

APPLICATION CERTIFICATION FCC Part 15C
On Behalf of
SHENZHEN AINOL ELECTRON CO.,LTD

Novo7 Crystal II User manual
Model No.: Novo7 Crystal II

FCC ID: 2ABTP-CRYSTAL-II

Prepared for : SHENZHEN AINOL ELECTRON CO.,LTD
Address : Room 606,Bldg B,7 Star Business Plaza, Minzhi Street,
Longhua District, Shenzhen, China
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 No. : ATE201312535
Date of Test : Dec 02, 2013-Feb 28, 2014
Date of Report : Feb 28, 2014

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Test Report Certification

Applicant : SHENZHEN AINOL ELECTRON CO.,LTD
Manufacturer : SHENZHEN AINOL ELECTRON CO.,LTD
EUT Description : Novo7 Crystal II User manual
(A) MODEL NO.: Novo7 Crystal II
(B) Trade Name.: Ainol
(C) POWER SUPPLY: DC 3.7V (Powered by battery) or AC 120V/60Hz
(Powered by adapter)

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 April 09, 2013 KDB558074 D01 DTS Meas Guidance v03 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 : _____ Dec 02, 2013-Feb 28, 2014

Prepared by :



(Tim.zhang, Engineer)

Approved & Authorized Signer :



(Sean Liu, Manager)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT	:	Novo7 Crystal II User manual
Model Number	:	Novo7 Crystal II
Frequency Range	:	802.11b/g/n(20MHz): 2412-2462MHz 802.11n(40MHz): 2422-2452MHz
Number of Channels	:	802.11b/g/n (20MHz):11 802.11n (40MHz): 7
Antenna Gain	:	1.5dBi
Type of Antenna	:	Integral Antenna
Power Supply	:	DC 3.7V (Powered by Battery) AC 120V/60Hz (Powered by Adapter)
Data Rate	:	802.11b: 11, 5.5, 2, 1 Mbps 802.11g: 54, 48, 36, 24, 18, 12, 9, 6 Mbps 802.11n: up to 150Mbps
Adapter	:	Model: SJ-0520-E Input: AC 100-240V 50/60Hz 0.5A Output: 5.0V 2.0A
Modulation Type	:	CCK, OFDM
Applicant	:	SHENZHEN AINOL ELECTRON CO.,LTD
Address	:	Room 606,Bldg B,7 Star Business Plaza, Minzhi Street, Longhua District, Shenzhen, China
Manufacturer	:	SHENZHEN AINOL ELECTRON CO.,LTD
Address	:	Room 606,Bldg B,7 Star Business Plaza, Minzhi Street, Longhua District, Shenzhen, China
Date of sample received	:	Dec 02, 2013
Date of Test	:	Dec 02, 2013-Feb 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.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	BBHA9170	9170-359	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

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

3.2. Configuration and peripherals

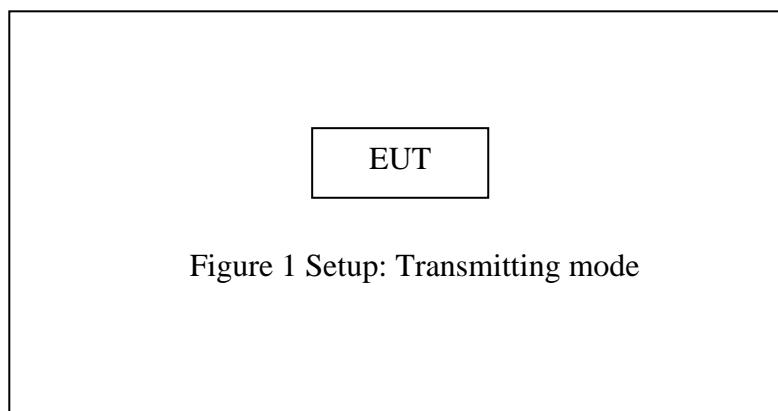


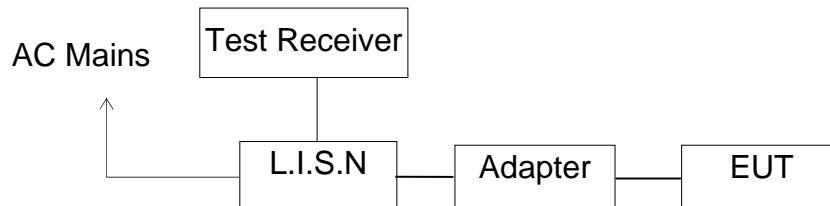
Figure 1 Setup: Transmitting mode

4. TEST PROCEDURES AND RESULTS

FCC Rules	Description of Test	Result
Section 15.207	Power Line Conducted Emission	Compliant
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 15.203	Antenna Requirement	Compliant

5. POWER LINE CONDUCTED MEASUREMENT

5.1. Block Diagram of Test Setup



(EUT: Novo7 Crystal II User manual)

5.2. Power Line Conducted Emission Measurement Limits

Frequency (MHz)	Limit dB(μ V)	
	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

NOTE1: The lower limit shall apply at the transition frequencies.
NOTE2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz.

5.3. Configuration of EUT on Measurement

The following equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner, which tends to maximize its emission characteristics in a 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 test mode and measure it.

5.5. 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.

5.6.Power Line Conducted Emission Measurement Results

PASS.

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

Test mode : Charging&WIFI communicating								
<u>MEASUREMENT RESULT: "C-1206-F09_fin"</u>								
12/6/2013 4:38PM								
Frequency MHz	Level dB μ V	Transd dB	Limit dB μ V	Margin dB	Detector	Line	PE	
0.460537	40.10	10.7	57	16.6	QP	N	GND	
0.828172	40.90	10.8	56	15.1	QP	N	GND	
1.892339	44.00	11.0	56	12.0	QP	N	GND	
<u>MEASUREMENT RESULT: "C-1206-F09_fin2"</u>								
12/6/2013 4:38PM								
Frequency MHz	Level dB μ V	Transd dB	Limit dB μ V	Margin dB	Detector	Line	PE	
0.594596	25.50	10.7	46	20.5	AV	N	GND	
1.023310	22.40	10.8	46	23.6	AV	N	GND	
18.863291	24.40	11.4	50	25.6	AV	N	GND	
<u>MEASUREMENT RESULT: "C-1206-F10_fin"</u>								
12/6/2013 4:41PM								
Frequency MHz	Level dB μ V	Transd dB	Limit dB μ V	Margin dB	Detector	Line	PE	
0.611446	45.60	10.7	56	10.4	QP	L1	GND	
0.752508	46.40	10.8	56	9.6	QP	L1	GND	
1.892339	47.70	11.0	56	8.3	QP	L1	GND	
<u>MEASUREMENT RESULT: "C-1206-F10_fin2"</u>								
12/6/2013 4:41PM								
Frequency MHz	Level dB μ V	Transd dB	Limit dB μ V	Margin dB	Detector	Line	PE	
0.266530	34.10	10.6	51	17.1	AV	L1	GND	
0.596975	29.10	10.7	46	16.9	AV	L1	GND	
1.043940	23.20	10.9	46	22.8	AV	L1	GND	

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

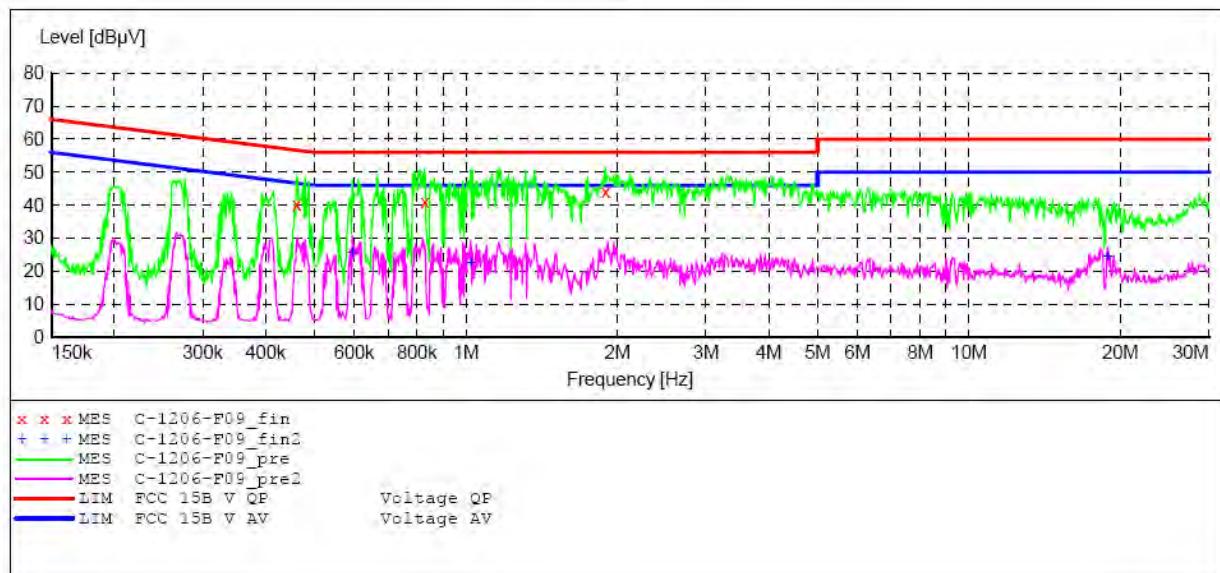
The spectral diagrams are attached as below.

ACCURATE TECHNOLOGY CO., LTD**CONDUCTED EMISSION STANDARD FCC PART 15**

EUT: Novo7 Crystal II User Manual M/N:Novo7 Crystal II
 Manufacturer: Ainol
 Operating Condition: WiFi/Charging
 Test Site: 1#Shielding Room
 Operator: Alen
 Test Specification: N 120V/60Hz
 Comment: Report NO:ATE20132535
 Start of Test: 12/6/2013 / 4:35:35PM

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. NSLK8126 2008
 150.0 kHz 30.0 MHz 4.5 kHz QuasiPeak 1.0 s 9 kHz Average

**MEASUREMENT RESULT: "C-1206-F09_fin"**

12/6/2013 4:38PM

Frequency MHz	Level dB μ V	Transd dB	Limit dB μ V	Margin dB	Detector	Line	PE
0.460537	40.10	10.7	57	16.6	QP	N	GND
0.828172	40.90	10.8	56	15.1	QP	N	GND
1.892339	44.00	11.0	56	12.0	QP	N	GND

MEASUREMENT RESULT: "C-1206-F09_fin2"

12/6/2013 4:38PM

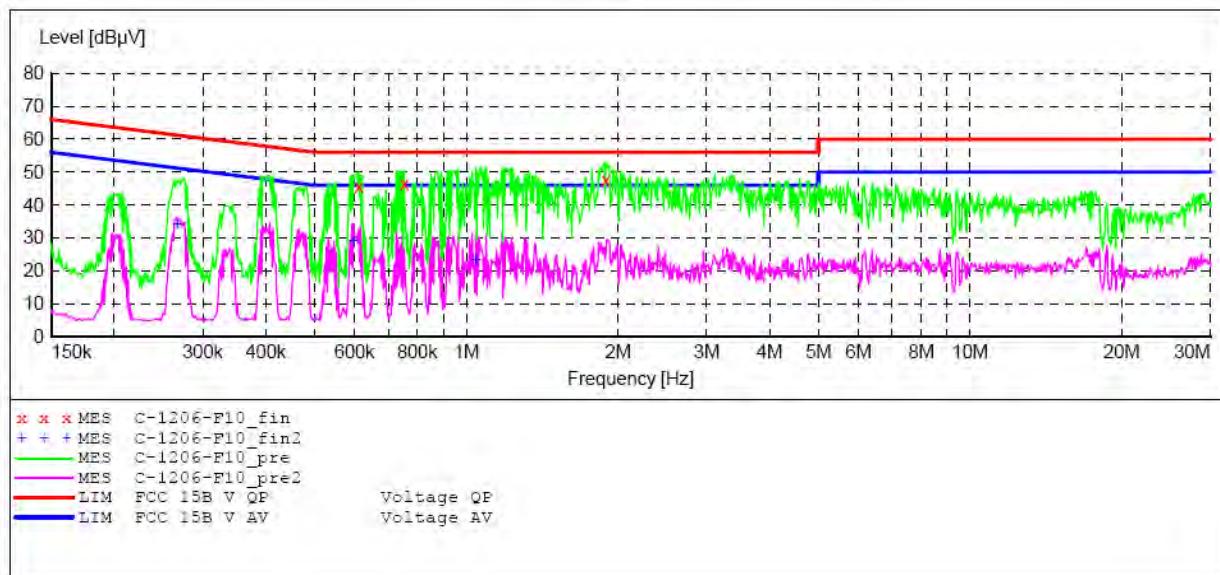
Frequency MHz	Level dB μ V	Transd dB	Limit dB μ V	Margin dB	Detector	Line	PE
0.594596	25.50	10.7	46	20.5	AV	N	GND
1.023310	22.40	10.8	46	23.6	AV	N	GND
18.863291	24.40	11.4	50	25.6	AV	N	GND

