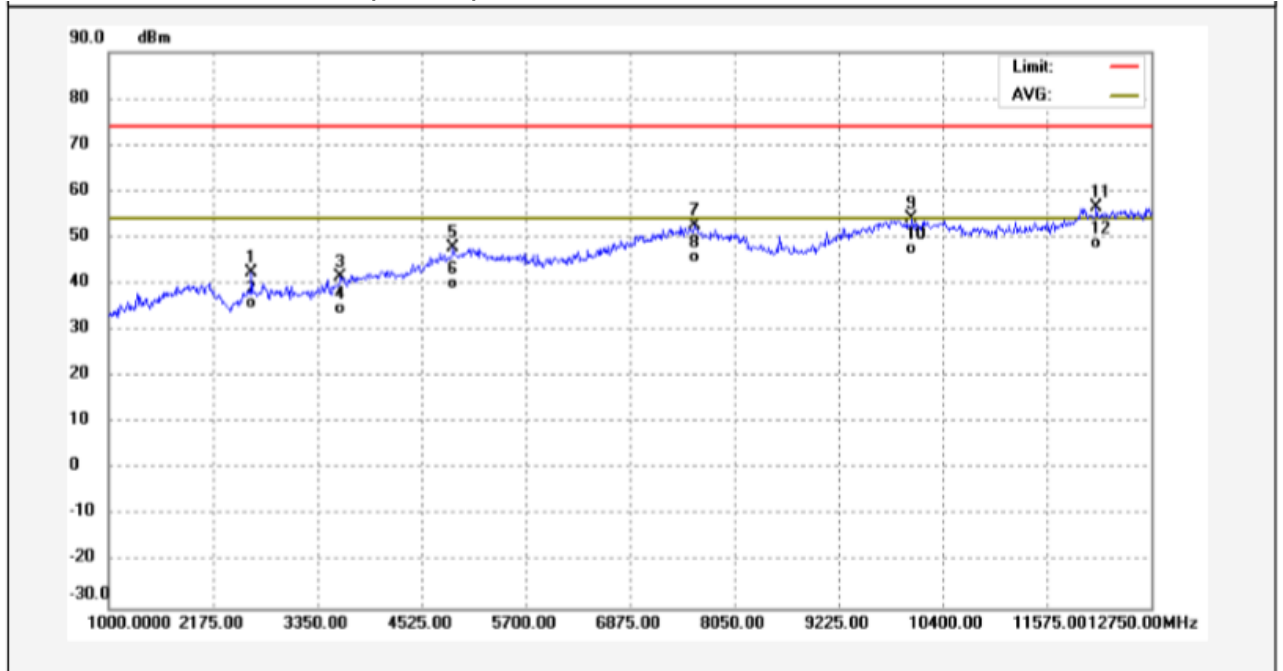


No.	Freq. (MHz)	Reading (dBm)	Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Detector	Remark
1	35.7553	41.90	-15.65	26.25	40.00	-13.75	QP	
2	67.7302	49.31	-14.75	34.56	40.00	-5.44	QP	
3	101.7685	49.82	-13.20	36.62	43.50	-6.88	QP	
4	237.9683	50.41	-11.25	39.16	46.00	-6.84	QP	
5	344.0182	33.02	-7.37	25.65	46.00	-20.35	QP	
6	752.5291	29.57	-0.01	29.56	46.00	-16.44	QP	

