

APPLICATION CERTIFICATION FCC Part 15C
On Behalf of
HONG KONG NATURAL SOUND ELECTRONICS LIMITED

MID
Model No.: PC1020MT, Trio-Stealth G4 10.1

FCC ID: PWK-PC1020MT

Prepared for : HONG KONG NATURAL SOUND ELECTRONICS
LIMITED
Address : FLAT/RM M 4/F CONTINENTAL MANSION 300
KING'S ROAD HONG KONG

Prepared by : ACCURATE TECHNOLOGY CO., LTD
Address : F1, Bldg. A, Changyuan New Material Port, Keyuan Rd.
Science & Industry Park, Nanshan, Shenzhen, Guangdong
P.R. China

Tel: (0755) 26503290

Fax: (0755) 26503396

Report Number : ATE20142025
Date of Test : Oct 15-28,2014
Date of Report : Oct 29,2014

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Test Report Certification

Applicant : HONG KONG NATURAL SOUND ELECTRONICS LIMITED
Manufacturer : Natural Sound Electronics (Shenzhen) Co., Ltd.
EUT Description : MID
(A) MODEL NO.: PC1020MT, Trio-Stealth G4 10.1
(B) SERIAL NO.: N/A
(C) POWER SUPPLY: DC 5V (Power by Adapter)&DC 3.7V (Battery)

Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart C Section 15.247
ANSI C63.4: 2009

The EUT was tested according to DTS test procedure of Jun 05, 2014 KDB558074 D01 DTS Meas Guidance v03r02 for compliance to FCC 47CFR 15.247 requirements

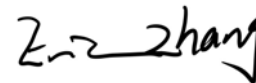
The device described above is tested by ACCURATE TECHNOLOGY CO. LTD to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C Section 15.247 limits. The measurement results are contained in this test report and ACCURATE TECHNOLOGY CO. LTD is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of ACCURATE TECHNOLOGY CO. LTD.

Date of Test : Oct 15-28,2014

Date of Report: Oct 29,2014

Prepared by :



(Eric Zhang, Engineer)

Approved & Authorized Signer :



(Sean Liu, Manager)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT	:	MID
Model Number	:	PC1020MT, Trio-Stealth G4 10.1 Note: These samples are same except for the model number is difference. So we prepare the PC1020MT for test
Frequency Range	:	802.11b/g/n(20MHz): 2412-2462MHz 802.11n(40MHz): 2422-2452MHz Bluetooth 4.0: 2402-2480MHz
Number of Channels	:	802.11b/g/n (20MHz):11 802.11n (40MHz): 7 Bluetooth 4.0: 40
Antenna Gain	:	1.6dBi
Power Supply	:	DC 5V (Power by adapter)&DC 3.7V(Battery)
Adapter	:	Model number: PGAE0500200U1UL Input: AC 100-240V; 50/60Hz 0.3A Output: DC 5V/2A USB line: Non-shielded, Non-detachable, 1.5m
Modulation mode	:	GFSK DSSS,OFDM
Applicant	:	HONG KONG NATURAL SOUND ELECTRONICS LIMITED
Address	:	FLAT/RM M 4/F CONTINENTAL MANSION 300 KING'S ROAD HONG KONG
Manufacturer	:	Natural Sound Electronics (Shenzhen) Co., Ltd.
Address	:	4th Building, Xinyuan Industrial Zone, Gushu Village, Bao'an District, Shenzhen, China
Date of sample received	:	Oct 15, 2014
Date of Test	:	Oct 15-28,2014

1.2.Carrier Frequency of Channels

802.11b, 802.11g, 802.11n (20MHz)

Channel	Frequency(MHz)	Channel	Frequency(MHz)
01	2412	07	2442
02	2417	08	2447
03	2422	09	2452
04	2427	10	2457
05	2432	11	2462
06	2437	---	---

802.11n (40MHz)

Channel	Frequency(MHz)	Channel	Frequency(MHz)
---	---	07	2442
---	---	08	2447
03	2422	09	2452
04	2427	---	---
05	2432	---	---
06	2437	---	---

1.3.Special Accessory and Auxiliary Equipment

n.a.

1.4.Description of Test Facility

EMC Lab : Accredited by TUV Rheinland Shenzhen

Listed by FCC

The Registration Number is 752051

Listed by Industry Canada

The Registration Number is 5077A-2

Accredited by China National Accreditation Committee
for Laboratories

The Certificate Registration Number is L3193

Name of Firm : ACCURATE TECHNOLOGY CO. LTD

Site Location : F1, Bldg. A, Changyuan New Material Port, Keyuan Rd.
Science & Industry Park, Nanshan, Shenzhen, Guangdong
P.R. China

1.5.Measurement Uncertainty

Conducted Emission Expanded Uncertainty = 2.23dB, k=2

Radiated emission expanded uncertainty
(9kHz-30MHz) = 3.08dB, k=2

Radiated emission expanded uncertainty
(30MHz-1000MHz) = 4.42dB, k=2

Radiated emission expanded uncertainty
(Above 1GHz) = 4.06dB, k=2

2. MEASURING DEVICE AND TEST EQUIPMENT

Table 1: List of Test and Measurement Equipment

Kind of equipment	Manufacturer	Type	S/N	Calibrated dates	Calibrated until
EMI Test Receiver	Rohde&Schwarz	ESCS30	100307	Jan. 11, 2014	Jan. 10, 2015
EMI Test Receiver	Rohde&Schwarz	ESPI3	101526/003	Jan. 11, 2014	Jan. 10, 2015
Spectrum Analyzer	Agilent	E7405A	MY45115511	Jan. 11, 2014	Jan. 10, 2015
Pre-Amplifier	Rohde&Schwarz	CBLU118354 0-01	3791	Jan. 11, 2014	Jan. 10, 2015
Loop Antenna	Schwarzbeck	FMZB1516	1516131	Jan. 15, 2014	Jan. 14, 2015
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Jan. 15, 2014	Jan. 14, 2015
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Jan. 15, 2014	Jan. 14, 2015
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1067	Jan. 15, 2014	Jan. 14, 2015
LISN	Rohde&Schwarz	ESH3-Z5	100305	Jan. 11, 2014	Jan. 10, 2015
LISN	Schwarzbeck	NSLK8126	8126431	Jan. 11, 2014	Jan. 10, 2015
Highpass Filter	Wainwright Instruments	WHKX3.6/18 G-10SS	N/A	Jan. 11, 2014	Jan. 10, 2015
Band Reject Filter	Wainwright Instruments	WRCG2400/2 485-2375/2510 -60/11SS	N/A	Jan. 11, 2014	Jan. 10, 2015
Switch Unit with OSP-B157	Rohde & Schwarz	OSP120	101130	Jun. 05, 2014	Jun. 05, 2015

3. OPERATION OF EUT DURING TESTING

3.1. Operating Mode

The mode is used: **1.802.11b Transmitting mode**

Low Channel: 2412MHz

Middle Channel: 2437MHz

High Channel: 2462MHz

2.802.11g Transmitting mode

Low Channel: 2412MHz

Middle Channel: 2437MHz

High Channel: 2462MHz

3.802.11n (20MHz) Transmitting mode

Low Channel: 2412MHz

Middle Channel: 2437MHz

High Channel: 2462MHz

4.802.11n (40MHz) Transmitting mode

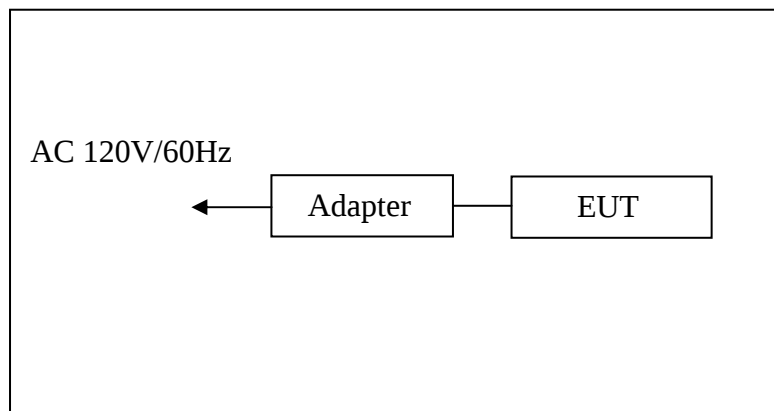
Low Channel: 2422MHz

Middle Channel: 2437MHz

High Channel: 2452MHz

5. Charging

3.2. Configuration and peripherals

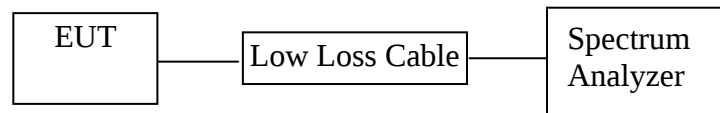


4. TEST PROCEDURES AND RESULTS

FCC Rules	Description of Test	Result
Section 15.247(a)(2)	6dB Bandwidth Test	Compliant
Section 15.247(e)	Power Spectral Density Test	Compliant
Section 15.247(b)(3)	Maximum Peak Output Power Test	Compliant
Section 15.247(d)	Band Edge Compliance Test	Compliant
Section 15.247(d) Section 15.209	Radiated Spurious Emission Test	Compliant
Section 15.247(d)	Conducted Spurious Emission Test	Compliant
Section 15.207	AC Power Line Conducted Emission Test	Compliant
Section 15.203	Antenna Requirement	Compliant

5. 6DB BANDWIDTH MEASUREMENT

5.1. Block Diagram of Test Setup



5.2. The Requirement For Section 15.247(a)(2)

Section 15.247(a)(2): Systems using digital modulation techniques may operate in the 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

5.3. EUT Configuration on Measurement

The equipment are installed on the emission measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

5.4. Operating Condition of EUT

5.4.1. Setup the EUT and simulator as shown as Section 5.1.

5.4.2. Turn on the power of all equipment.

5.4.3. Let the EUT work in TX modes measure it. The transmit frequency are 2412-2462 and 2422-2452MHz. We select 2412MHz, 2437MHz, 2462MHz and 2422MHz, 2437MHz, 2452MHz TX frequency to transmit.

5.5. Test Procedure

1. Set resolution bandwidth (RBW) = 100 kHz.
2. Set the video bandwidth (VBW) $\geq 3 \times$ RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

5.6.Test Result

The test was performed with 802.11b

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
Low	2412	10.14	> 0.5MHz
Middle	2437	10.14	> 0.5MHz
High	2462	10.14	> 0.5MHz

The test was performed with 802.11g

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
Low	2412	16.62	> 0.5MHz
Middle	2437	16.62	> 0.5MHz
High	2462	16.62	> 0.5MHz

The test was performed with 802.11n (Bandwidth: 20 MHz)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
Low	2412	17.82	> 0.5MHz
Middle	2437	17.82	> 0.5MHz
High	2462	17.82	> 0.5MHz

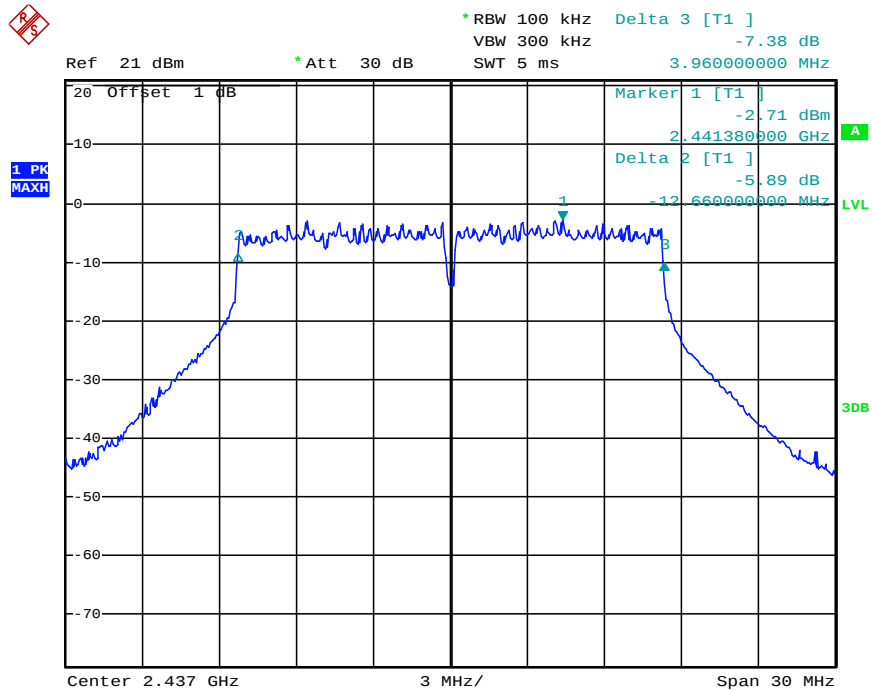
The test was performed with 802.11n (Bandwidth: 40 MHz)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
Low	2422	36.50	> 0.5MHz
Middle	2437	36.50	> 0.5MHz
High	2452	36.50	> 0.5MHz

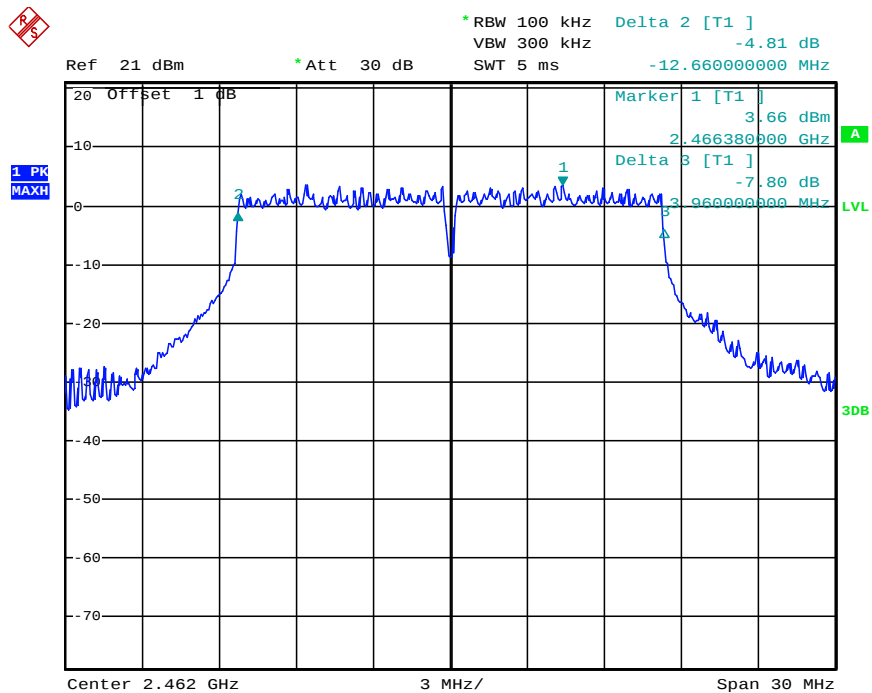
The spectrum analyzer plots are attached as below.



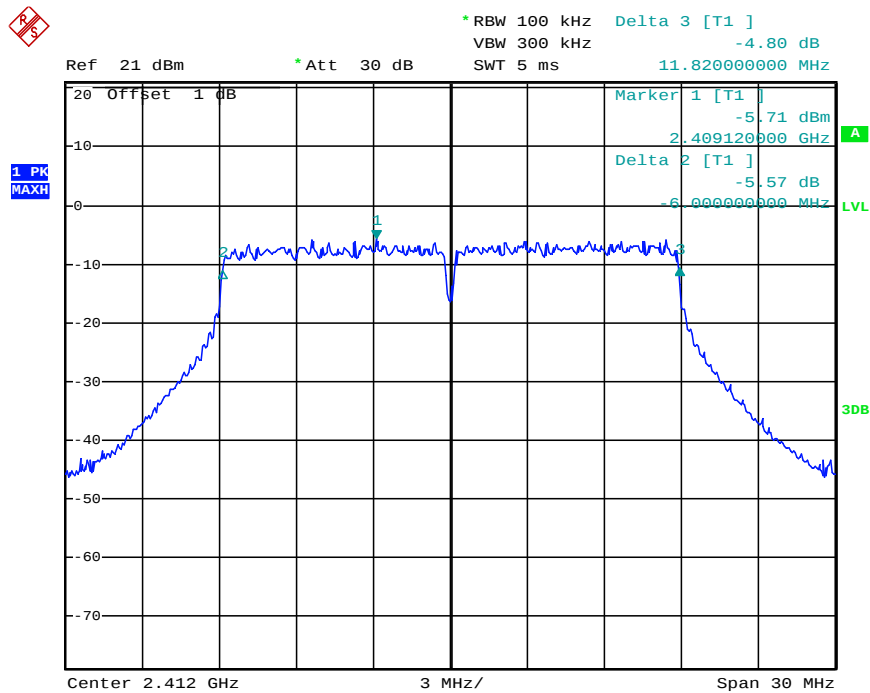
802.11g Channel Middle 2437MHz



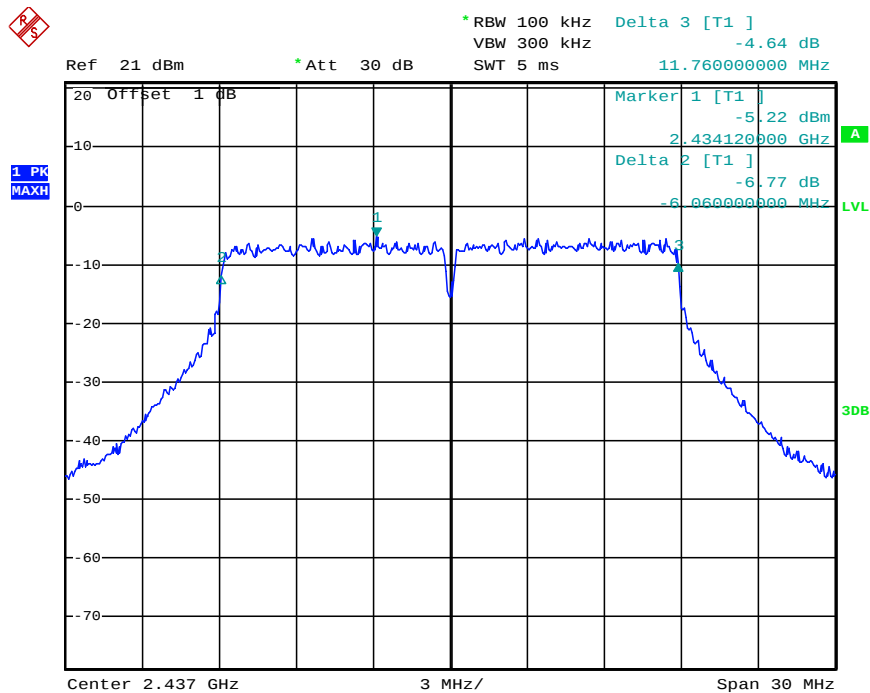
802.11g Channel High 2462MHz



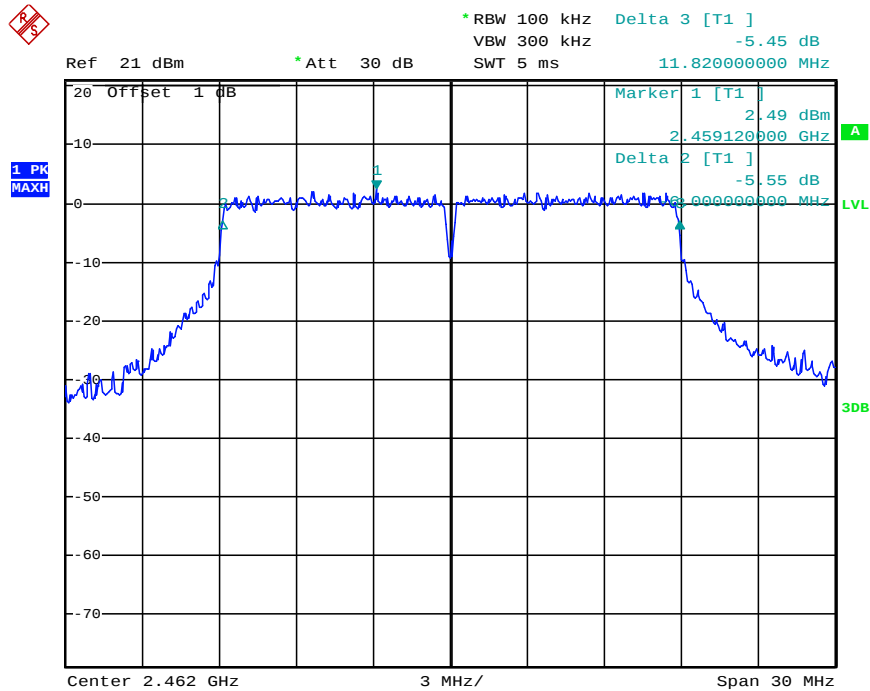
802.11n Channel Low 2412MHz (20MHz)



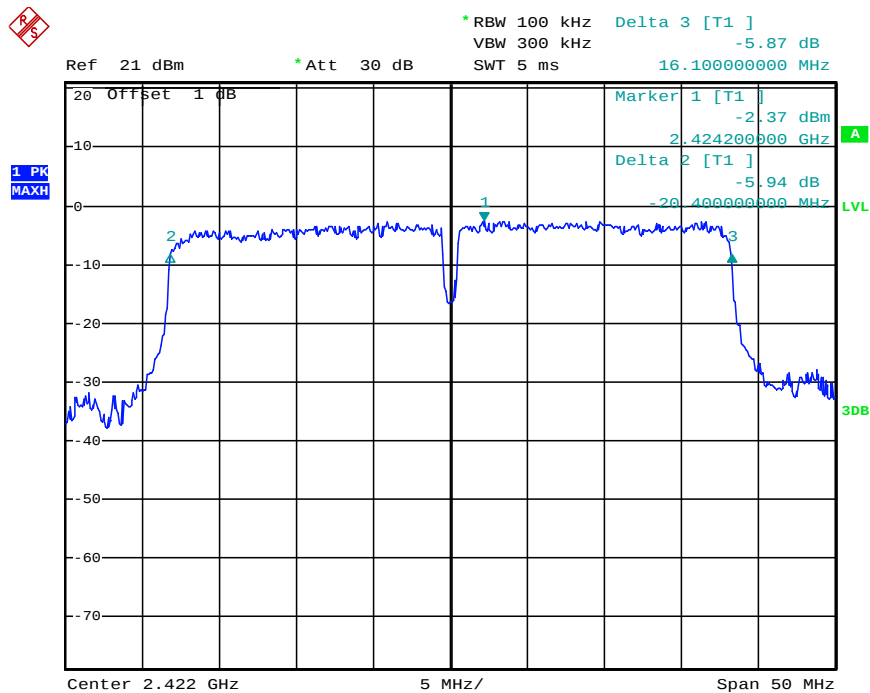
802.11n Channel Middle 2437MHz(20MHz)



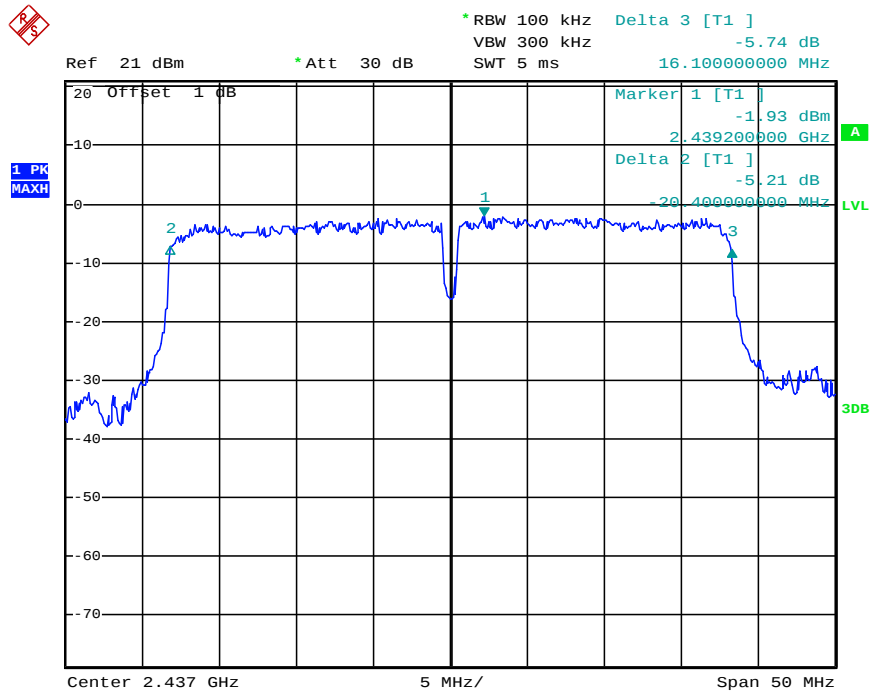
802.11n Channel High 2462MHz(20MHz)



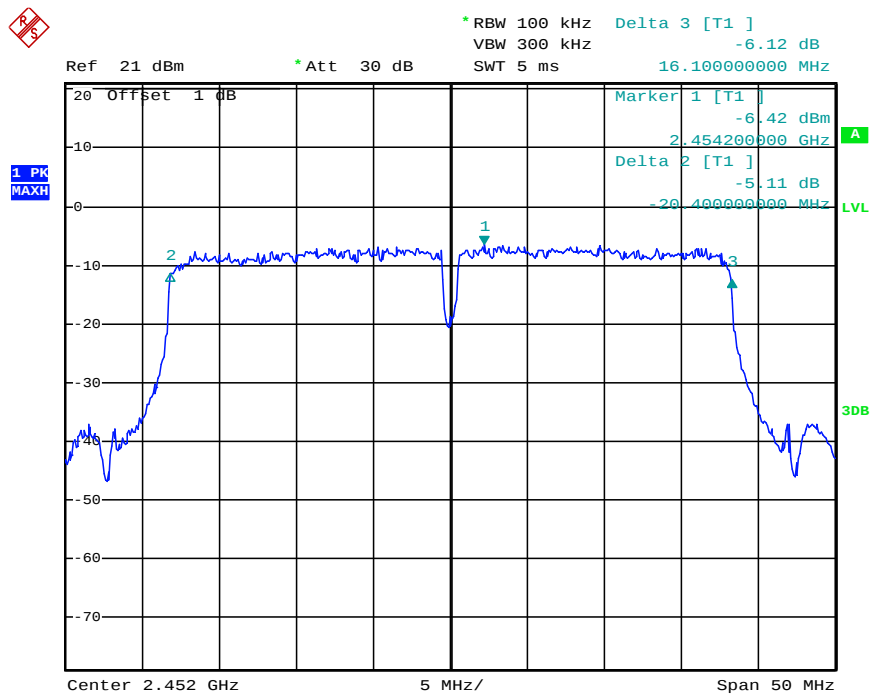
802.11n Channel Low 2422MHz (40MHz)



802.11n Channel Middle 2437MHz(40MHz)



802.11n Channel High 2452MHz(40MHz)



6. MAXIMUM OUTPUT POWER

6.1. Block Diagram of Test Setup



6.2. The Requirement For Section 15.247(b)(3)

Section 15.247(b)(3): For systems using digital modulation in the 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz bands: 1 Watt.

6.3. EUT Configuration on Measurement

The equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

6.4. Operating Condition of EUT

6.4.1. Setup the EUT and simulator as shown as Section 6.1.

6.4.2. Turn on the power of all equipment.

6.4.3. Let the EUT work in TX modes measure it. The transmit frequency are 2412-2462 and 2422-2452MHz. We select 2412MHz, 2437MHz, 2462MHz and 2422MHz, 2437MHz, 2452MHz TX frequency to transmit.

6.5. Test Procedure

6.5.1. The EUT was tested according to DTS test procedure of Jun 05, 2014 KDB558074 D01 DTS Meas Guidance v03r02 for compliance to FCC 47CFR 15.247 requirements.

6.5.2. The transmitter output was connected to the power meter through a low loss cable.

6.5.3. Measurement the maximum Peak output power.

6.6.Test Result

The test was performed with 802.11b				
Channel	Frequency (MHz)	Peak Output Power(dBm)	Peak Output Power(mW)	Limits dBm / W
Low	2412	9.27	8.45	30 dBm / 1 W
Middle	2437	9.15	8.22	30 dBm / 1 W
High	2462	9.08	8.09	30 dBm / 1 W

The test was performed with 802.11g				
Channel	Frequency (MHz)	Peak Output Power(dBm)	Peak Output Power(mW)	Limits dBm / W
Low	2412	8.38	6.89	30 dBm / 1 W
Middle	2437	8.52	7.11	30 dBm / 1 W
High	2462	8.63	7.29	30 dBm / 1 W

The test was performed with 802.11n (20MHz)				
Channel	Frequency (MHz)	Peak Output Power(dBm)	Peak Output Power(mW)	Limits dBm / W
Low	2412	7.49	5.61	30 dBm / 1 W
Middle	2437	7.85	6.10	30 dBm / 1 W
High	2462	7.47	5.58	30 dBm / 1 W

The test was performed with 802.11n (40MHz)				
Channel	Frequency (MHz)	Peak Output Power(dBm)	Peak Output Power(mW)	Limits dBm / W
Low	2422	6.32	4.29	30 dBm / 1 W
Middle	2437	6.50	4.47	30 dBm / 1 W
High	2452	6.41	4.38	30 dBm / 1 W

7. POWER SPECTRAL DENSITY MEASUREMENT

7.1. Block Diagram of Test Setup



7.2. The Requirement For Section 15.247(e)

Section 15.247(e): For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

7.3. EUT Configuration on Measurement

The equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

7.4. Operating Condition of EUT

7.4.1. Setup the EUT and simulator as shown as Section 7.1.

7.4.2. Turn on the power of all equipment.

7.4.3. Let the EUT work in TX modes measure it. The transmit frequency are 2412-2462 and 2422-2452MHz. We select 2412MHz, 2437MHz, 2462MHz and 2422MHz, 2437MHz, 2452MHz TX frequency to transmit.

7.5. Test Procedure

7.5.1. The transmitter output was connected to the spectrum analyzer through a low loss cable.

7.5.2. Measurement Procedure PKPSD:

This procedure must be used if maximum peak conducted output power was used to demonstrate compliance to the fundamental output power limit, and is optional if the maximum (average) conducted output power was used to demonstrate compliance.

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS channel bandwidth.

3. Set the RBW $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
4. Set the VBW $\geq 3 \times \text{RBW}$.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

7.5.3.Measurement the maximum power spectral density.

7.6.Test Result

The test was performed with 802.11b			
Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)
Low	2412	-23.94	8 dBm
Middle	2437	-23.08	8 dBm
High	2462	-22.40	8 dBm

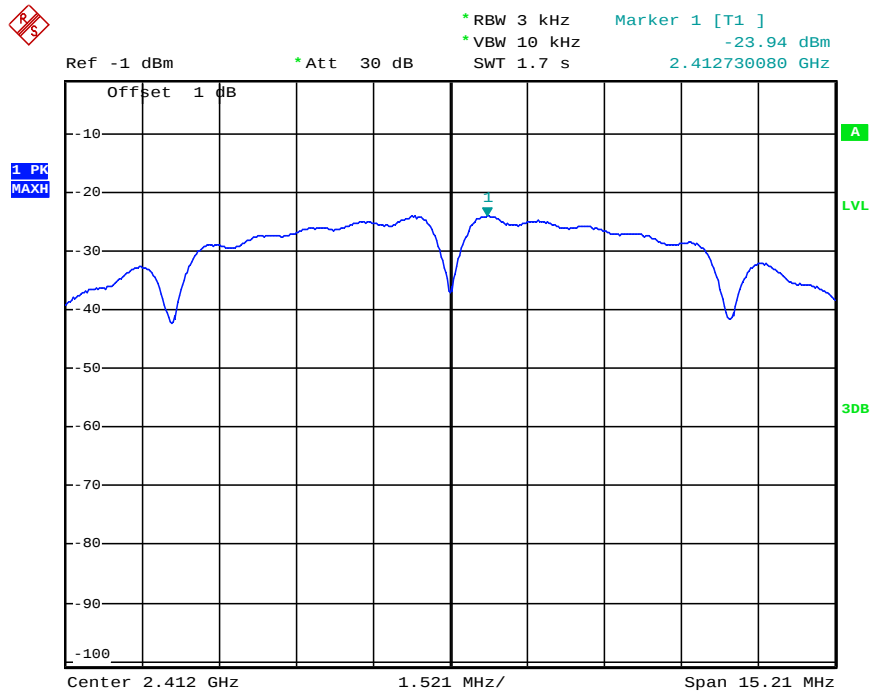
The test was performed with 802.11g			
Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)
Low	2412	-25.97	8 dBm
Middle	2437	-24.77	8 dBm
High	2462	-24.29	8 dBm

The test was performed with 802.11n (20MHz)			
Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)
Low	2412	-28.09	8 dBm
Middle	2437	-26.98	8 dBm
High	2462	-26.41	8 dBm

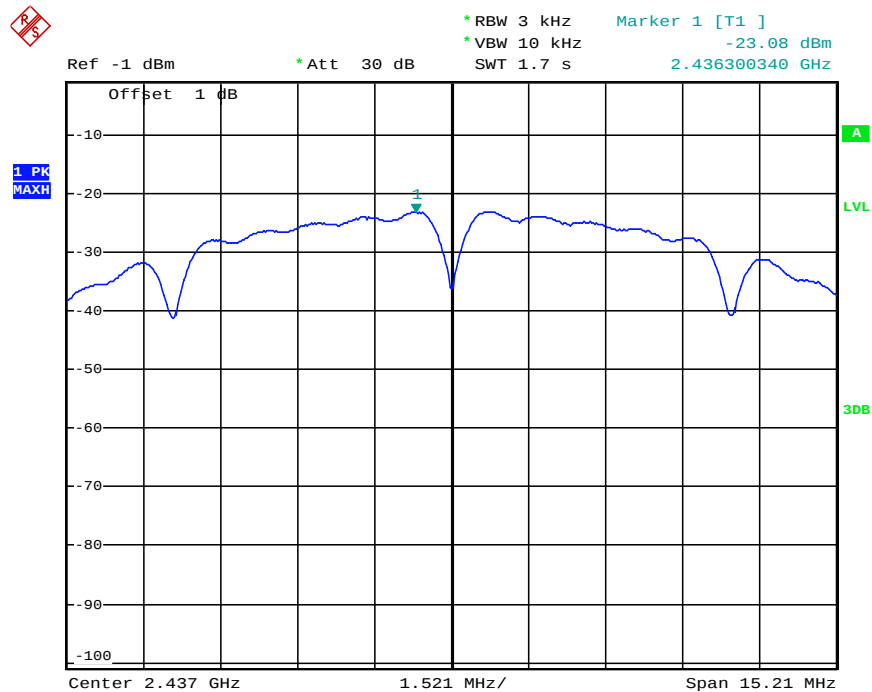
The test was performed with 802.11n (40MHz)			
Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)
Low	2422	-29.17	8 dBm
Middle	2437	-29.33	8 dBm
High	2452	-29.52	8 dBm

The spectrum analyzer plots are attached as below.