ACCURATE TECHNOLOGY CO., LTD**CONDUCTED EMISSION STANDARD FCC PART 15**

EUT: Novo7 Crystal II User Manual M/N:Novo7 Crystal II
 Manufacturer: Ainol
 Operating Condition: WiFi/Charging
 Test Site: 1#Shielding Room
 Operator: Alen
 Test Specification: L 120V/60Hz
 Comment: Report NO:ATE20132535
 Start of Test: 12/6/2013 / 4:39:27PM

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. Bandw.
 150.0 kHz 30.0 MHz 4.5 kHz QuasiPeak 1.0 s 9 kHz NSLK8126 2008
 Average

**MEASUREMENT RESULT: "C-1206-F10_fin"**

12/6/2013 4:41PM

Frequency MHz	Level dB μ V	Transd dB	Limit dB μ V	Margin dB	Detector	Line	PE
0.611446	45.60	10.7	56	10.4	QP	L1	GND
0.752508	46.40	10.8	56	9.6	QP	L1	GND
1.892339	47.70	11.0	56	8.3	QP	L1	GND

MEASUREMENT RESULT: "C-1206-F10_fin2"

12/6/2013 4:41PM

Frequency MHz	Level dB μ V	Transd dB	Limit dB μ V	Margin dB	Detector	Line	PE
0.266530	34.10	10.6	51	17.1	AV	L1	GND
0.596975	29.10	10.7	46	16.9	AV	L1	GND
1.043940	23.20	10.9	46	22.8	AV	L1	GND

6. 6DB BANDWIDTH MEASUREMENT

6.1. Block Diagram of Test Setup



6.2. 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.

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

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.

6.6. Test Result

The test was performed with 802.11b

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
Low	2412	10.12	> 0.5MHz
Middle	2437	10.12	> 0.5MHz
High	2462	10.12	> 0.5MHz

The test was performed with 802.11g

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
Low	2412	16.60	> 0.5MHz
Middle	2437	16.60	> 0.5MHz
High	2462	16.60	> 0.5MHz

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

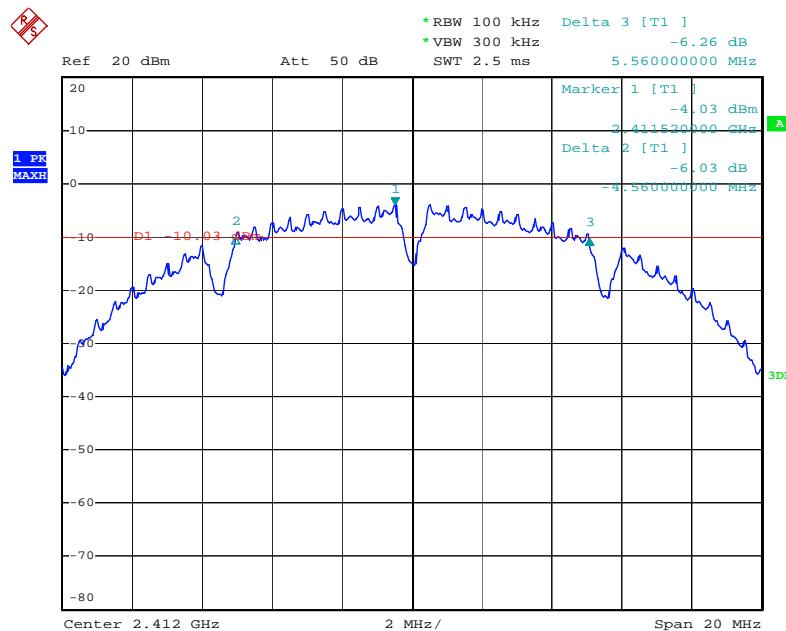
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
Low	2412	17.88	> 0.5MHz
Middle	2437	17.88	> 0.5MHz
High	2462	17.88	> 0.5MHz

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

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
Low	2422	36.56	> 0.5MHz
Middle	2437	36.56	> 0.5MHz
High	2452	36.56	> 0.5MHz

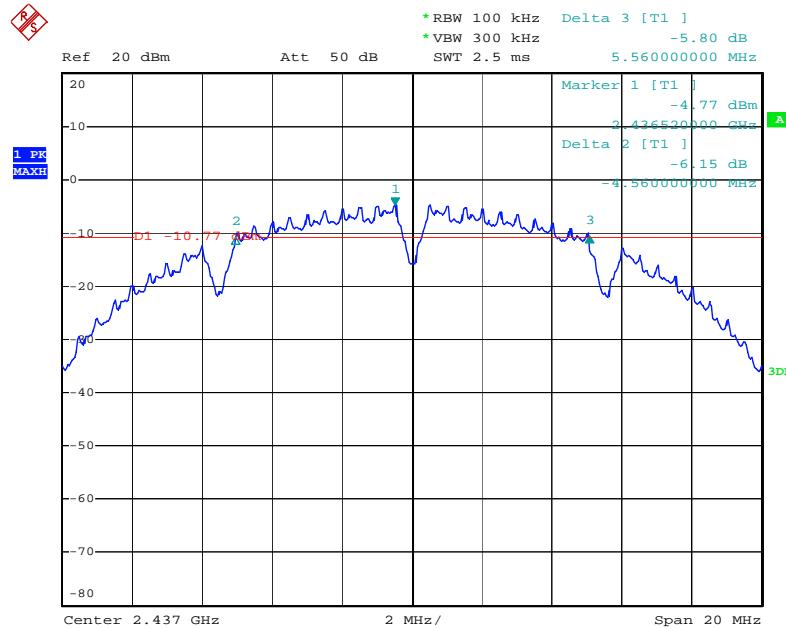
The spectrum analyzer plots are attached as below.