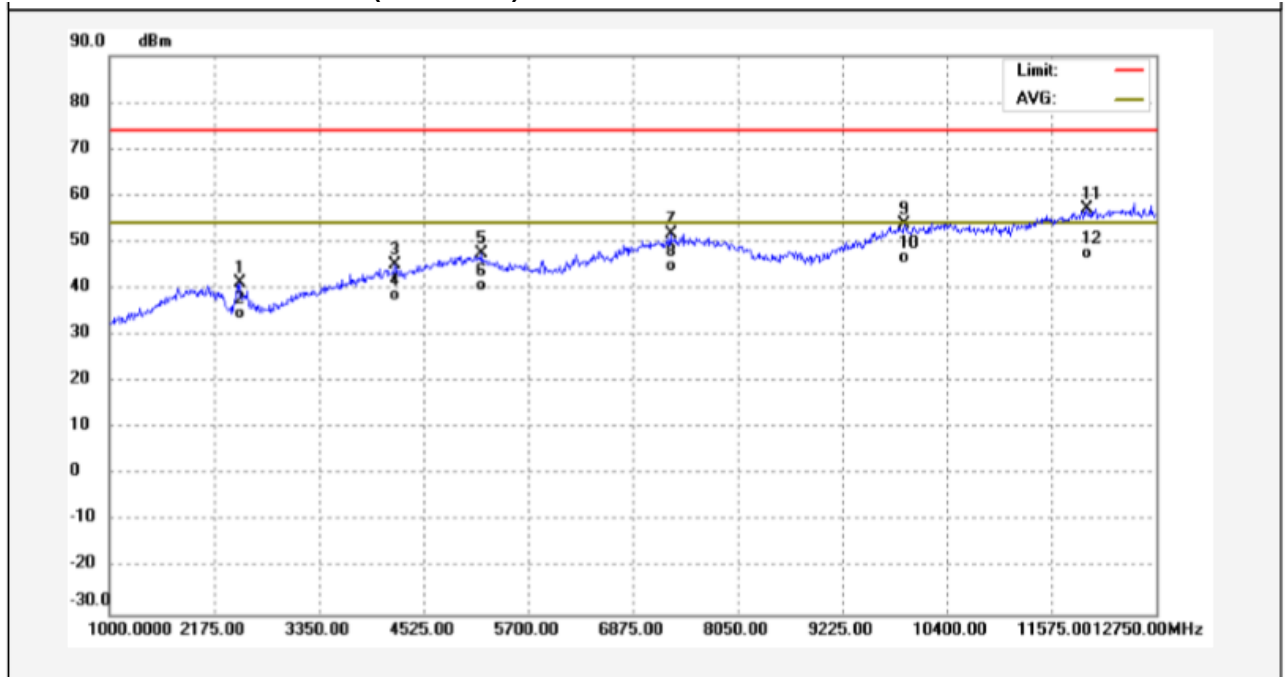
Test Frequency : 1GHz ~ 12.75GHz

Remark: The current test plots doesn't have the fundamental signal, It's blocked by the filter

GFSK Low Channel 2402MHz(Vertical)



No.	Freq. (MHz)	Reading (dBm)	Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Detector	Remark
1	2612.976	50.25	-7.79	42.46	74.00	-31.54	peak	
2	2612.976	43.51	-7.79	35.72	54.00	-18.28	AVG	
3	3613.727	48.54	-6.91	41.63	74.00	-32.37	peak	
4	3613.727	41.58	-6.91	34.67	54.00	-19.33	AVG	
5	4885.270	52.39	-4.40	47.99	74.00	-26.01	peak	
6	4885.270	44.46	-4.40	40.06	54.00	-13.94	AVG	
7	7604.960	49.80	2.76	52.56	74.00	-21.44	peak	
8	7604.960	43.00	2.76	45.76	54.00	-8.24	AVG	
9	10053.858	49.17	5.13	54.30	74.00	-19.70	peak	
10	10053.858	42.37	5.13	47.50	54.00	-6.50	AVG	
11	12137.775	50.10	6.45	56.55	74.00	-17.45	peak	
12	12137.775	42.28	6.45	48.73	54.00	-5.27	AVG	

GFSK Low Channel 2402MHz(Horizontal)

No.	Freq. (MHz)	Reading (dBm)	Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Detector	Remark
1	2459.920	49.27	-7.96	41.31	74.00	-32.69	peak	
2	2459.920	42.47	-7.96	34.51	54.00	-19.49	AVG	
3	4202.405	51.31	-6.13	45.18	74.00	-28.82	peak	
4	4202.405	44.56	-6.13	38.43	54.00	-15.57	AVG	
5	5179.609	51.14	-3.66	47.48	74.00	-26.52	peak	
6	5179.609	44.21	-3.66	40.55	54.00	-13.45	AVG	
7	7298.848	49.16	2.56	51.72	74.00	-22.28	peak	
8	7298.848	42.19	2.56	44.75	54.00	-9.25	AVG	
9	9924.349	48.88	4.96	53.84	74.00	-20.16	peak	
10	9924.349	41.61	4.96	46.57	54.00	-7.43	AVG	
11	11972.946	50.83	6.31	57.14	74.00	-16.86	peak	
12	11972.946	41.16	6.31	47.47	54.00	-6.53	AVG	

Test Frequency: 12.75GHz~25GHz

The measurements were more than 20 dB below the limit and not reported.