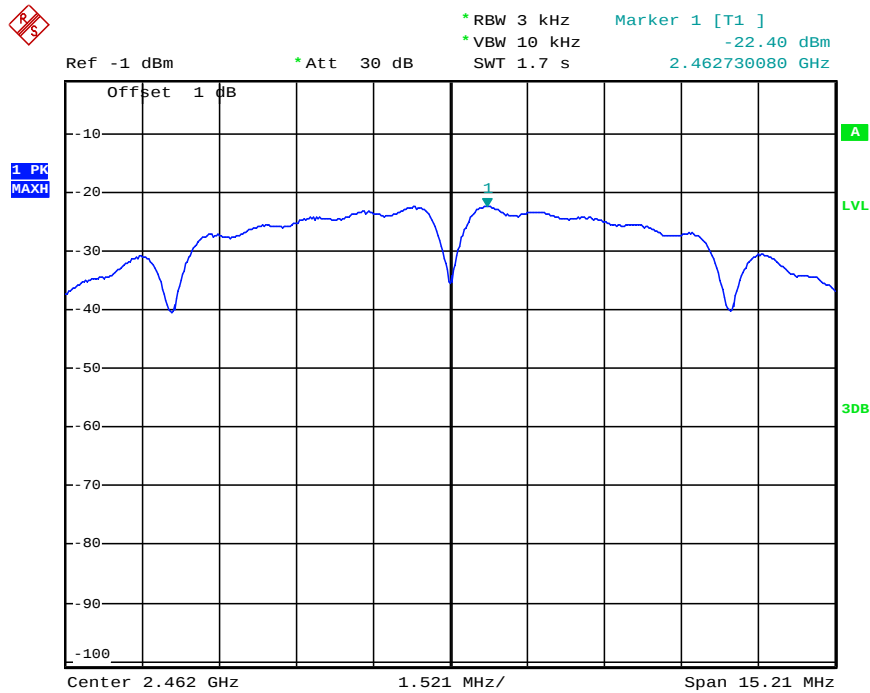
802.11b Channel Low 2412MHz



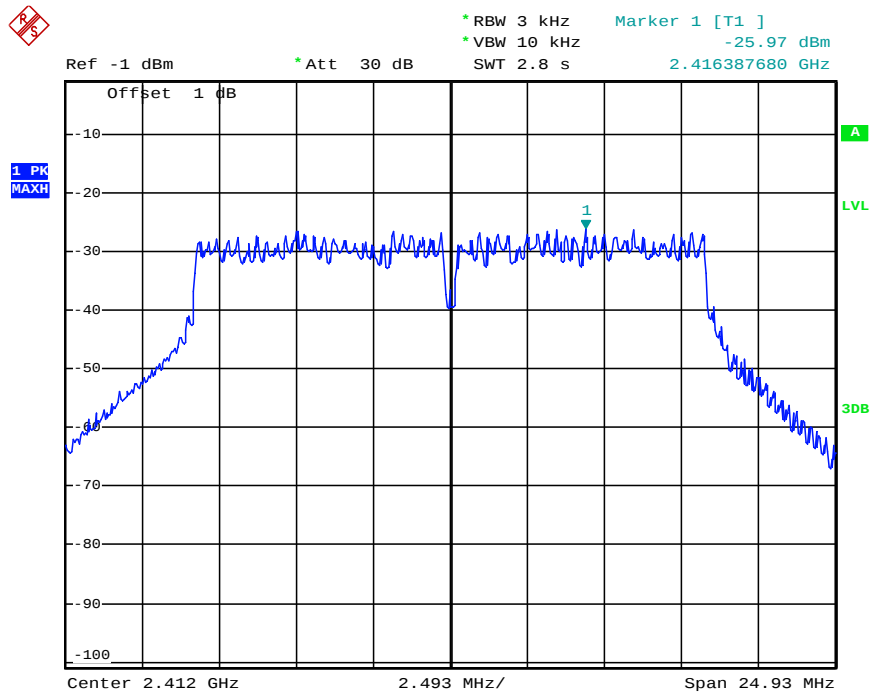
802.11b Channel Middle 2437MHz



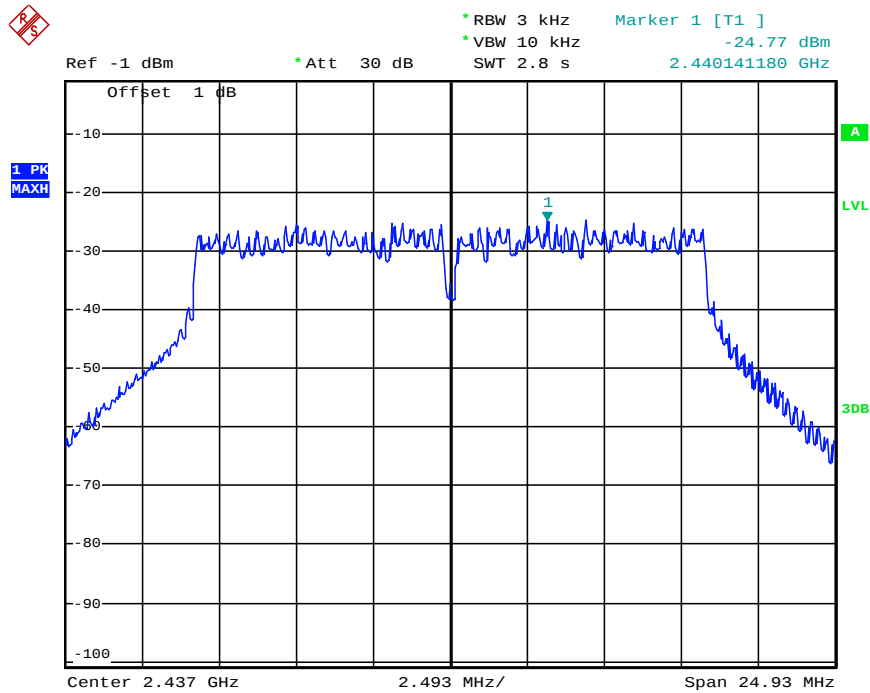
802.11b Channel High 2462MHz



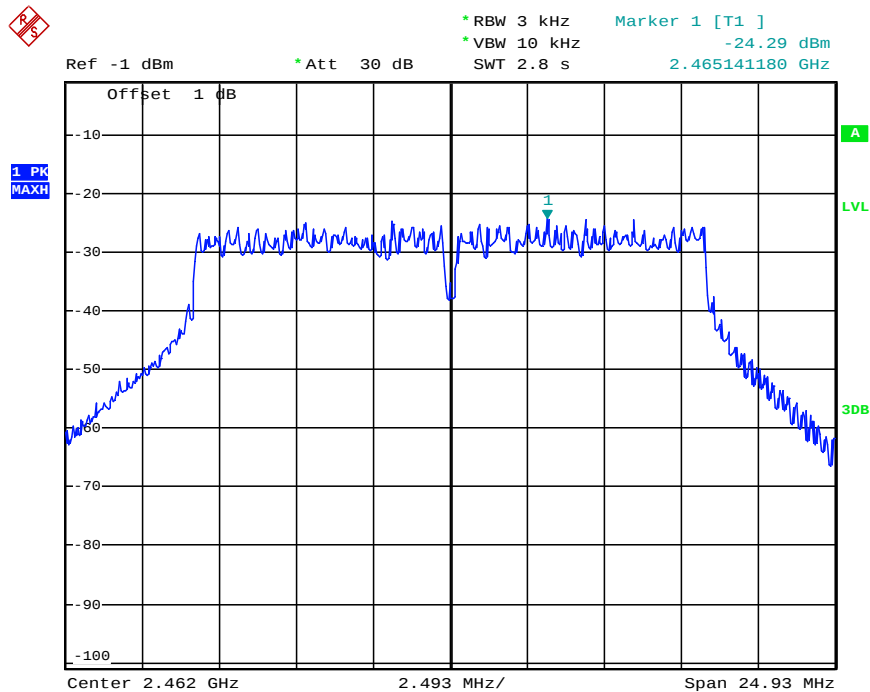
802.11g Channel Low 2412MHz



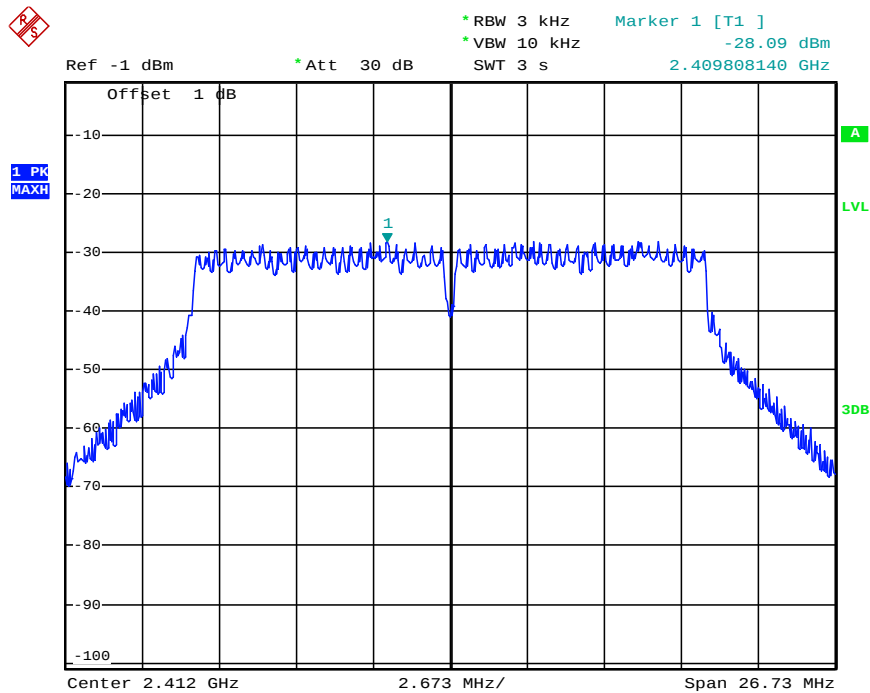
802.11g Channel Middle 2437MHz



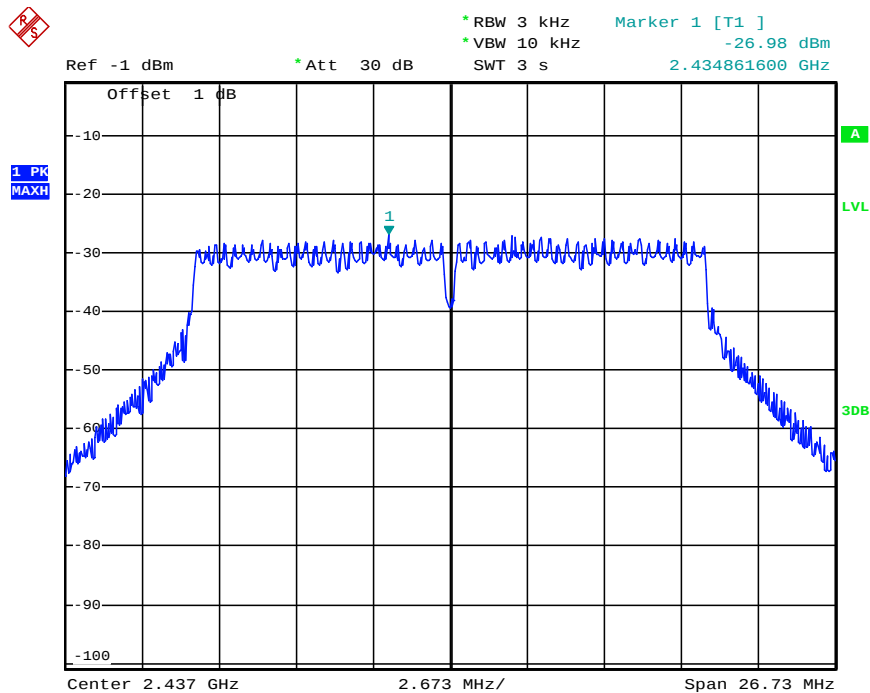
802.11g Channel High 2462MHz



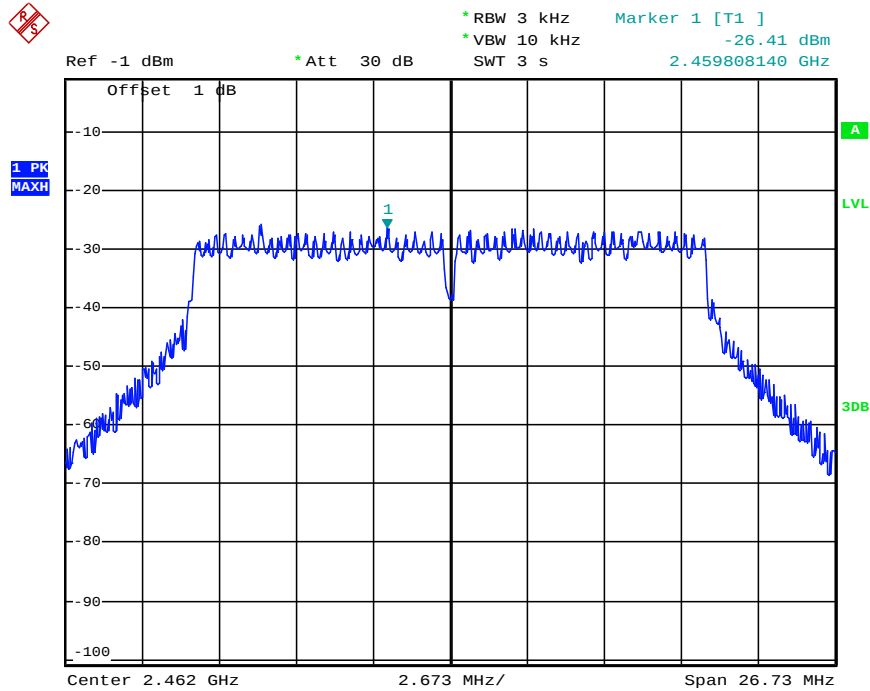
802.11n Channel Low 2412MHz (20MHz)



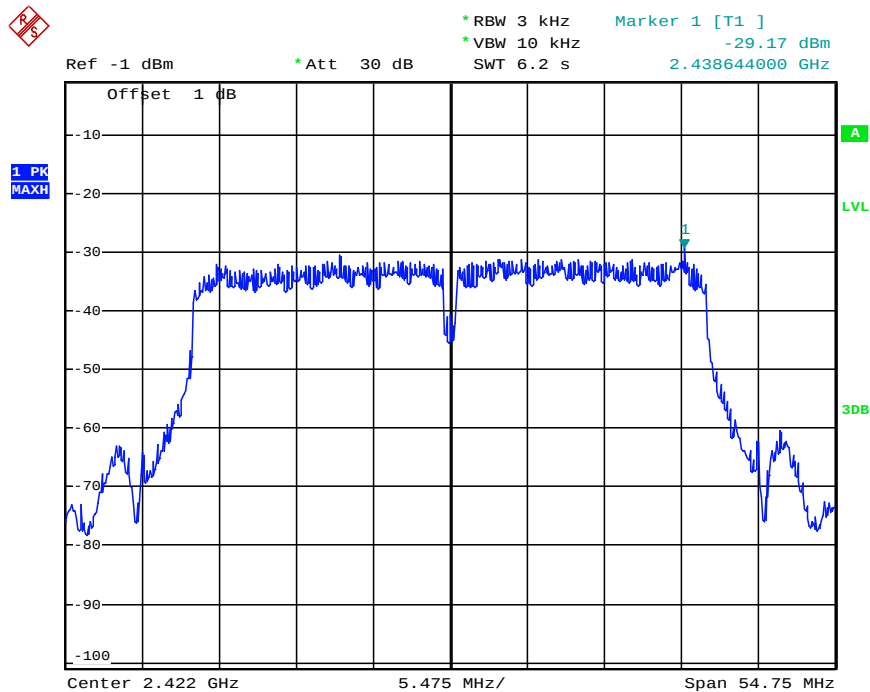
802.11n Channel Middle 2437MHz (20MHz)



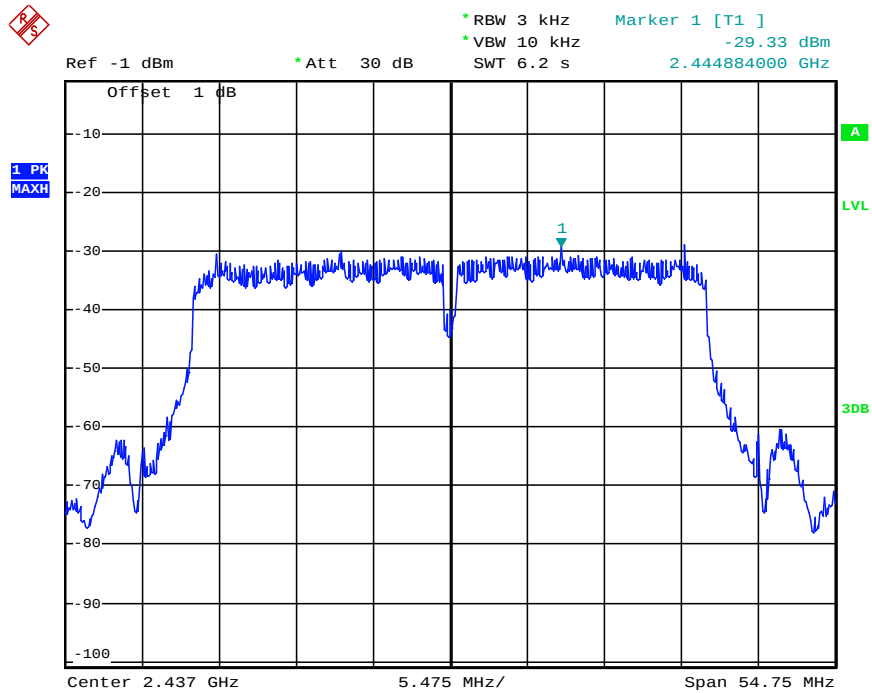
802.11n Channel High 2462MHz(20MHz)



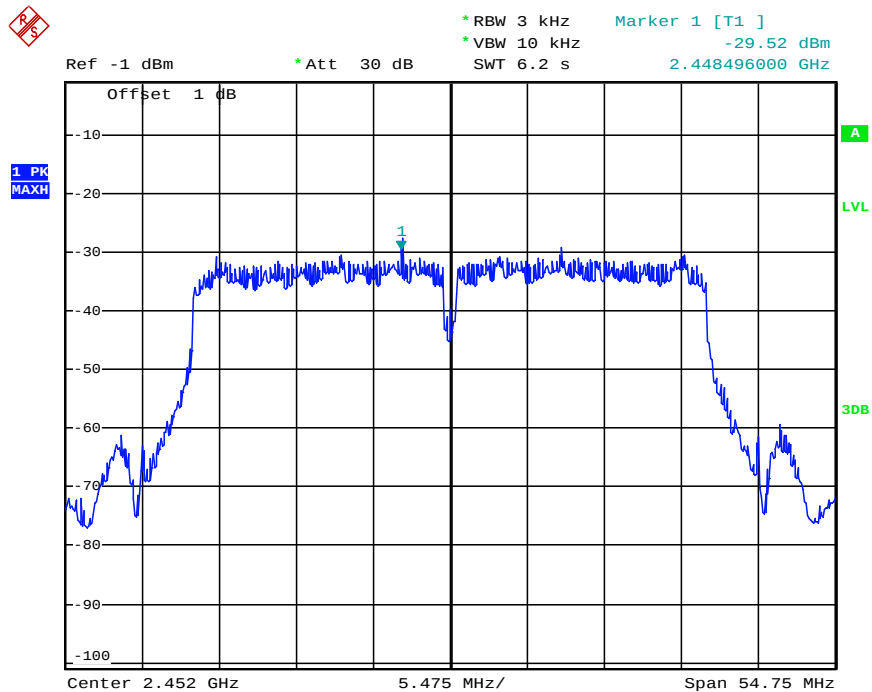
802.11n Channel Low 2422MHz (40MHz)



802.11n Channel Middle 2437MHz(40MHz)



802.11n Channel High 2452MHz(40MHz)



8. BAND EDGE COMPLIANCE TEST

8.1. Block Diagram of Test Setup



8.2. The Requirement For Section 15.247(d)

Section 15.247(d): 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).

8.3. EUT Configuration on Measurement

The equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

8.4. Operating Condition of EUT

8.4.1. Setup the EUT and simulator as shown as Section 8.1.

8.4.2. Turn on the power of all equipment.

8.4.3. Let the EUT work in TX modes measure it. The transmit frequency are 2412-2462 and 2422-2452MHz MHz. We select 2412MHz, 2462MHz and 2422MHz, 2452MHz TX frequency to transmit.

8.5. Test Procedure

Conducted Band Edge:

8.5.1. The transmitter output was connected to the spectrum analyzer via a low loss cable.

8.5.2. Set RBW of spectrum analyzer to 100kHz and VBW to 300kHz.

Radiate Band Edge:

8.5.3. The EUT is placed on a turntable, which is 0.8m above the ground plane and worked at highest radiated power.

8.5.4. The turntable was rotated for 360 degrees to determine the position of maximum emission level.

8.5.5. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.

8.5.6. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:

RBW=1MHz, VBW=1MHz

8.5.7. The band edges were measured and recorded.

8.6. Test Result

The test was performed with 802.11b

Frequency (MHz)	Result of Band Edge (dBc)	Limit of Band Edge (dBc)
2412	36.81	> 20dBc
2462	50.12	> 20dBc

The test was performed with 802.11g

Frequency (MHz)	Result of Band Edge (dBc)	Limit of Band Edge (dBc)
2412	32.63	> 20dBc
2462	44.59	> 20dBc

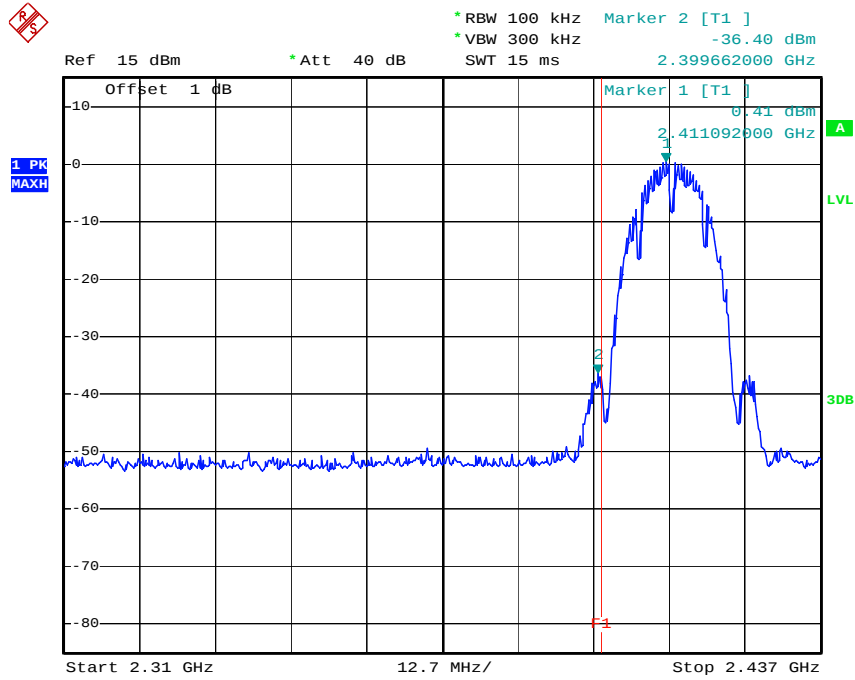
The test was performed with 802.11n (20MHz)

Frequency (MHz)	Result of Band Edge (dBc)	Limit of Band Edge (dBc)
2412	30.32	> 20dBc
2462	44.17	> 20dBc

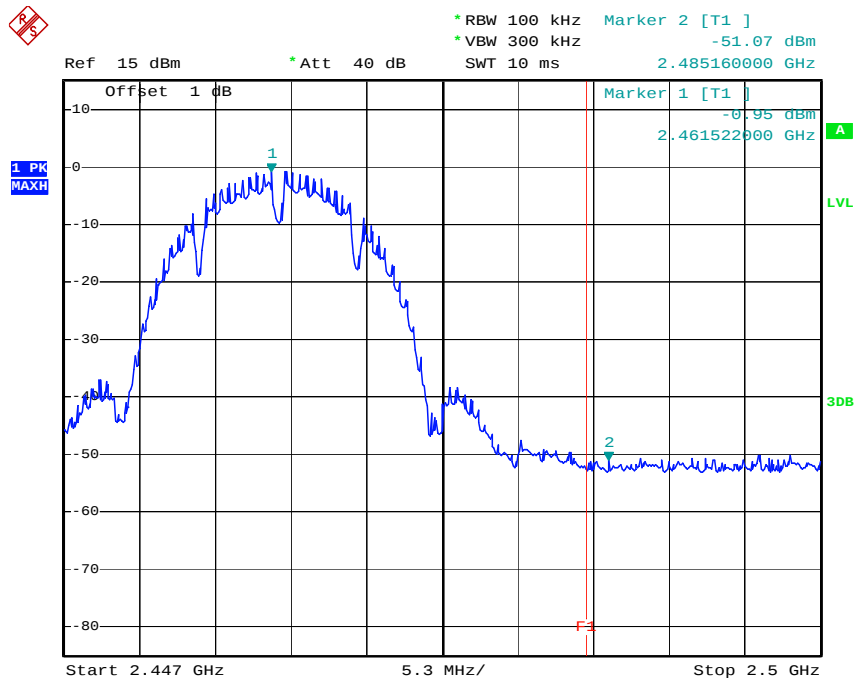
The test was performed with 802.11n (40MHz)

Frequency (MHz)	Result of Band Edge (dBc)	Limit of Band Edge (dBc)
2422	27.13	> 20dBc
2452	43.12	> 20dBc

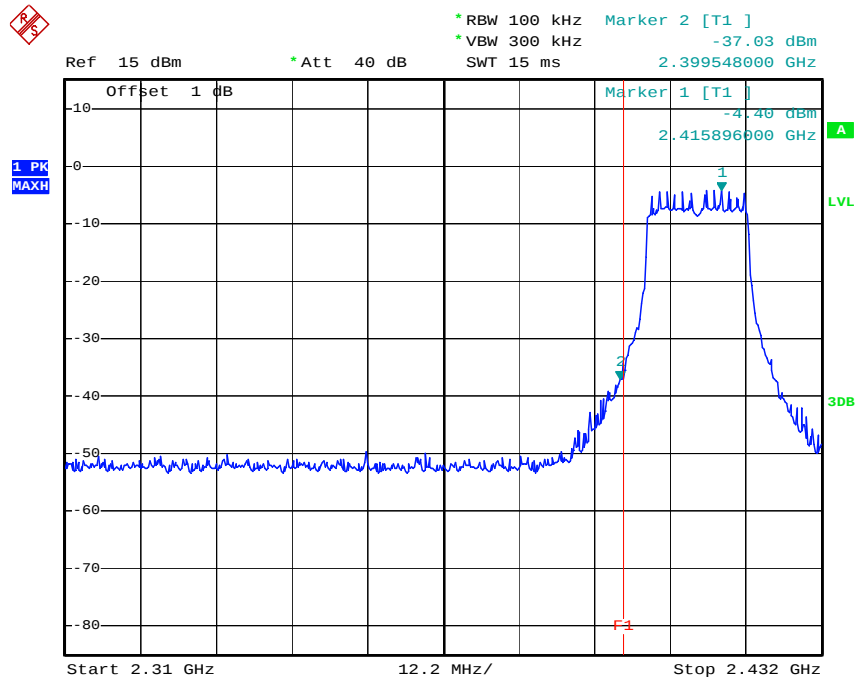
802.11b Channel Low 2412MHz



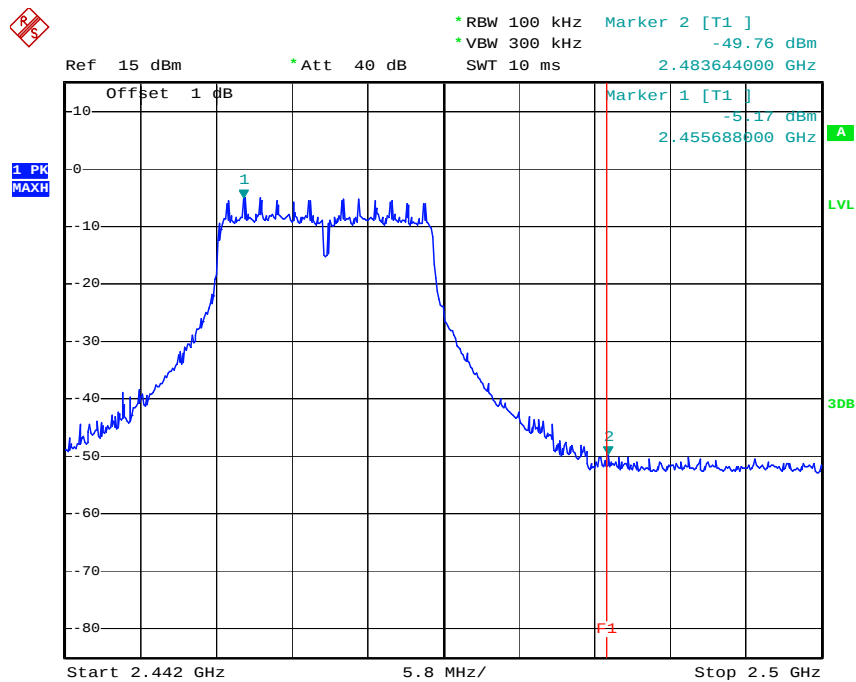
802.11b Channel High 2462MHz



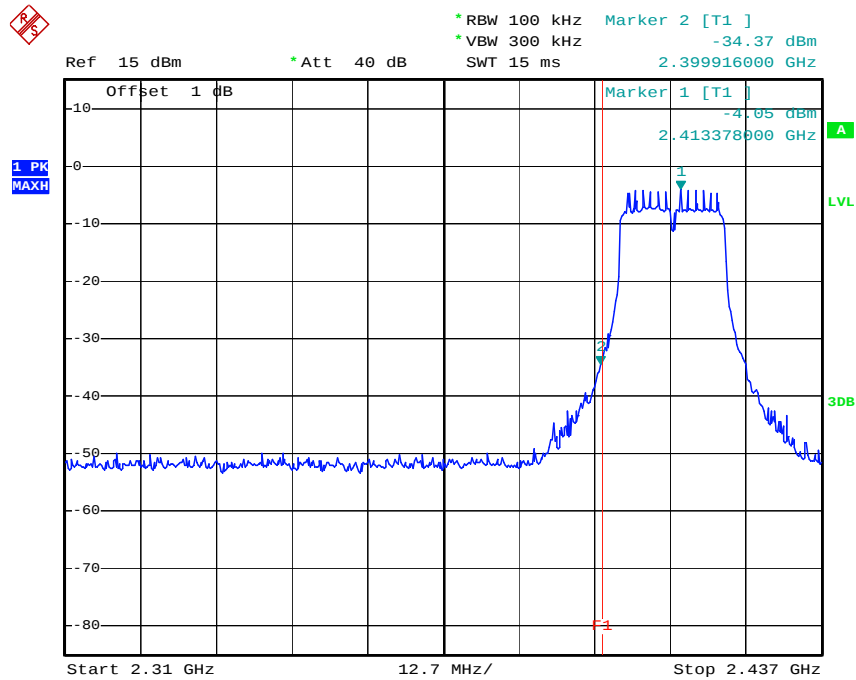
802.11g Channel Low 2412MHz



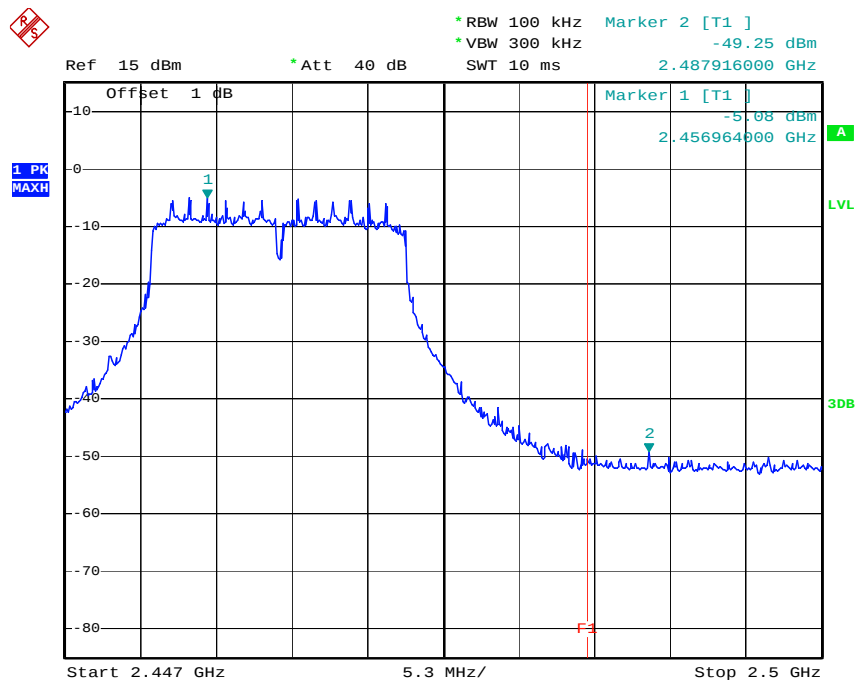
802.11g Channel High 2462MHz



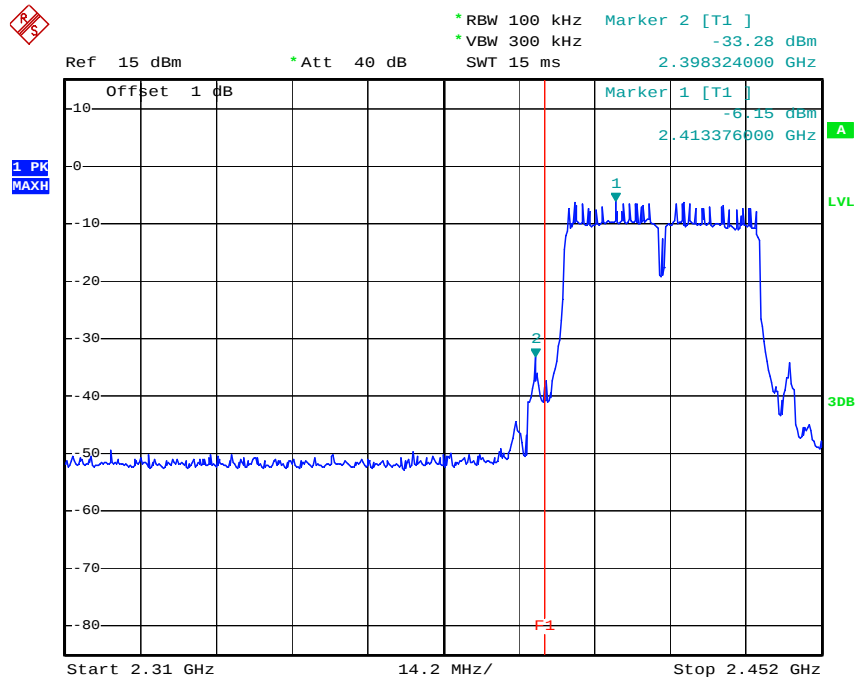
802.11n Channel Low 2412MHz (20MHz)



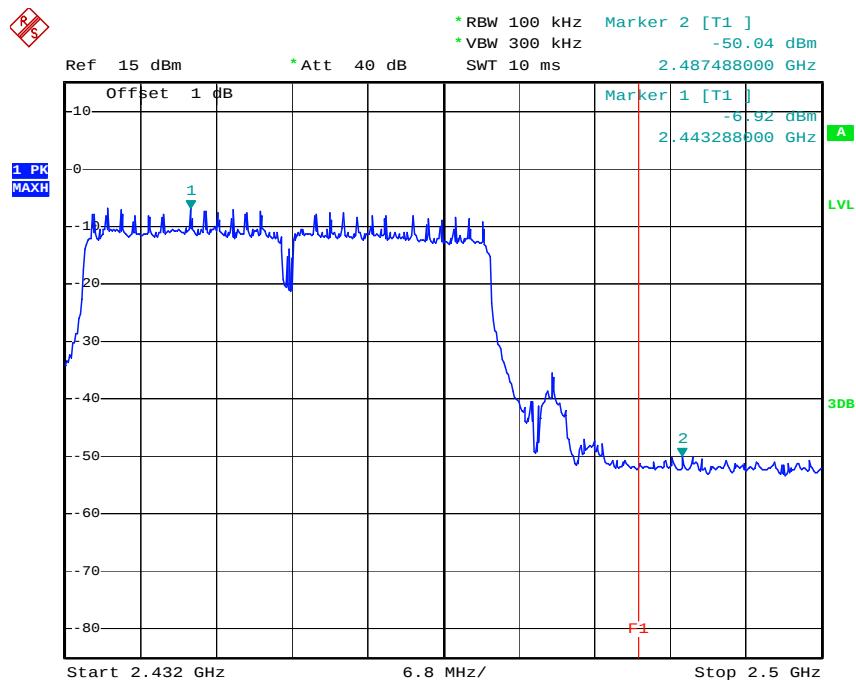
802.11n Channel High 2462MHz (20MHz)



802.11n Channel Low 2422MHz (40MHz)



802.11n Channel High 2452MHz (40MHz)



Radiated Band Edge Result

Note:1. Emissions attenuated more than 20 dB below the permissible value are not reported.