802.11b Channel Low 2412MHz



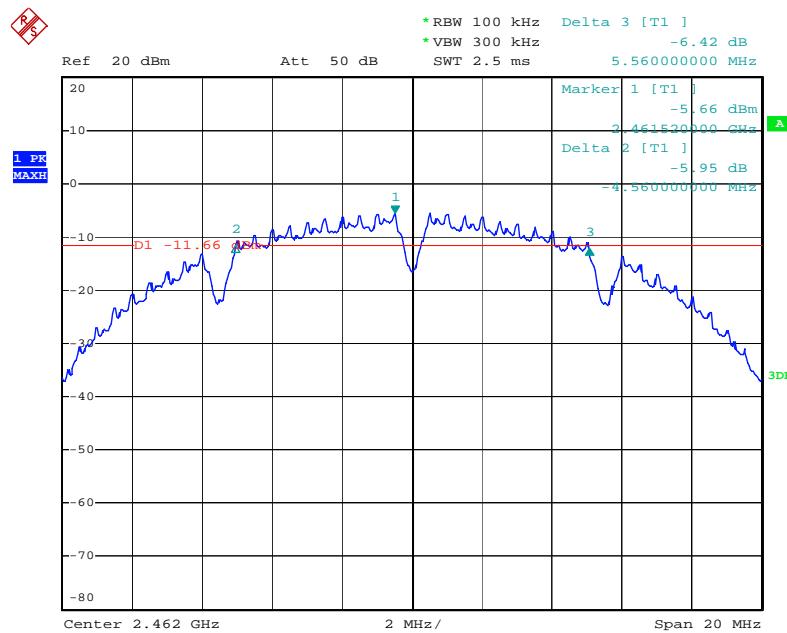
Date: 9.DEC.2013 08:54:20

802.11b Channel Middle 2437MHz



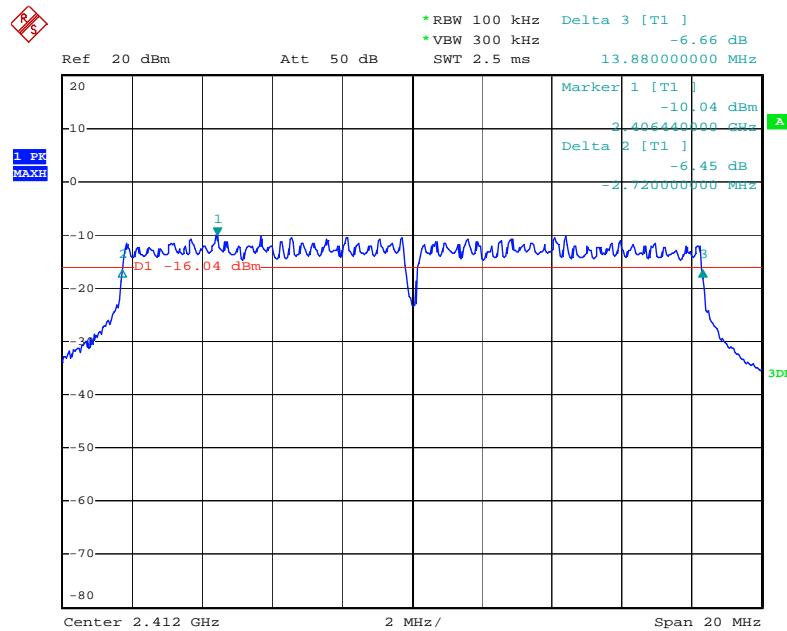
Date: 9.DEC.2013 08:59:06

802.11b Channel High 2462MHz



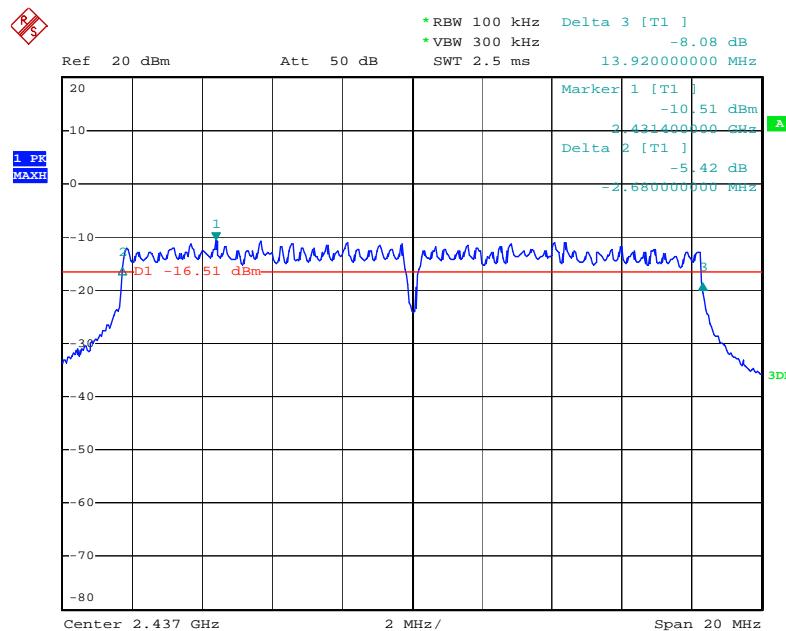
Date: 9.DEC.2013 09:02:42

802.11g Channel Low 2412MHz



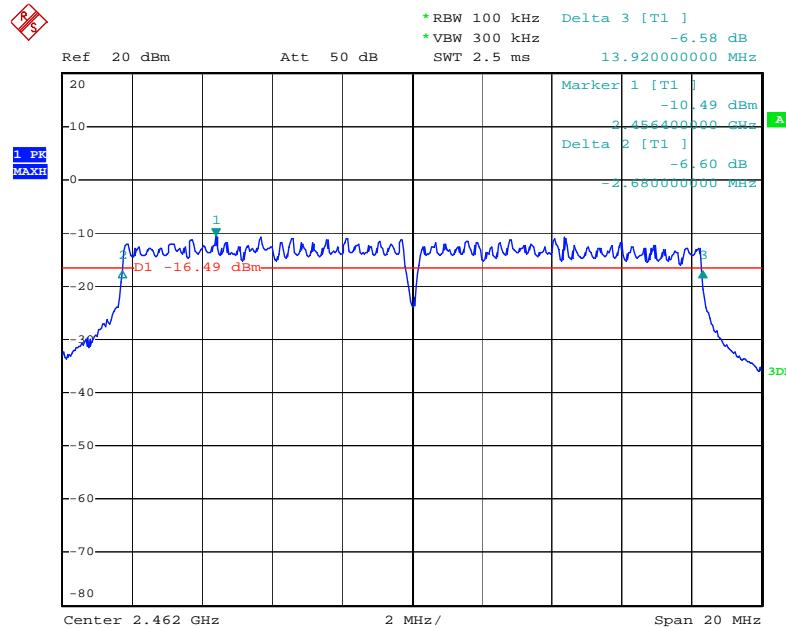
Date: 9.DEC.2013 09:14:41

802.11g Channel Middle 2437MHz



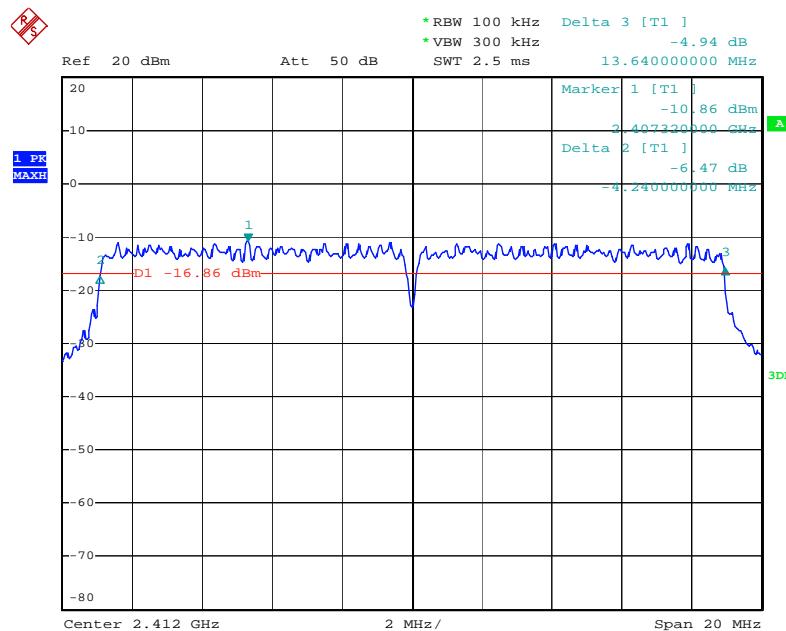
Date: 9.DEC.2013 09:11:45

802.11g Channel High 2462MHz



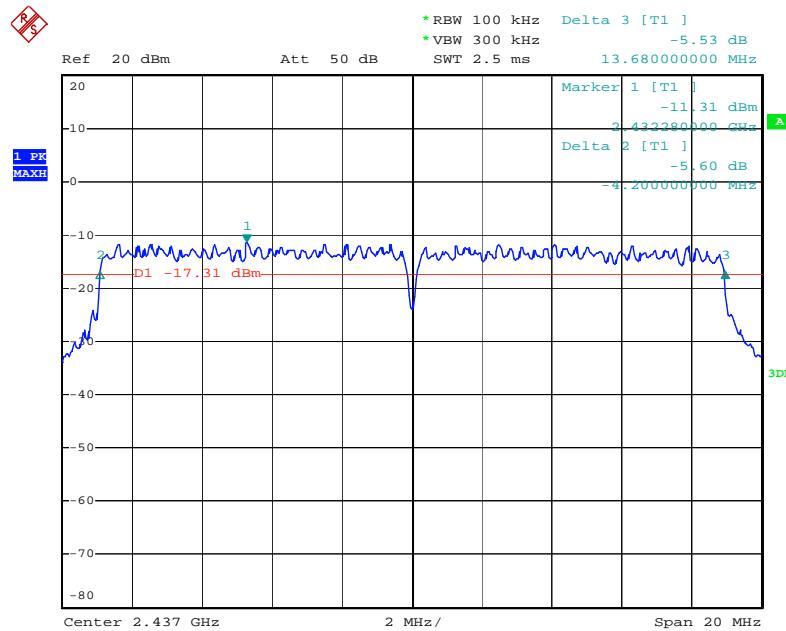
Date: 9.DEC.2013 09:08:06

802.11n Channel Low 2412MHz (20MHz)



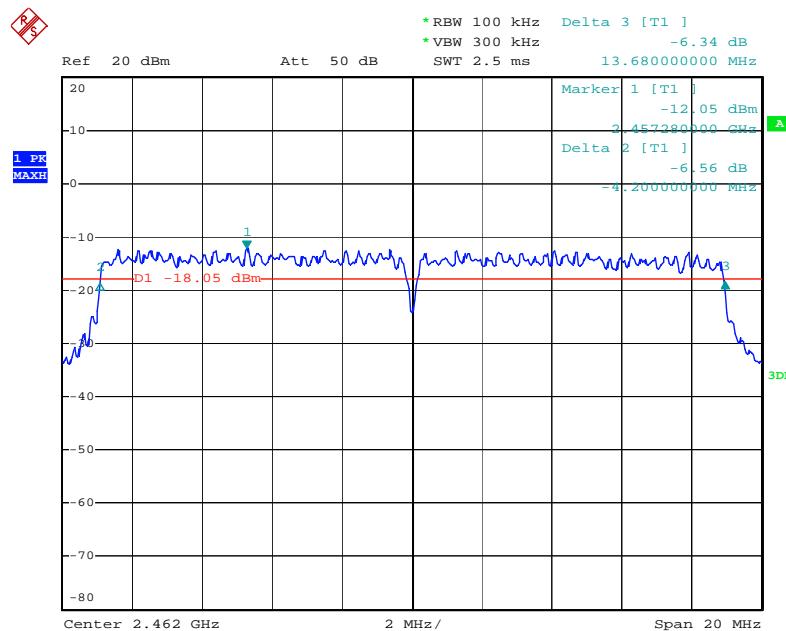
Date: 9.DEC.2013 09:19:18

802.11n Channel Middle 2437MHz(20MHz)



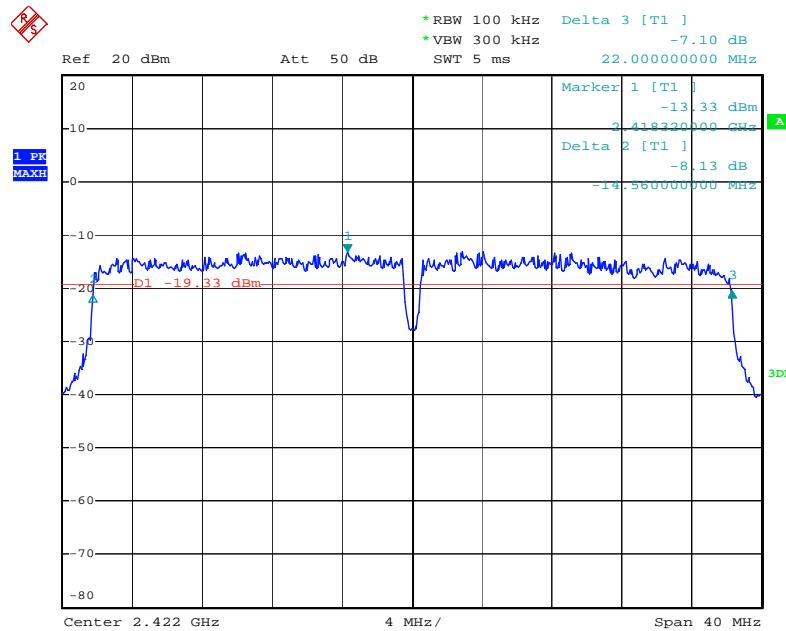
Date: 9.DEC.2013 09:23:34

802.11n Channel High 2462MHz(20MHz)



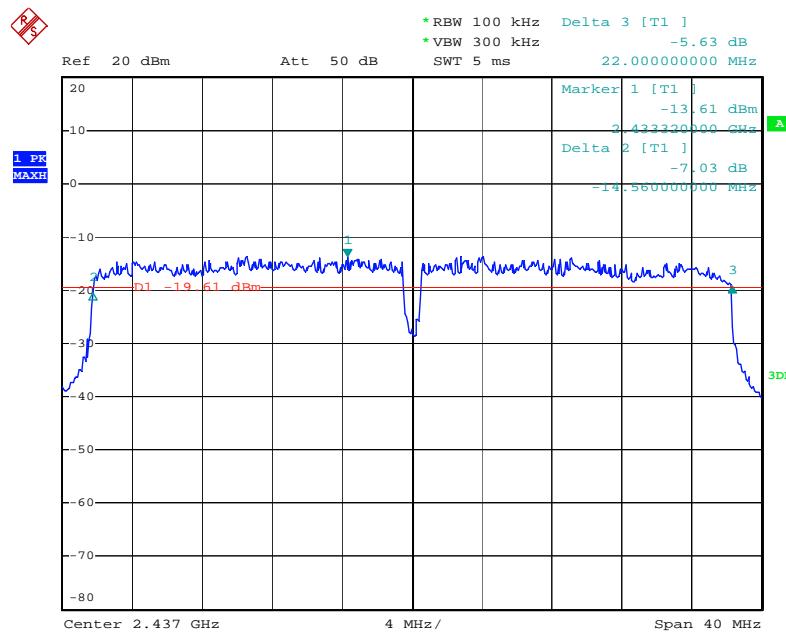
Date: 9.DEC.2013 09:26:07

802.11n Channel Low 2422MHz (40MHz)



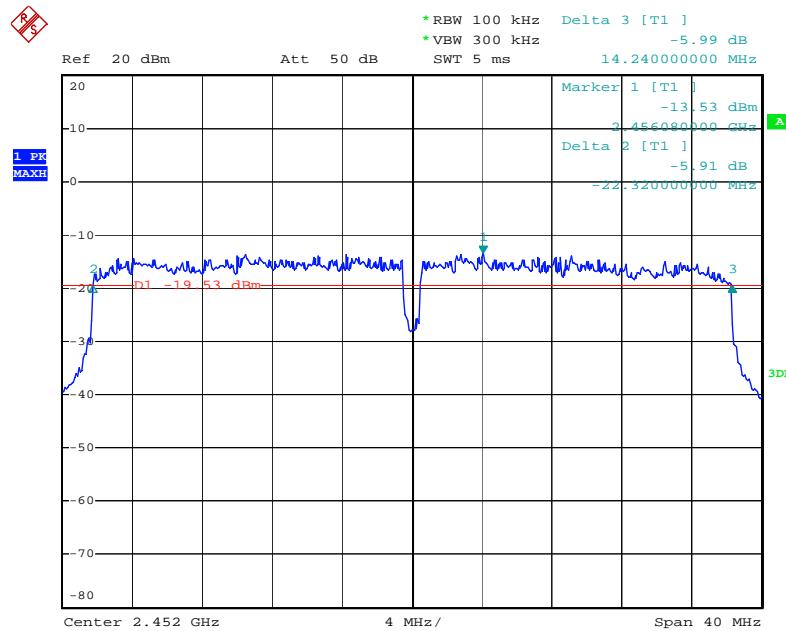
Date: 9.DEC.2013 09:38:17

802.11n Channel Middle 2437MHz(40MHz)



Date: 9.DEC.2013 09:34:50

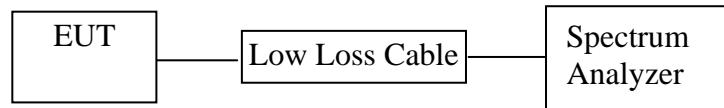
802.11n Channel High 2452MHz(40MHz)



Date: 9.DEC.2013 09:30:26

7. MAXIMUM PEAK OUTPUT POWER

7.1. Block Diagram of Test Setup



7.2. 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.

7.3. 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.

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 EUT was tested according to DTS test procedure of April 09, 2013 KDB558074 D01 DTS Meas Guidance v03 for compliance to FCC 47CFR 15.247 requirements.