8 Conducted Spurious Emissions

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method: KDB 558074 D01 15.247 Meas Guidance v05 August 24, 2018;
ANSI C63.10:2013

Test Result: PASS

Limit:

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated 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, provided the transmitter demonstrates compliance with the peak conducted power limits. 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. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

8.1 Test Procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;
2. Set the spectrum analyzer:
 - a) Set instrument center frequency to DTS channel center frequency.
 - b) Set the span to ≈ 1.5 times the DTS bandwidth.
 - c) Set the RBW = 100 kHz.
 - d) Set the VBW $\approx [3 \times \text{RBW}]$.
 - e) Detector = peak.
 - f) Sweep time = auto couple.
 - g) Trace mode = max hold.
 - h) Allow trace to fully stabilize.
 - i) Use the peak marker function to determine the maximum PSD level.

Note that the channel found to contain the maximum PSD level can be used to establish the reference level.

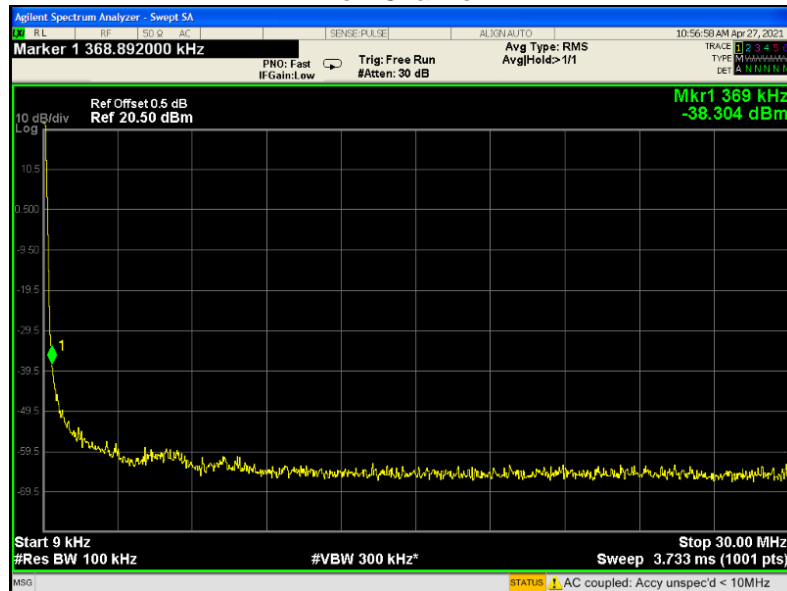
8.2 Test Result

Remark: For the WIFI, Both antenna 0 and antenna 1 are tested, and only the worst data antenna 0 is put in the report