2. The field strength is calculated by adding the antenna factor, high pass filter loss(if used) and cable loss, and subtracting the amplifier gain(if any)from the measured reading. The basic equation calculation is as follows:

$$\text{Result} = \text{Reading} + \text{Corrected Factor}$$

3. Display the measurement of peak values.



ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 966 chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: Star_tmp #386

Standard: FCC 15C PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 49 %

EUT: MID

Mode: TX Channel 1(802.11b)

Model: PC1020MT

Manufacturer: Natural Sound

Polarization: Vertical

Power Source: AC 120V

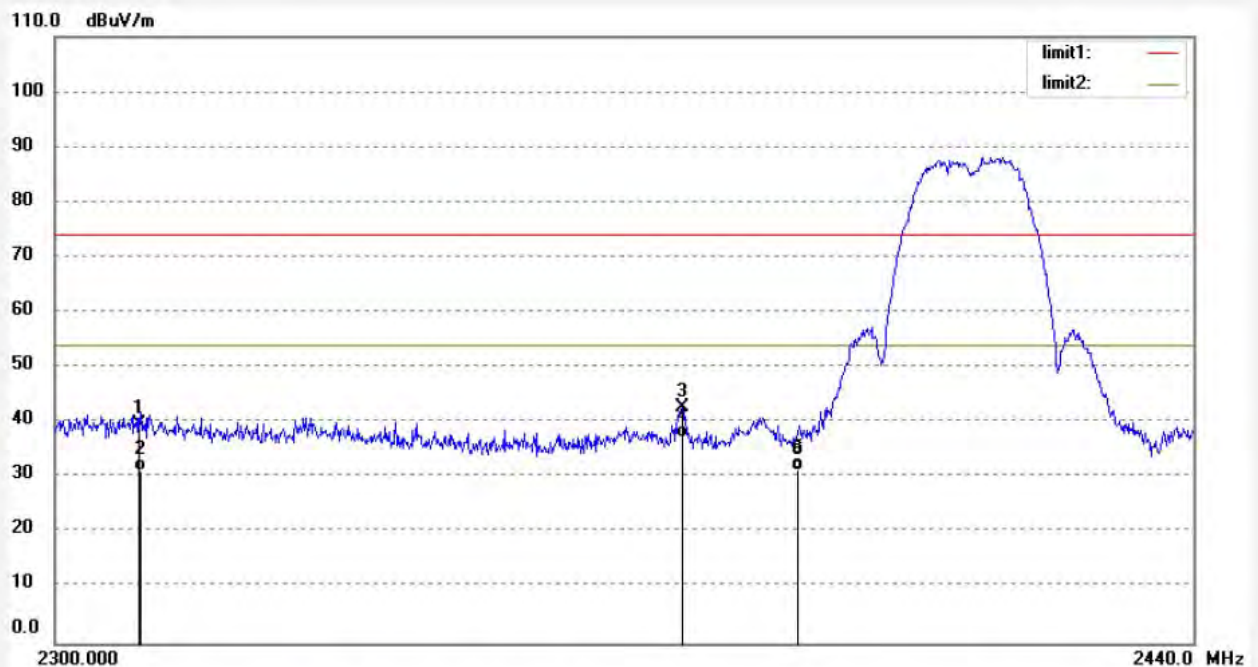
Date: 14/10/23/

Time: 4/22/47

Engineer Signature:Carry

Distance: 3m

Note: Report No.:ATE20142025

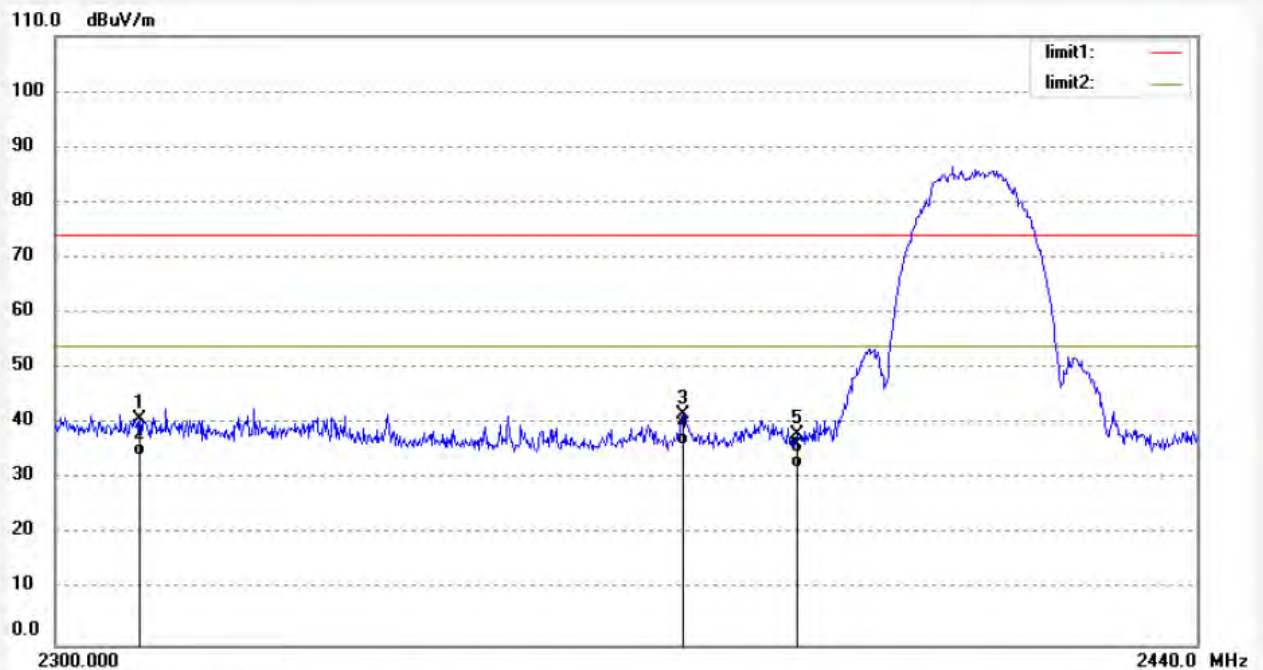


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2310.000	47.63	-7.81	39.82	74.00	-34.18	peak			
2	2310.000	39.00	-7.81	31.19	54.00	-22.81	AVG			
3	2376.130	50.43	-7.62	42.81	74.00	-31.19	peak			
4	2376.130	45.02	-7.62	37.40	54.00	-16.60	AVG			
5	2390.000	43.99	-7.53	36.46	74.00	-37.54	Peak			
6	2390.000	38.69	-7.53	31.16	54.00	-22.84	AVG			

Job No.: Star_tmp #387
Standard: FCC 15C PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 49 %
EUT: MID
Mode: TX Channel 1(802.11b)
Model: PC1020MT
Manufacturer: Natural Sound

Polarization: Horizontal
Power Source: AC 120V
Date: 14/10/23/
Time: 4/24/26
Engineer Signature: Carry
Distance: 3m

Note: Report No.: ATE20142025



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2310.000	48.76	-7.81	40.95	74.00	-33.05	peak			
2	2310.000	42.00	-7.81	34.19	54.00	-19.81	AVG			
3	2375.989	49.29	-7.62	41.67	74.00	-32.33	peak			
4	2375.989	43.85	-7.62	36.23	54.00	-17.77	AVG			
5	2390.000	45.67	-7.53	38.14	74.00	-35.86	peak			
6	2390.000	39.62	-7.53	32.09	54.00	-21.91	AVG			

Job No.: Star_tmp #385

Standard: FCC 15C PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 49 %

EUT: MID

Mode: TX Channel 11(802.11b)

Model: PC1020MT

Manufacturer: Natural Sound

Polarization: Vertical

Power Source: AC 120V

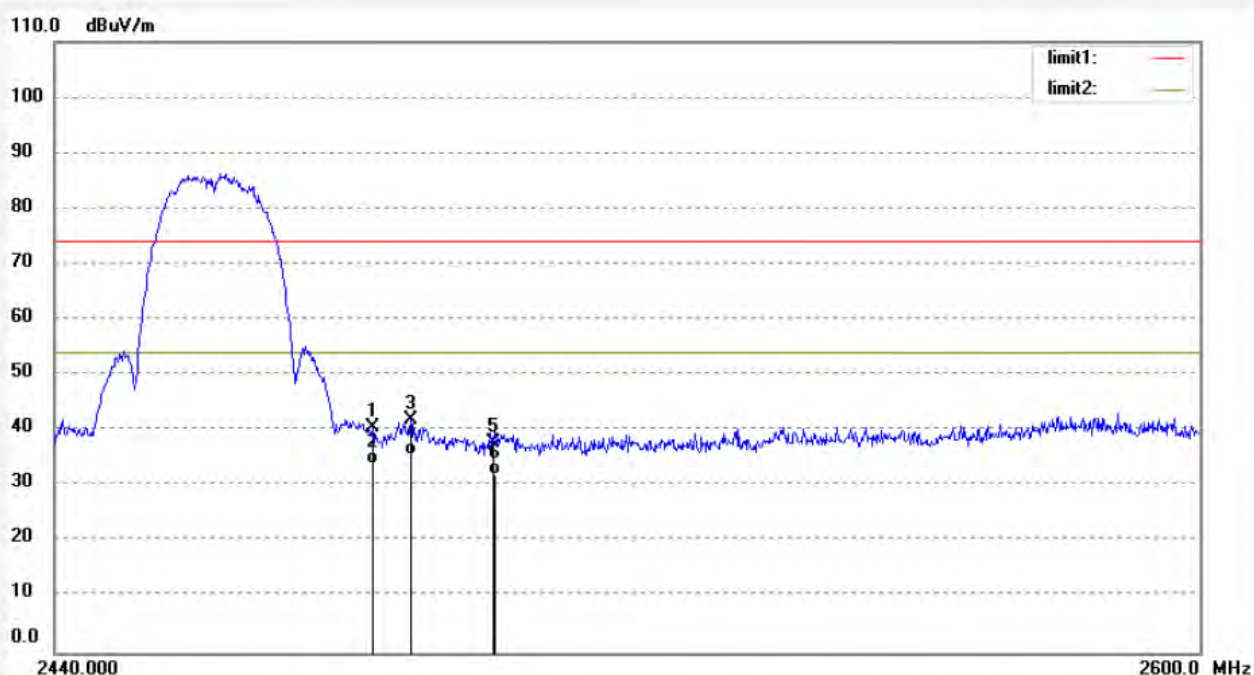
Date: 14/10/23/

Time: 4/18/12

Engineer Signature: Carry

Distance: 3m

Note: Report No.: ATE20142025



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	47.94	-7.37	40.57	74.00	-33.43	peak			
2	2483.500	41.42	-7.37	34.05	54.00	-19.95	AVG			
3	2488.774	49.33	-7.39	41.94	74.00	-32.06	peak			
4	2488.774	42.92	-7.39	35.53	54.00	-18.47	AVG			
5	2500.000	45.17	-7.40	37.77	74.00	-36.23	peak			
6	2500.000	39.32	-7.40	31.92	54.00	-22.08	AVG			

Job No.: Star_tmp #384

Standard: FCC 15C PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 49 %

EUT: MID

Mode: TX Channel 11(802.11b)

Model: PC1020MT

Manufacturer: Natural Sound

Polarization: Horizontal

Power Source: AC 120V

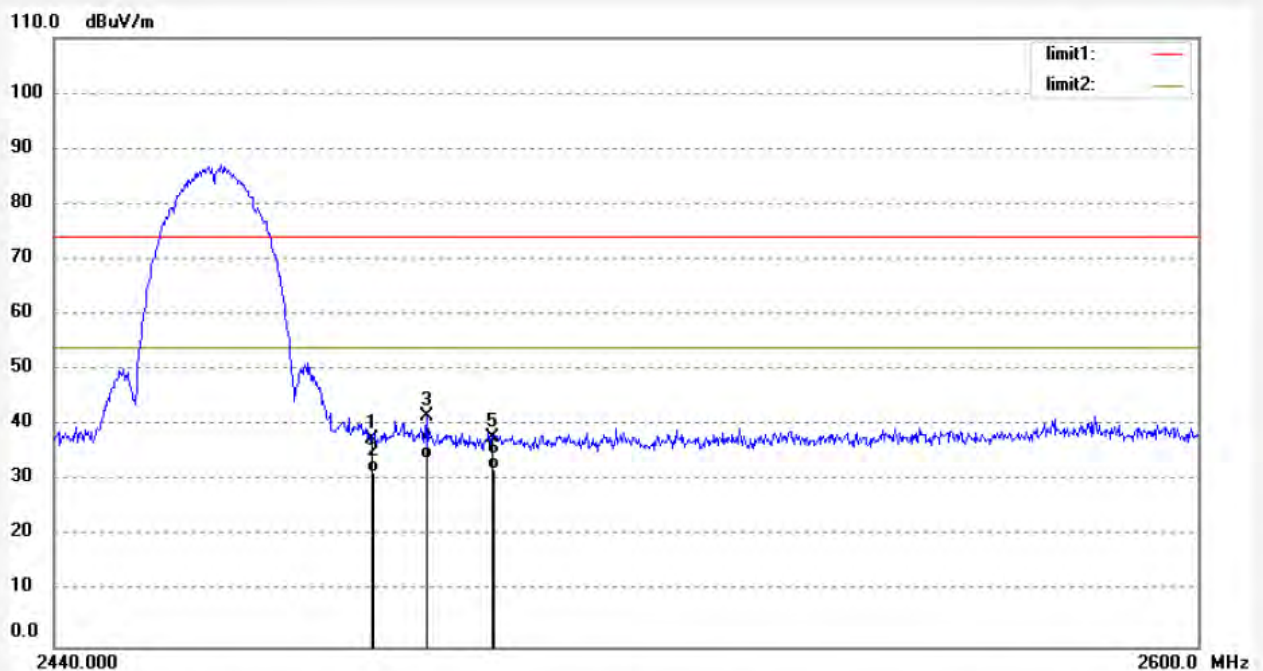
Date: 14/10/23/

Time: 4/15/56

Engineer Signature: Carry

Distance: 3m

Note: Report No.: ATE20142025



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	44.94	-7.37	37.57	74.00	-36.43	peak			
2	2483.500	38.91	-7.37	31.54	54.00	-22.46	AVG			
3	2490.993	48.91	-7.38	41.53	74.00	-32.47	peak			
4	2490.993	41.46	-7.38	34.08	54.00	-19.92	AVG			
5	2500.000	45.20	-7.40	37.80	74.00	-36.20	peak			
6	2500.000	39.33	-7.40	31.93	54.00	-22.07	AVG			

Job No.: Star_tmp #380

Standard: FCC 15C PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 49 %

EUT: MID

Mode: TX Channel 1(802.11g)

Model: PC1020MT

Manufacturer: Natural Sound

Polarization: Horizontal

Power Source: AC 120V

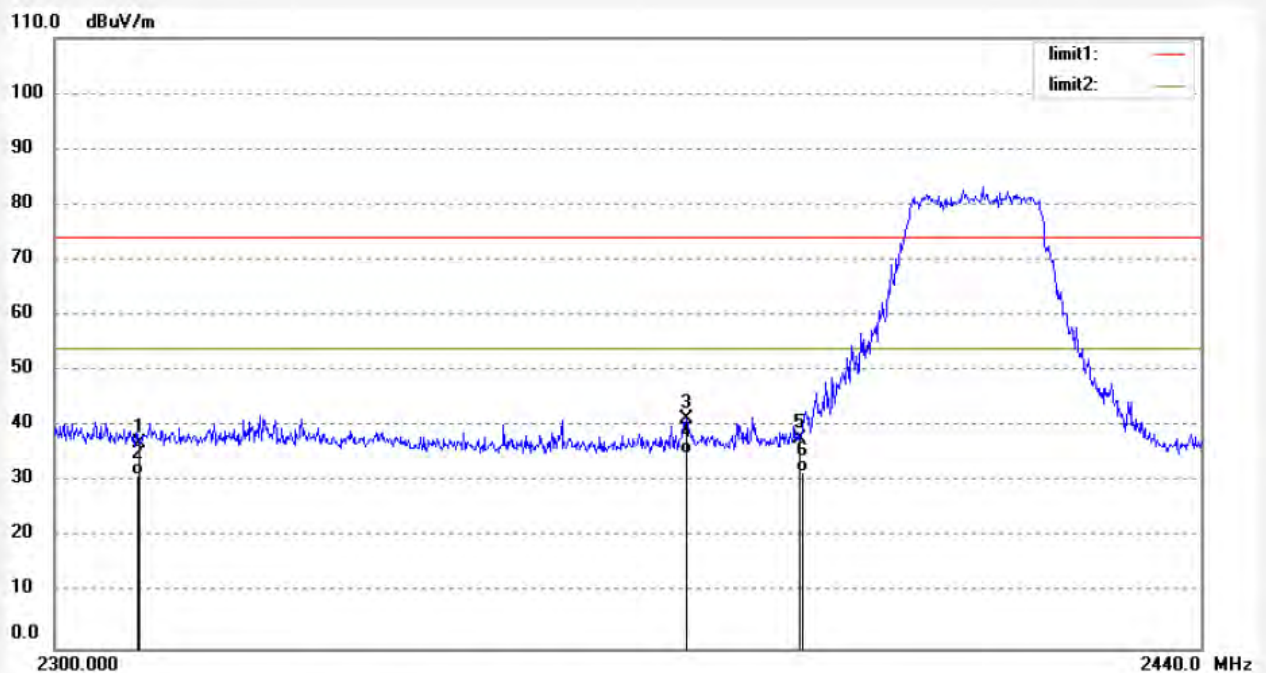
Date: 14/10/23/

Time: 4/01/53

Engineer Signature: Carry

Distance: 3m

Note: Report No.: ATE20142025

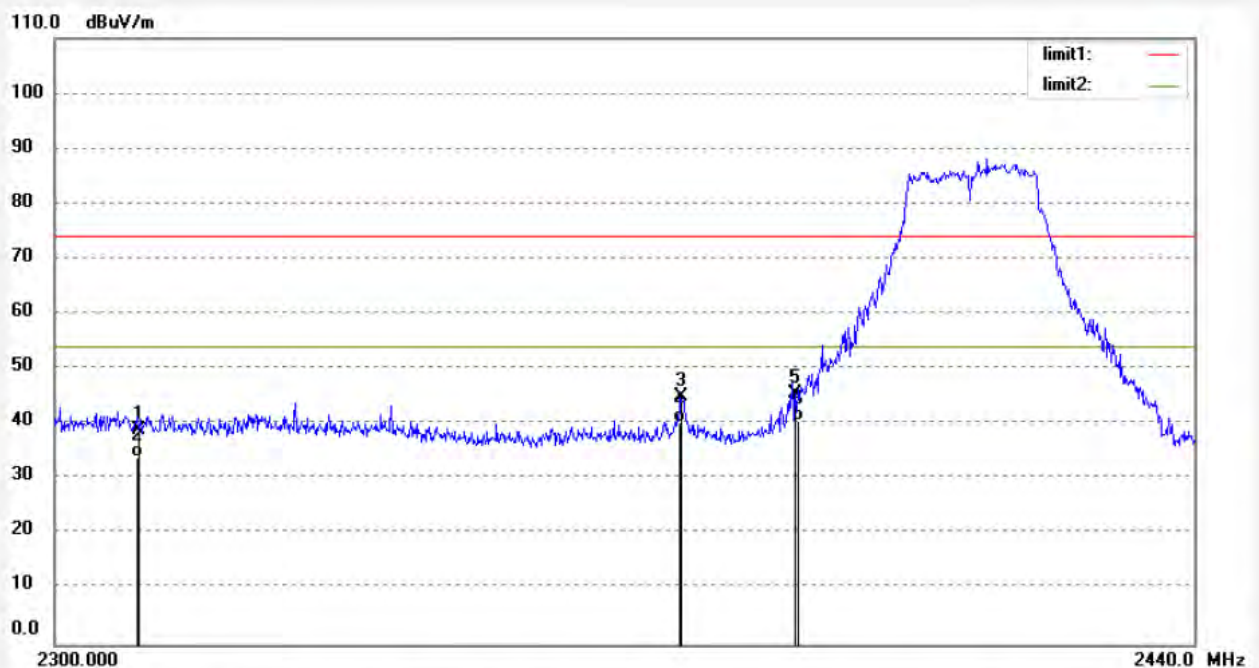


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2310.000	44.75	-7.81	36.94	74.00	-37.06	peak			
2	2310.000	38.97	-7.81	31.16	54.00	-22.84	AVG			
3	2376.130	48.89	-7.62	41.27	74.00	-32.73	peak			
4	2376.130	42.61	-7.62	34.99	54.00	-19.01	AVG			
5	2390.000	45.46	-7.53	37.93	74.00	-36.07	peak			
6	2390.000	39.17	-7.53	31.64	54.00	-22.36	AVG			

Job No.: Star_tmp #381
Standard: FCC 15C PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 49 %
EUT: MID
Mode: TX Channel 1(802.11g)
Model: PC1020MT
Manufacturer: Natural Sound

Polarization: Vertical
Power Source: AC 120V
Date: 14/10/23/
Time: 4/05/06
Engineer Signature: Carry
Distance: 3m

Note: Report No.: ATE20142025

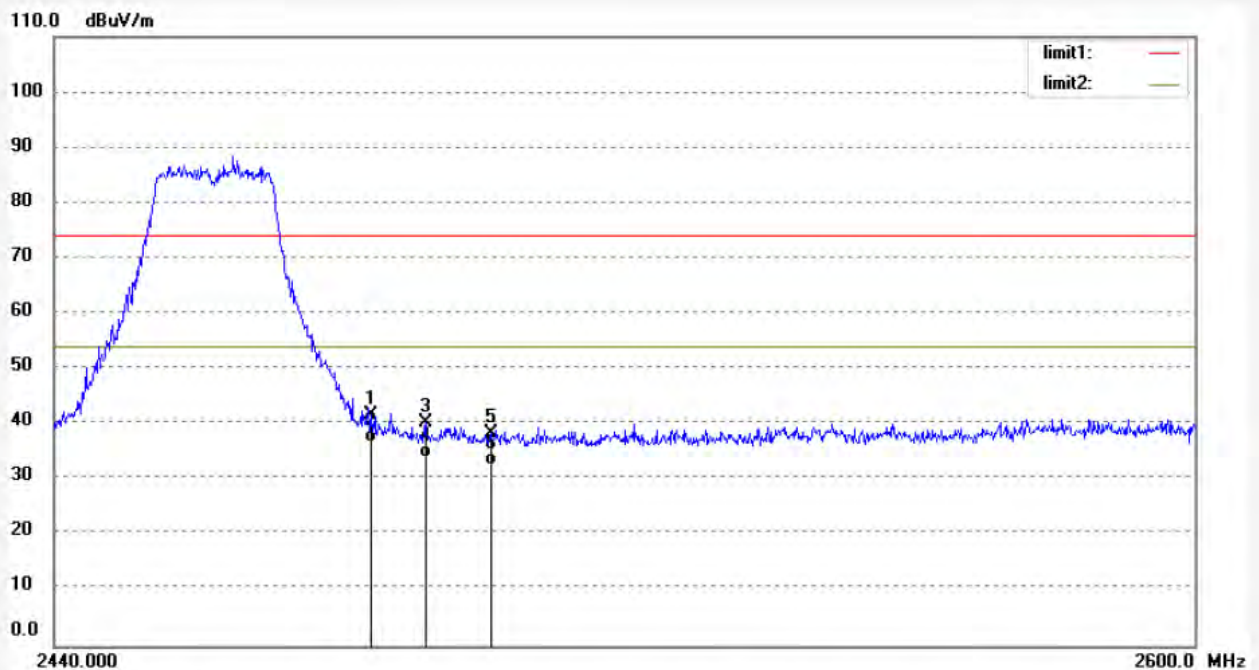


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2310.000	46.75	-7.81	38.94	74.00	-35.06	peak			
2	2310.000	41.69	-7.81	33.88	54.00	-20.12	AVG			
3	2375.849	52.68	-7.62	45.06	74.00	-28.94	peak			
4	2375.849	47.99	-7.62	40.37	54.00	-13.63	AVG			
5	2390.000	53.15	-7.53	45.62	74.00	-28.38	peak			
6	2390.000	47.98	-7.53	40.45	54.00	-13.55	AVG			

Job No.: Star_tmp #382
Standard: FCC 15C PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 49 %
EUT: MID
Mode: TX Channel 11(802.11g)
Model: PC1020MT
Manufacturer: Natural Sound

Polarization: Vertical
Power Source: AC 120V
Date: 14/10/23/
Time: 4/08/08
Engineer Signature: Carry
Distance: 3m

Note: Report No.: ATE20142025

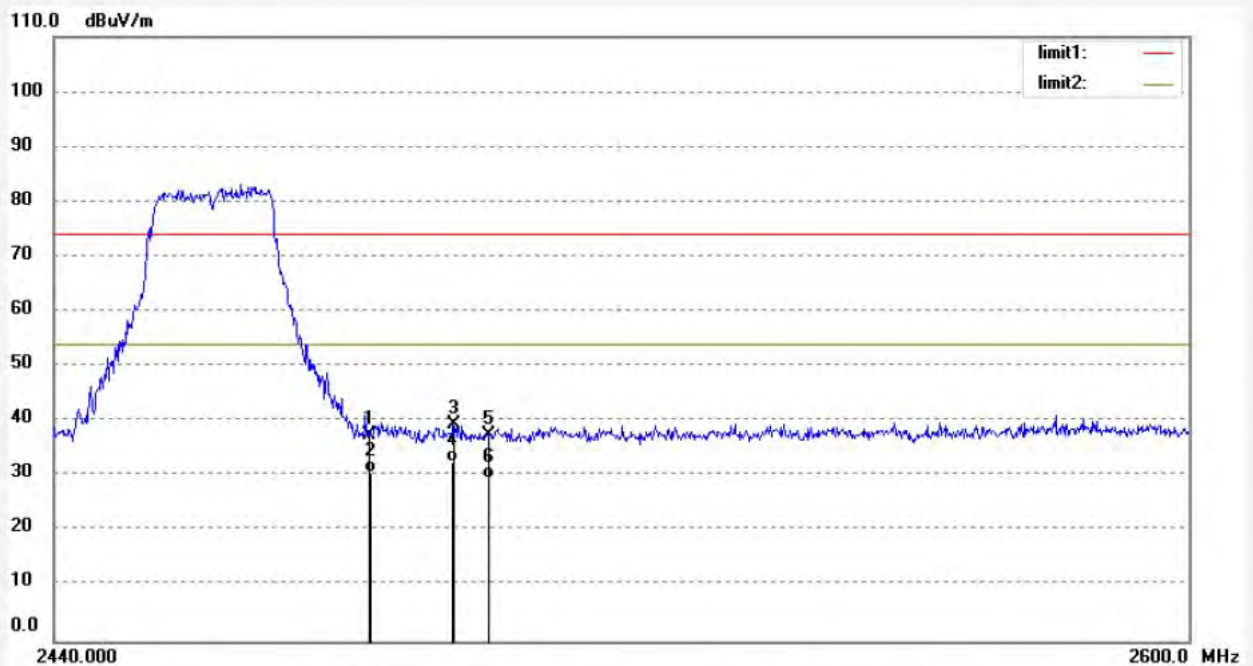


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	49.00	-7.37	41.63	74.00	-32.37	peak			
2	2483.500	43.97	-7.37	36.60	54.00	-17.40	AVG			
3	2490.993	47.76	-7.38	40.38	74.00	-33.62	peak			
4	2490.993	41.36	-7.38	33.98	54.00	-20.02	AVG			
5	2500.000	45.77	-7.40	38.37	74.00	-35.63	peak			
6	2500.000	40.00	-7.40	32.60	54.00	-21.40	AVG			

Job No.: Star_tmp #383
Standard: FCC 15C PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 49 %
EUT: MID
Mode: TX Channel 11(802.11g)
Model: PC1020MT
Manufacturer: Natural Sound

Polarization: Horizontal
Power Source: AC 120V
Date: 14/10/23/
Time: 4/12/59
Engineer Signature: Carry
Distance: 3m

Note: Report No.: ATE20142025

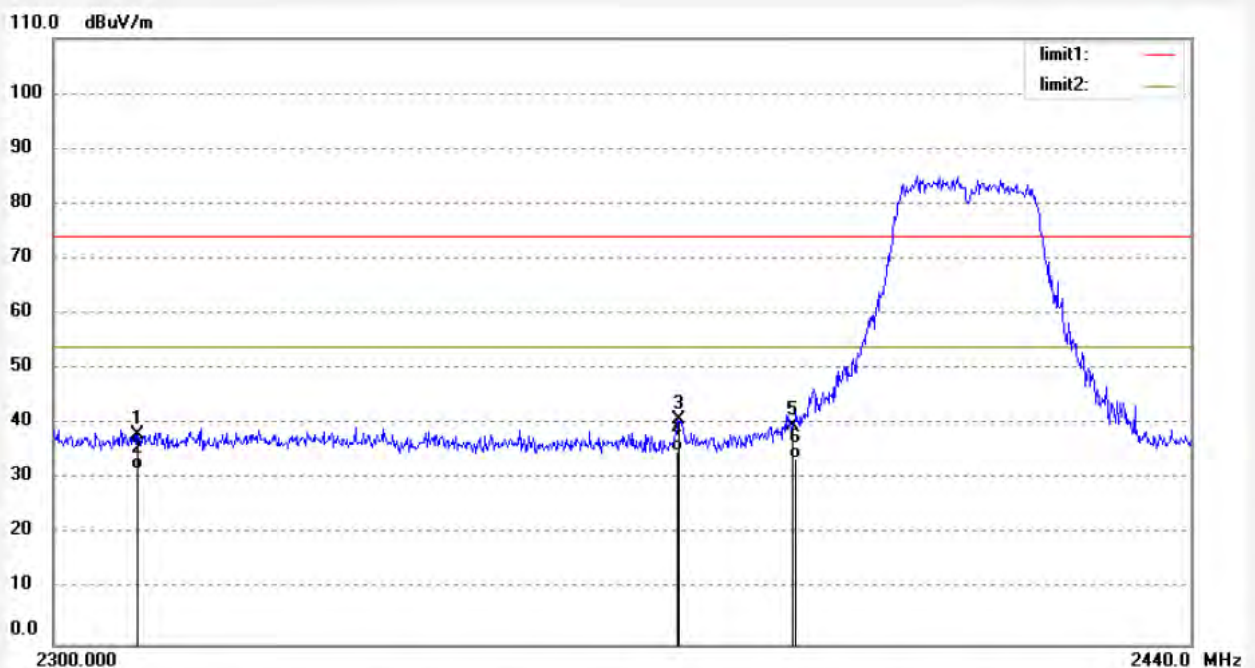


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	44.98	-7.37	37.61	74.00	-36.39	peak			
2	2483.500	37.95	-7.37	30.58	54.00	-23.42	AVG			
3	2495.118	46.74	-7.39	39.35	74.00	-34.65	peak			
4	2495.118	40.02	-7.39	32.63	54.00	-21.37	AVG			
5	2500.000	44.90	-7.40	37.50	74.00	-36.50	peak			
6	2500.000	36.99	-7.40	29.59	54.00	-24.41	AVG			

Job No.: Star_tmp #388
Standard: FCC 15C PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 49 %
EUT: MID
Mode: TX Channel 1(802.11n)
Model: PC1020MT
Manufacturer: Natural Sound

Polarization: Horizontal
Power Source: AC 120V
Date: 14/10/23/
Time: 4/27/12
Engineer Signature: Carry
Distance: 3m

Note: Report No.: ATE20142025



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2310.000	45.84	-7.81	38.03	74.00	-35.97	peak			
2	2310.000	39.69	-7.81	31.88	54.00	-22.12	AVG			
3	2375.849	48.48	-7.62	40.86	74.00	-33.14	peak			
4	2375.849	42.71	-7.62	35.09	54.00	-18.91	AVG			
5	2390.000	47.35	-7.53	39.82	74.00	-34.18	peak			
6	2390.000	41.22	-7.53	33.69	54.00	-20.31	AVG			

Job No.: Star_tmp #389

Standard: FCC 15C PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 49 %

EUT: MID

Mode: TX Channel 1(802.11n)

Model: PC1020MT

Manufacturer: Natural Sound

Polarization: Vertical

Power Source: AC 120V

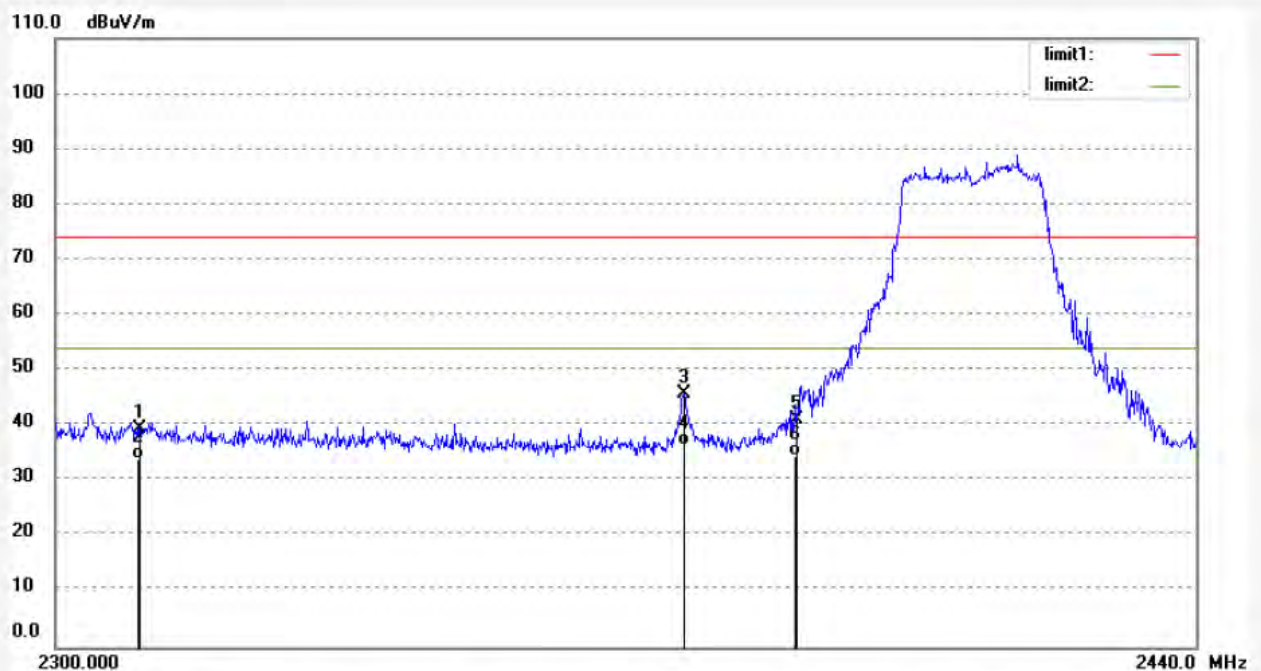
Date: 14/10/23/

Time: 4/31/39

Engineer Signature:Carry

Distance: 3m

Note: Report No.:ATE20142025



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2310.000	47.22	-7.81	39.41	74.00	-34.59	peak			
2	2310.000	41.66	-7.81	33.85	54.00	-20.15	AVG			
3	2376.130	53.41	-7.62	45.79	74.00	-28.21	peak			
4	2376.130	43.93	-7.62	36.31	54.00	-17.69	AVG			
5	2390.000	48.73	-7.53	41.20	74.00	-32.80	peak			
6	2390.000	42.02	-7.53	34.49	54.00	-19.51	AVG			

Job No.: Star_tmp #390

Standard: FCC 15C PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 49 %

EUT: MID

Mode: TX Channel 11(802.11n)