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

7.5.3. Set RBW of spectrum analyzer to 1MHz and VBW to 3MHz.

7.5.4. Measurement the maximum peak output power.

7.6. 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	9.08	8.09	30 dBm / 1 W
Middle	2437	8.46	7.01	30 dBm / 1 W
High	2462	8.04	6.37	30 dBm / 1 W

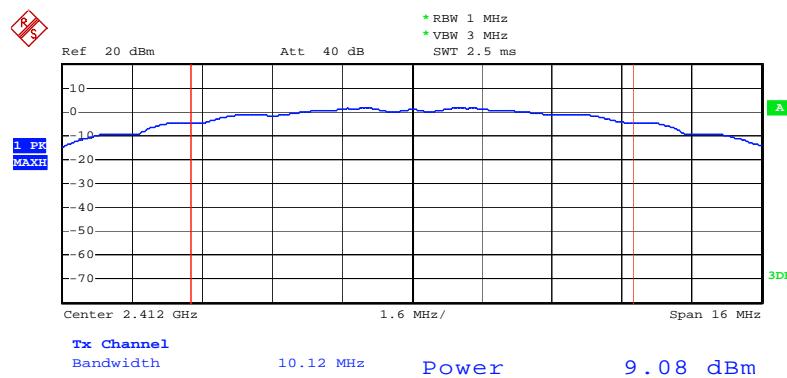
The test was performed with 802.11g				
Channel	Frequency (MHz)	Peak Output Power (dBm)	Peak Output Power (mW)	Limits dBm / W
Low	2412	7.95	6.24	30 dBm / 1 W
Middle	2437	7.81	6.04	30 dBm / 1 W
High	2462	7.48	5.60	30 dBm / 1 W

The test was performed with 802.11n (20MHz)				
Channel	Frequency (MHz)	Peak Output Power (dBm)	Peak Output Power (mW)	Limits dBm / W
Low	2412	7.70	5.89	30 dBm / 1 W
Middle	2437	7.14	5.18	30 dBm / 1 W
High	2462	6.70	4.68	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	7.51	5.64	30 dBm / 1 W
Middle	2437	6.56	4.53	30 dBm / 1 W
High	2452	6.06	4.04	30 dBm / 1 W

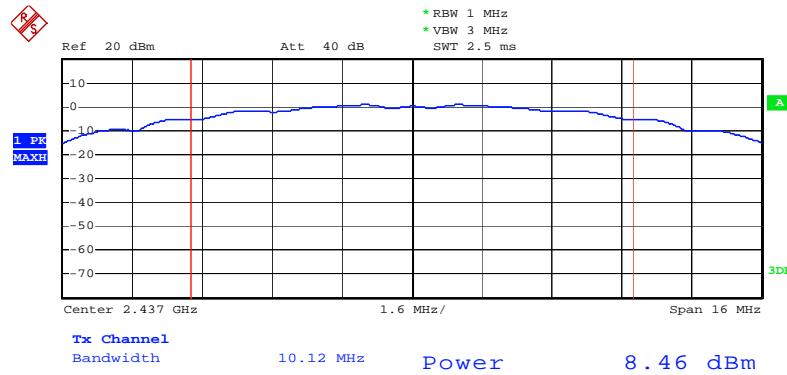
The spectrum analyzer plots are attached as below.

802.11b Channel Low 2412MHz



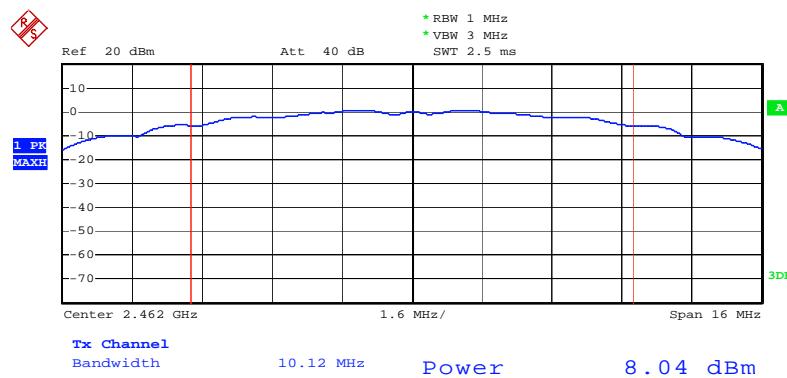
Date: 9.DEC.2013 09:50:37

802.11b Channel Middle 2437MHz



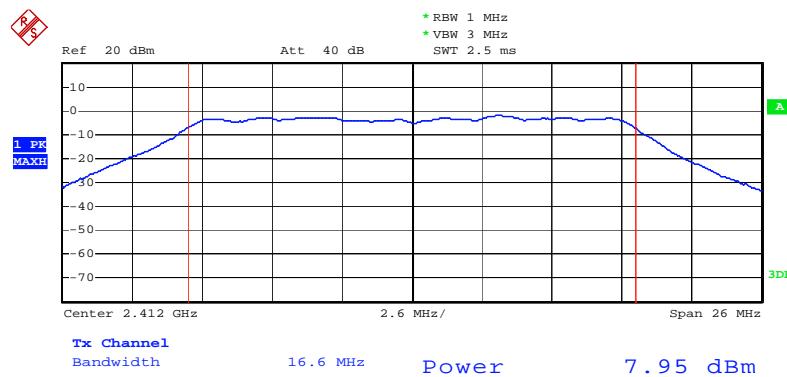
Date: 9.DEC.2013 09:52:27

802.11b Channel High 2462MHz



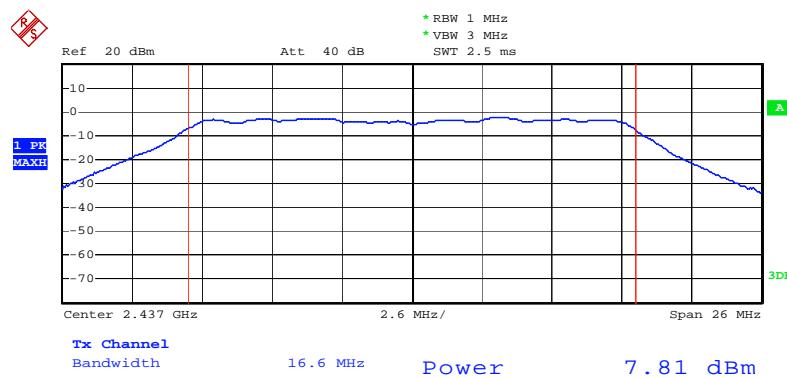
Date: 9.DEC.2013 09:54:30

802.11g Channel Low 2412MHz



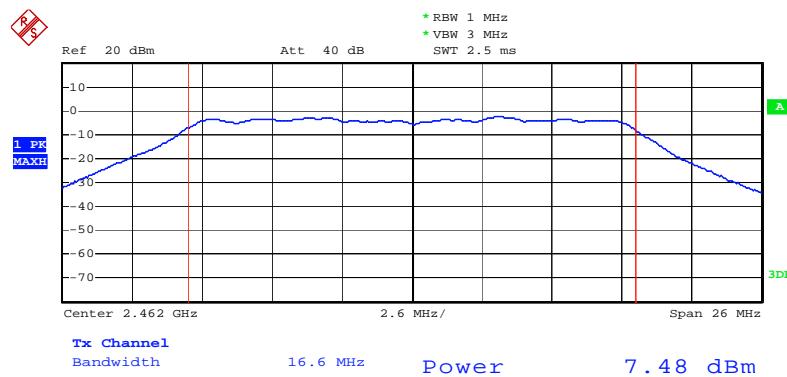
Date: 9.DEC.2013 10:02:19

802.11g Channel Middle 2437MHz



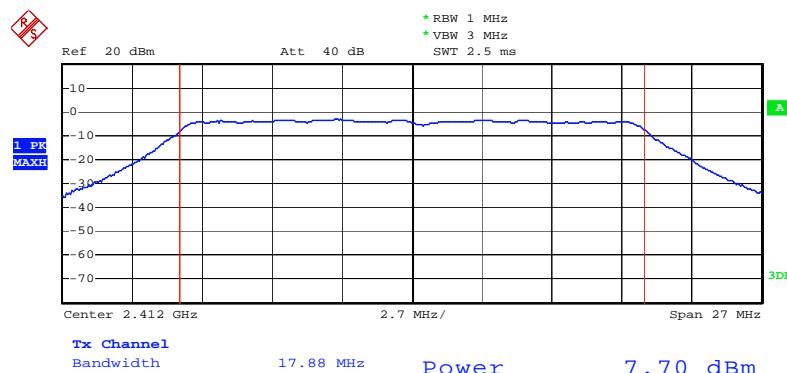
Date: 9.DEC.2013 10:00:29

802.11g Channel High 2462MHz



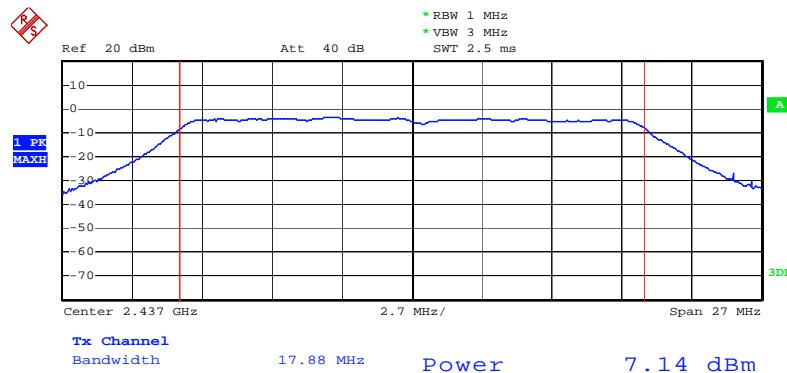
Date: 9.DEC.2013 09:58:52

802.11n Channel Low 2412MHz (20MHz)



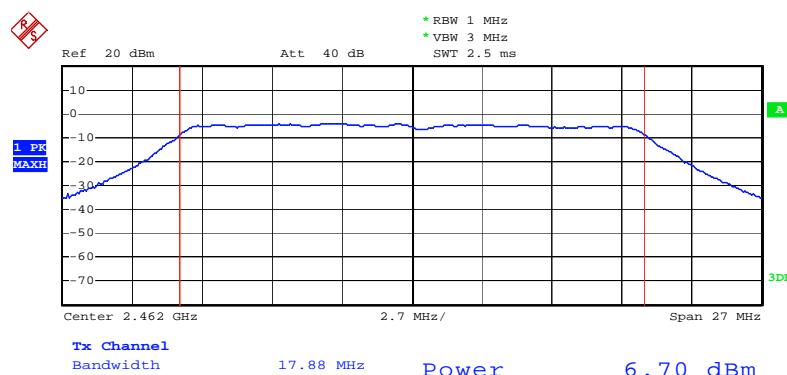
Date: 9.DEC.2013 10:04:45

802.11n Channel Middle 2437MHz (20MHz)



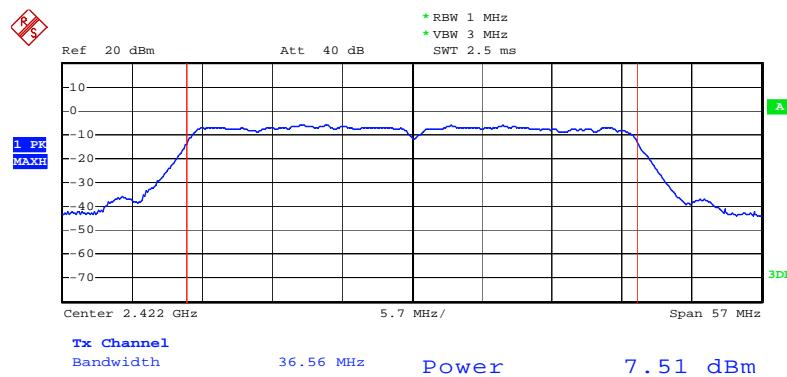
Date: 9.DEC.2013 10:06:28

802.11n Channel High 2462MHz (20MHz)