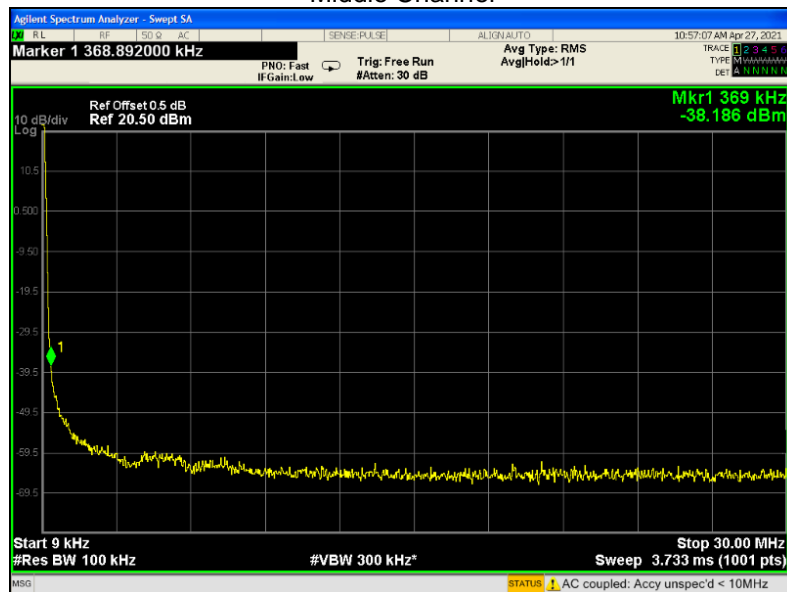
9KHz – 30MHz

802.11b

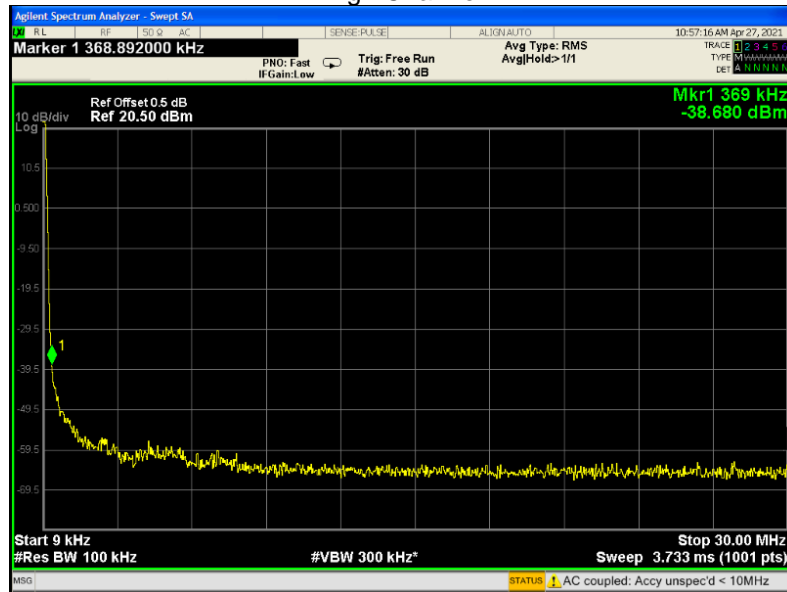
Low Channel



Middle Channel

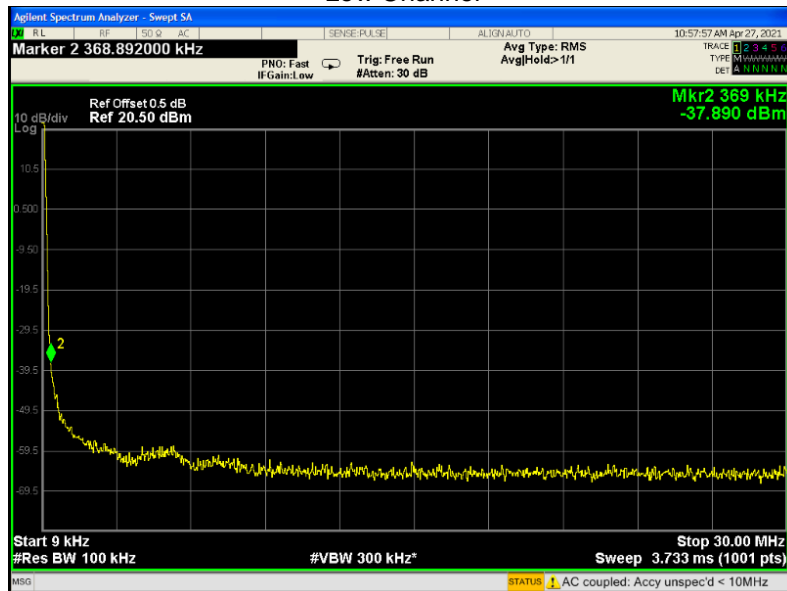


High Channel