Model: PC1020MT

Manufacturer: Natural Sound

Polarization: Vertical

Power Source: AC 120V

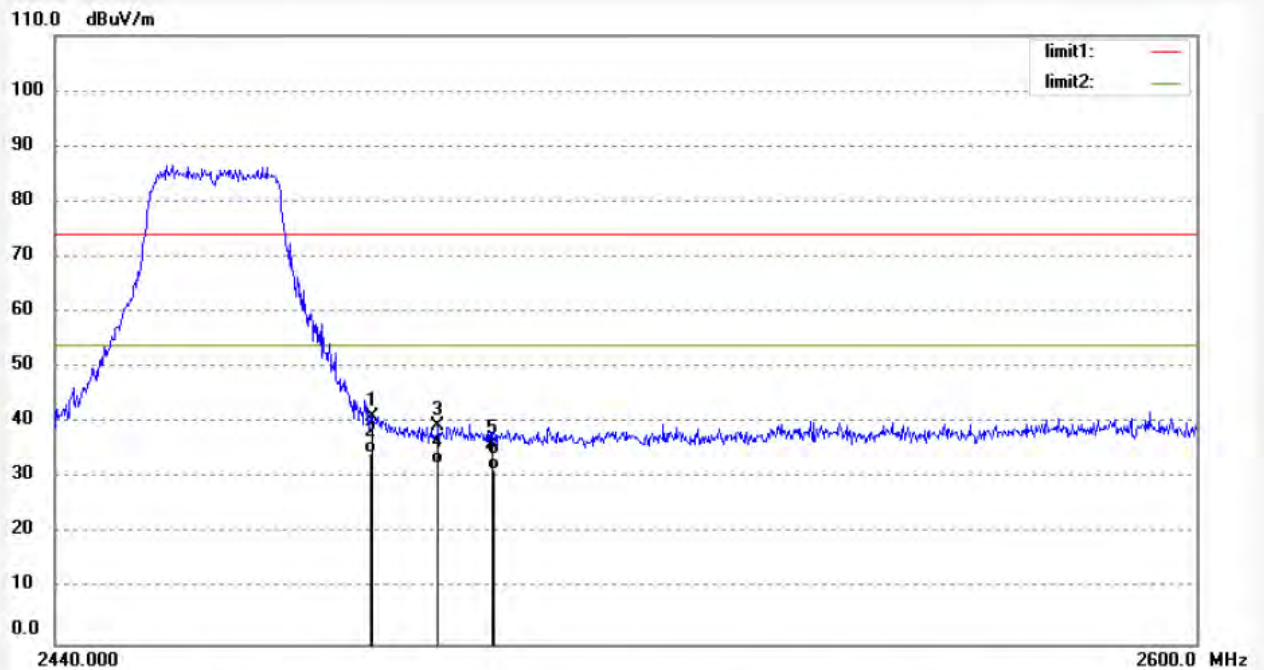
Date: 14/10/23/

Time: 4/33/30

Engineer Signature: Carry

Distance: 3m

Note: Report No.: ATE20142025

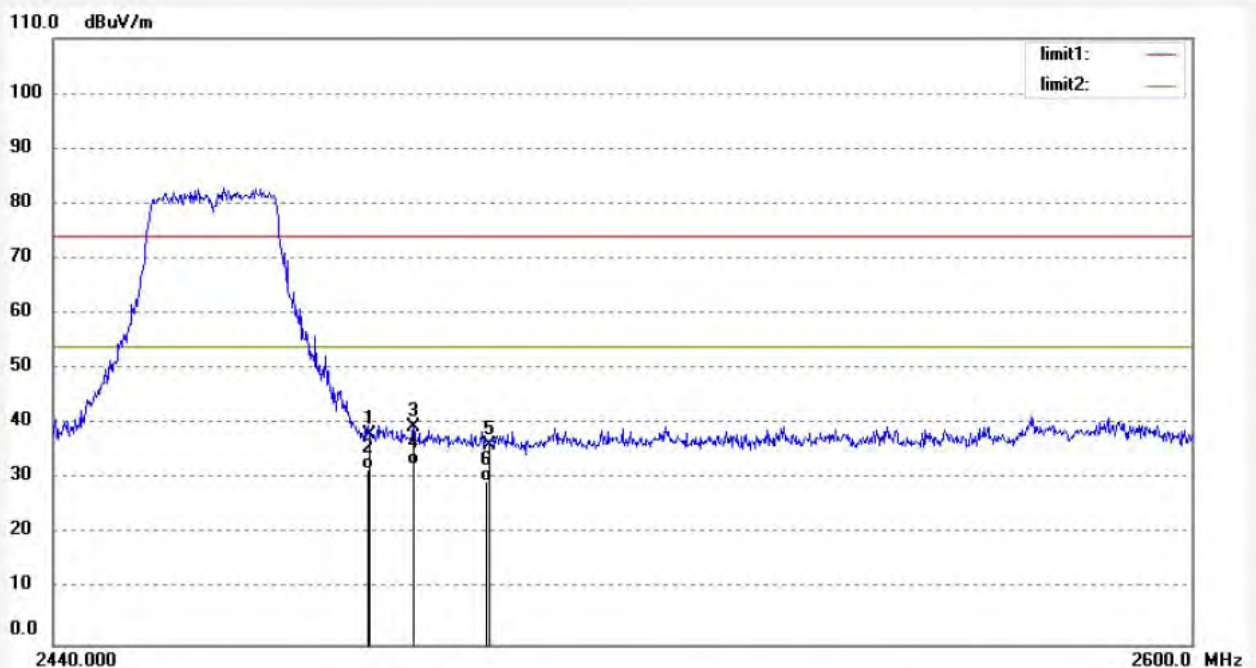


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	48.47	-7.37	41.10	74.00	-32.90	peak			
2	2483.500	42.02	-7.37	34.65	54.00	-19.35	AVG			
3	2492.578	46.75	-7.39	39.36	74.00	-34.64	peak			
4	2492.578	40.00	-7.39	32.61	54.00	-21.39	AVG			
5	2500.000	43.62	-7.40	36.22	74.00	-37.78	peak			
6	2500.000	38.99	-7.40	31.59	54.00	-22.41	AVG			

Job No.: Star_tmp #391
Standard: FCC 15C PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 49 %
EUT: MID
Mode: TX Channel 11(802.11n)
Model: PC1020MT
Manufacturer: Natural Sound

Polarization: Horizontal
Power Source: AC 120V
Date: 14/10/23/
Time: 4/36/42
Engineer Signature: Carry
Distance: 3m

Note: Report No.: ATE20142025



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	45.35	-7.37	37.98	74.00	-36.02	peak			
2	2483.500	39.17	-7.37	31.80	54.00	-22.20	AVG			
3	2489.566	46.87	-7.39	39.48	74.00	-34.52	peak			
4	2489.566	40.02	-7.39	32.63	54.00	-21.37	AVG			
5	2500.000	43.69	-7.40	36.29	74.00	-37.71	peak			
6	2500.000	36.91	-7.40	29.51	54.00	-24.49	AVG			



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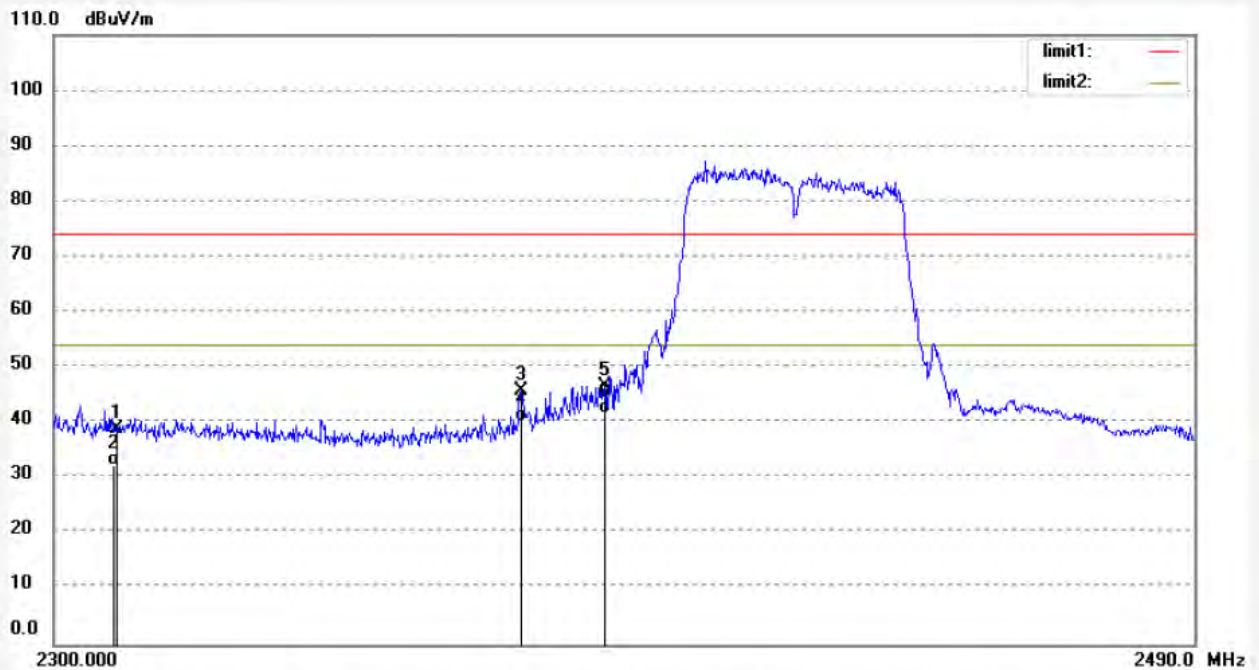
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: Star_tmp #394
Standard: FCC 15C PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 49 %
EUT: MID
Mode: TX Channel 3(802.11n)40MHz
Model: PC1020MT
Manufacturer: Natural Sound

Polarization: Vertical
Power Source: AC 120V
Date: 14/10/23/
Time: 4/46/04
Engineer Signature: Carry
Distance: 3m

Note: Report No.: ATE20142025

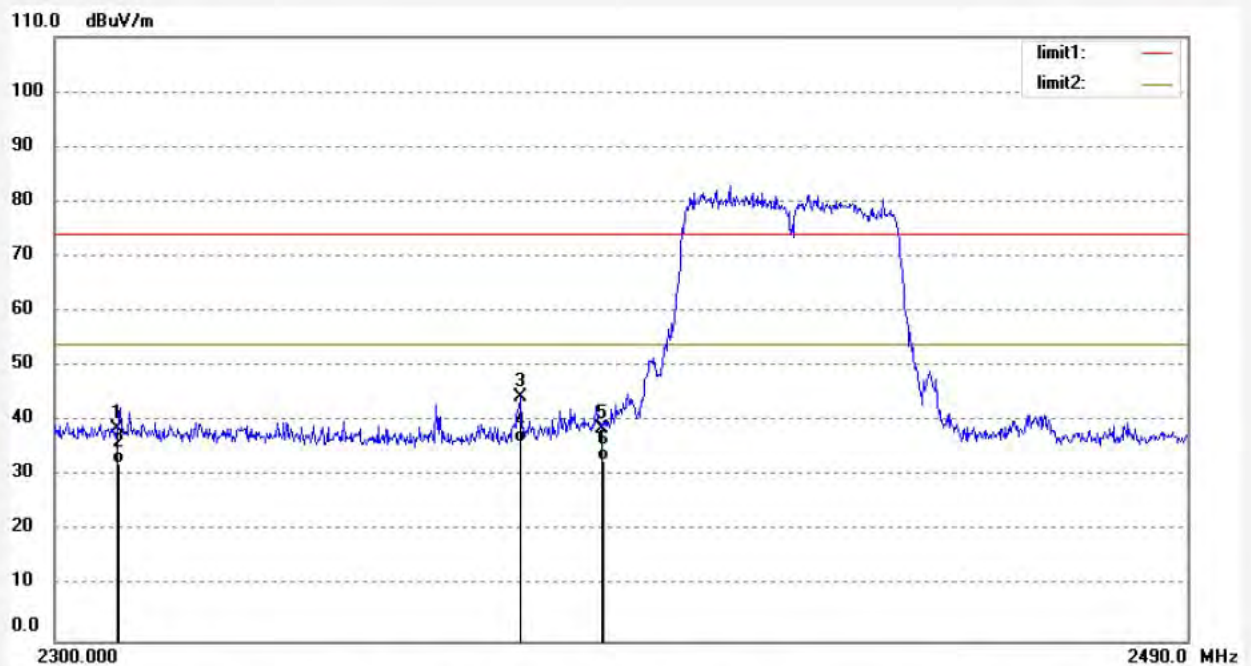


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2310.000	46.60	-7.81	38.79	74.00	-35.21	peak			
2	2310.000	40.02	-7.81	32.21	54.00	-21.79	AVG			
3	2376.046	53.47	-7.62	45.85	74.00	-28.15	peak			
4	2376.046	48.02	-7.62	40.40	54.00	-13.60	AVG			
5	2390.000	54.18	-7.53	46.65	74.00	-27.35	peak			
6	2390.000	49.32	-7.53	41.79	54.00	-12.21	AVG			

Job No.: Star_tmp #395
Standard: FCC 15C PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 49 %
EUT: MID
Mode: TX Channel 3(802.11n)40MHz
Model: PC1020MT
Manufacturer: Natural Sound

Polarization: Horizontal
Power Source: AC 120V
Date: 14/10/23/
Time: 4/50/16
Engineer Signature: Carry
Distance: 3m

Note: Report No.: ATE20142025



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2310.000	46.58	-7.81	38.77	74.00	-35.23	peak			
2	2310.000	40.03	-7.81	32.22	54.00	-21.78	AVG			
3	2376.235	51.90	-7.62	44.28	74.00	-29.72	peak			
4	2376.235	43.69	-7.62	36.07	54.00	-17.93	AVG			
5	2390.000	46.24	-7.53	38.71	74.00	-35.29	peak			
6	2390.000	40.33	-7.53	32.80	54.00	-21.20	AVG			

Job No.: Star_tmp #393

Standard: FCC 15C PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 49 %

EUT: MID

Mode: TX Channel 9(802.11n)40MHz

Model: PC1020MT

Manufacturer: Natural Sound

Polarization: Vertical

Power Source: AC 120V

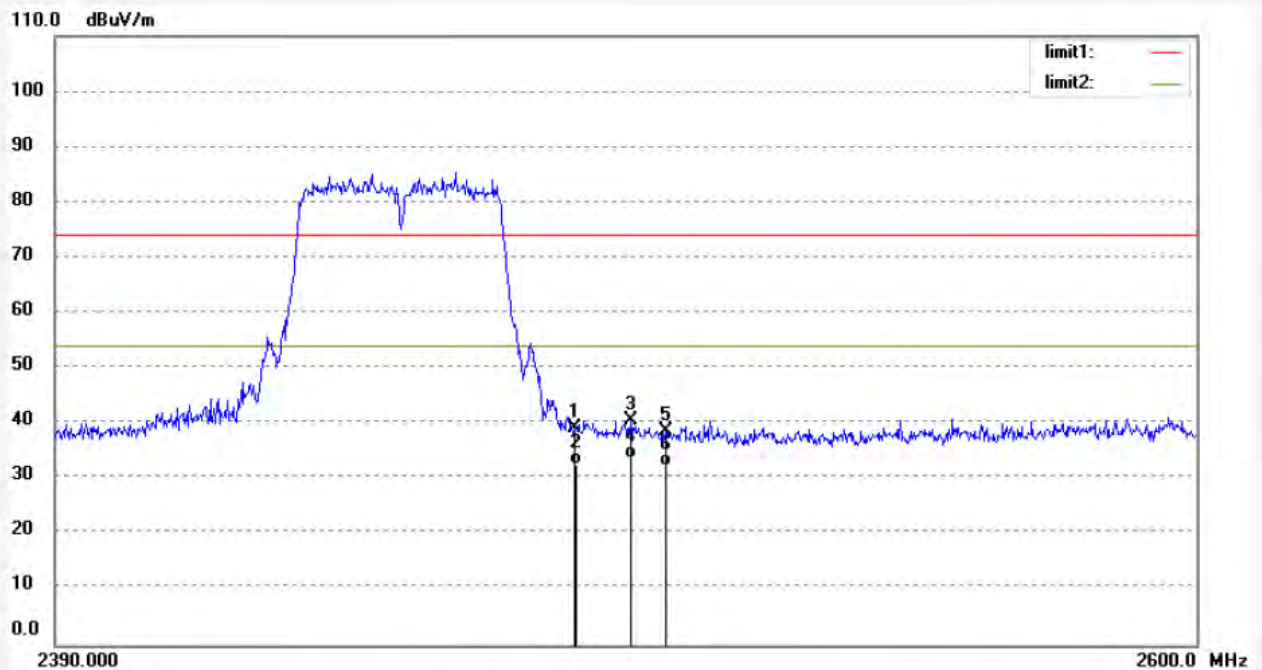
Date: 14/10/23/

Time: 4/43/32

Engineer Signature: Carry

Distance: 3m

Note: Report No.: ATE20142025



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	46.57	-7.37	39.20	74.00	-34.80	peak			
2	2483.500	40.08	-7.37	32.71	54.00	-21.29	AVG			
3	2493.631	47.82	-7.39	40.43	74.00	-33.57	peak			
4	2493.631	41.08	-7.39	33.69	54.00	-20.31	AVG			
5	2500.000	46.05	-7.40	38.65	74.00	-35.35	peak			
6	2500.000	39.62	-7.40	32.22	54.00	-21.78	AVG			

Job No.: Star_tmp #392

Standard: FCC 15C PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 49 %

EUT: MID

Mode: TX Channel 9(802.11n)40MHz

Model: PC1020MT

Manufacturer: Natural Sound

Polarization: Horizontal

Power Source: AC 120V

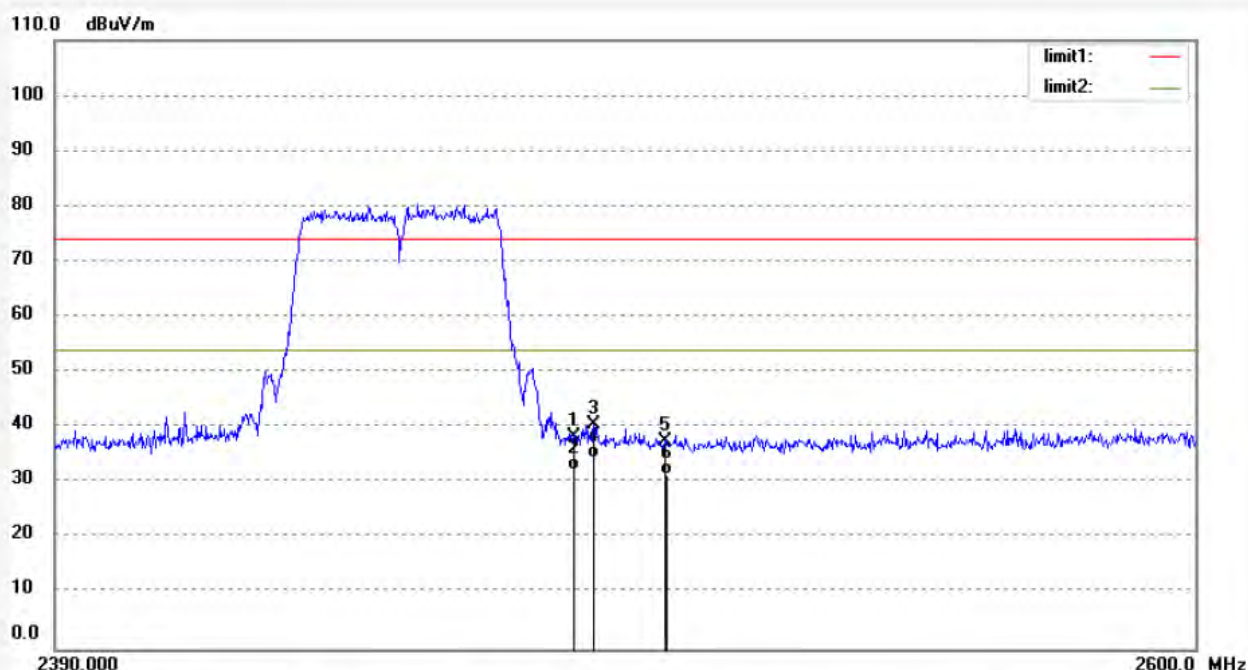
Date: 14/10/23/

Time: 4/40/19

Engineer Signature: Carry

Distance: 3m

Note: Report No.: ATE20142025

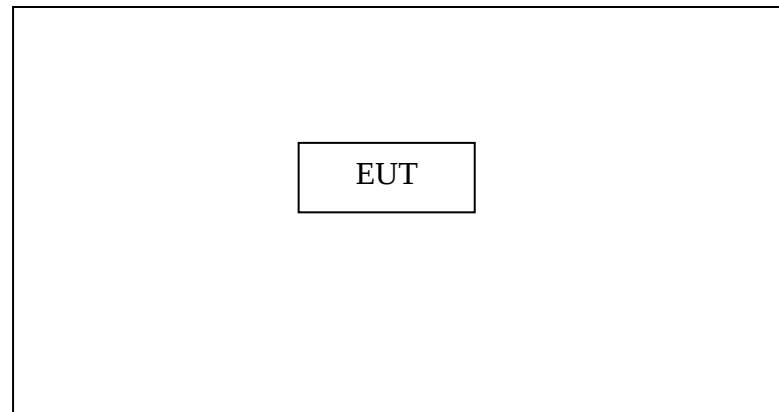


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	45.82	-7.37	38.45	74.00	-35.55	peak			
2	2483.500	39.64	-7.37	32.27	54.00	-21.73	AVG			
3	2487.116	47.91	-7.38	40.53	74.00	-33.47	peak			
4	2487.116	41.90	-7.38	34.52	54.00	-19.48	AVG			
5	2500.000	44.83	-7.40	37.43	74.00	-36.57	peak			
6	2500.000	38.97	-7.40	31.57	54.00	-22.43	AVG			

9. RADIATED SPURIOUS EMISSION TEST

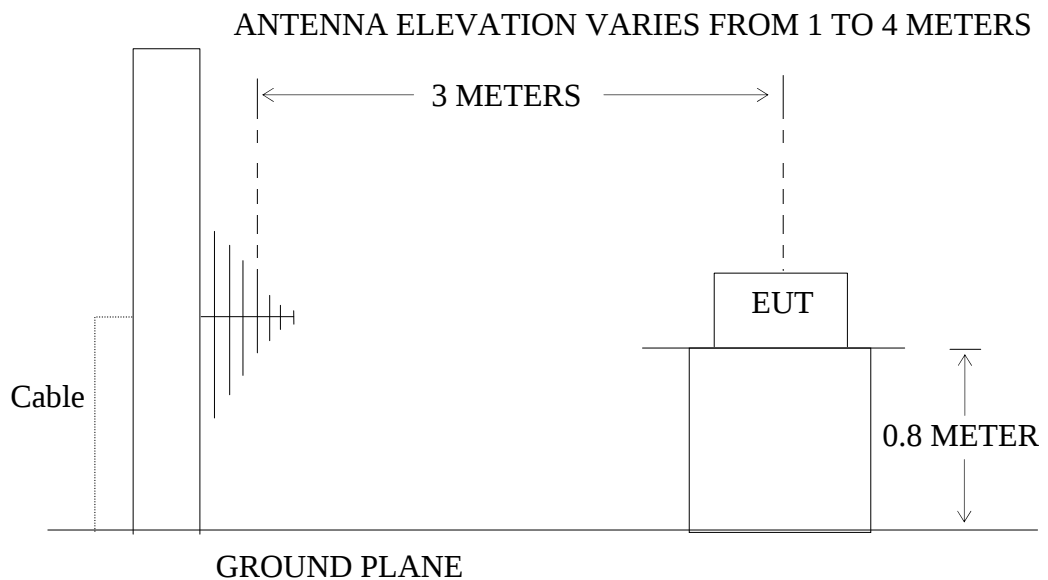
9.1. Block Diagram of Test Setup

9.1.1. Block diagram of connection between the EUT and peripherals



Setup: Transmitting mode

9.1.2. Semi-Anechoic Chamber Test Setup Diagram



9.2. The Limit For Section 15.247(d)

Section 15.247(d): 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).

9.3.Restricted bands of operation

9.3.1.FCC Part 15.205 Restricted bands of operation

(a) Except as shown in paragraph (d) of this section, Only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(²)
13.36-13.41			

¹Until February 1, 1999, this restricted band shall be 0.490-0.510

²Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emission appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000MHz, Compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

9.4.Configuration of EUT on Measurement

The equipment are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

9.5. Operating Condition of EUT

9.5.1. Setup the EUT and simulator as shown as Section 9.1.

9.5.2. Turn on the power of all equipment.

9.5.3. Let the EUT work in TX modes measure it. The transmit frequency are 2412-2462 and 2422-2452MHz. We select 2412MHz, 2437MHz, 2462MHz and 2422MHz, 2437MHz, 2452MHz TX frequency to transmit.

9.6. Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4: 2009 on radiated emission measurement. The EUT was tested in 3 orthogonal planes.

The worst-case data rate for this channel to be 1Mbps for 802.11b mode and 6Mbps for 802.11g mode and 150Mbps for 802.11n mode, based on previous with 802.11 WLAN product design architectures.

The final measurement in band 9-90 kHz, 110-490 kHz and above 1000MHz is performed with Average detector. Except those frequency bands mention above, the final measurement for frequencies below 1000MHz is performed with Quasi Peak detector.

When average radiated emissions measurements are specified there is also a limit on the peak emissions level which is 20 dB above the applicable maximum permitted average emission limit

RBW (120 kHz), VBW (300 kHz) for QP detector below 1GHz

Peak detector above 1GHz

RBW (1 MHz), VBW (3MHz) for Peak measurement

RBW (1 MHz), VBW (10Hz) for AV measurement

If the peak-detected amplitude can be shown to comply with the average limit, then it is not necessary to perform a separate average measurement.

9.7. The Field Strength of Radiation Emission Measurement Results

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

2. The fundamental radiated emissions were reduced by Band Reject Filter in the attached plots.

3. The EUT is tested radiation emission at each test mode(802.11 b/g/n) in three axes. The worst emissions are reported in all test mode and channels.

4. The 18-25GHz emissions are not reported, because the levels are too low against the limit.

Below 1G



ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: wcarry #143

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: MID

Mode: TX Channel 1(802.11b)

Model: PC1020MT

Manufacturer: Natural Sound

Polarization: Horizontal

Power Source: AC 120V/60Hz

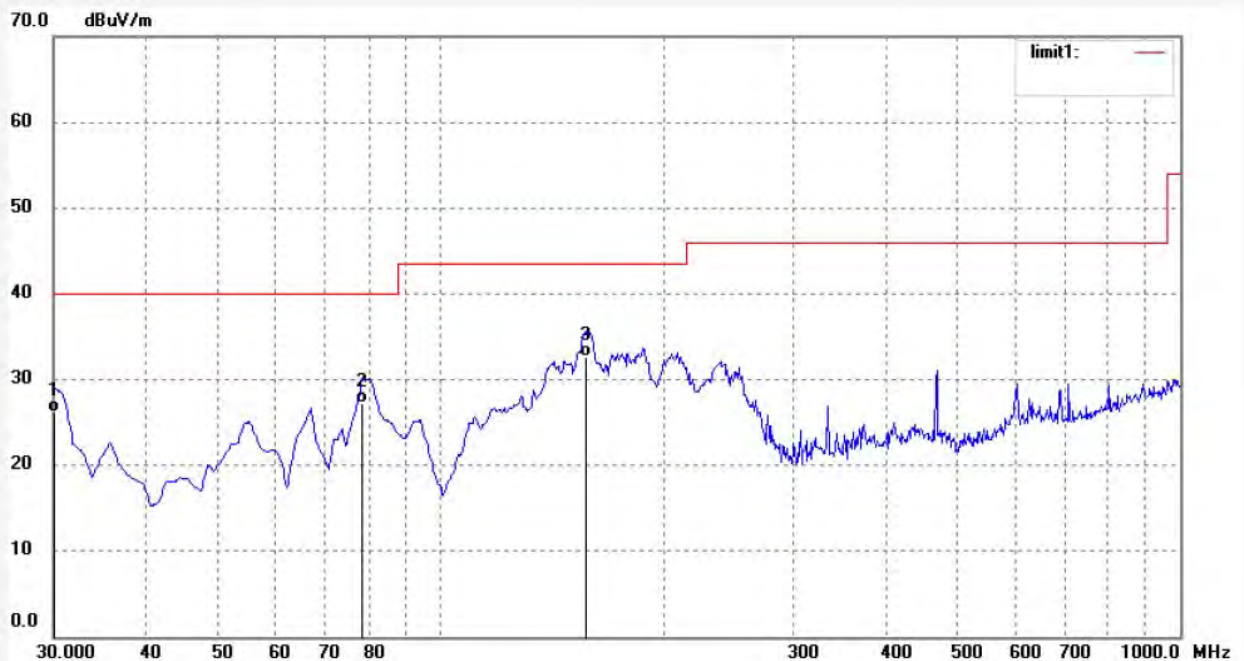
Date: 14/10/21/

Time: 10/29/08

Engineer Signature: Carry

Distance: 3m

Note: Report NO.:ATE20142025



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	30.0000	42.98	-16.80	26.18	40.00	-13.82	QP			
2	78.5000	48.61	-21.45	27.16	40.00	-12.84	QP			
3	158.0399	55.72	-23.06	32.66	43.50	-10.84	QP			



ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: wcarry #144

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: MID

Mode: TX Channel 1(802.11b)

Model: PC1020MT

Manufacturer: Natural Sound

Polarization: Vertical

Power Source: AC 120V/60Hz

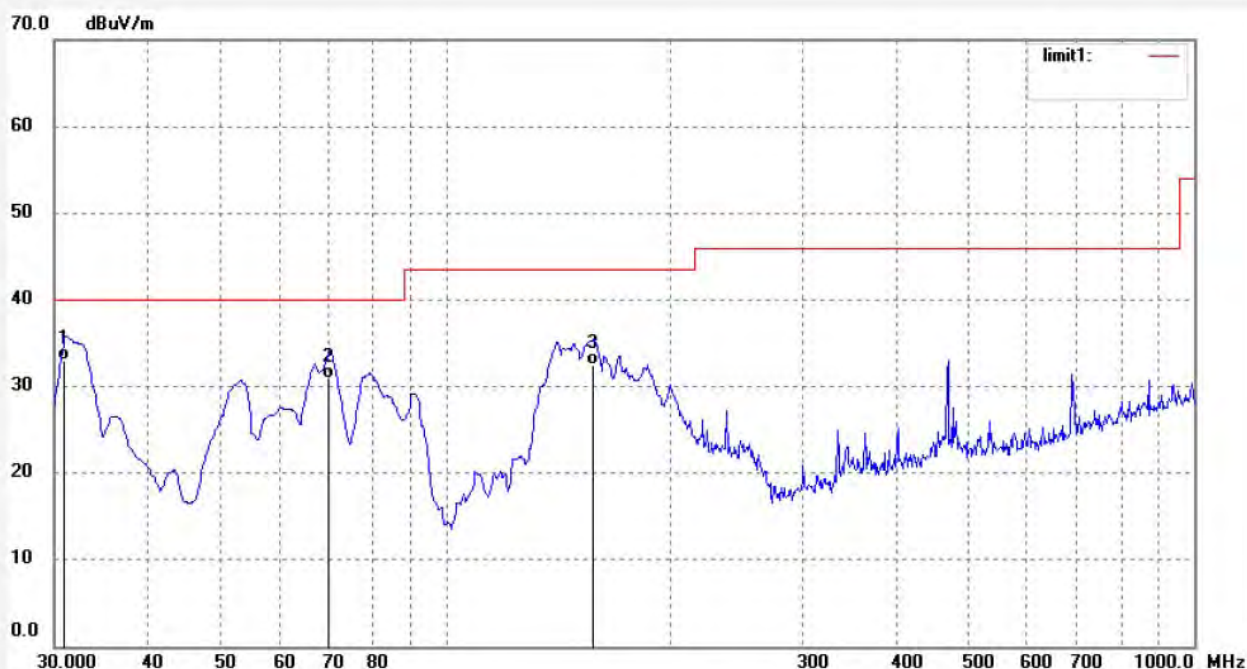
Date: 14/10/21/

Time: 10/30/20

Engineer Signature: Carry

Distance: 3m

Note: Report NO.:ATE20142025



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	30.9699	49.85	-16.94	32.91	40.00	-7.09	QP			
2	69.7699	52.17	-21.34	30.83	40.00	-9.17	QP			
3	158.0399	55.56	-23.06	32.50	43.50	-11.00	QP			

Above 1G



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F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: WCARRY #231

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: MID

Mode: TX Channel 1(802.11b)

Model: PC1020MT

Manufacturer: Natural Sound

Polarization: Vertical

Power Source: AC 120V/60Hz

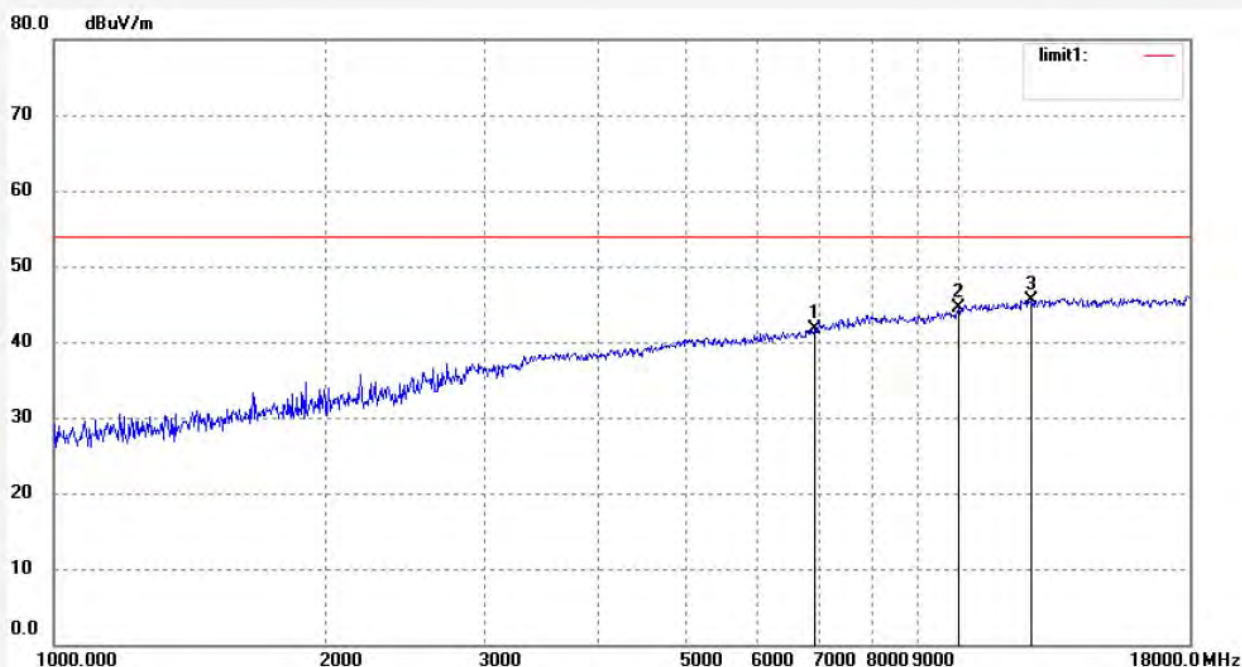
Date: 14/10/24/

Time: 10/20/42

Engineer Signature: Carry

Distance: 0.5m

Note: Report NO.:ATE20142025





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Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber