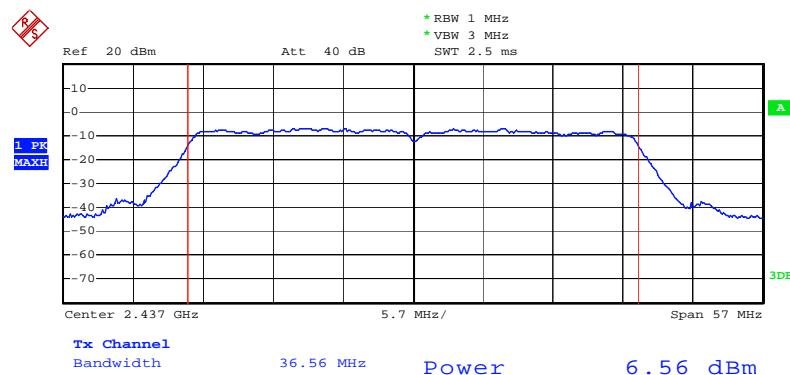
Date: 9.DEC.2013 10:08:20

802.11n Channel Low 2422MHz (40MHz)



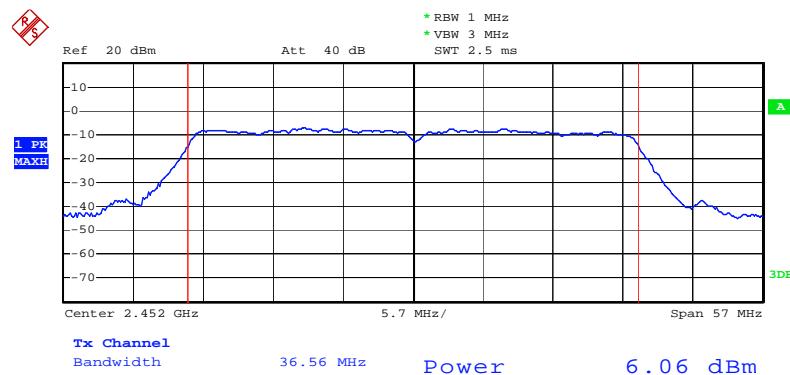
Date: 9.DEC.2013 09:43:30

802.11n Channel Middle 2437MHz (40MHz)



Date: 9.DEC.2013 09:44:41

802.11n Channel High 2452MHz (40MHz)



Date: 9.DEC.2013 09:46:50

8. POWER SPECTRAL DENSITY MEASUREMENT

8.1. Block Diagram of Test Setup



8.2. 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.

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. We select 2412MHz, 2437MHz, 2462MHz and 2422MHz, 2437MHz, 2452MHz TX frequency to transmit.

8.5. Test Procedure

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

8.5.2. 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.

8.5.3. Measurement the maximum power spectral density.

8.6. Test Result

The test was performed with 802.11b

Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)
Low	2412	-24.09	8 dBm
Middle	2437	-24.69	8 dBm
High	2462	-25.41	8 dBm

The test was performed with 802.11g

Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)
Low	2412	-26.08	8 dBm
Middle	2437	-26.81	8 dBm
High	2462	-27.66	8 dBm

The test was performed with 802.11n (20MHz)

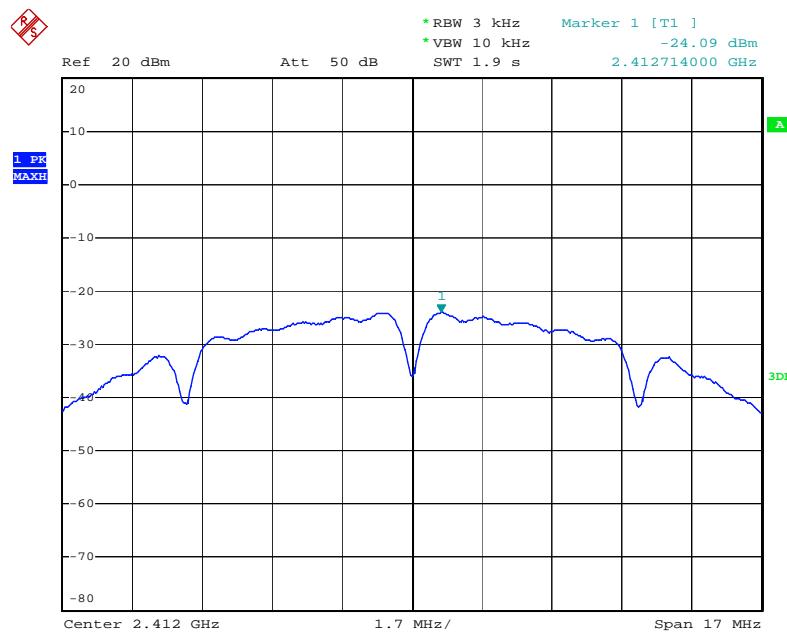
Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)
Low	2412	-26.90	8 dBm
Middle	2437	-26.86	8 dBm
High	2462	-27.30	8 dBm

The test was performed with 802.11n (40MHz)

Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)
Low	2422	-28.53	8 dBm
Middle	2437	-29.35	8 dBm
High	2452	-29.46	8 dBm

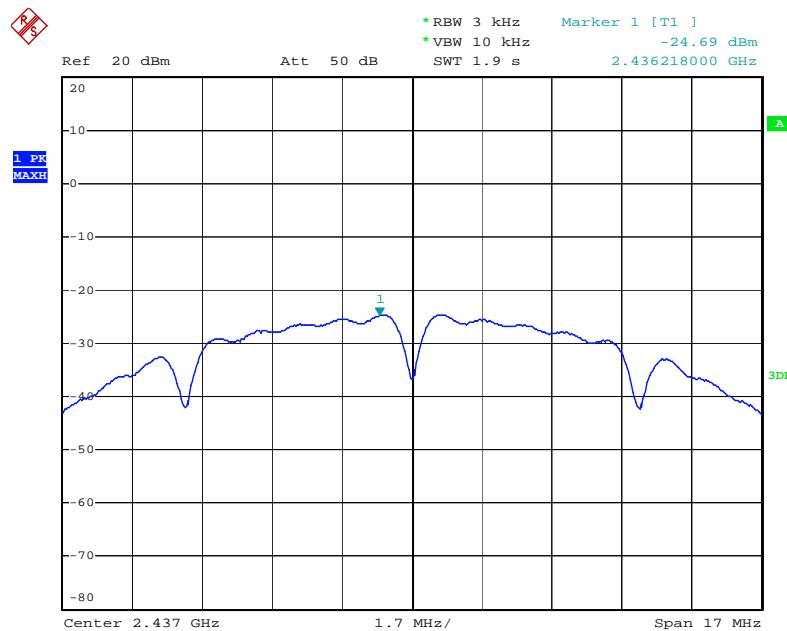
The spectrum analyzer plots are attached as below.