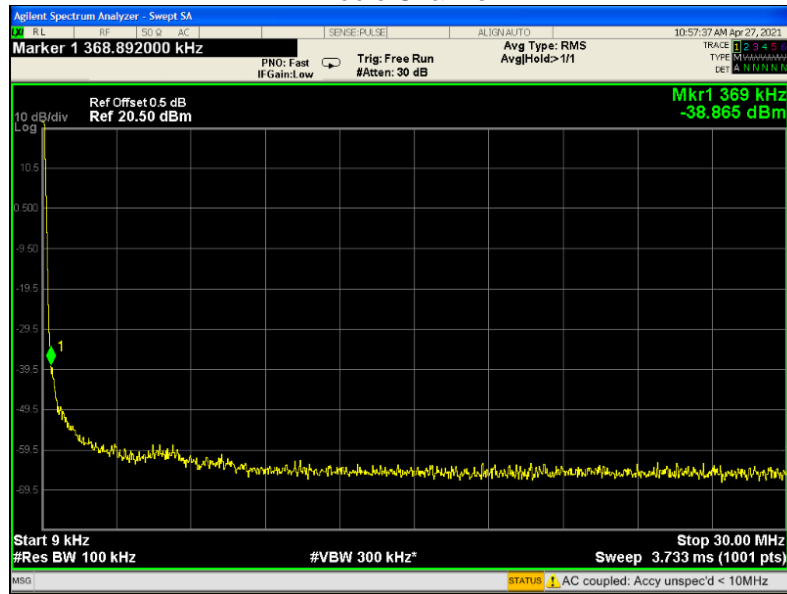


802.11g

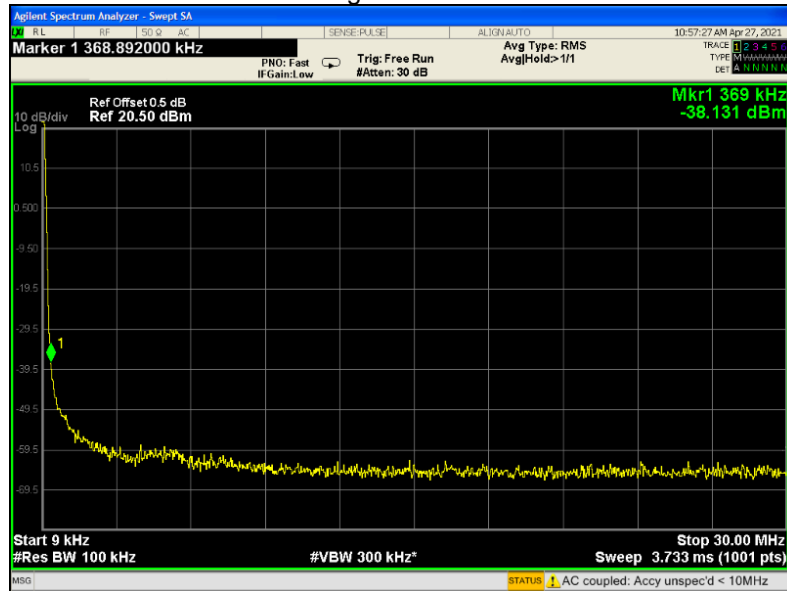
Low Channel



Middle Channel

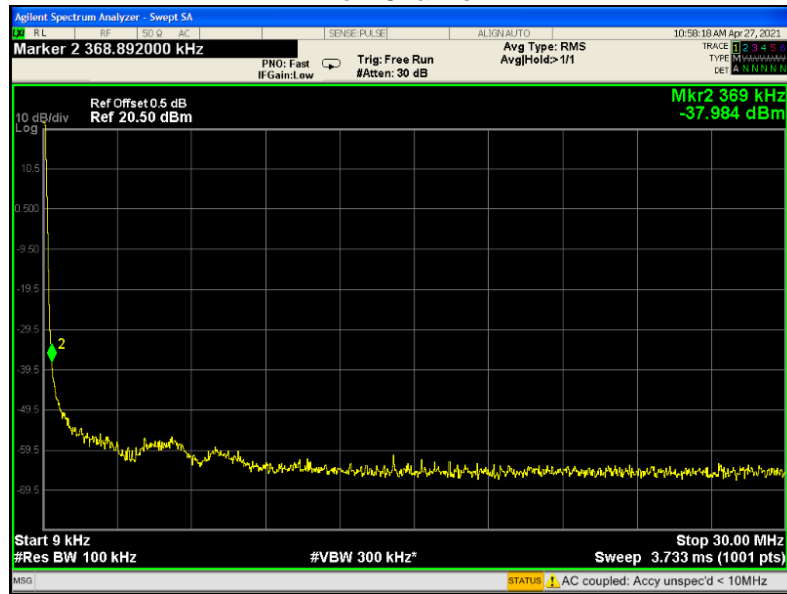


High Channel