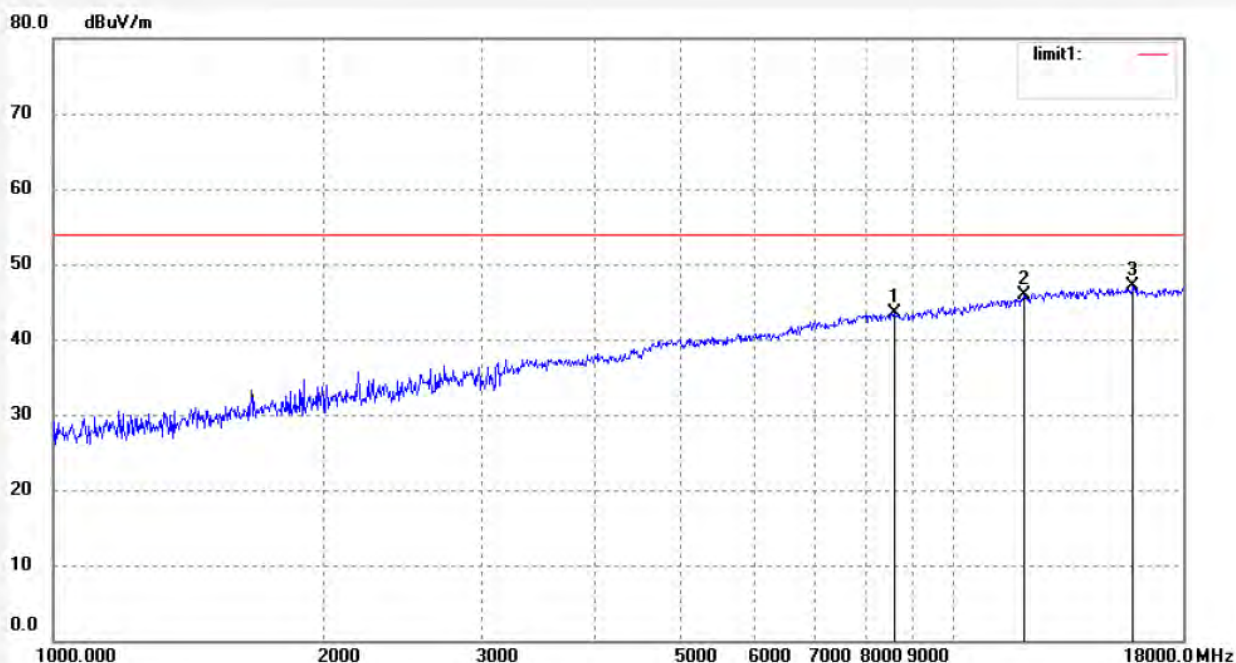
Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: WCARRY #232
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: MID
Mode: TX Channel 1(802.11b)
Model: PC1020MT
Manufacturer: Natural Sound

Polarization: Horizontal
Power Source: AC 120V/60Hz
Date: 14/10/24/
Time: 10/20/42
Engineer Signature: Carry
Distance: 0.5m

Note: Report NO.:ATE20142025

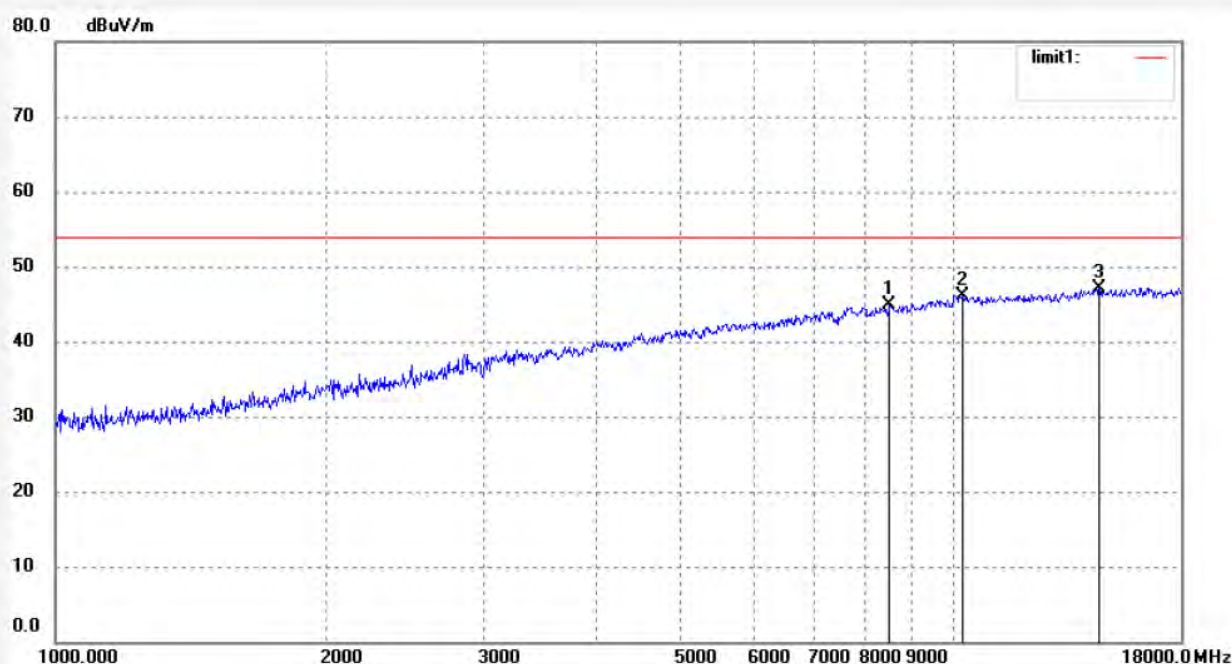


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	8593.809	37.21	6.26	43.47	54.00	-10.53	peak			
2	11975.551	37.91	7.97	45.88	54.00	-8.12	peak			
3	15836.207	33.92	13.16	47.08	54.00	-6.92	peak			

Job No.: WCARRY #233
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: MID
Mode: TX Channel 6(802.11b)
Model: PC1020MT
Manufacturer: Natural Sound

Polarization: Horizontal
Power Source: AC 120V/60Hz
Date: 14/10/24/
Time: 10/22/36
Engineer Signature: Carry
Distance: 0.5m

Note: Report NO.:ATE20142025

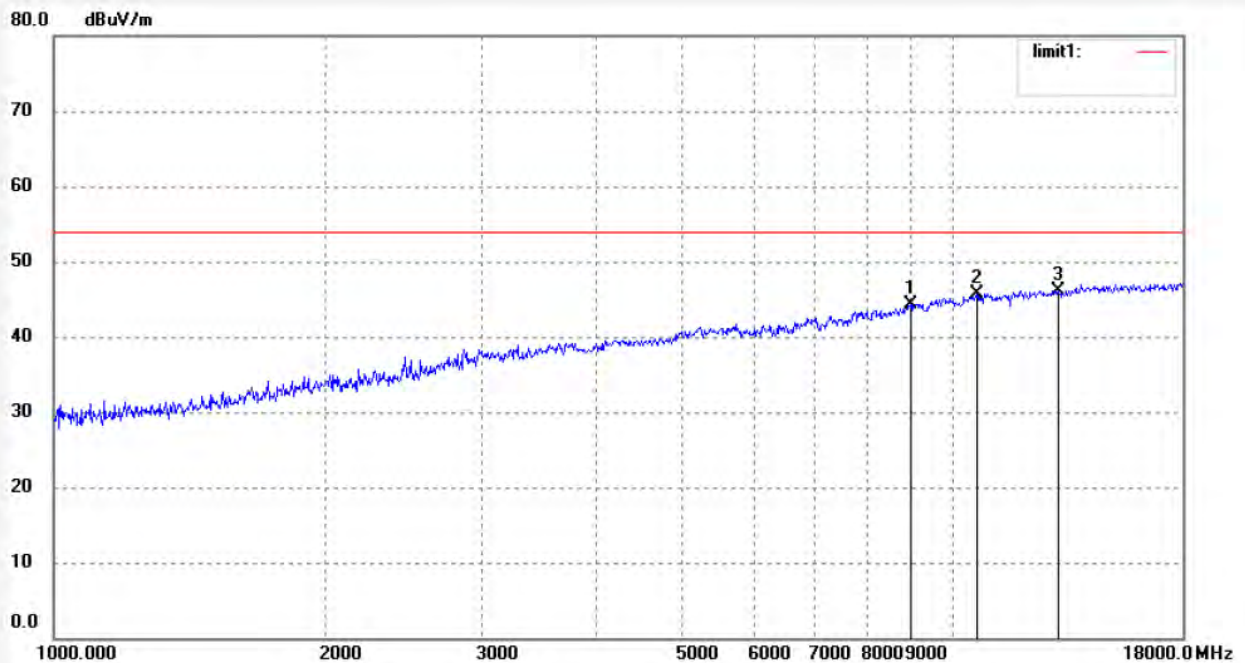


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	8519.092	38.75	6.21	44.96	54.00	-9.04	peak			
2	10263.538	39.27	6.82	46.09	54.00	-7.91	peak			
3	14596.737	32.60	14.42	47.02	54.00	-6.98	peak			

Job No.: WCARRY #234
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: MID
Mode: TX Channel 6(802.11b)
Model: PC1020MT
Manufacturer: Natural Sound

Polarization: Vertical
Power Source: AC 120V/60Hz
Date: 14/10/24/
Time: 10/23/38
Engineer Signature: Carry
Distance: 0.5m

Note: Report NO.:ATE20142025



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	8977.336	37.85	6.50	44.35	54.00	-9.65	peak			
2	10628.367	39.07	6.70	45.77	54.00	-8.23	peak			
3	13106.396	36.12	9.97	46.09	54.00	-7.91	peak			

Job No.: WCARRY #235

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: MID

Mode: TX Channel 11(802.11b)

Model: PC1020MT

Manufacturer: Natural Sound

Polarization: Vertical

Power Source: AC 120V/60Hz

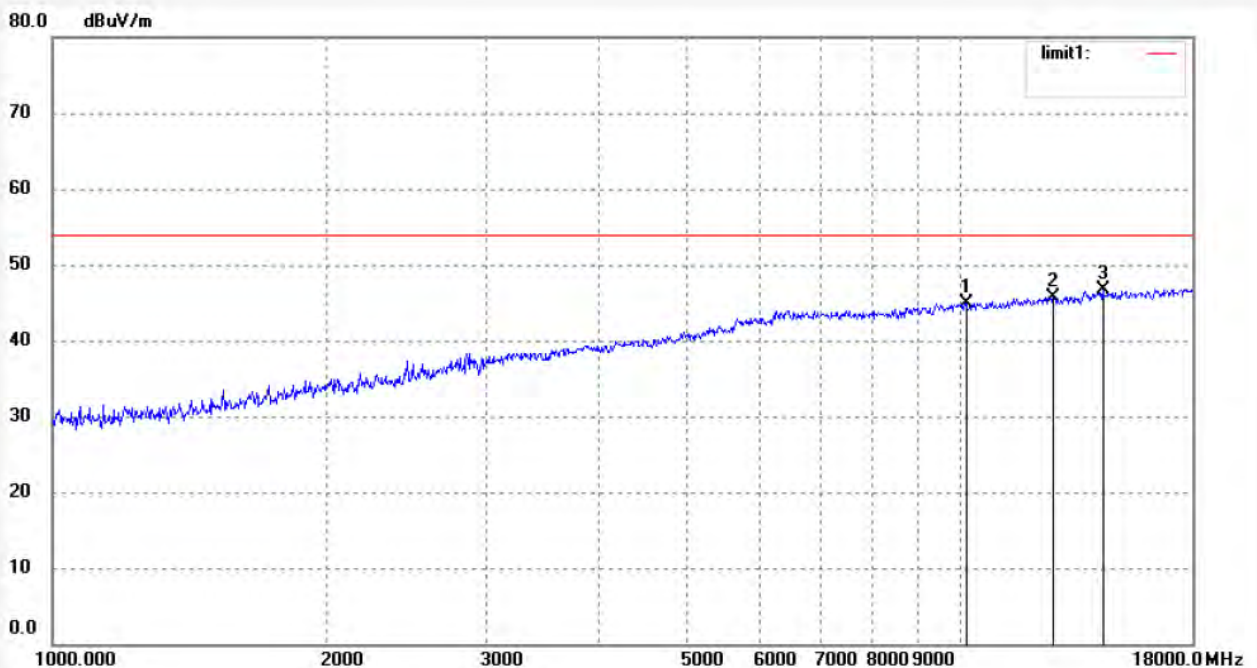
Date: 14/10/24/

Time: 10/24/44

Engineer Signature: Carry

Distance: 0.5m

Note: Report NO.:ATE20142025

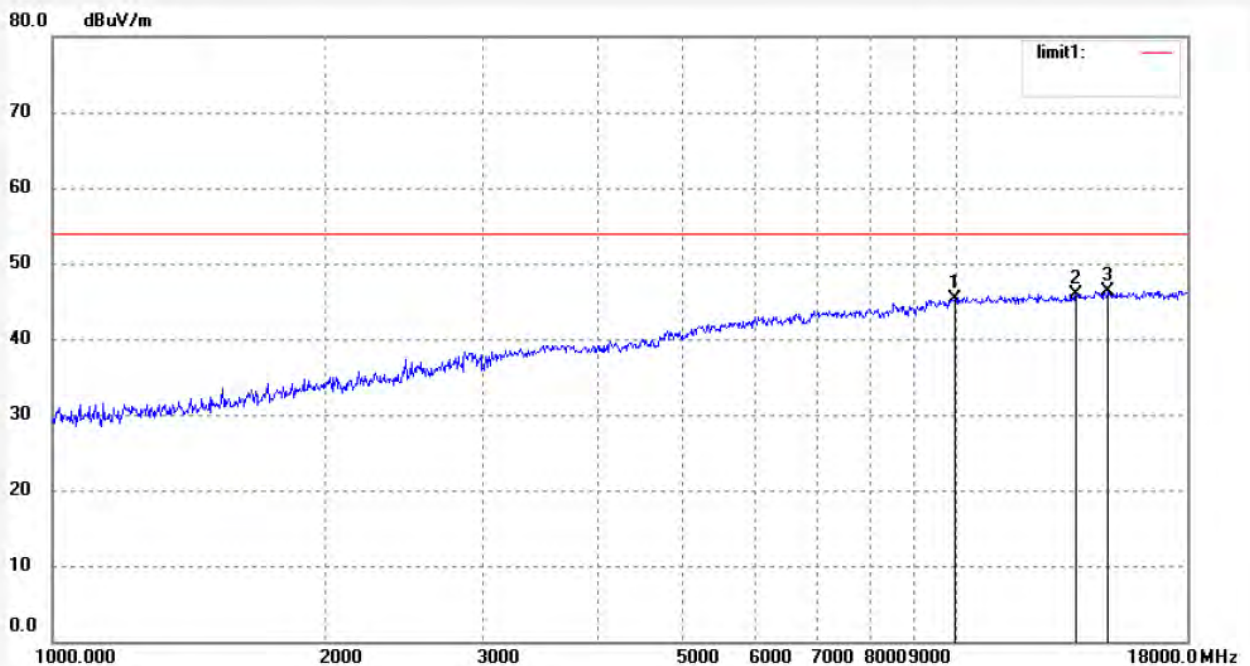


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	10144.733	37.97	6.90	44.87	54.00	-9.13	peak			
2	12656.506	36.54	9.14	45.68	54.00	-8.32	peak			
3	14344.025	33.09	13.64	46.73	54.00	-7.27	peak			

Job No.: WCARRY #236
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: MID
Mode: TX Channel 11(802.11b)
Model: PC1020MT
Manufacturer: Natural Sound

Polarization: Horizontal
Power Source: AC 120V/60Hz
Date: 14/10/24/
Time: 10/25/18
Engineer Signature: Carry
Distance: 0.5m

Note: Report NO.:ATE20142025

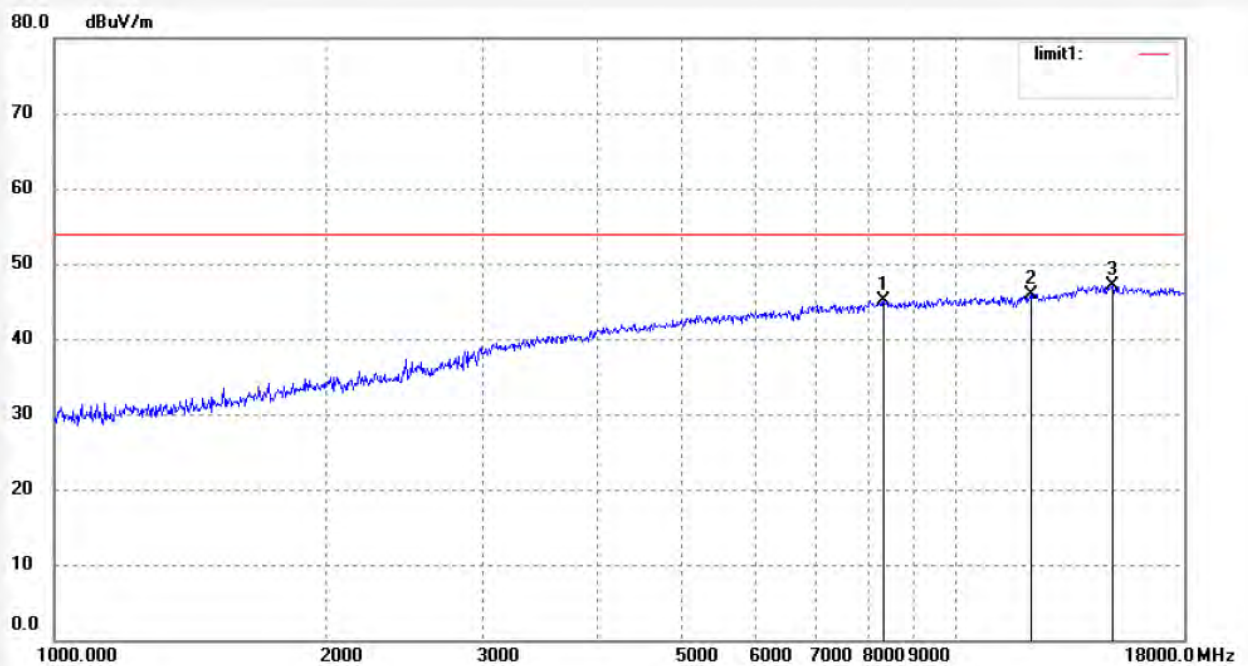


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	9969.098	38.24	7.00	45.24	54.00	-8.76	peak			
2	13572.278	35.15	10.75	45.90	54.00	-8.10	peak			
3	14724.757	32.05	14.23	46.28	54.00	-7.72	peak			

Job No.: WCARRY #237
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: MID
Mode: TX Channel 1(802.11g)
Model: PC1020MT
Manufacturer: Natural Sound

Polarization: Horizontal
Power Source: AC 120V/60Hz
Date: 14/10/24/
Time: 10/26/05
Engineer Signature: Carry
Distance: 0.5m

Note: Report NO.:ATE20142025

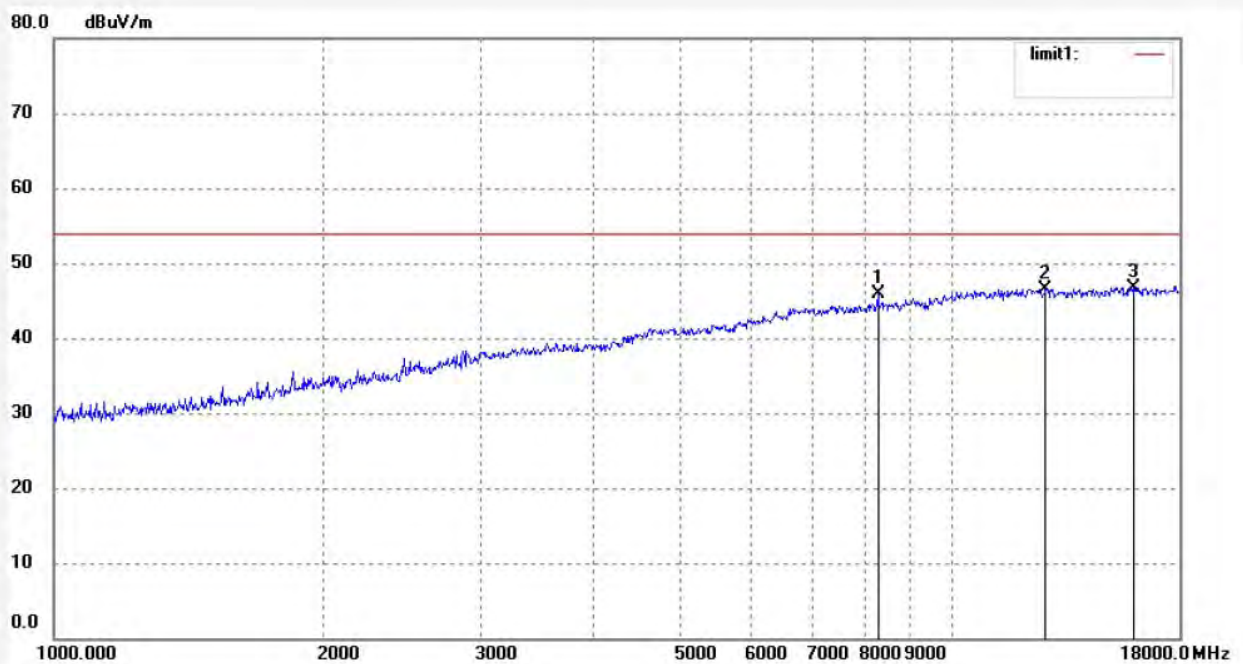


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	8347.270	39.05	5.99	45.04	54.00	-8.96	peak			
2	12151.115	37.60	8.25	45.85	54.00	-8.15	peak			
3	14984.176	33.22	13.83	47.05	54.00	-6.95	peak			

Job No.: WCARRY #238
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: MID
Mode: TX Channel 1(802.11g)
Model: PC1020MT
Manufacturer: Natural Sound

Polarization: Vertical
Power Source: AC 120V/60Hz
Date: 14/10/24/
Time: 10/26/58
Engineer Signature: Carry
Distance: 0.5m

Note: Report NO.:ATE20142025

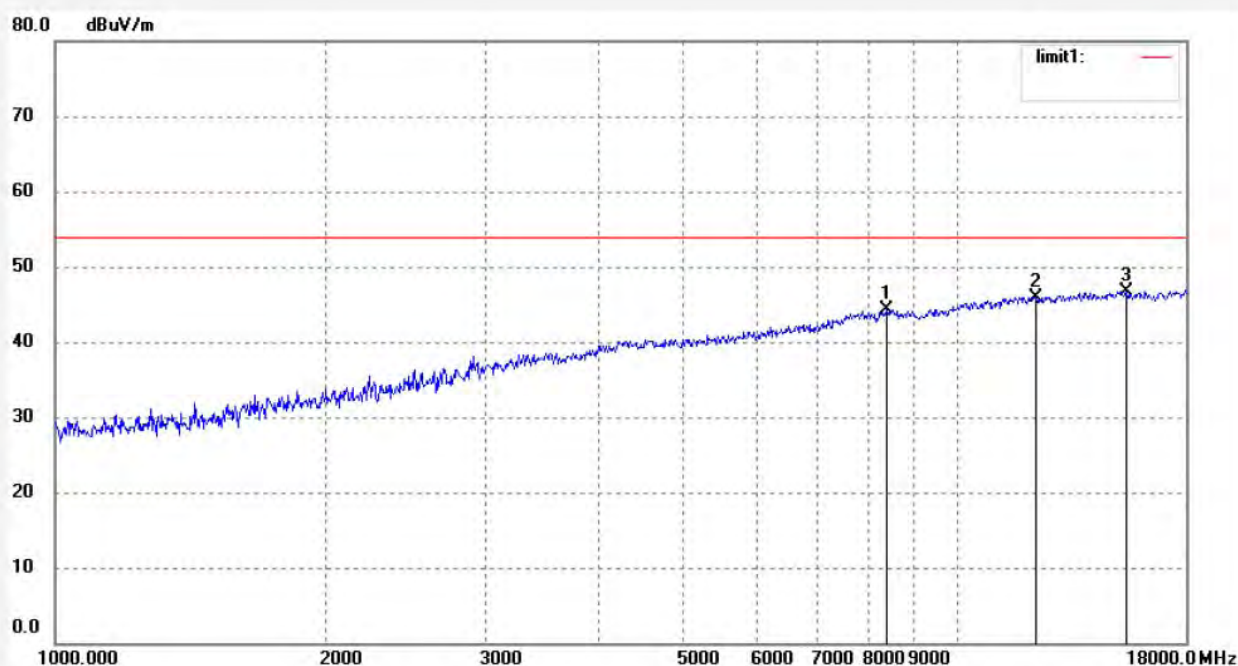


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	8298.818	40.07	5.92	45.99	54.00	-8.01	peak			
2	12767.509	37.15	9.35	46.50	54.00	-7.50	peak			
3	15975.098	33.49	13.19	46.68	54.00	-7.32	peak			

Job No.: WCARRY #239
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: MID
Mode: TX Channel 6(802.11g)
Model: PC1020MT
Manufacturer: Natural Sound

Polarization: Vertical
Power Source: AC 120V/60Hz
Date: 14/10/24/
Time: 14/14/37
Engineer Signature: Carry
Distance: 0.5m

Note: Report NO.:ATE20142025

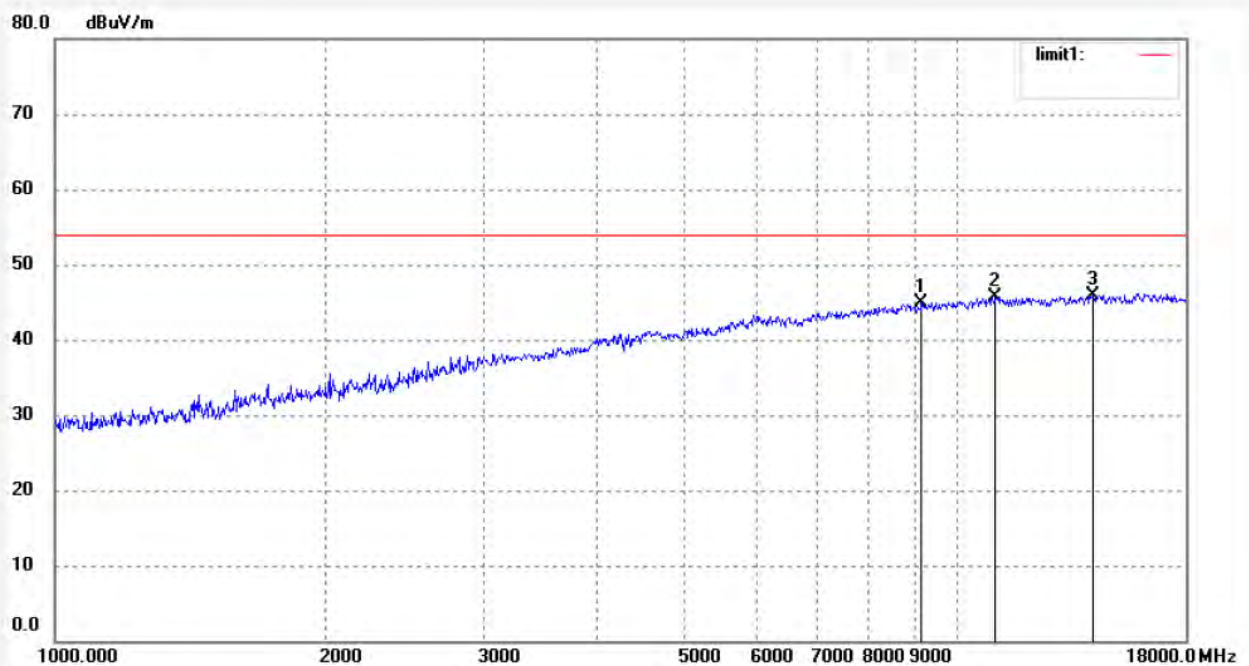


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	8371.602	38.27	6.02	44.29	54.00	-9.71	peak			
2	12257.686	37.57	8.43	46.00	54.00	-8.00	peak			
3	15471.706	33.59	13.15	46.74	54.00	-7.26	peak			

Job No.: WCARRY #240
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: MID
Mode: TX Channel 6(802.11g)
Model: PC1020MT
Manufacturer: Natural Sound

Polarization: Horizontal
Power Source: AC 120V/60Hz
Date: 14/10/24/
Time: 14/15/56
Engineer Signature: Carry
Distance: 0.5m

Note: Report NO.:ATE20142025



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	9162.128	38.18	6.70	44.88	54.00	-9.12	peak			
2	11070.424	38.77	6.90	45.67	54.00	-8.33	peak			
3	14219.315	33.00	12.90	45.90	54.00	-8.10	peak			

Job No.: WCARRY #241

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: MID

Mode: TX Channel 11(802.11g)

Model: PC1020MT

Manufacturer: Natural Sound

Polarization: Horizontal

Power Source: AC 120V/60Hz

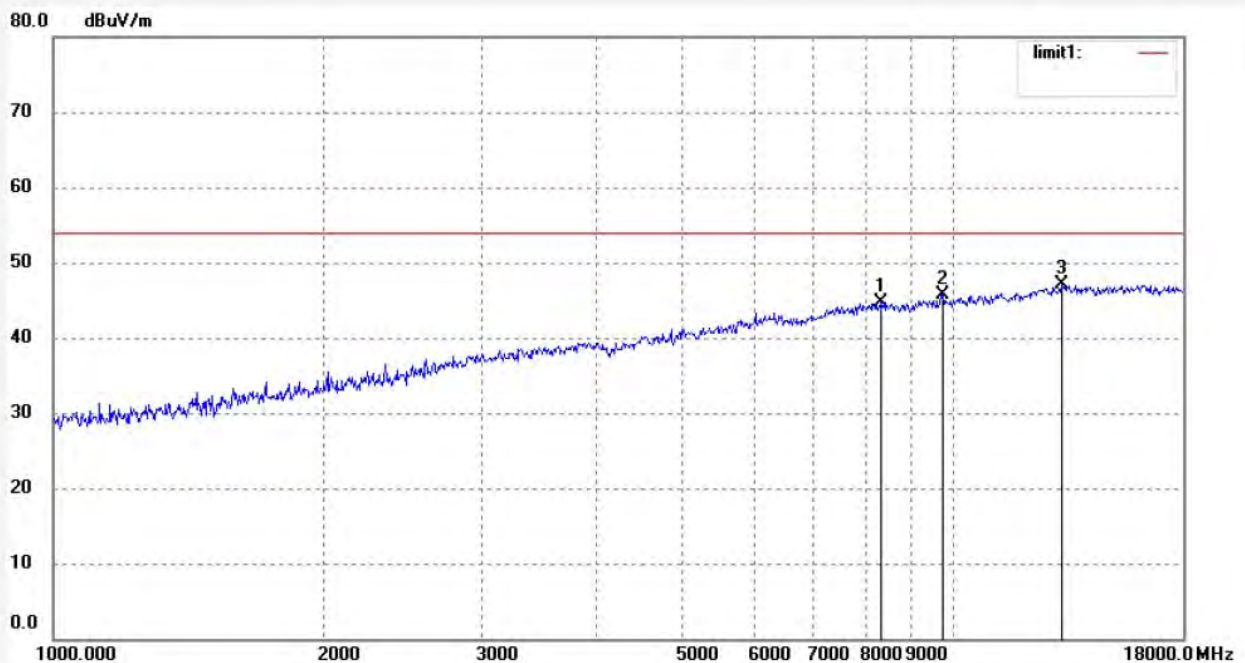
Date: 14/10/24/

Time: 14/17/12

Engineer Signature: Carry

Distance: 0.5m

Note: Report NO.:ATE20142025



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	8298.818	38.76	5.92	44.68	54.00	-9.32	peak			
2	9739.640	38.67	7.08	45.75	54.00	-8.25	peak			
3	13182.917	36.99	10.09	47.08	54.00	-6.92	peak			

Job No.: WCARRY #242

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: MID

Mode: TX Channel 11(802.11g)

Model: PC1020MT

Manufacturer: Natural Sound

Polarization: Vertical

Power Source: AC 120V/60Hz

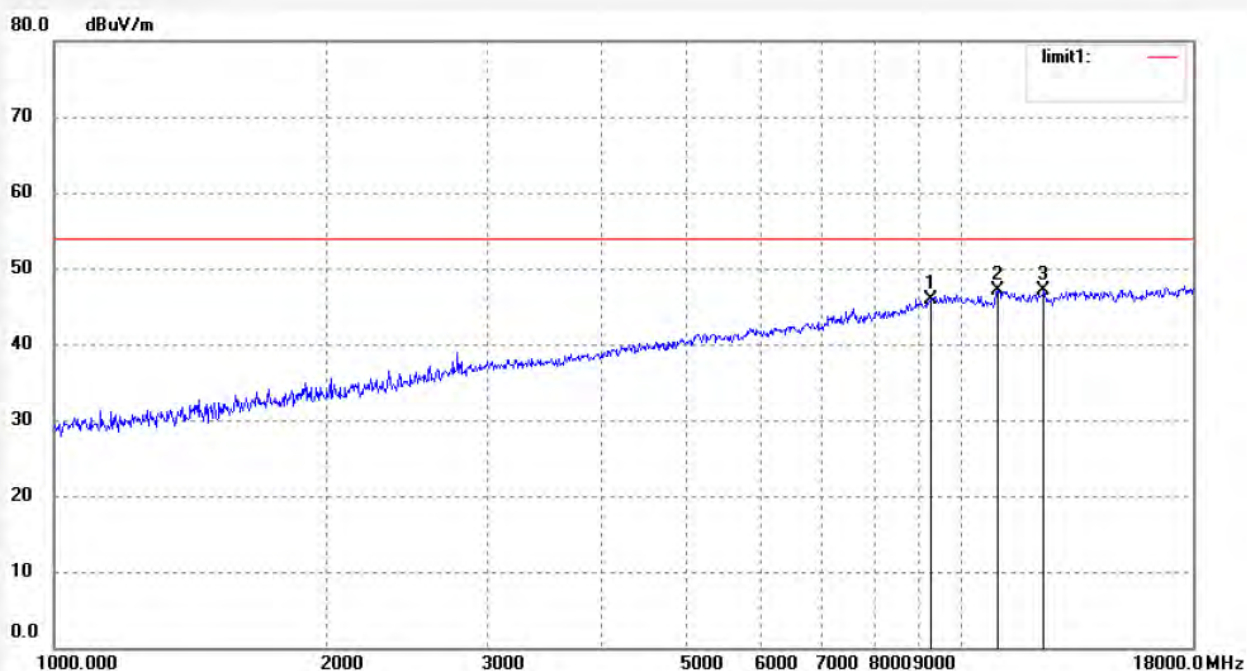
Date: 14/10/24/

Time: 14/18/12

Engineer Signature: Carry

Distance: 0.5m

Note: Report NO.:ATE20142025

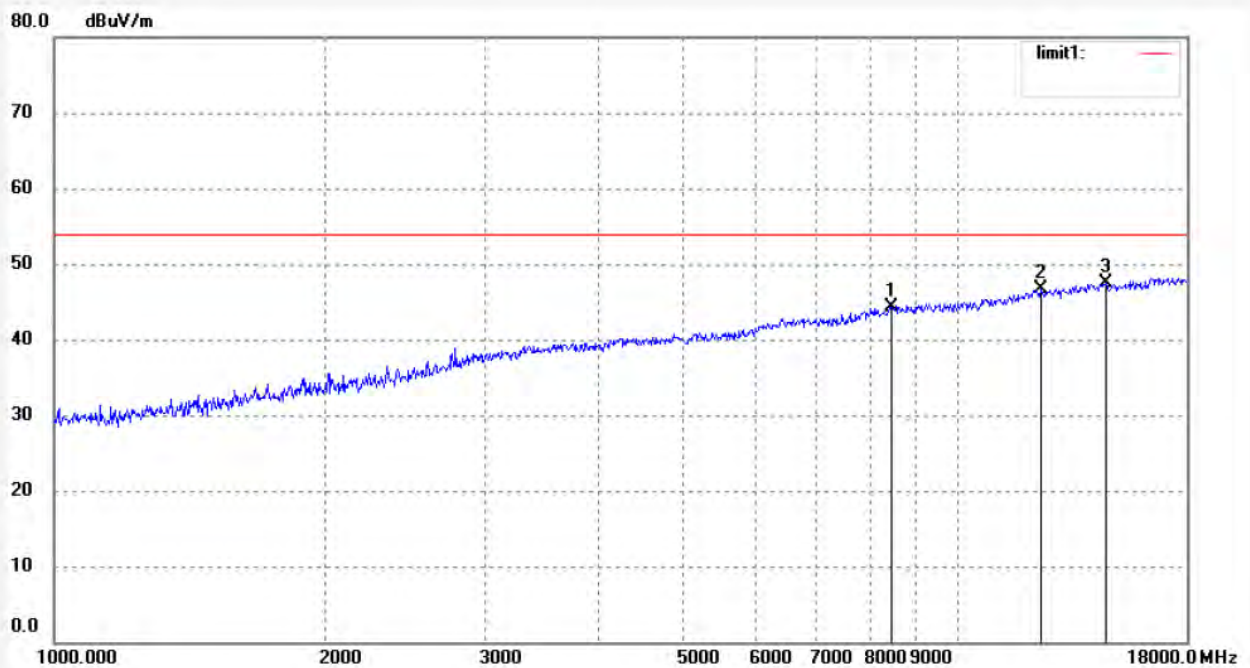


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	9242.484	39.12	6.81	45.93	54.00	-8.07	peak			
2	10974.175	40.31	6.78	47.09	54.00	-6.91	peak			
3	12329.252	38.46	8.55	47.01	54.00	-6.99	peak			