802.11b Channel Low 2412MHz



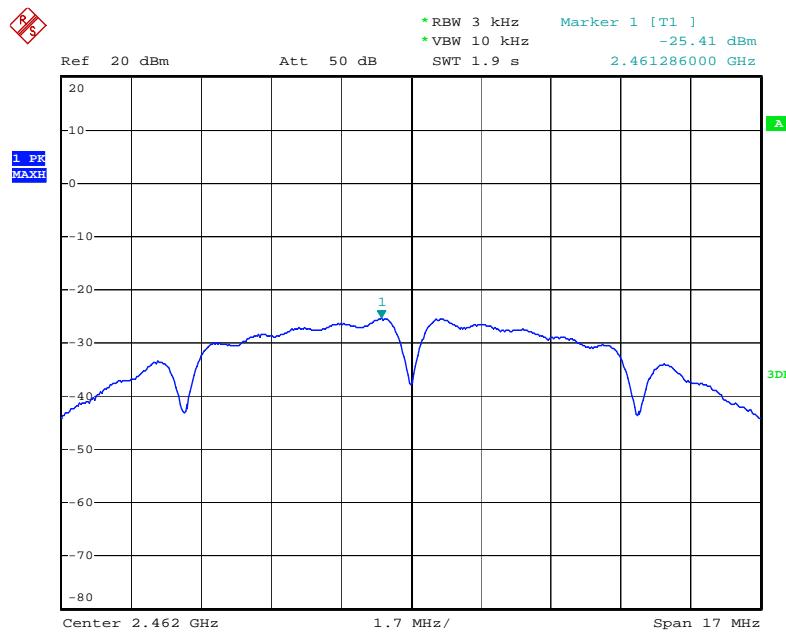
Date: 9.DEC.2013 10:22:13

802.11b Channel Middle 2437MHz



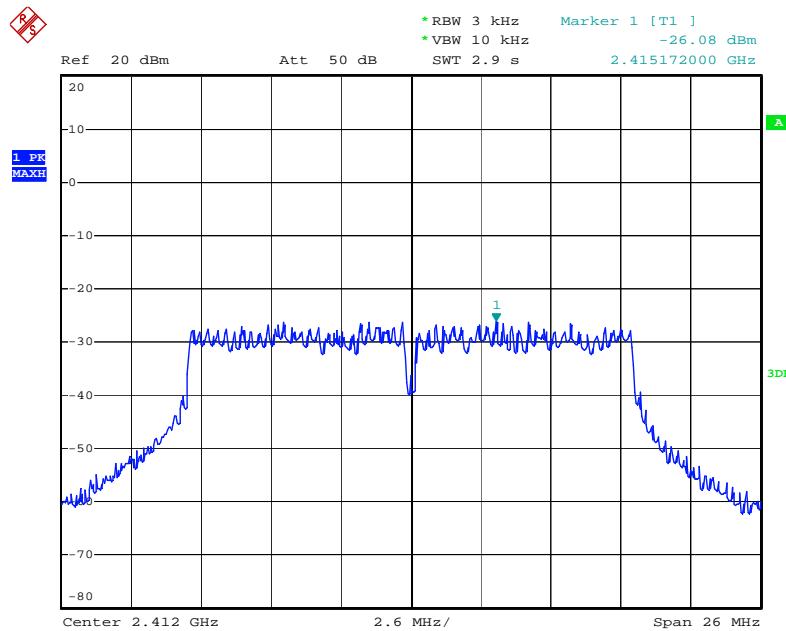
Date: 9.DEC.2013 10:22:44

802.11b Channel High 2462MHz



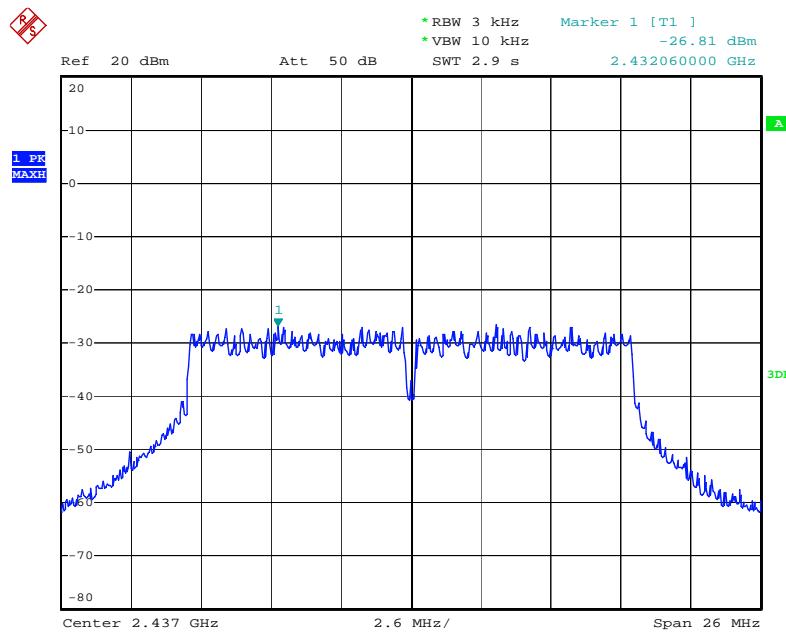
Date: 9.DEC.2013 10:24:58

802.11g Channel Low 2412MHz



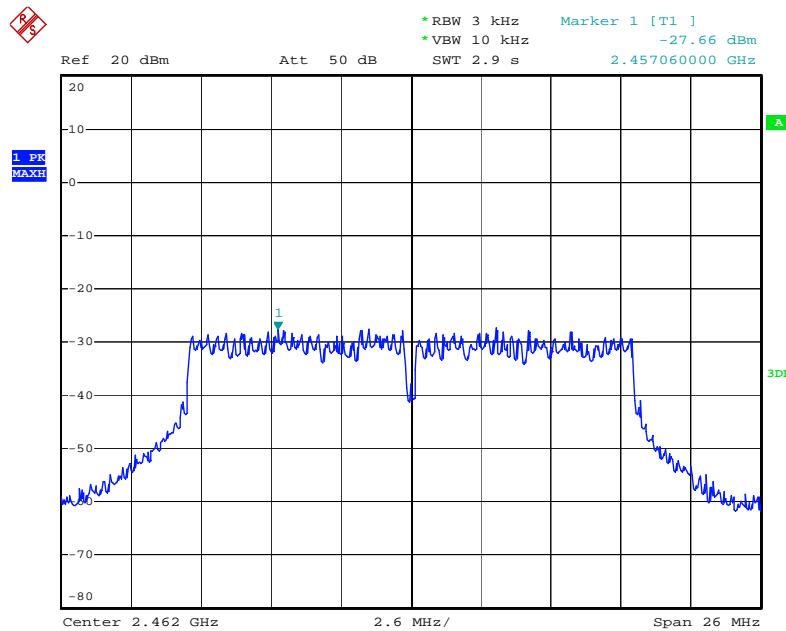
Date: 9.DEC.2013 10:29:26

802.11g Channel Middle 2437MHz



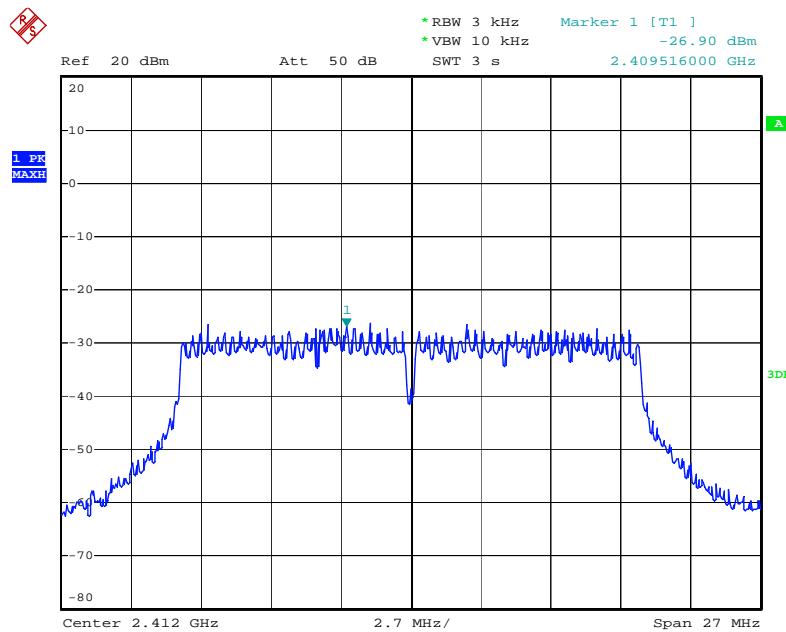
Date: 9.DEC.2013 10:27:57

802.11g Channel High 2462MHz



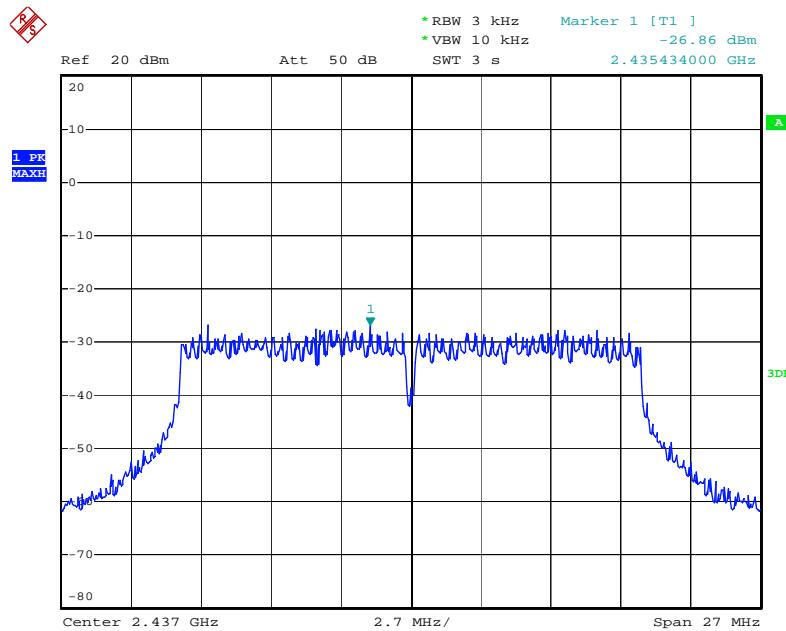
Date: 9.DEC.2013 10:26:47

802.11n Channel Low 2412MHz (20MHz)



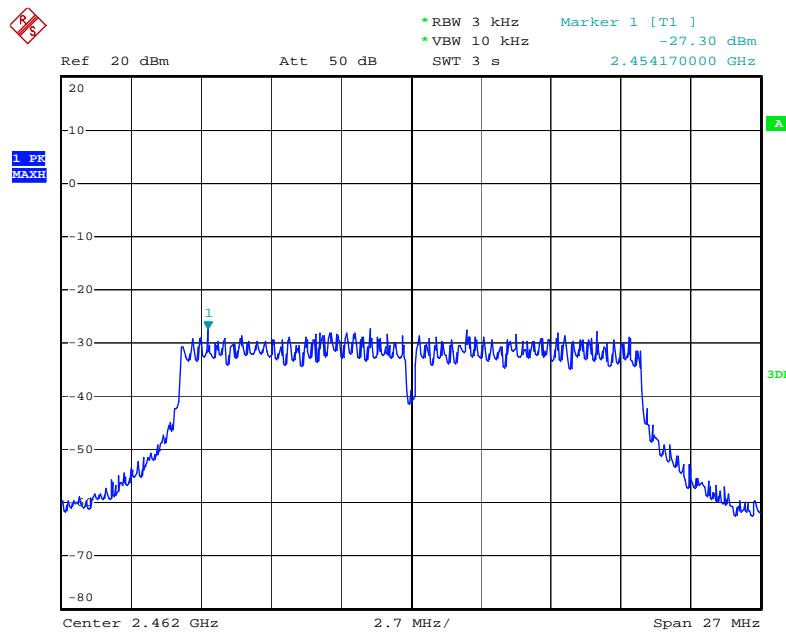
Date: 9.DEC.2013 10:19:52

802.11n Channel Middle 2437MHz (20MHz)



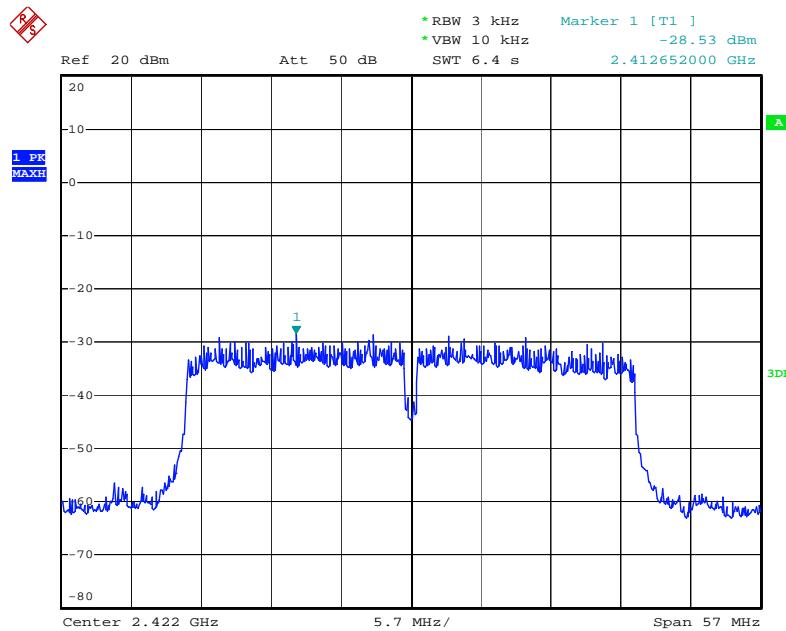
Date: 9.DEC.2013 10:18:34

802.11n Channel High 2462MHz(20MHz)



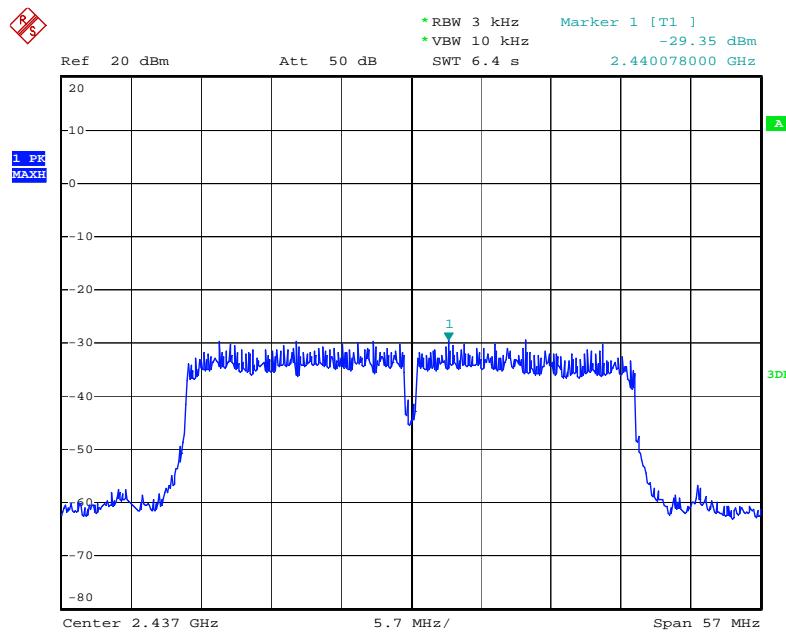
Date: 9.DEC.2013 10:16:42

802.11n Channel Low 2422MHz (40MHz)



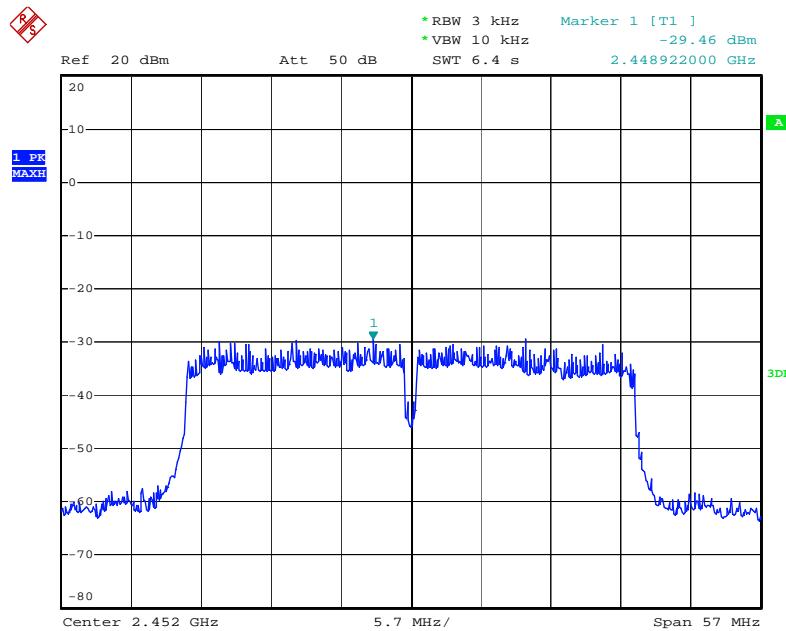
Date: 9.DEC.2013 10:31:40

802.11n Channel Middle 2437MHz(40MHz)



Date: 9.DEC.2013 10:33:15

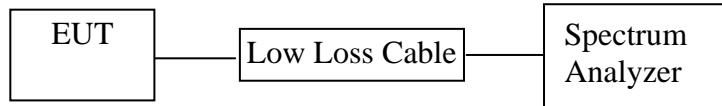
802.11n Channel High 2452MHz(40MHz)



Date: 9.DEC.2013 10:34:52

9. BAND EDGE COMPLIANCE TEST

9.1. Block Diagram of Test Setup



9.2. 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).

9.3. 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.

9.4. Operating Condition of EUT

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

9.4.2. Turn on the power of all equipment.

9.4.3. 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.