802.11n HT20

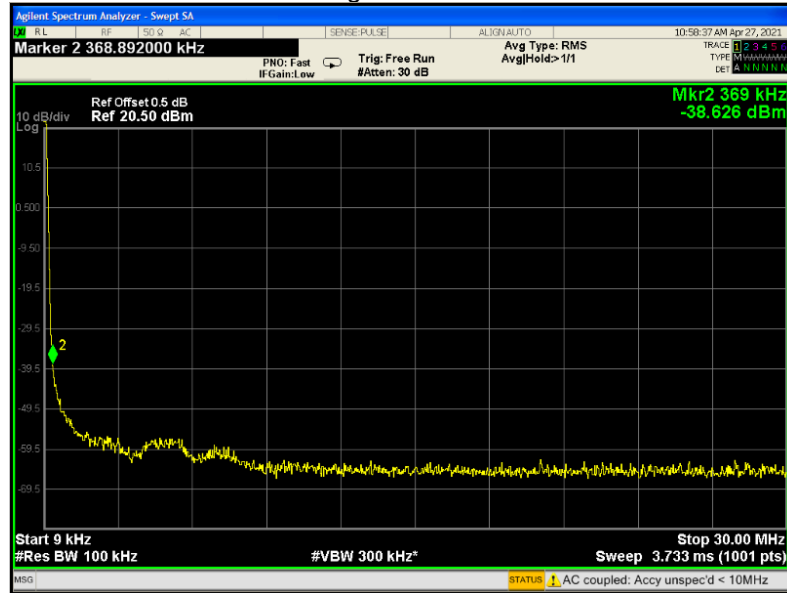
Low Channel



Middle Channel

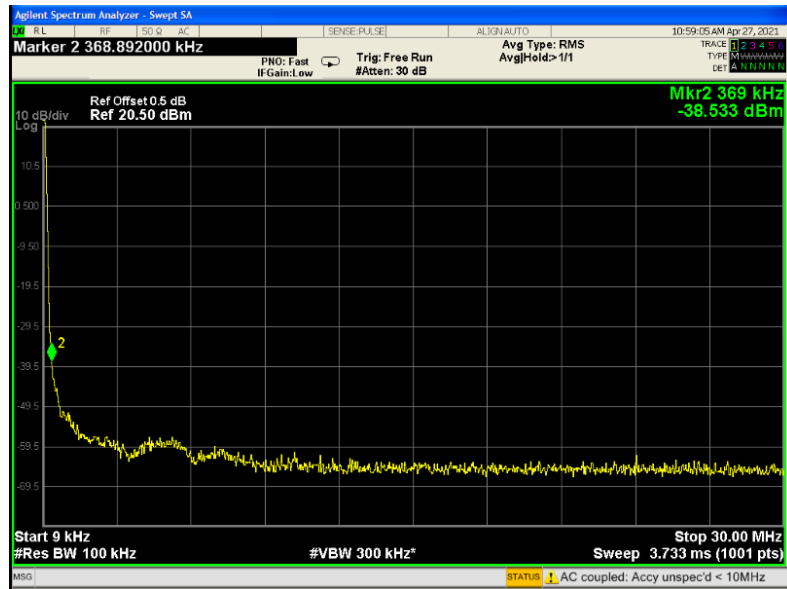


High Channel

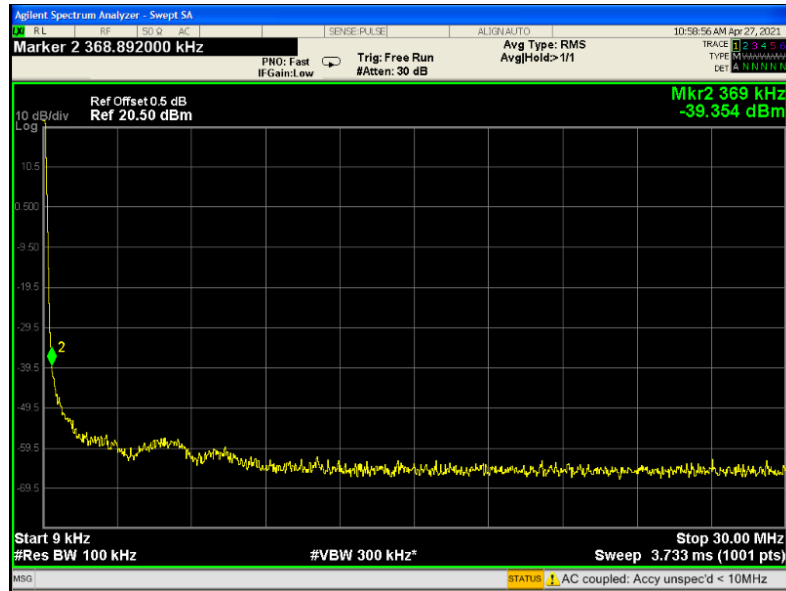