Job No.: WCARRY #243
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: MID
Mode: TX Channel 1(802.11n20)
Model: PC1020MT
Manufacturer: Natural Sound

Polarization: Vertical
Power Source: AC 120V/60Hz
Date: 14/10/24/
Time: 14/19/27
Engineer Signature: Carry
Distance: 0.5m

Note: Report NO.:ATE20142025



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	8469.642	38.14	6.16	44.30	54.00	-9.70	peak			
2	12401.236	37.94	8.67	46.61	54.00	-7.39	peak			
3	14639.286	33.06	14.35	47.41	54.00	-6.59	peak			

Job No.: WCARRY #244

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: MID

Mode: TX Channel 1(802.11n20)

Model: PC1020MT

Manufacturer: Natural Sound

Polarization: Horizontal

Power Source: AC 120V/60Hz

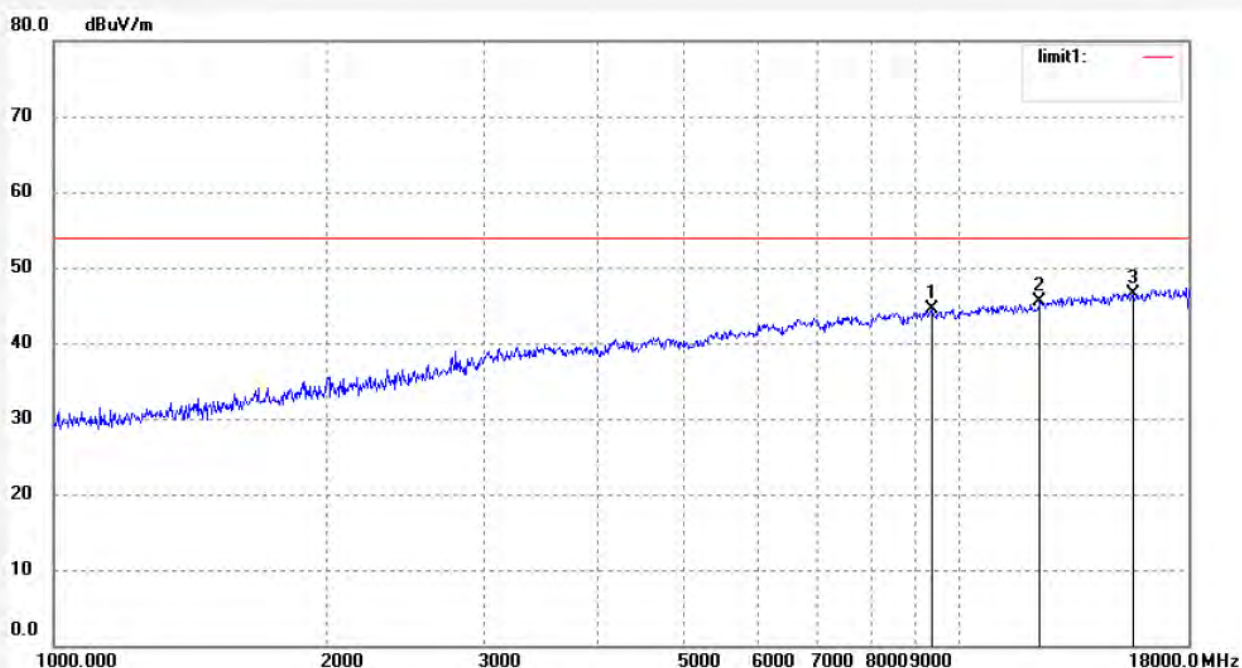
Date: 14/10/24/

Time: 14/20/20

Engineer Signature: Carry

Distance: 0.5m

Note: Report NO.:ATE20142025

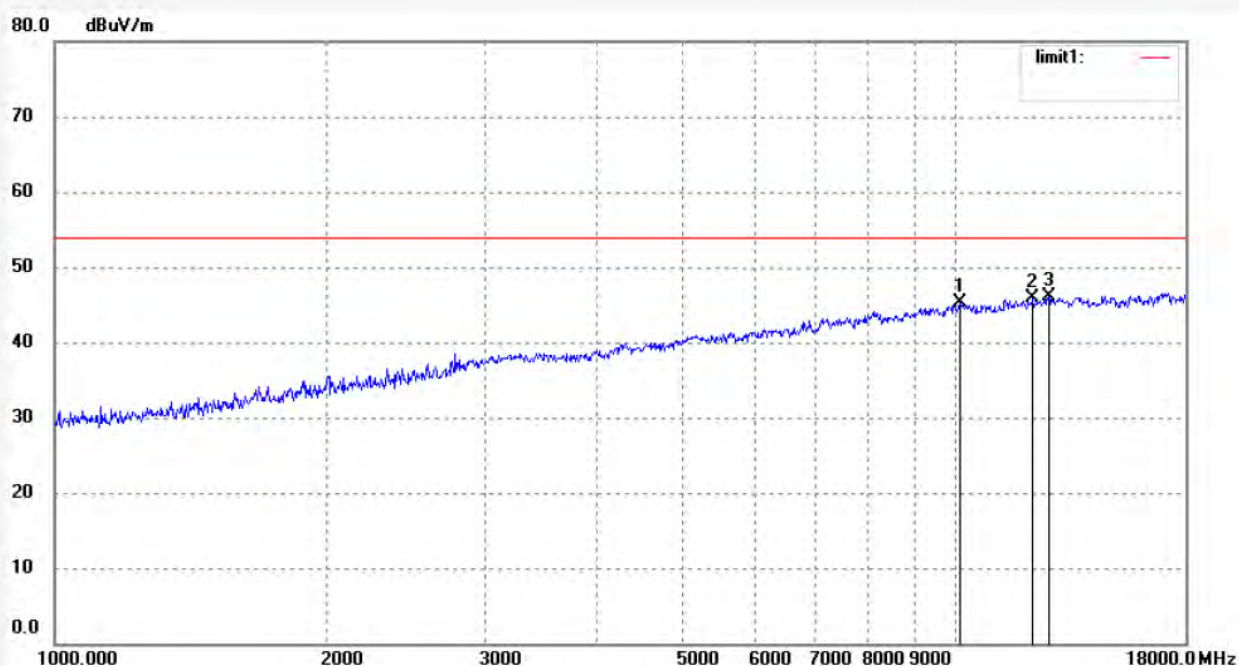


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	9350.723	37.57	6.95	44.52	54.00	-9.48	peak			
2	12329.252	37.04	8.55	45.59	54.00	-8.41	peak			
3	15652.895	33.47	13.13	46.60	54.00	-7.40	peak			

Job No.: WCARRY #245
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: MID
Mode: TX Channel 6(802.11n20)
Model: PC1020MT
Manufacturer: Natural Sound

Polarization: Horizontal
Power Source: AC 120V/60Hz
Date: 14/10/24/
Time: 14/21/08
Engineer Signature: Carry
Distance: 0.5m

Note: Report NO.:ATE20142025

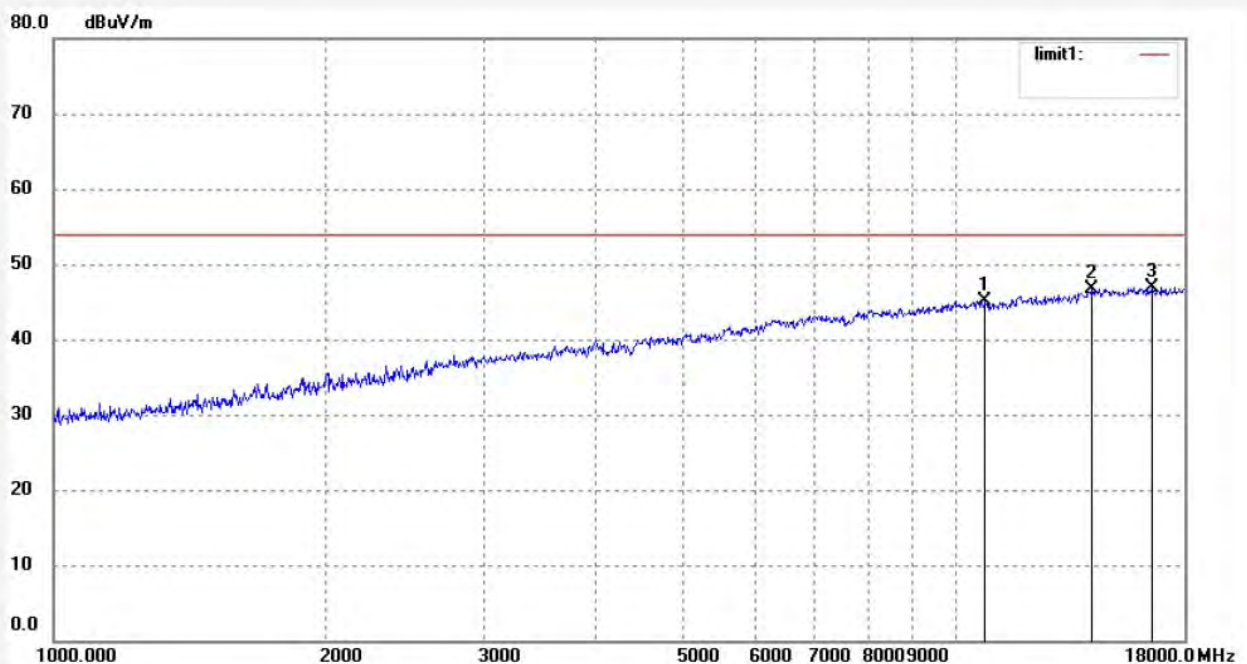


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	10115.247	38.37	6.92	45.29	54.00	-8.71	peak			
2	12186.535	37.59	8.31	45.90	54.00	-8.10	peak			
3	12693.399	36.81	9.21	46.02	54.00	-7.98	peak			

Job No.: WCARRY #246
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: MID
Mode: TX Channel 6(802.11n20)
Model: PC1020MT
Manufacturer: Natural Sound

Polarization: Vertical
Power Source: AC 120V/60Hz
Date: 14/10/24/
Time: 14/21/52
Engineer Signature: Carry
Distance: 0.5m

Note: Report NO.:ATE20142025



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	10815.616	38.35	6.74	45.09	54.00	-8.91	peak			
2	14177.986	33.96	12.66	46.62	54.00	-7.38	peak			
3	16591.174	32.95	13.95	46.90	54.00	-7.10	peak			

Job No.: WCARRY #247

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: MID

Mode: TX Channel 11(802.11n20)

Model: PC1020MT

Manufacturer: Natural Sound

Polarization: Vertical

Power Source: AC 120V/60Hz

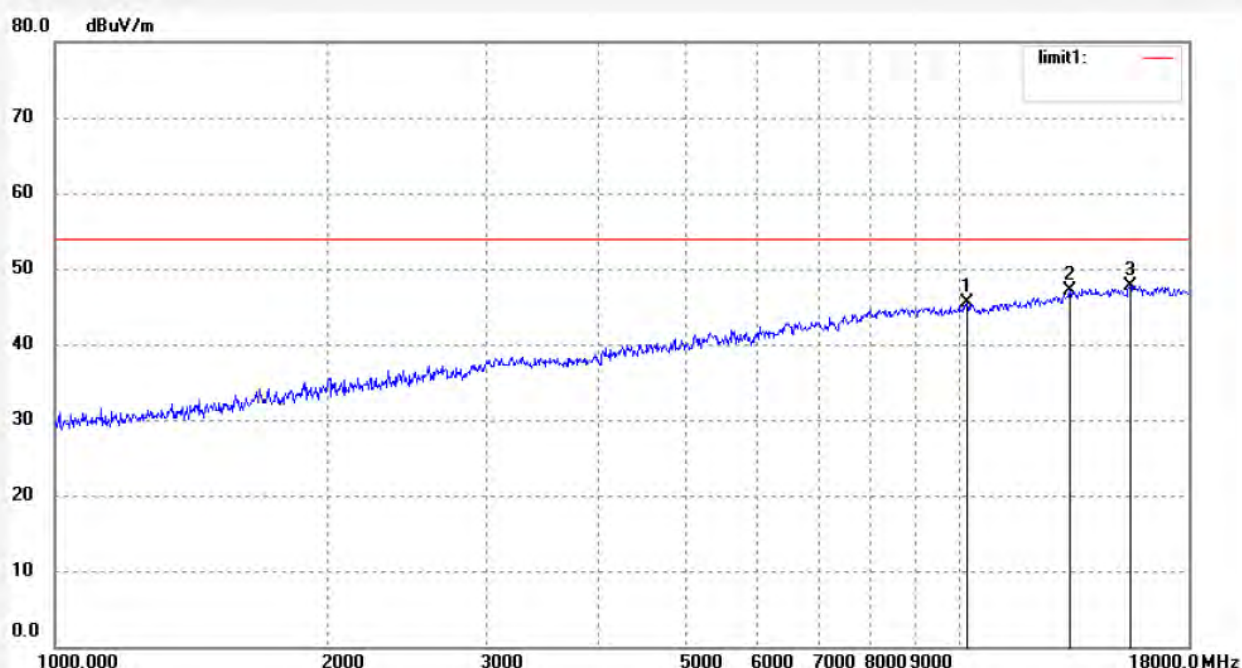
Date: 14/10/24/

Time: 14/22/49

Engineer Signature: Carry

Distance: 0.5m

Note: Report NO.:ATE20142025



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	10233.707	38.61	6.84	45.45	54.00	-8.55	peak			
2	13298.538	36.81	10.28	47.09	54.00	-6.91	peak			
3	15516.806	34.57	13.11	47.68	54.00	-6.32	peak			

Job No.: WCARRY #248

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: MID

Mode: TX Channel 11(802.11n20)

Model: PC1020MT

Manufacturer: Natural Sound

Polarization: Horizontal

Power Source: AC 120V/60Hz

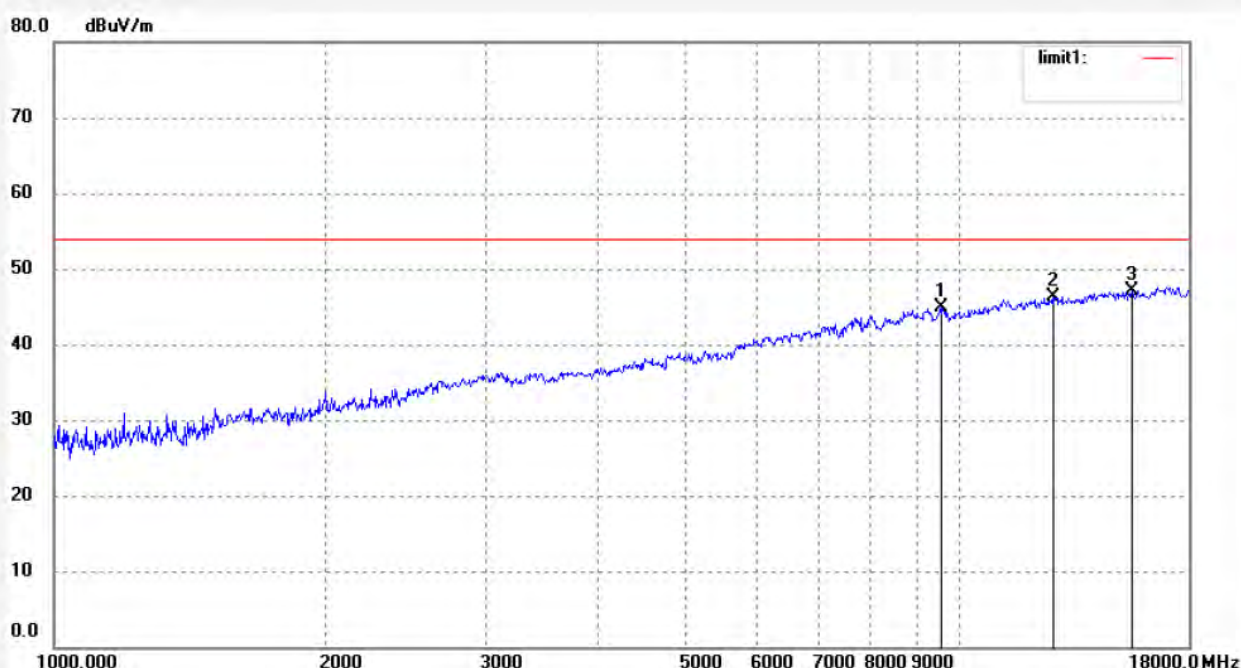
Date: 14/10/24/

Time: 14/24/09

Engineer Signature: Carry

Distance: 0.5m

Note: Report NO.:ATE20142025



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	9571.019	37.77	7.12	44.89	54.00	-9.11	peak			
2	12730.400	36.93	9.28	46.21	54.00	-7.79	peak			
3	15562.037	33.96	13.11	47.07	54.00	-6.93	peak			

Job No.: WCARRY #249

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: MID

Mode: TX Channel 3(802.11n40)

Model: PC1020MT

Manufacturer: Natural Sound

Polarization: Horizontal

Power Source: AC 120V/60Hz

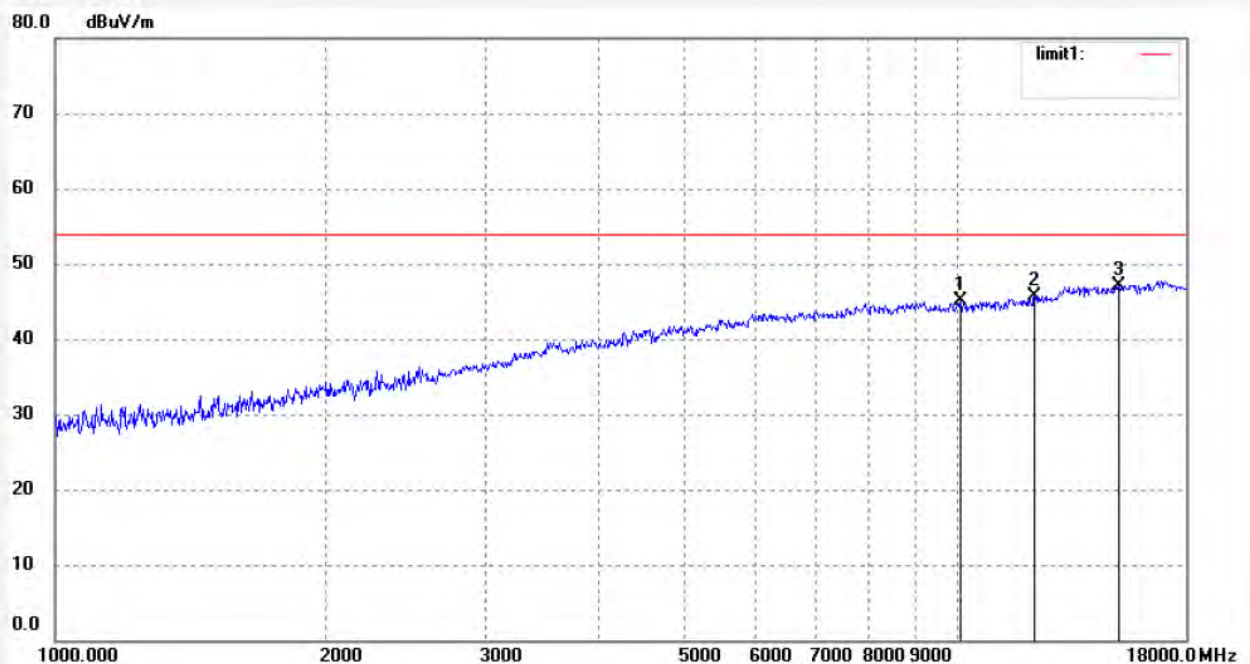
Date: 14/10/24/

Time: 14/25/18

Engineer Signature: Carry

Distance: 0.5m

Note: Report NO.:ATE20142025



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	10115.247	38.27	6.92	45.19	54.00	-8.81	peak			
2	12222.059	37.35	8.37	45.72	54.00	-8.28	peak			
3	15159.656	33.38	13.64	47.02	54.00	-6.98	peak			

Job No.: WCARRY #250

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: MID

Mode: TX Channel 3(802.11n40)

Model: PC1020MT

Manufacturer: Natural Sound

Polarization: Vertical

Power Source: AC 120V/60Hz

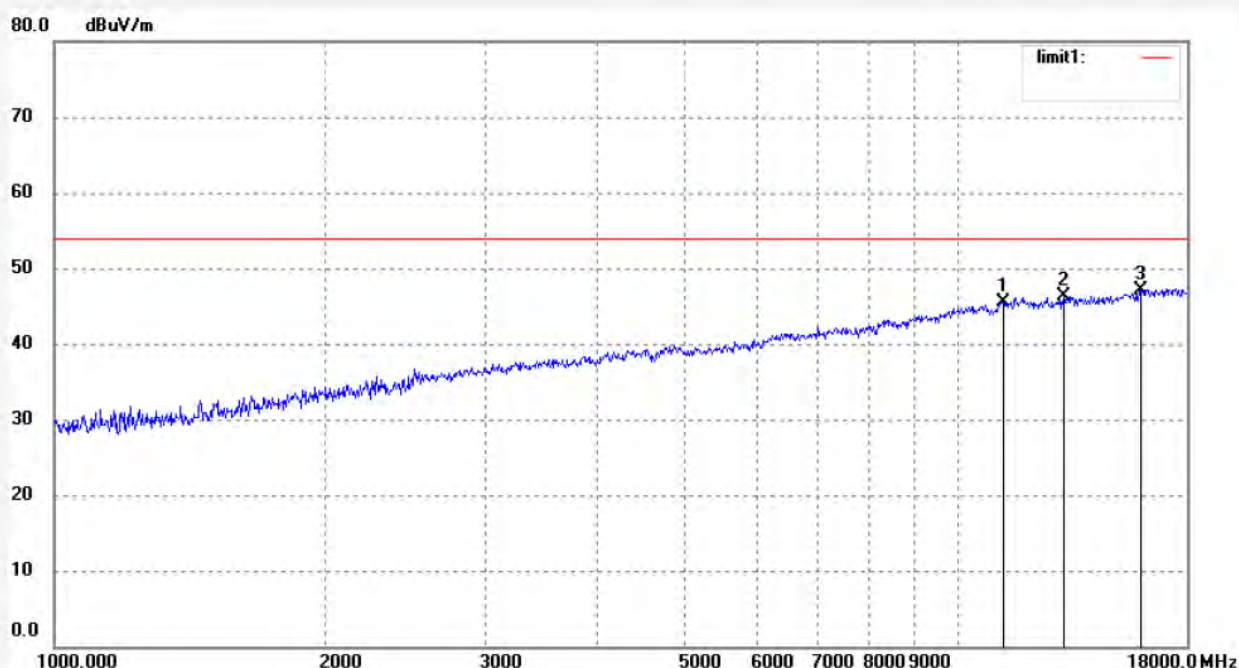
Date: 14/10/24/

Time: 14/26/07

Engineer Signature: Carry

Distance: 0.5m

Note: Report NO.:ATE20142025



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	11265.461	38.37	7.14	45.51	54.00	-8.49	peak			
2	13144.601	36.33	10.02	46.35	54.00	-7.65	peak			
3	15975.098	33.98	13.19	47.17	54.00	-6.83	peak			

Job No.: WCARRY #251

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: MID

Mode: TX Channel 6(802.11n40)

Model: PC1020MT

Manufacturer: Natural Sound

Polarization: Vertical

Power Source: AC 120V/60Hz

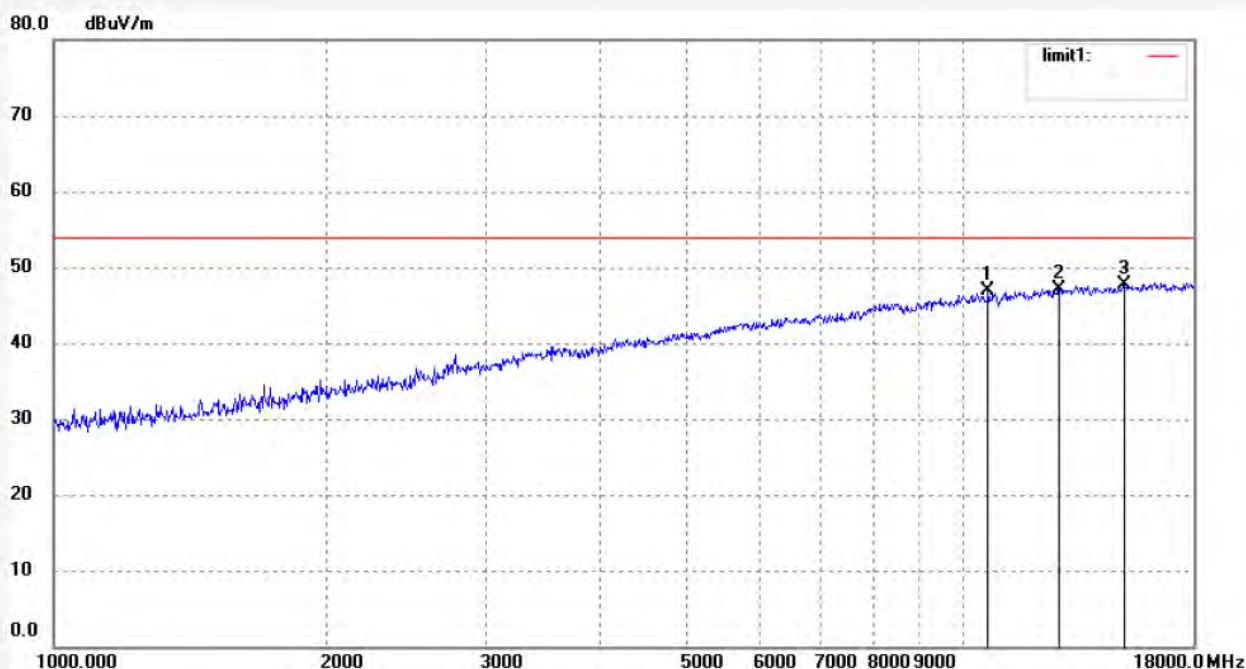
Date: 14/10/24/

Time: 14/27/43

Engineer Signature: Carry

Distance: 0.5m

Note: Report NO.:ATE20142025



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	10690.420	40.29	6.71	47.00	54.00	-7.00	peak			
2	12804.727	37.75	9.42	47.17	54.00	-6.83	peak			
3	15115.594	33.98	13.71	47.69	54.00	-6.31	peak			

Job No.: WCARRY #252

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: MID

Mode: TX Channel 6(802.11n40)

Model: PC1020MT

Manufacturer: Natural Sound

Polarization: Horizontal

Power Source: AC 120V/60Hz

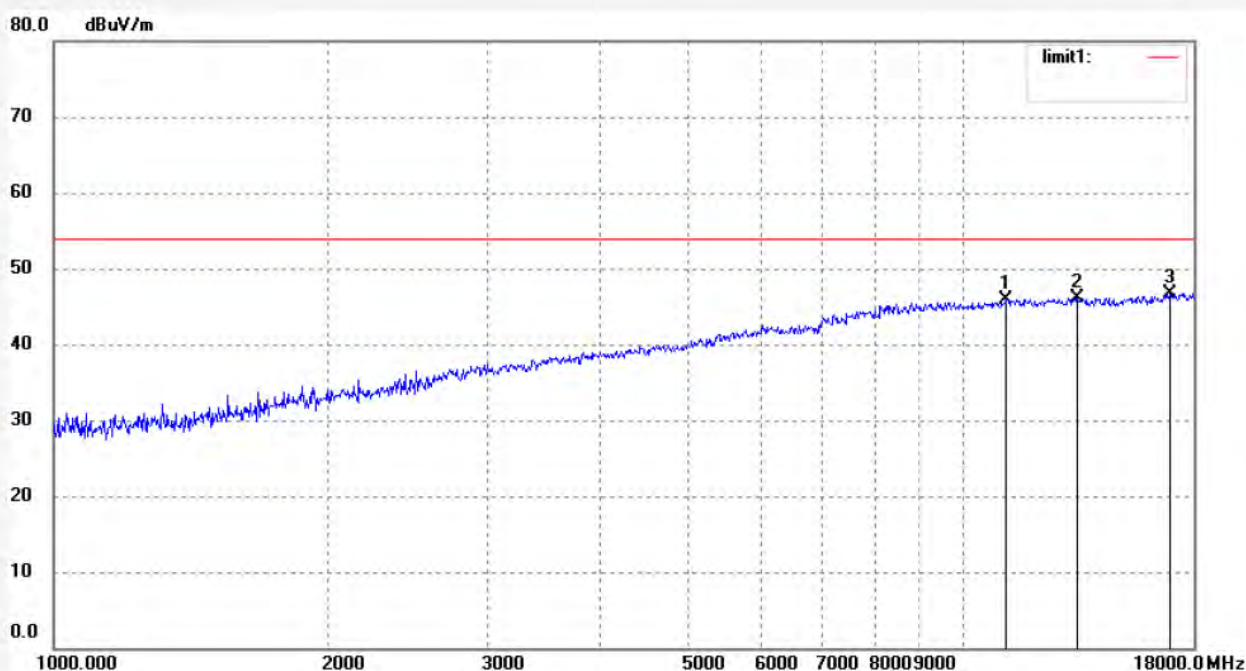
Date: 14/10/24/

Time: 14/29/04

Engineer Signature: Carry

Distance: 0.5m

Note: Report NO.:ATE20142025

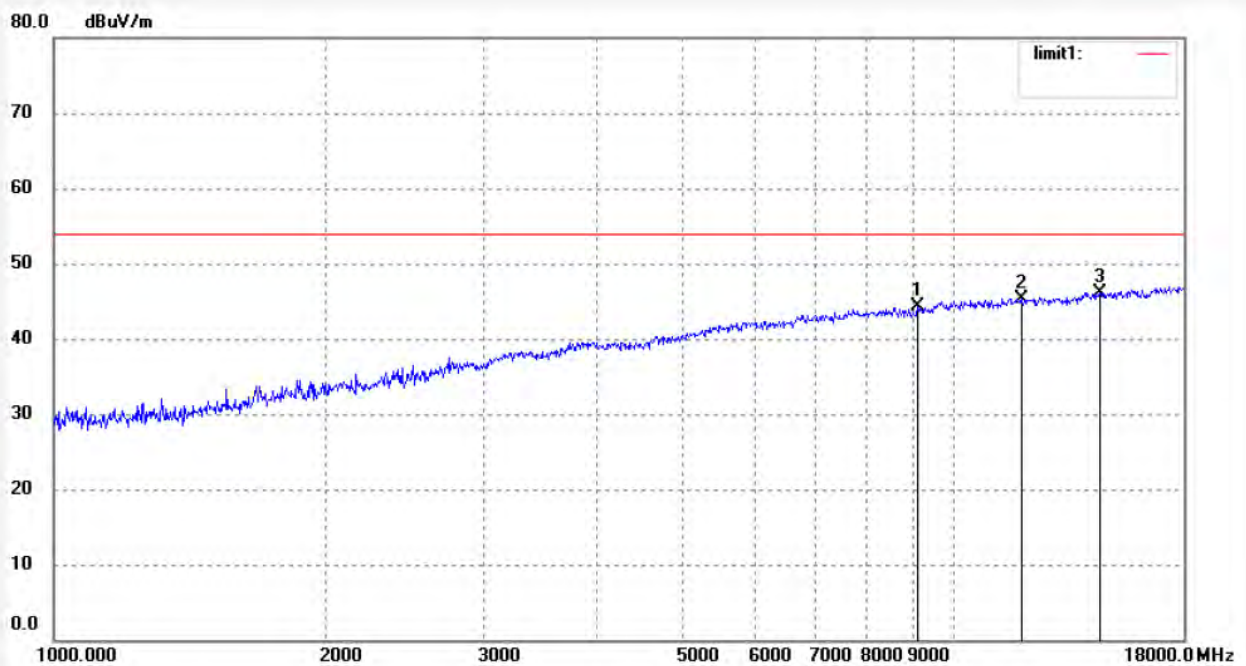


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	11200.070	38.91	7.06	45.97	54.00	-8.03	peak			
2	13415.172	35.63	10.46	46.09	54.00	-7.91	peak			
3	16982.049	31.46	15.16	46.62	54.00	-7.38	peak			

Job No.: WCARRY #253
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: MID
Mode: TX Channel 9(802.11n40)
Model: PC1020MT
Manufacturer: Natural Sound

Polarization: Horizontal
Power Source: AC 120V/60Hz
Date: 14/10/24/
Time: 14/29/47
Engineer Signature: Carry
Distance: 0.5m

Note: Report NO.:ATE20142025



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	9108.945	37.63	6.64	44.27	54.00	-9.73	peak			
2	11906.038	37.46	7.88	45.34	54.00	-8.66	peak			
3	14512.008	31.65	14.54	46.19	54.00	-7.81	peak			

Job No.: WCARRY #254

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: MID

Mode: TX Channel 9(802.11n40)

Model: PC1020MT

Manufacturer: Natural Sound

Polarization: Vertical

Power Source: AC 120V/60Hz

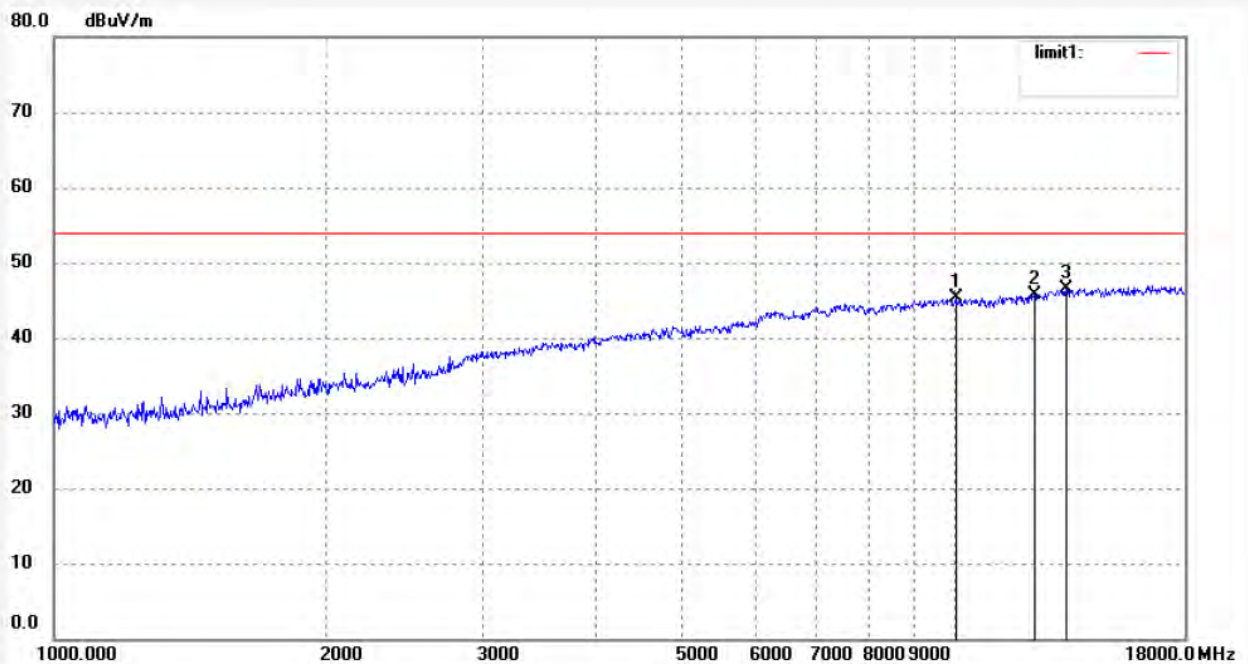
Date: 14/10/24/

Time: 14/30/22

Engineer Signature: Carry

Distance: 0.5m

Note: Report NO.:ATE20142025



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	10056.532	38.28	6.96	45.24	54.00	-8.76	peak			
2	12257.686	37.31	8.43	45.74	54.00	-8.26	peak			
3	13298.538	36.21	10.28	46.49	54.00	-7.51	peak			

10. CONDUCTED SPURIOUS EMISSION COMPLIANCE TEST

10.1. Block Diagram of Test Setup



10.2. The Requirement For Section 15.247(d)

Section 15.247(d): 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).