9.5. Test Procedure

Conducted Band Edge:

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

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

Radiate Band Edge:

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

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

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

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

9.5.7. RBW=1MHz, VBW=1MHz

9.5.8. The band edges were measured and recorded.

9.6. Test Result

The test was performed with 802.11b

Frequency (MHz)	Result of Band Edge (dBc)	Limit of Band Edge (dBc)
2412	44.61	> 20dBc
2462	52.87	> 20dBc

The test was performed with 802.11g

Frequency (MHz)	Result of Band Edge (dBc)	Limit of Band Edge (dBc)
2412	34.95	> 20dBc
2462	40.66	> 20dBc

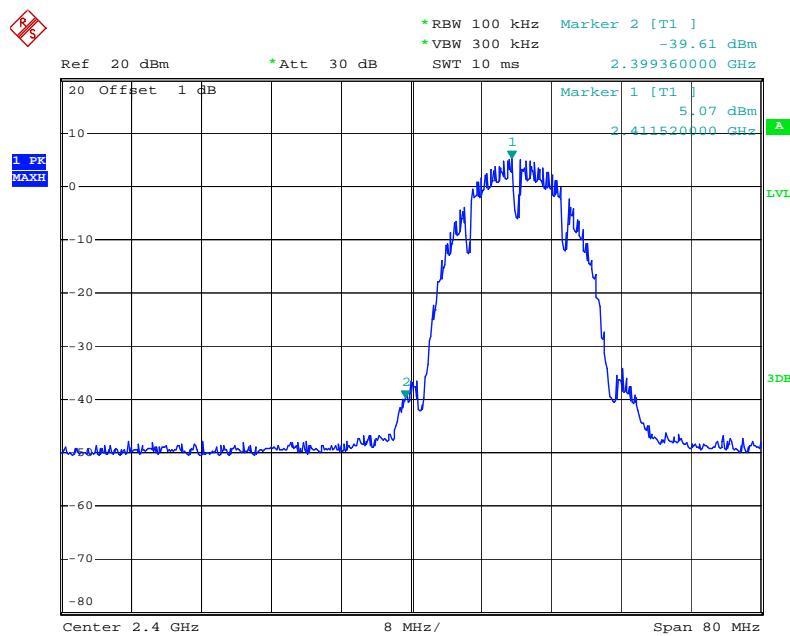
The test was performed with 802.11n (20MHz)

Frequency (MHz)	Result of Band Edge (dBc)	Limit of Band Edge (dBc)
2412	36.25	> 20dBc
2462	41.87	> 20dBc

The test was performed with 802.11n (40MHz)

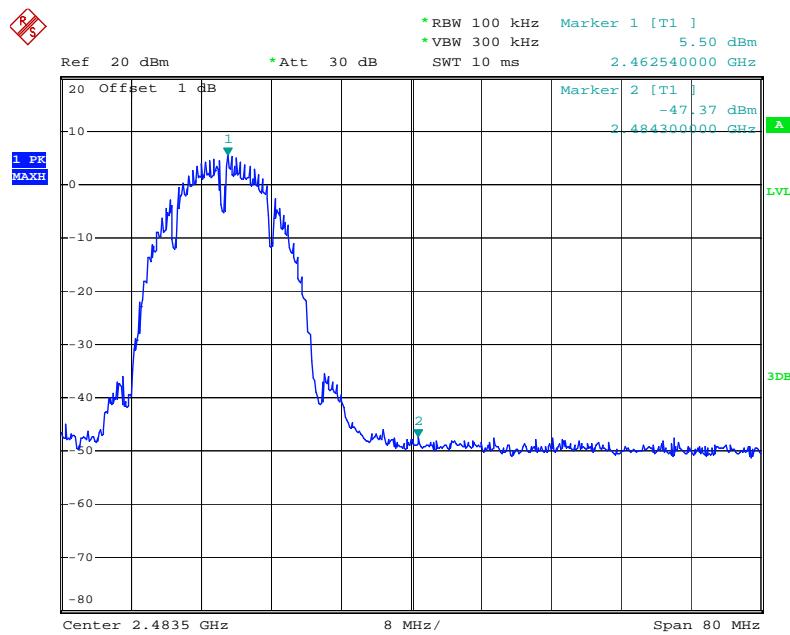
Frequency (MHz)	Result of Band Edge (dBc)	Limit of Band Edge (dBc)
2422	31.15	> 20dBc
2452	37.70	> 20dBc

802.11b Channel Low 2412MHz



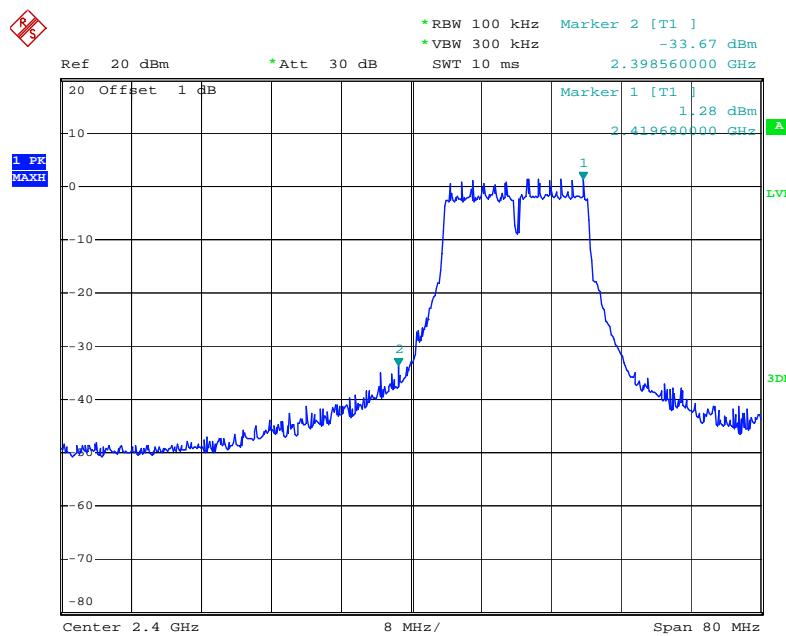
Date: 25.JAN.2014 11:30:33

802.11b Channel High 2462MHz



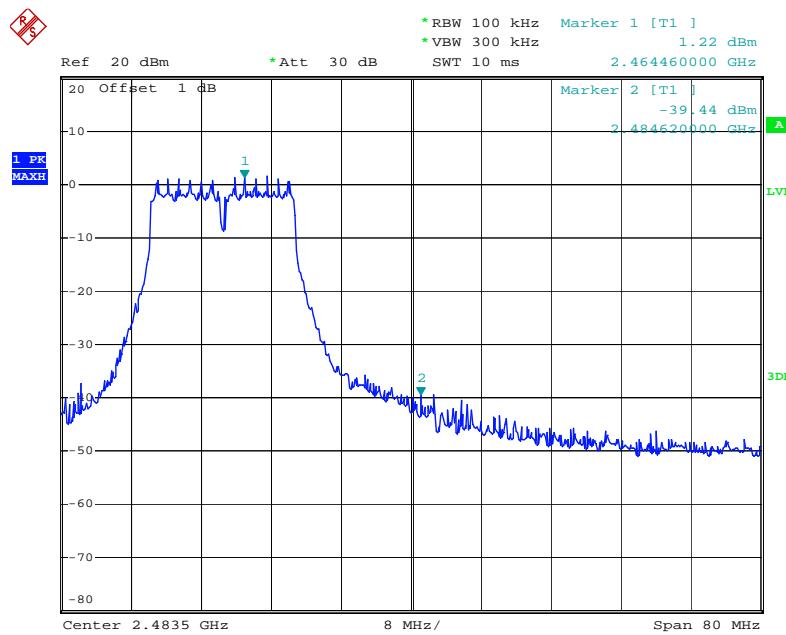
Date: 25.JAN.2014 11:31:15

802.11g Channel Low 2412MHz



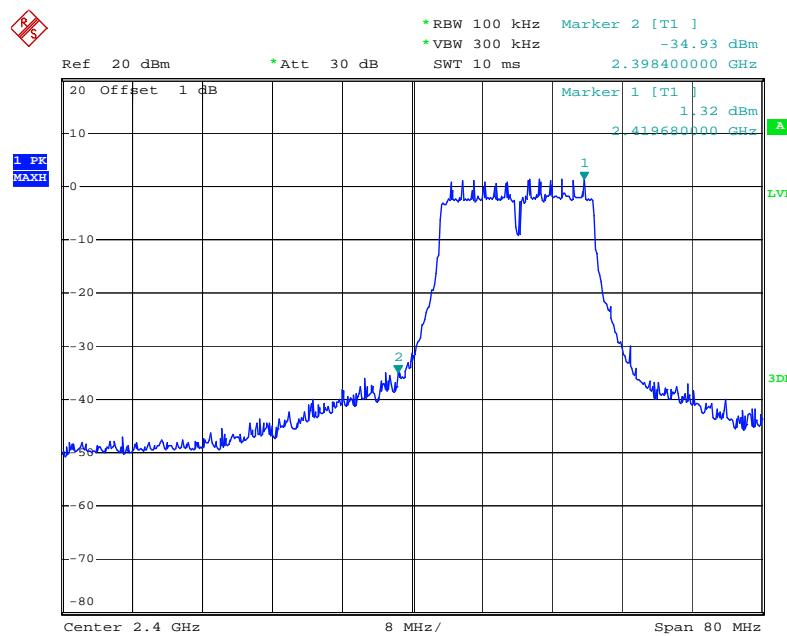
Date: 25.JAN.2014 11:33:12

802.11g Channel High 2462MHz



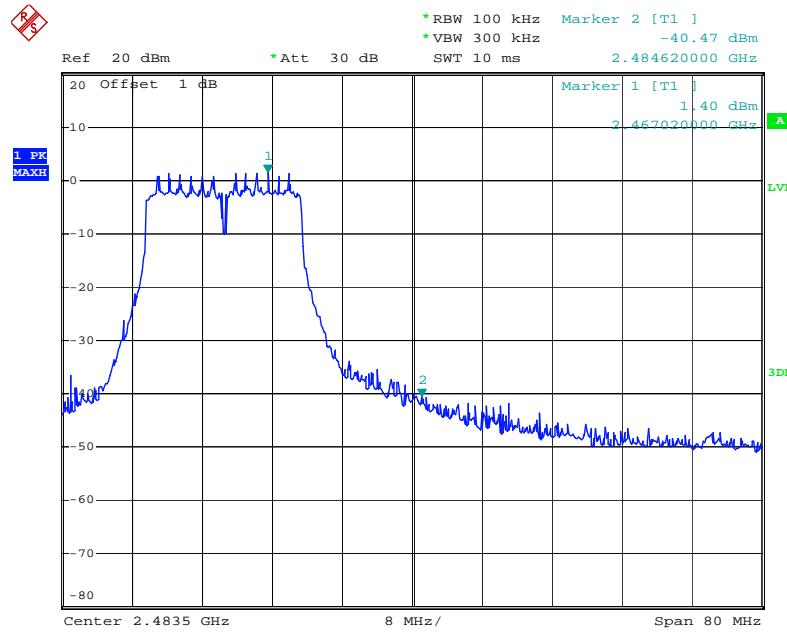
Date: 25.JAN.2014 11:32:11

802.11n Channel Low 2412MHz (20MHz)



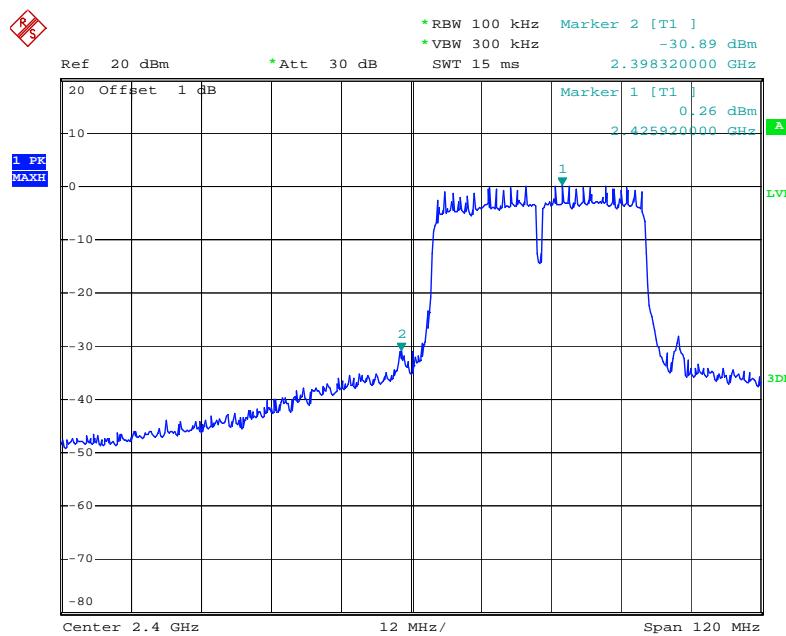
Date: 25.JAN.2014 11:34:58

802.11n Channel High 2462MHz (20MHz)