802.11n HT40

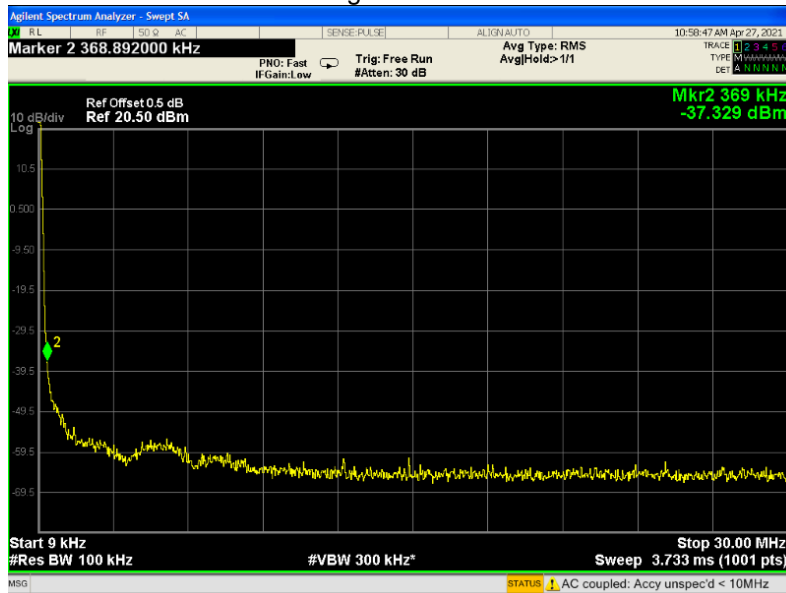
Low Channel



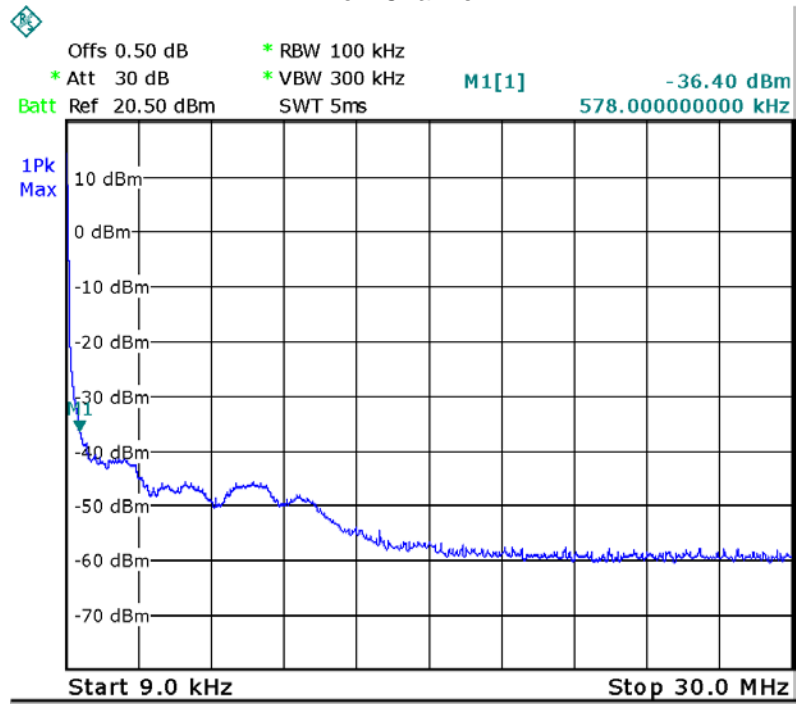
Middle Channel



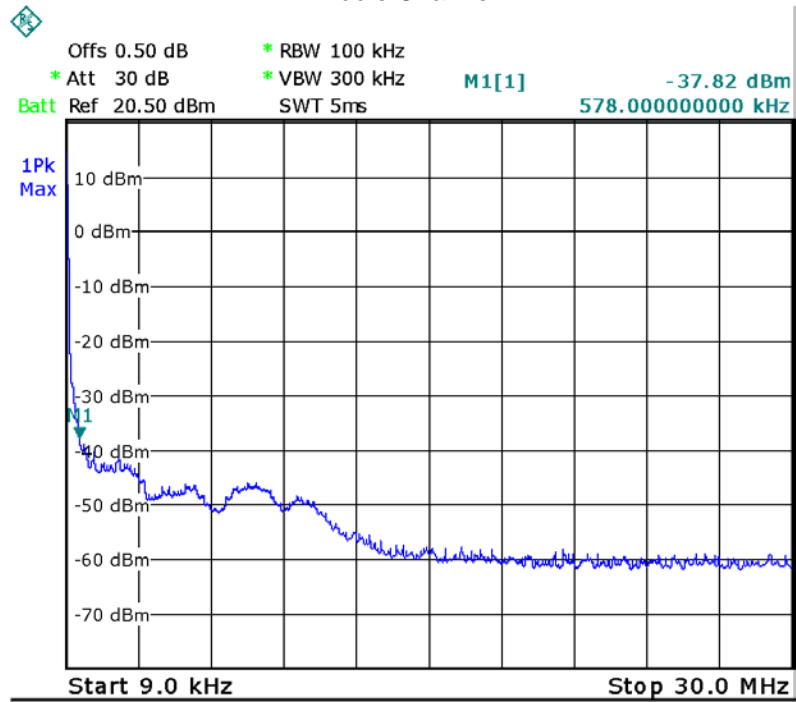
High Channel