10.3. EUT Configuration on Measurement

The equipment is installed on the emission measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

10.4. Operating Condition of EUT

10.4.1. Setup the EUT and simulator as shown as Section 10.1.

10.4.2. Turn on the power of all equipment.

10.4.3. Let the EUT work in TX modes measure it. The transmit frequency are 2412-2462 and 2422-2452MHz. We select 2412MHz, 2437MHz, 2462MHz and 2422MHz, 2437MHz, 2452MHz TX frequency to transmit.

10.5. Test Procedure

10.5.1. The transmitter output was connected to the spectrum analyzer via a low loss cable.

10.5.2. Set RBW of spectrum analyzer to 100kHz and VBW to 300kHz (below 1GHz).

10.5.3. Set RBW of spectrum analyzer to 1MHz and VBW to 3MHz (above 1GHz).

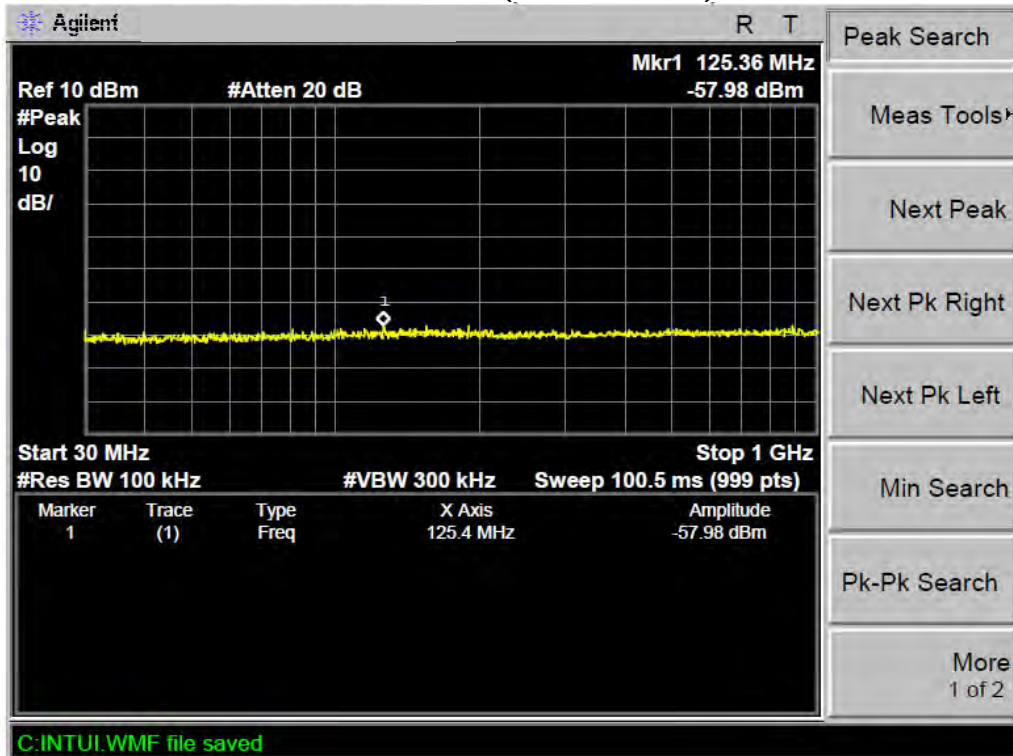
10.5.4. The Conducted Spurious Emission was measured and recorded.

10.6. Test Result

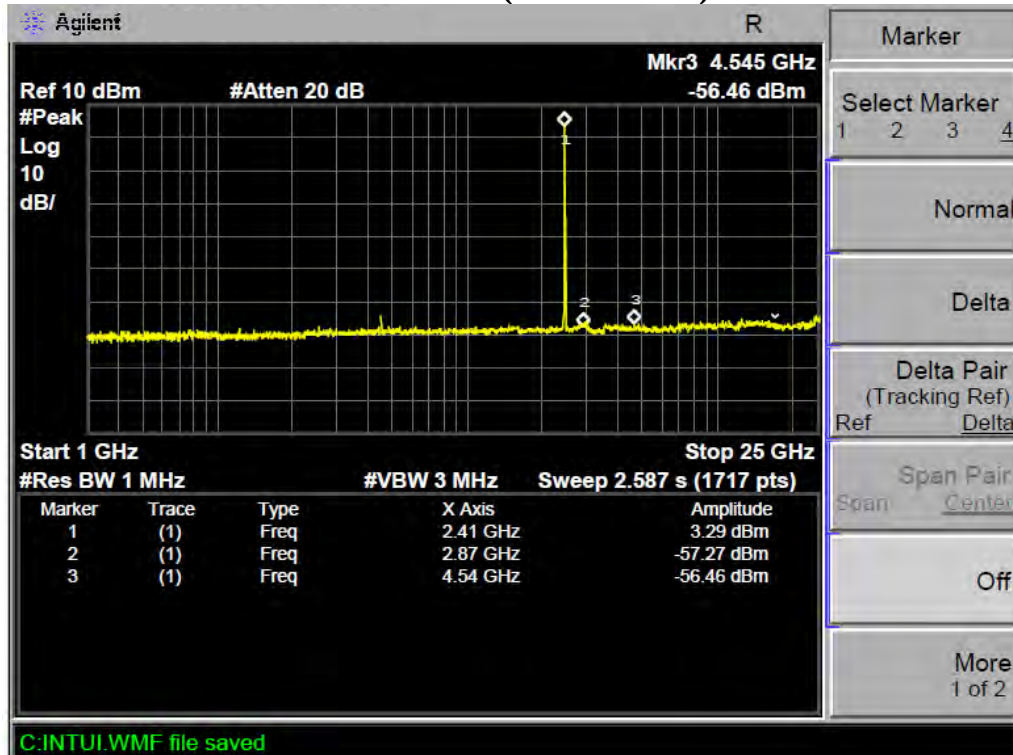
Pass.

The spectrum analyzer plots are attached as below.

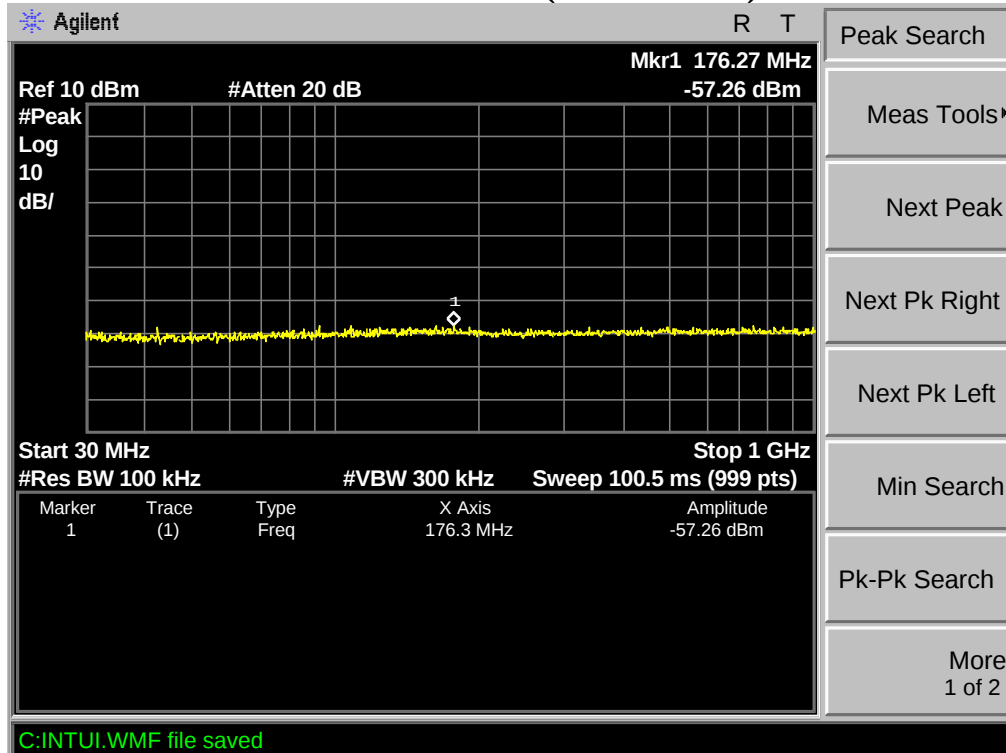
TX 802.11b Channel Low 2412MHz (30MHz-1GHz)



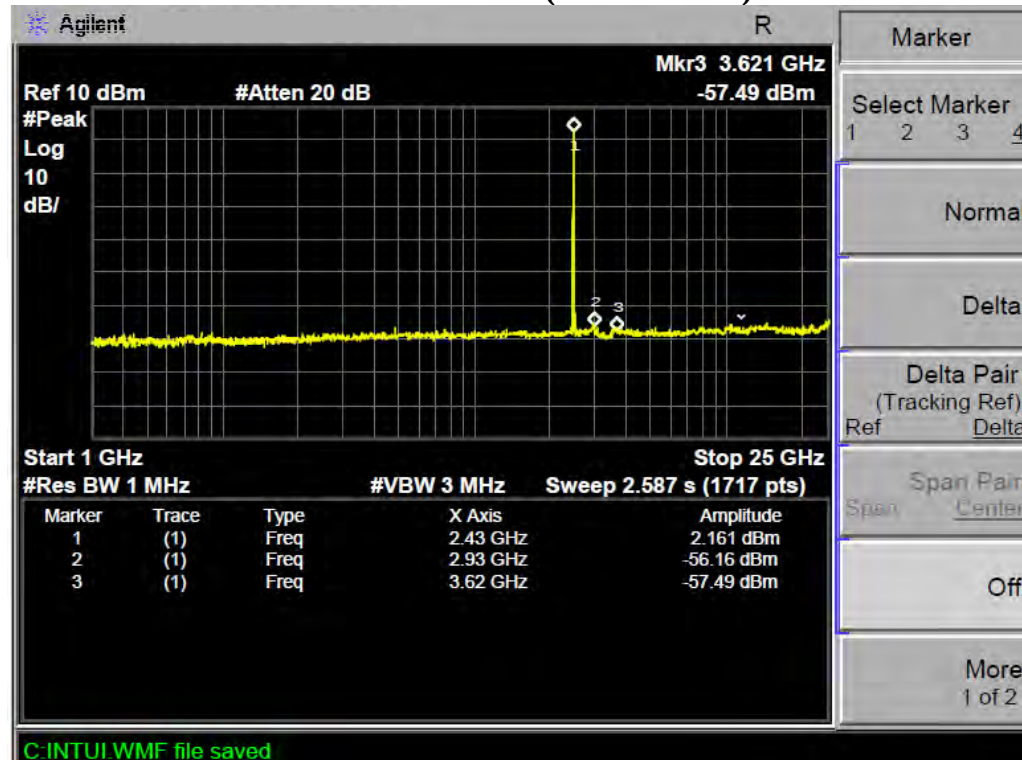
TX 802.11b Channel Low 2412MHz (1GHz-25GHz)



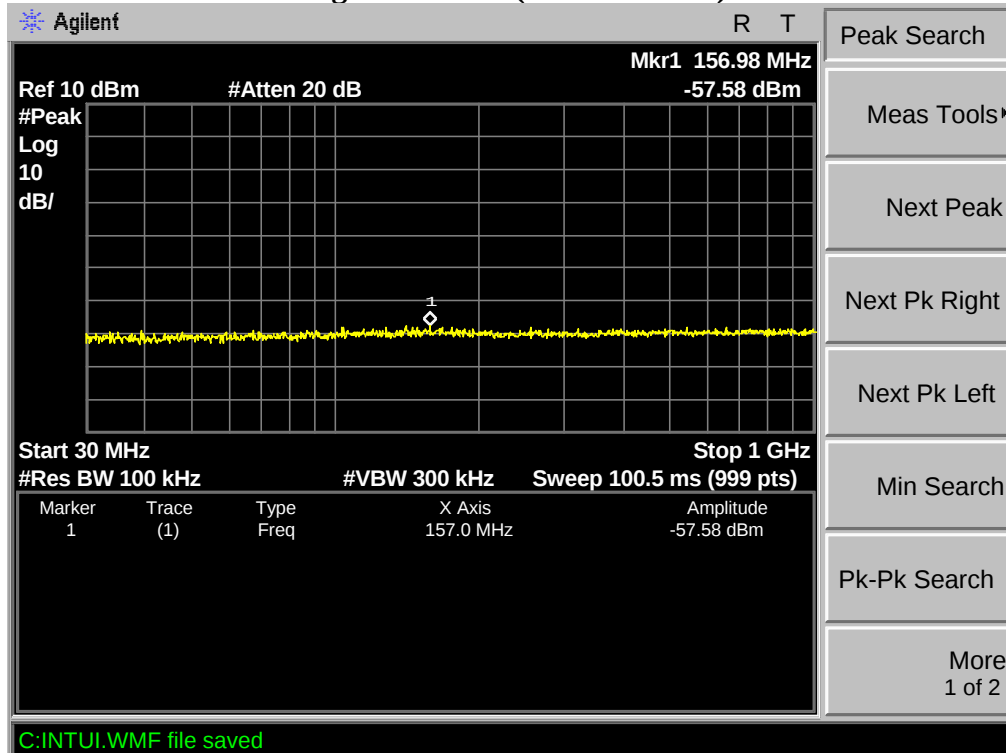
TX 802.11b Channel Middle 2437MHz (30MHz-1GHz)



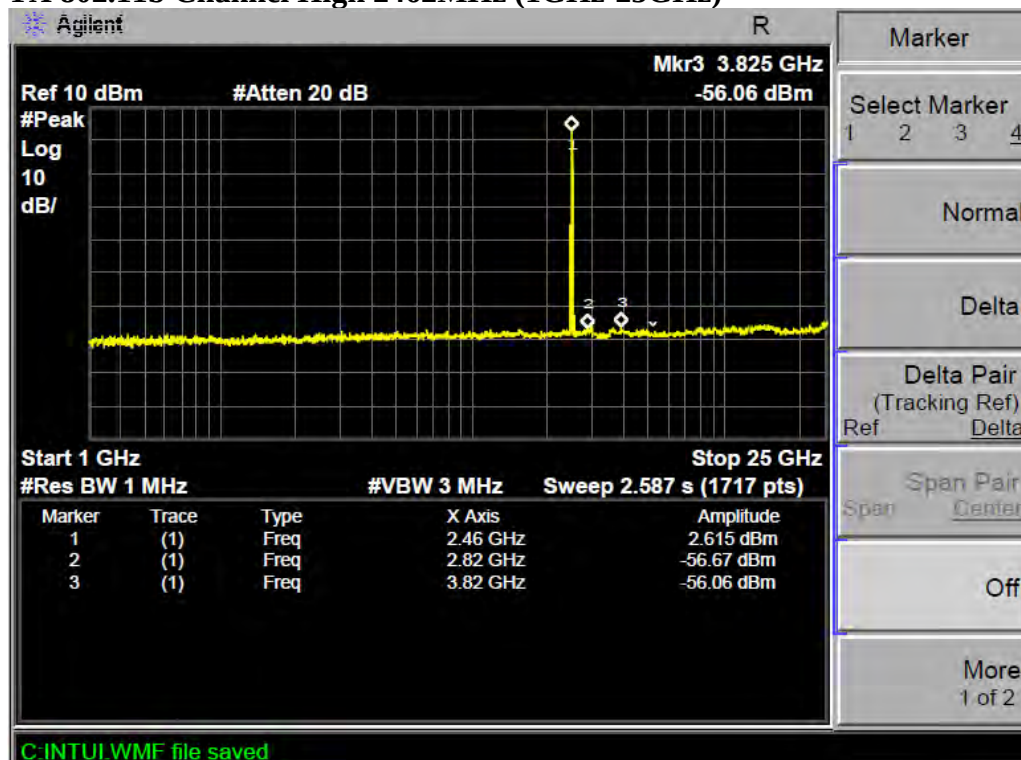
TX 802.11b Channel Middle 2437MHz (1GHz-25GHz)



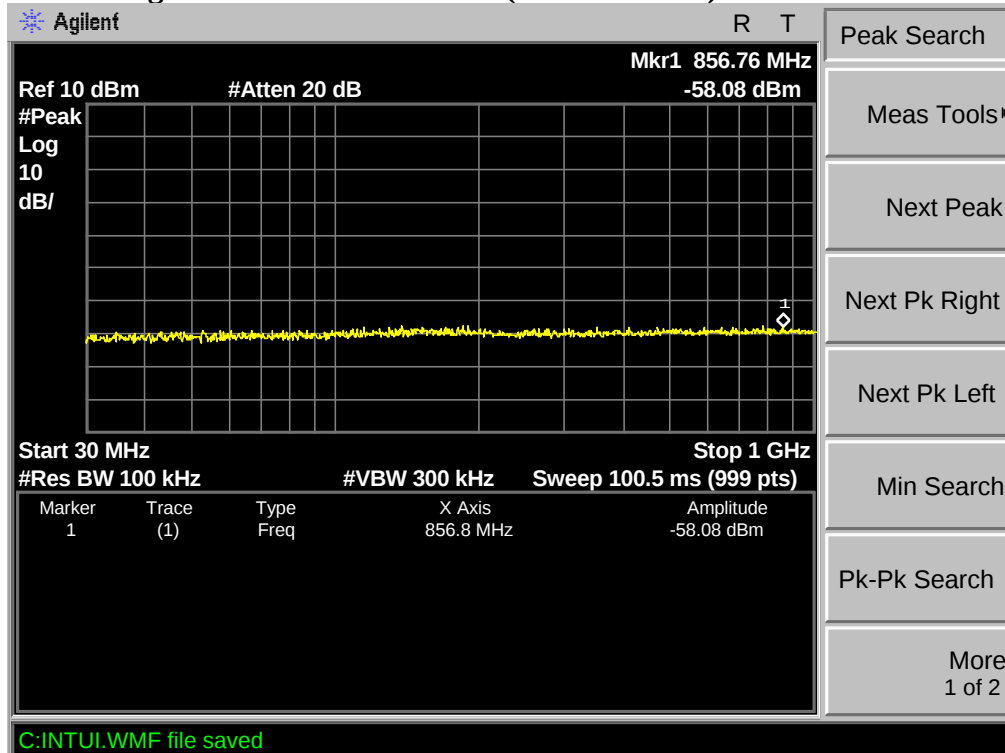
TX 802.11b Channel High 2462MHz (30MHz-1GHz)



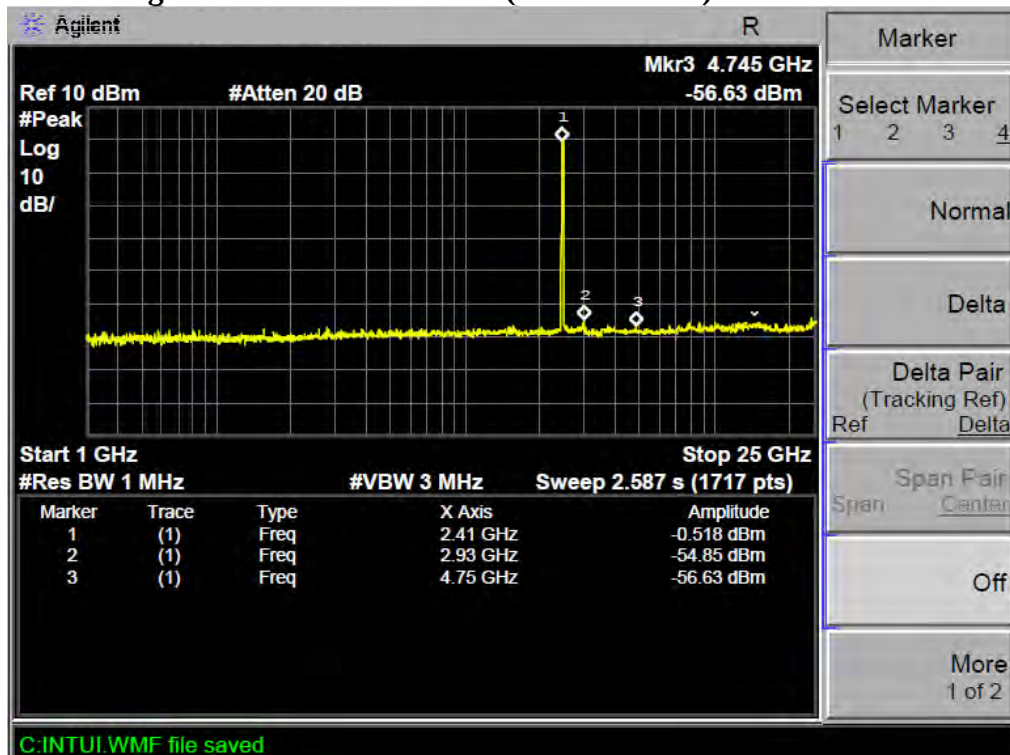
TX 802.11b Channel High 2462MHz (1GHz-25GHz)



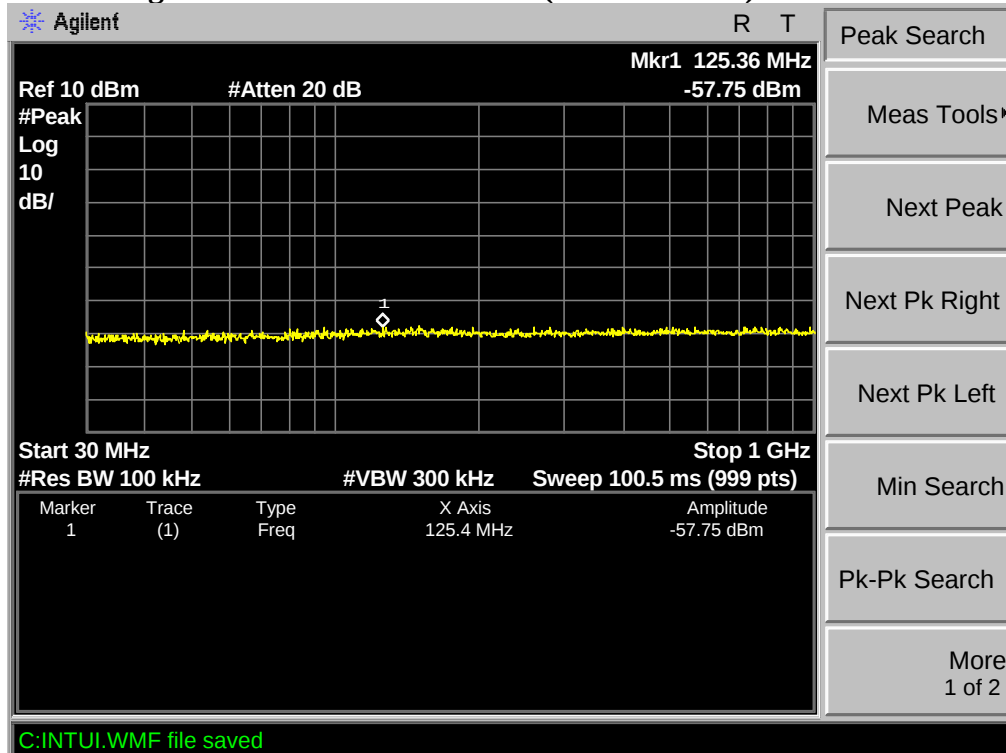
TX 802.11g Channel Low 2412MHz (30MHz-1GHz)



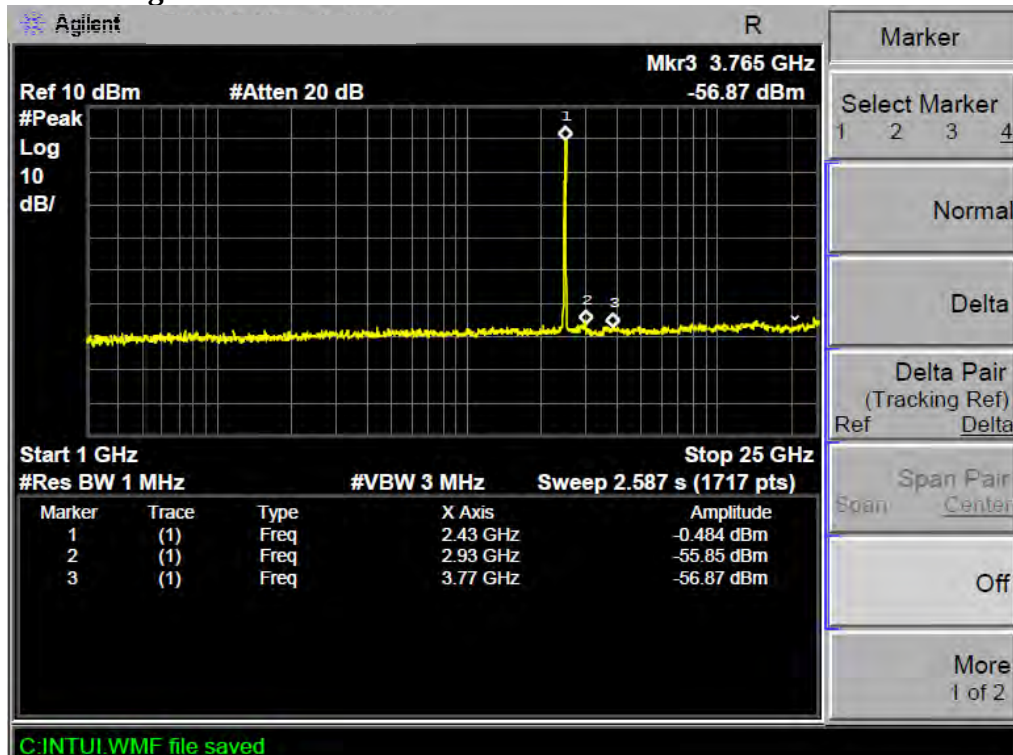
TX 802.11g Channel Low 2412MHz (1GHz-25GHz)



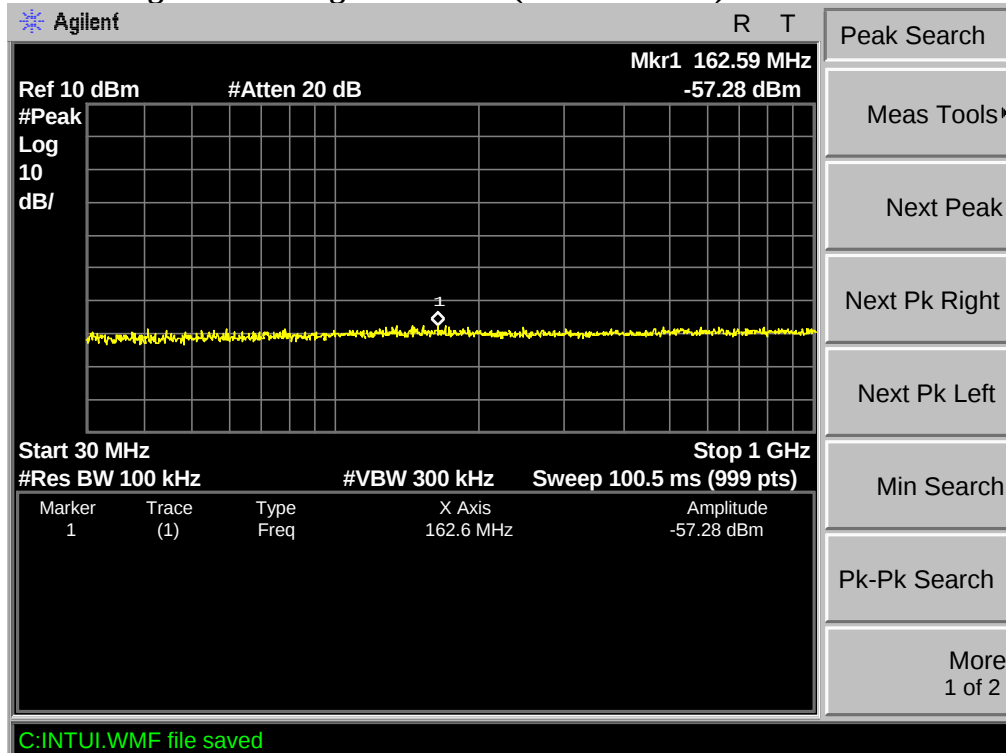
TX 802.11g Channel Middle 2437MHz (30MHz-1GHz)



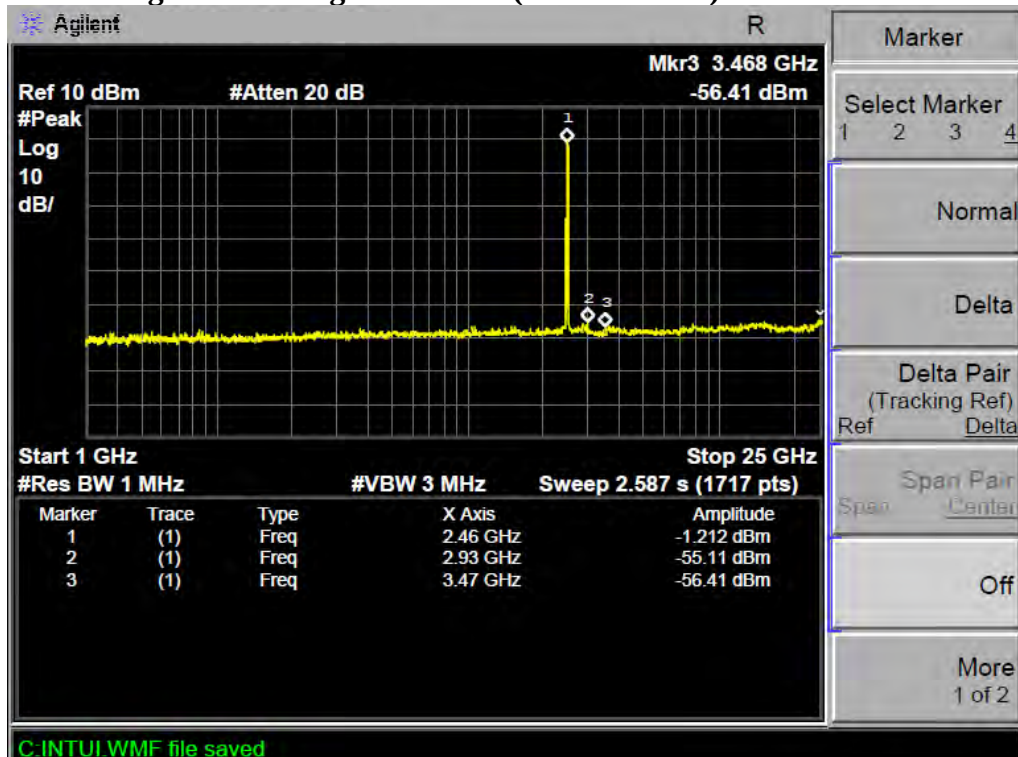
TX 802.11g Channel Middle 2437MHz



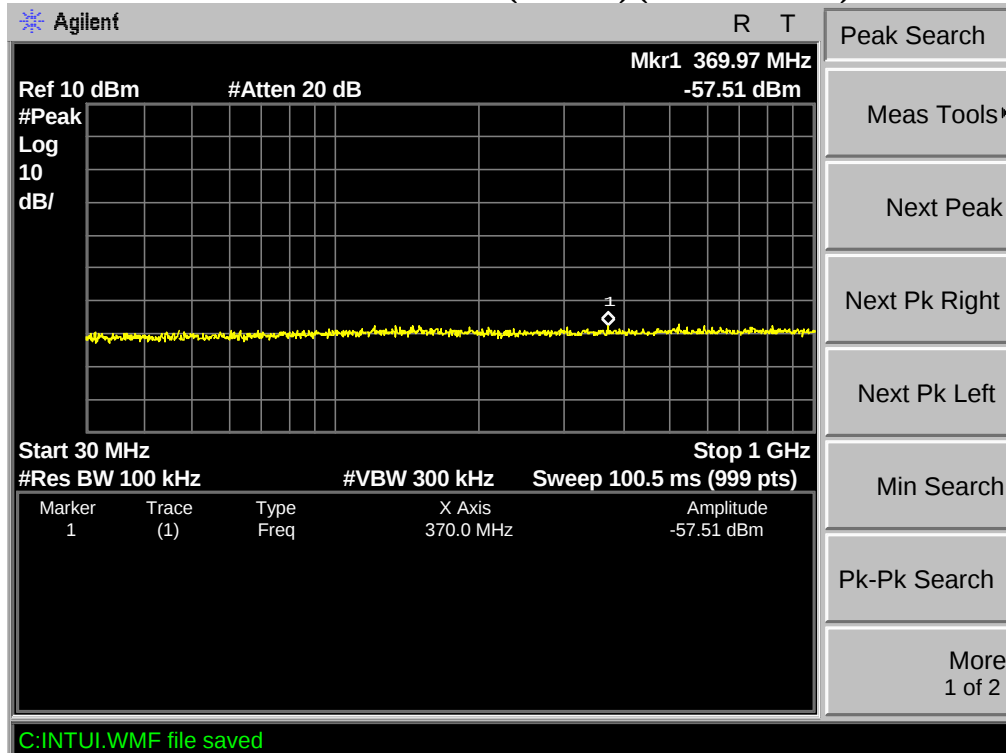
TX 802.11g Channel High 2462MHz (30MHz-1GHz)



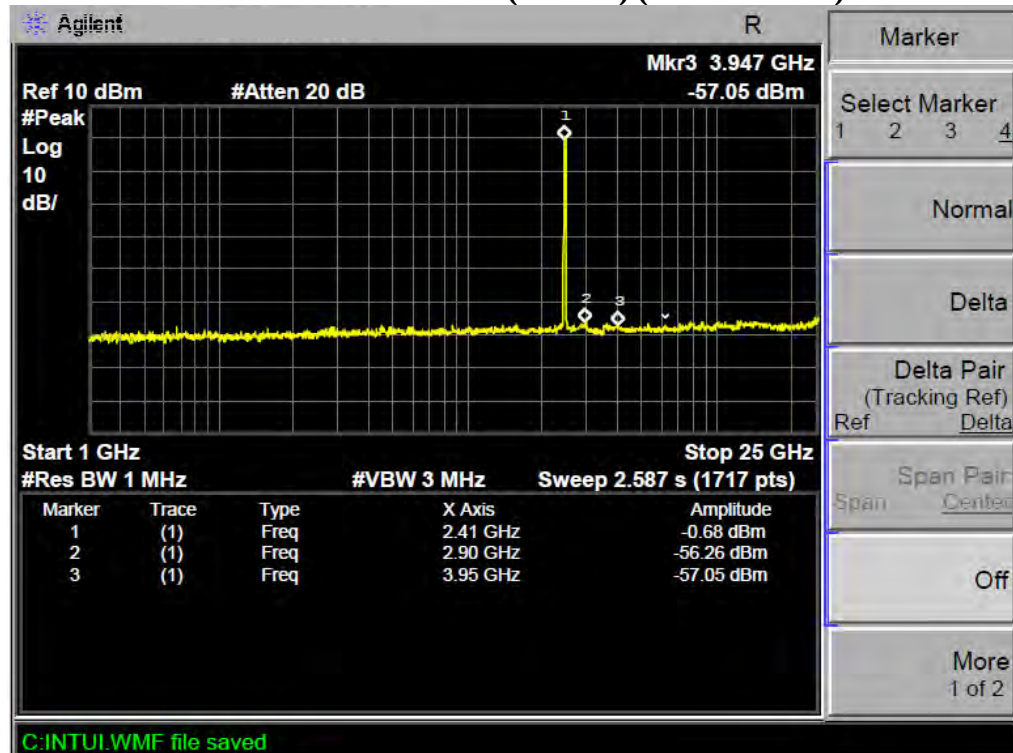
TX 802.11g Channel High 2462MHz (1GHz-25GHz)



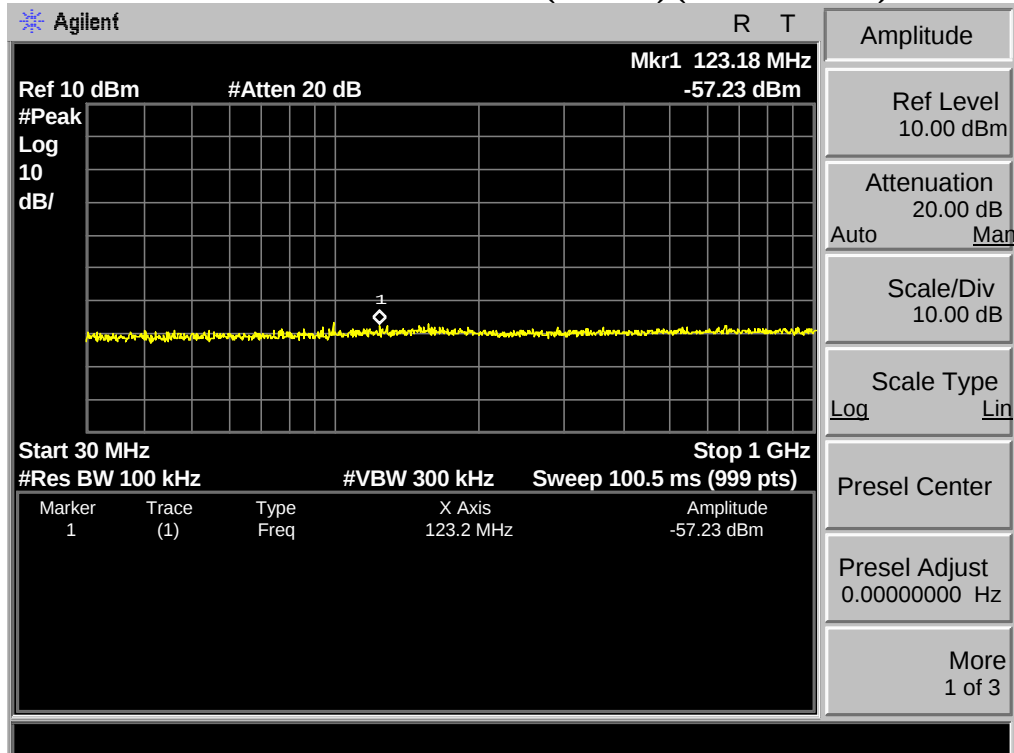
TX 802.11n Channel Low 2412MHz (20MHz) (30MHz-1GHz)



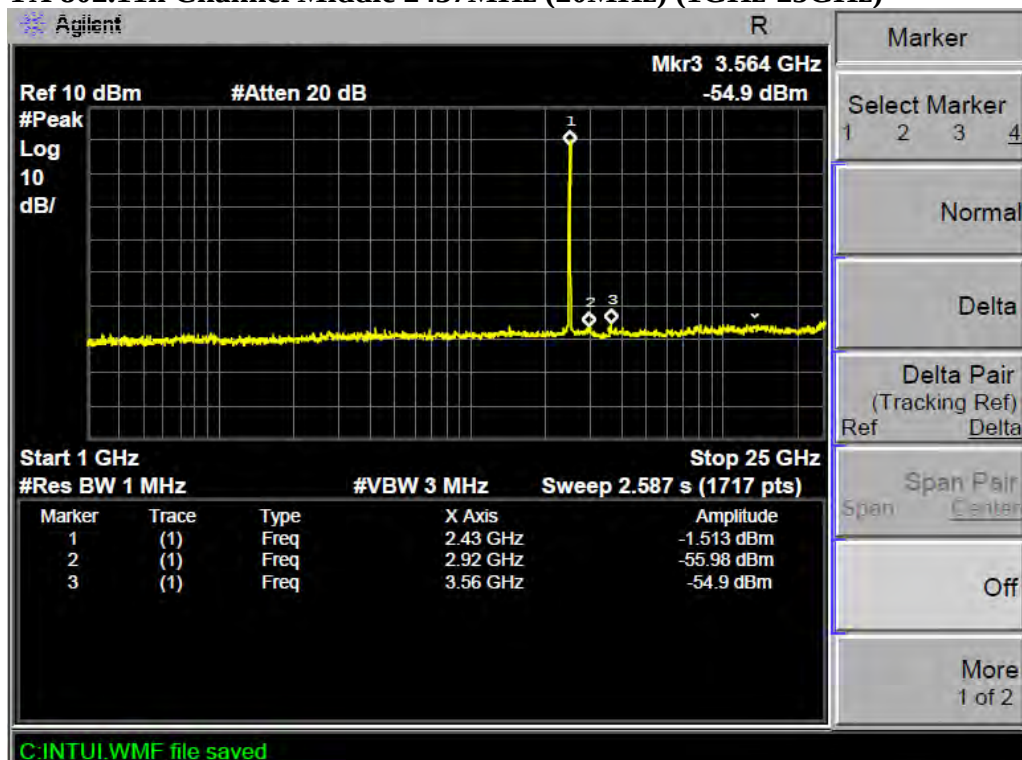
TX 802.11n Channel Low 2412MHz (20MHz) (1GHz-25GHz)



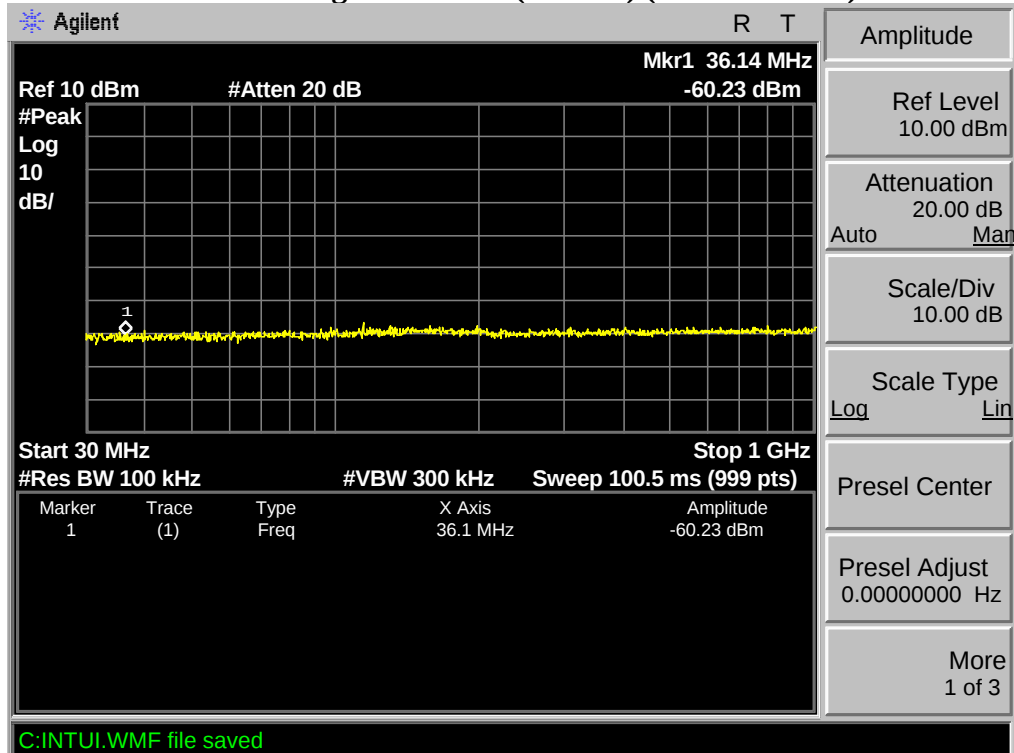
TX 802.11n Channel Middle 2437MHz (20MHz) (30MHz-1GHz)



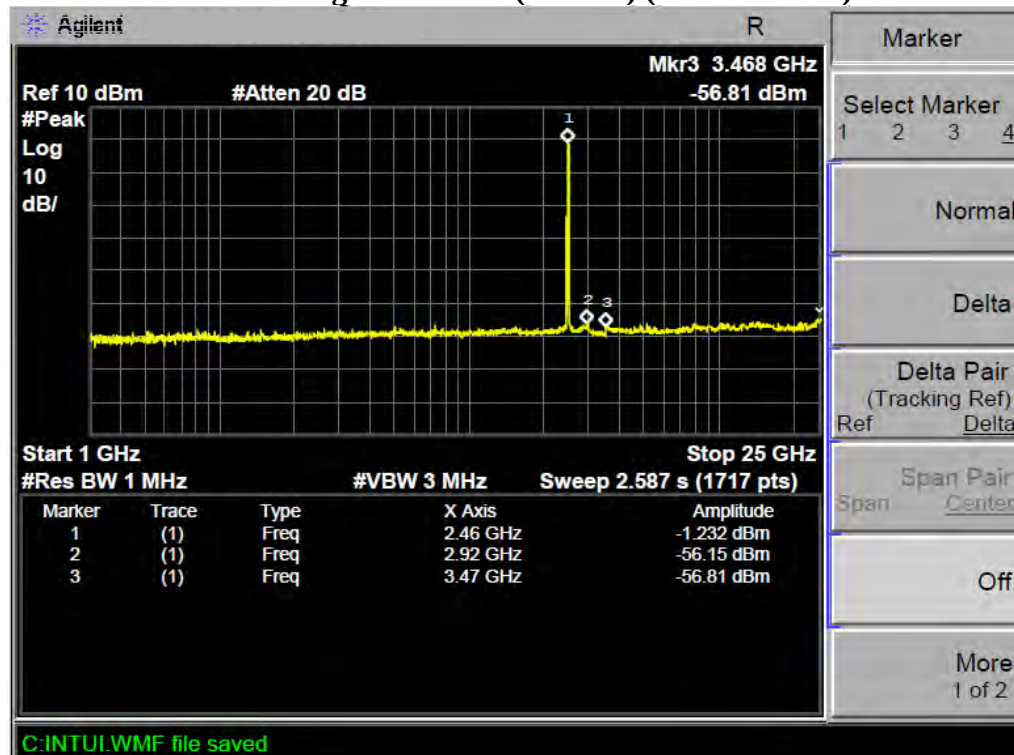
TX 802.11n Channel Middle 2437MHz (20MHz) (1GHz-25GHz)



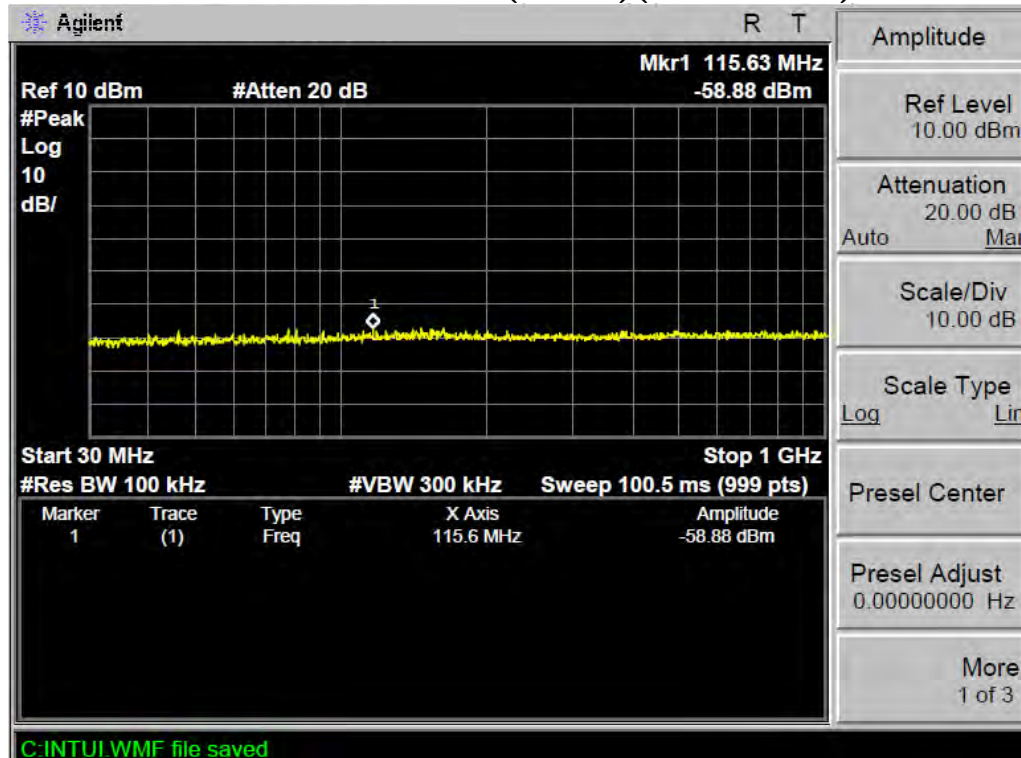
TX 802.11n Channel High 2462MHz (20MHz) (30MHz-1GHz)



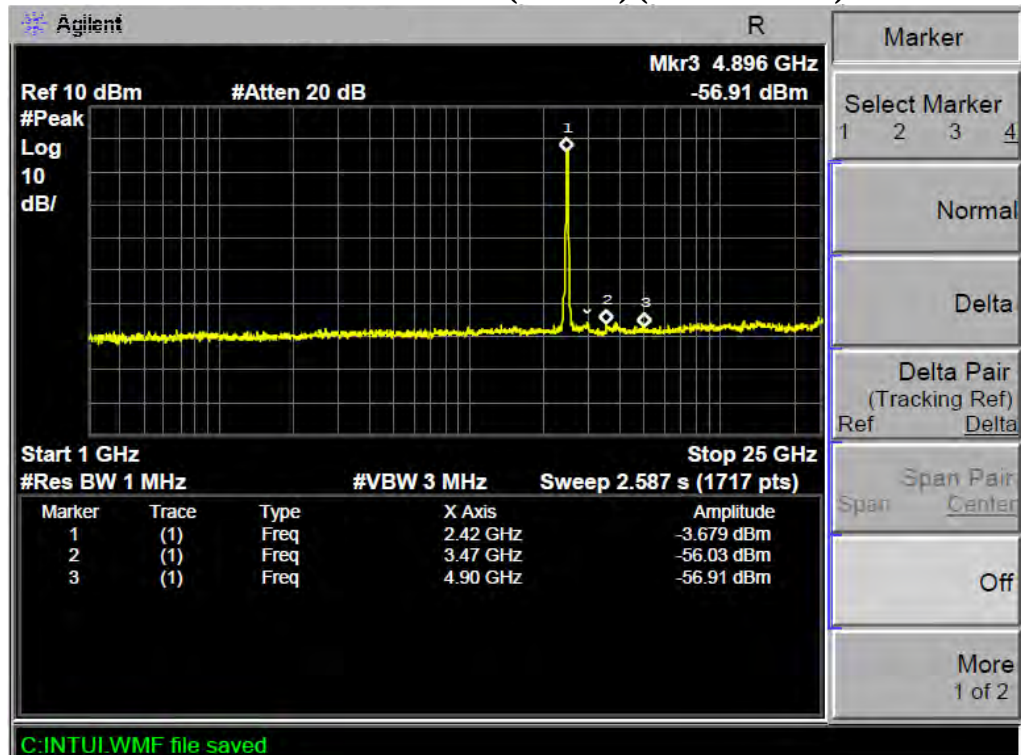
TX 802.11n Channel High 2462MHz (20MHz) (1GHz-25GHz)



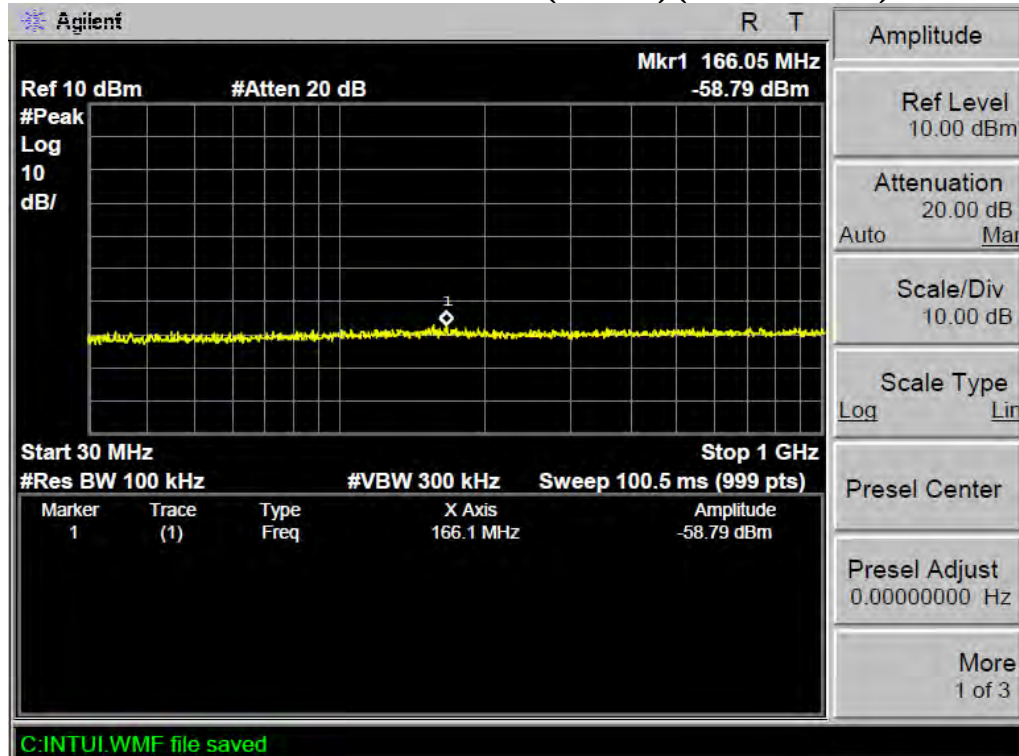
TX 802.11n Channel Low 2422MHz (40MHz) (30MHz-1GHz)



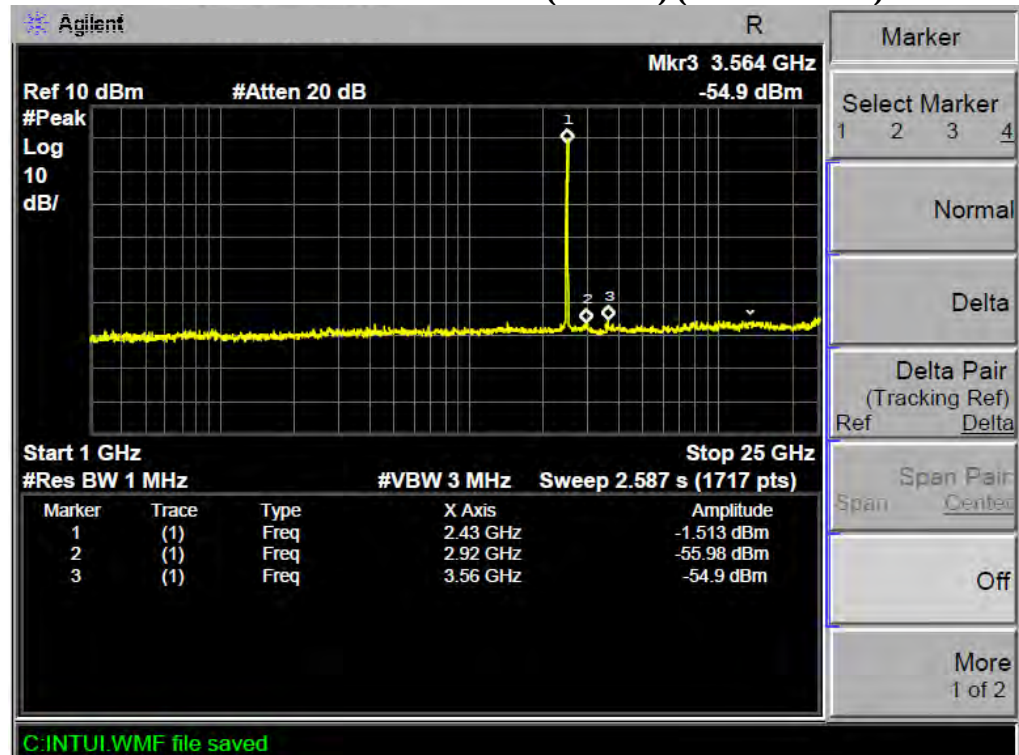
TX 802.11n Channel Low 2422MHz (40MHz) (1GHz-25GHz)



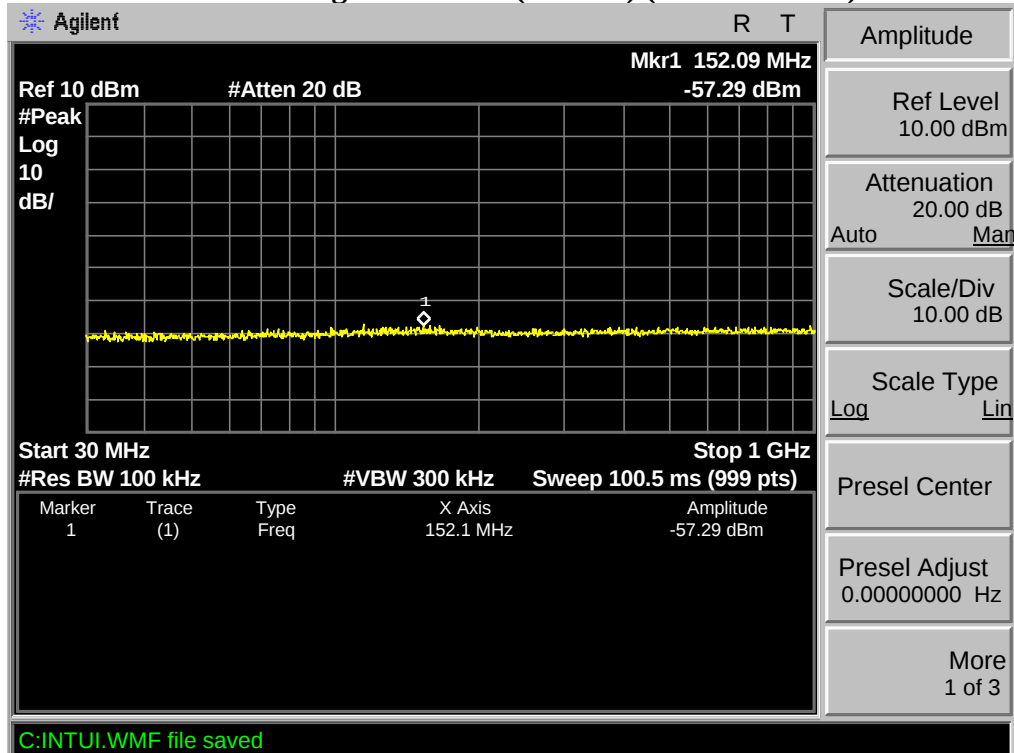
TX 802.11n Channel Middle 2437MHz (40MHz) (30MHz-1GHz)



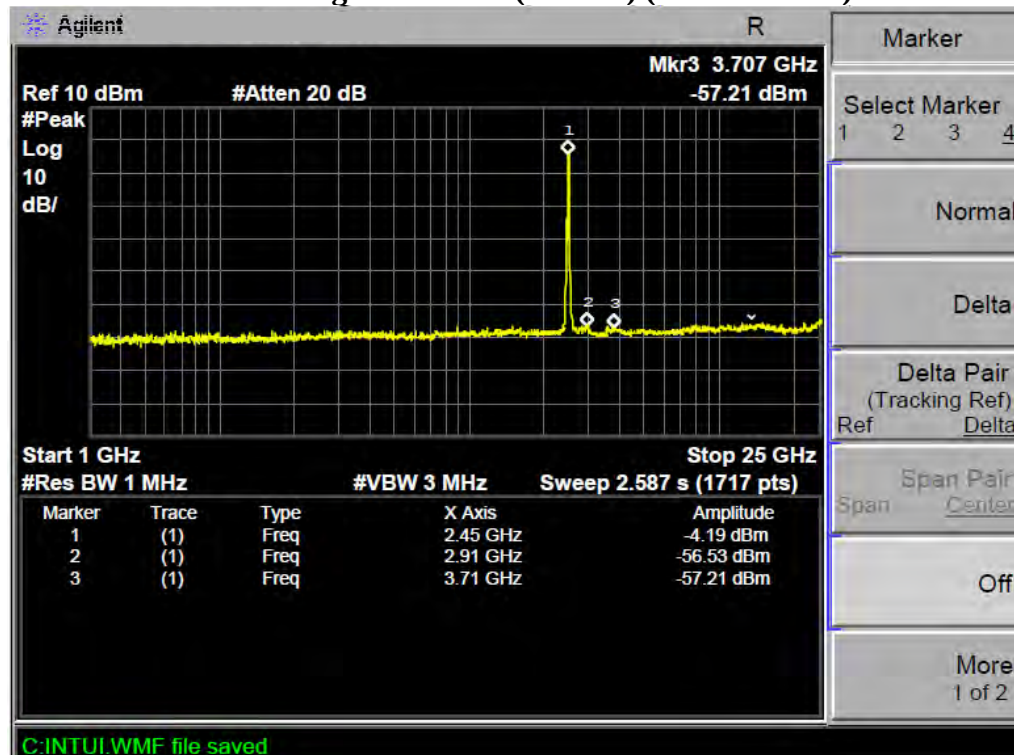
TX 802.11n Channel Middle 2437MHz (40MHz) (1GHz-25GHz)



TX 802.11n Channel High 2452MHz (40MHz) (30MHz-1GHz)



TX 802.11n Channel High 2452MHz (40MHz) (1GHz-25GHz)

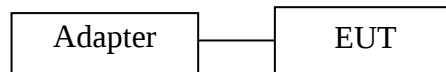


11.AC POWER LINE CONDUCTED EMISSION FOR FCC PART

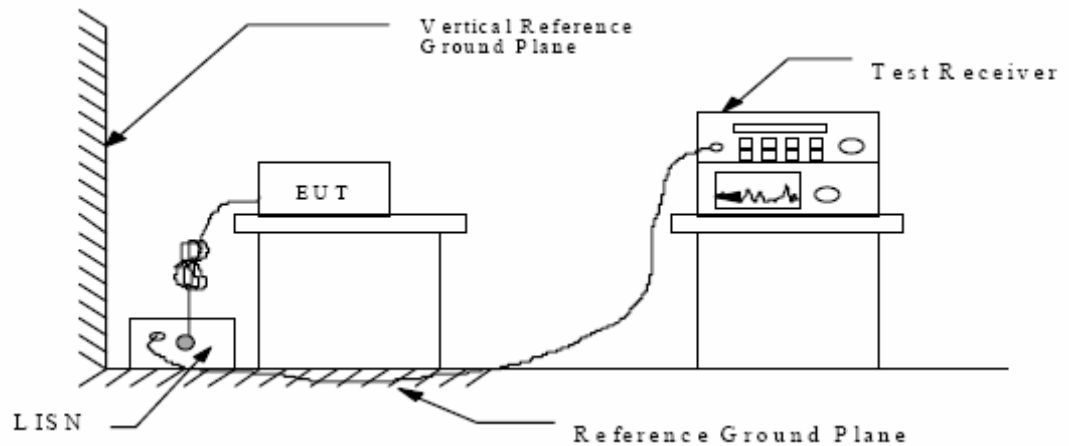
15 SECTION 15.207(A)

11.1.Block Diagram of Test Setup

11.1.1.Block diagram of connection between the EUT and simulators



11.1.2.Shielding Room Test Setup Diagram



11.2.The Emission Limit

11.2.1.Conducted Emission Measurement Limits According to Section 15.207(a)

Frequency (MHz)	Limit dB(μV)	
	Quasi-peak Level	Average Level
0.15 - 0.50	66.0 – 56.0 *	56.0 – 46.0 *
0.50 - 5.00	56.0	46.0
5.00 - 30.00	60.0	50.0

* Decreases with the logarithm of the frequency.

11.3.Configuration of EUT on Measurement

The equipment are installed on the Conducted Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

11.4.Operating Condition of EUT

11.4.1.Setup the EUT and simulator as shown as Section 11.1.

11.4.2.Turn on the power of all equipment.

11.4.3.Let the EUT work in (Charging) mode measure it.

11.5.Test Procedure

The EUT is put on the plane 0.8m high above the ground by insulating support and is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC lines are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.4: 2009 on Conducted Emission Measurement.

The bandwidth of test receiver (R & S ESCS30) is set at 9kHz.

The frequency range from 150kHz to 30MHz is checked.

11.6.Power Line Conducted Emission Measurement Results

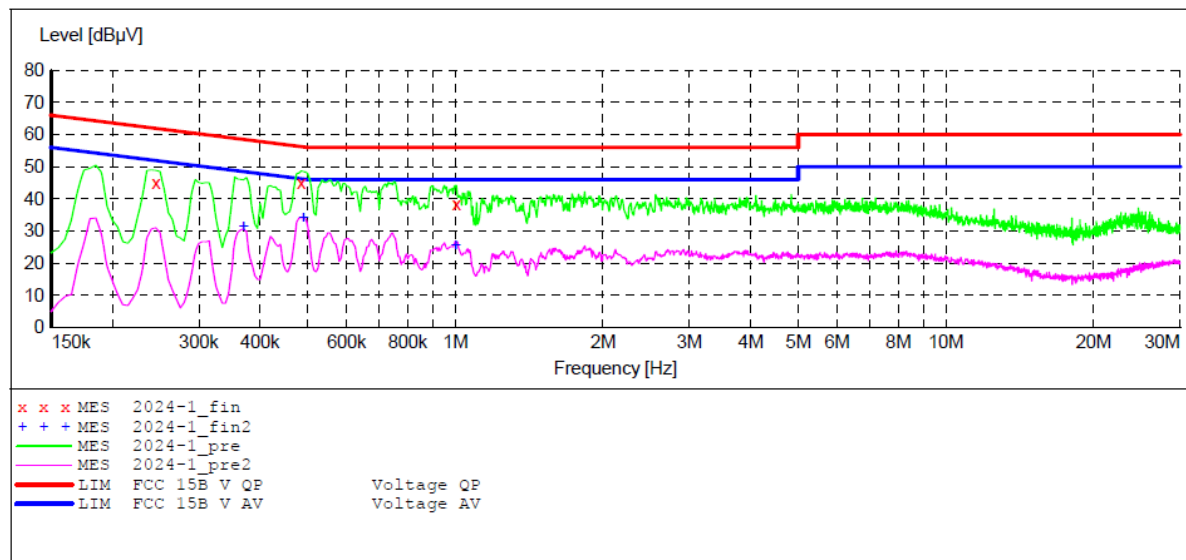
ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART15B

EUT: MID M/N:PC1020MT
 Manufacturer: Natural Sound
 Operating Condition: WIFI
 Test Site: 1#Shielding Room
 Operator: Carry
 Test Specification: N 120V/60Hz
 Comment: Report No.:ATE20142025
 Start of Test: 10/20/2014 / 10:20:30AM

SCAN TABLE: "V 150K-30MHz fin"

Short Description: _SUB_STD_VTERM2 1.70
 Start Stop Step Detector Meas. IF Transducer
 Frequency Frequency Width Time Bandw.
 150.0 kHz 30.0 MHz 4.5 kHz QuasiPeak 1.0 s 9 kHz NSLK8126 2008
 Average



MEASUREMENT RESULT: "2024-1_fin"

10/20/2014 10:23AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.245000	44.80	10.6	62	17.1	QP	N	GND
0.485000	45.10	10.7	56	11.2	QP	N	GND
1.005000	38.50	10.8	56	17.5	QP	N	GND

MEASUREMENT RESULT: "2024-1_fin2"

10/20/2014 10:23AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.370000	31.50	10.7	49	17.0	AV	N	GND
0.490000	34.20	10.7	46	12.0	AV	N	GND
1.000000	25.60	10.8	46	20.4	AV	N	GND

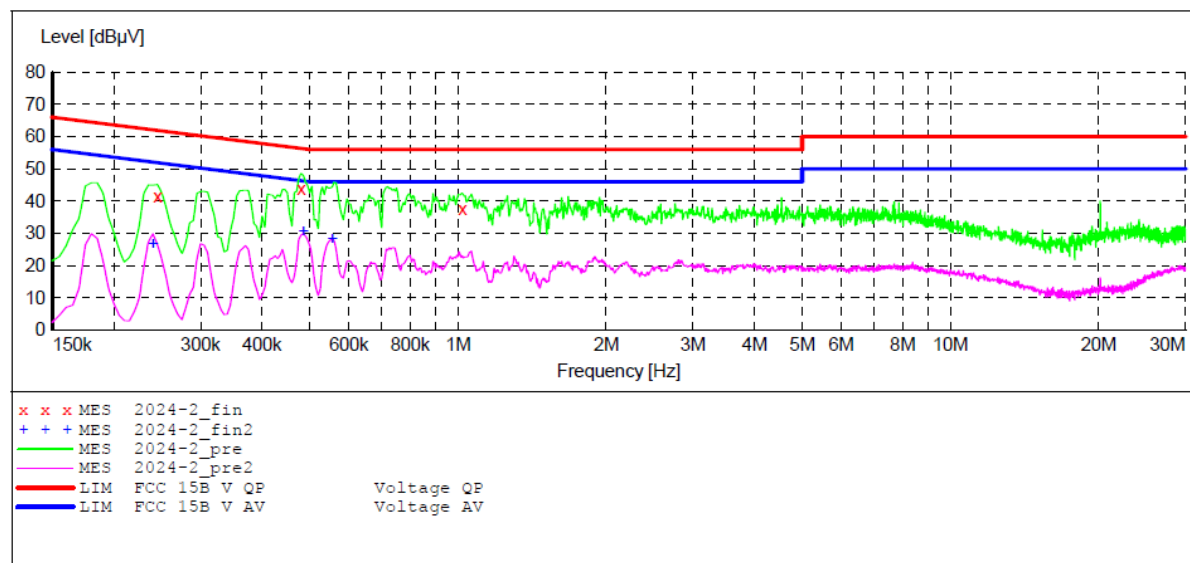
ACCURATE TECHNOLOGY CO.,LTD

CONDUCTED EMISSION STANDARD FCC PART15B

EUT: MID M/N:PC1020MT
 Manufacturer: Natural Sound
 Operating Condition: WIFI
 Test Site: 1#Shielding Room
 Operator: Carry
 Test Specification: L 120V/60Hz
 Comment: Report No.:ATE20142025
 Start of Test: 10/20/2014 / 10:24:29AM

SCAN TABLE: "V 150K-30MHz fin"

Short Description: _SUB_STD_VTERM2 1.70
 Start Stop Step Detector Meas. IF Transducer
 Frequency Frequency Width Time Bandw.
 150.0 kHz 30.0 MHz 4.5 kHz QuasiPeak 1.0 s 9 kHz NSLK8126 2008
 Average



MEASUREMENT RESULT: "2024-2_fin"

10/20/2014 10:27AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.245000	41.50	10.6	62	20.4	QP	L1	GND
0.480000	43.80	10.7	56	12.5	QP	L1	GND
1.020000	37.40	10.8	56	18.6	QP	L1	GND

MEASUREMENT RESULT: "2024-2_fin2"

10/20/2014 10:27AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.240000	26.80	10.6	52	25.3	AV	L1	GND
0.485000	30.40	10.7	46	15.9	AV	L1	GND
0.555000	28.10	10.7	46	17.9	AV	L1	GND

12.ANTENNA REQUIREMENT

12.1.The Requirement

According to Section 15.203, 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.

12.2.Antenna Construction

Device is equipped with unique antenna, which isn't displaced by other antenna. Therefore, the equipment complies with the antenna requirement of Section 15.203.