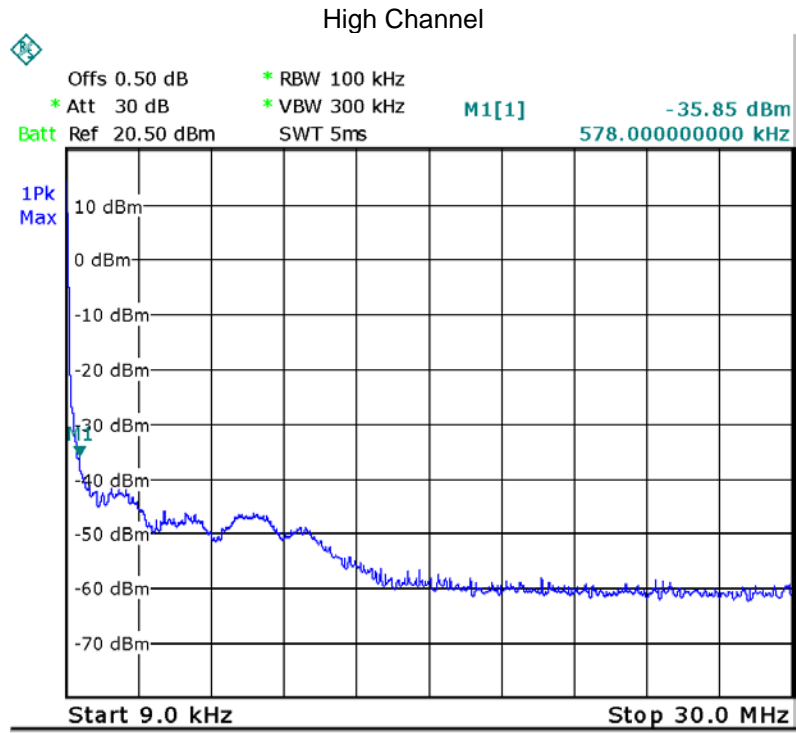


BLE Low Channel



Middle Channel



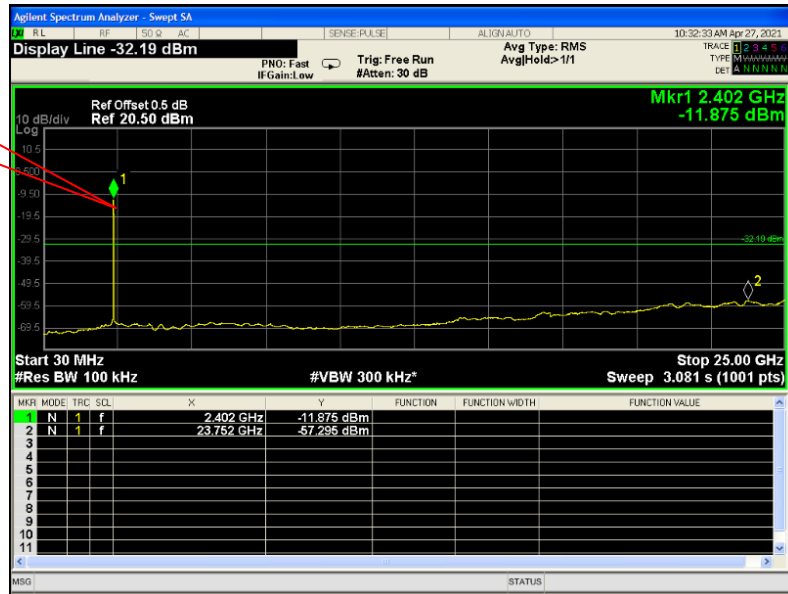


Above 30MHz

802.11b

Low Channel

Fundamental



Middle Channel

Fundamental