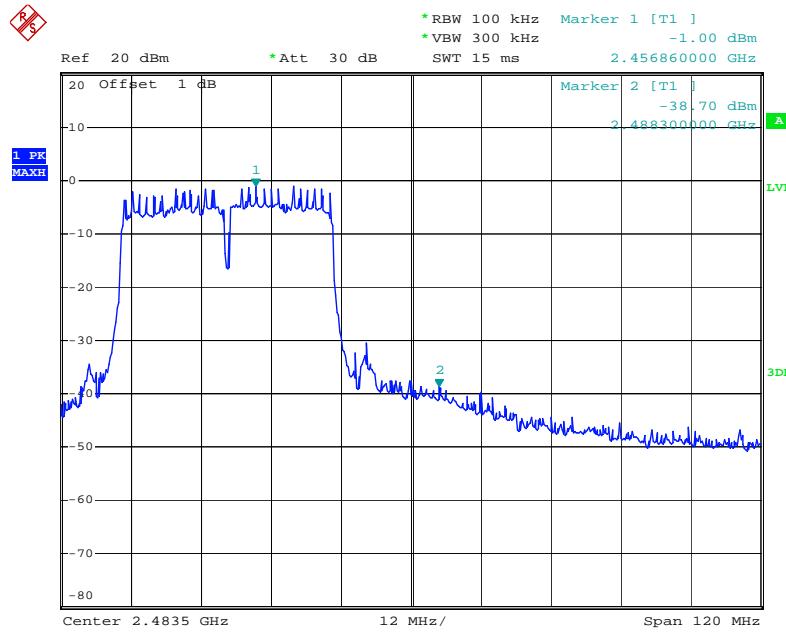
Date: 25.JAN.2014 11:35:41

802.11n Channel Low 2422MHz (40MHz)



Date: 25.JAN.2014 11:28:23

802.11n Channel High 2452MHz (40MHz)



Date: 25.JAN.2014 11:29:10

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.



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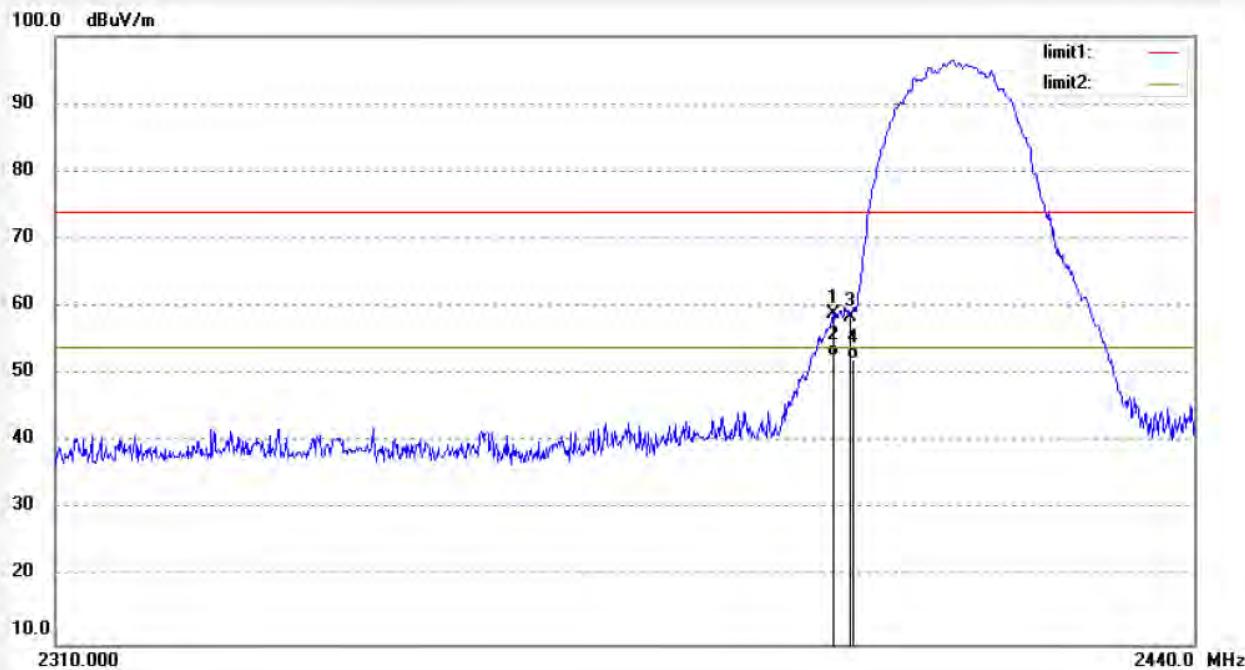
F1,Bldg.A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: alen #2772	Polarization: Horizontal
Standard: FCC PK	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 13/12/06/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 10/58/40
EUT: Novo 7 Crystal II User Manual	Engineer Signature:
Mode: TX 2412MHz(802.11b)	Distance: 3m
Model: Novo 7 Crystal II	
Manufacturer: Ainol	
Note: Report No:ATE20132535	



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2398.140	65.63	-6.75	58.88	74.00	-15.12	peak			
2	2398.140	59.35	-6.75	52.60	54.00	-1.40	AVG			
3	2400.090	65.27	-6.76	58.51	74.00	-15.49	peak			
4	2400.090	58.98	-6.76	52.22	54.00	-1.78	AVG			



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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.: alen #2771

Polarization: Vertical

Standard: FCC PK

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 10/57/58

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

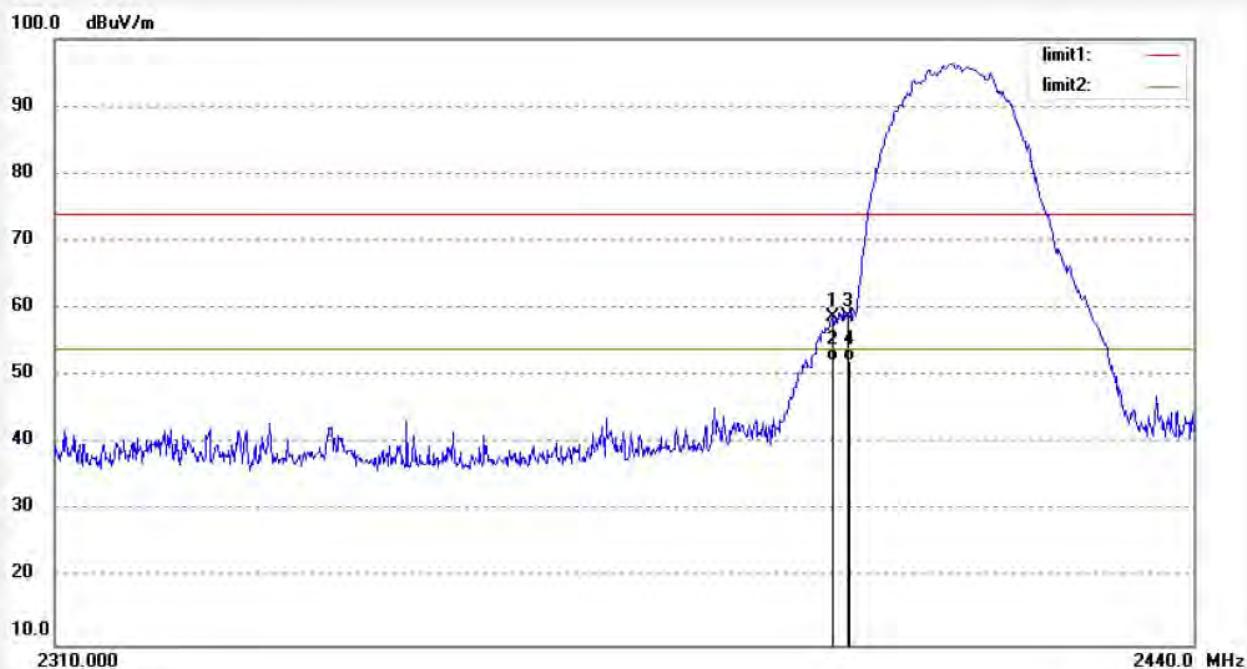
Mode: TX 2412MHz(802.11b)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2398.140	65.56	-6.75	58.81	74.00	-15.19	peak			
2	2398.140	59.01	-6.75	52.26	54.00	-1.74	AVG			
3	2399.960	65.53	-6.76	58.77	74.00	-15.23	peak			
4	2399.960	59.05	-6.76	52.29	54.00	-1.71	AVG			



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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.: alen #2769

Polarization: Horizontal

Standard: FCC PK

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 10/55/49

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

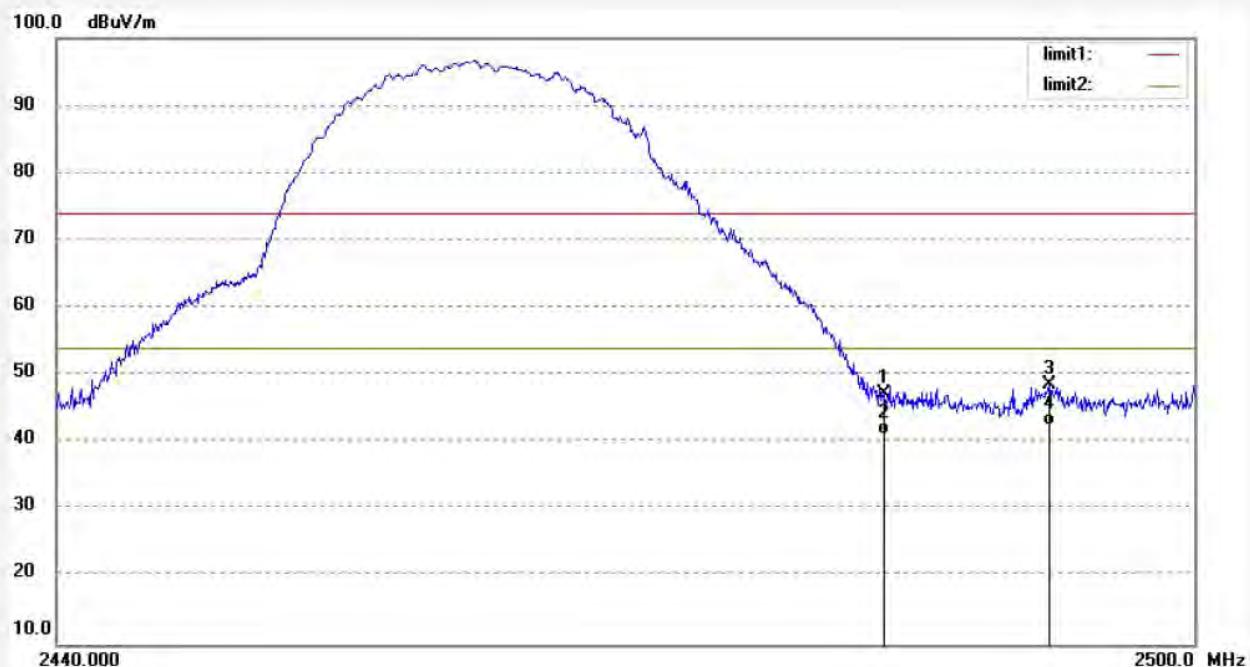
Mode: TX 2462MHz(802.11b)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



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	53.70	-6.54	47.16	74.00	-26.84	peak			
2	2483.500	47.75	-6.54	41.21	54.00	-12.79	AVG			
3	2492.260	55.12	-6.51	48.61	74.00	-25.39	peak			
4	2492.260	49.07	-6.51	42.56	54.00	-11.44	AVG			



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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.: alen #2770

Polarization: Vertical

Standard: FCC PK

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 10/56/30

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

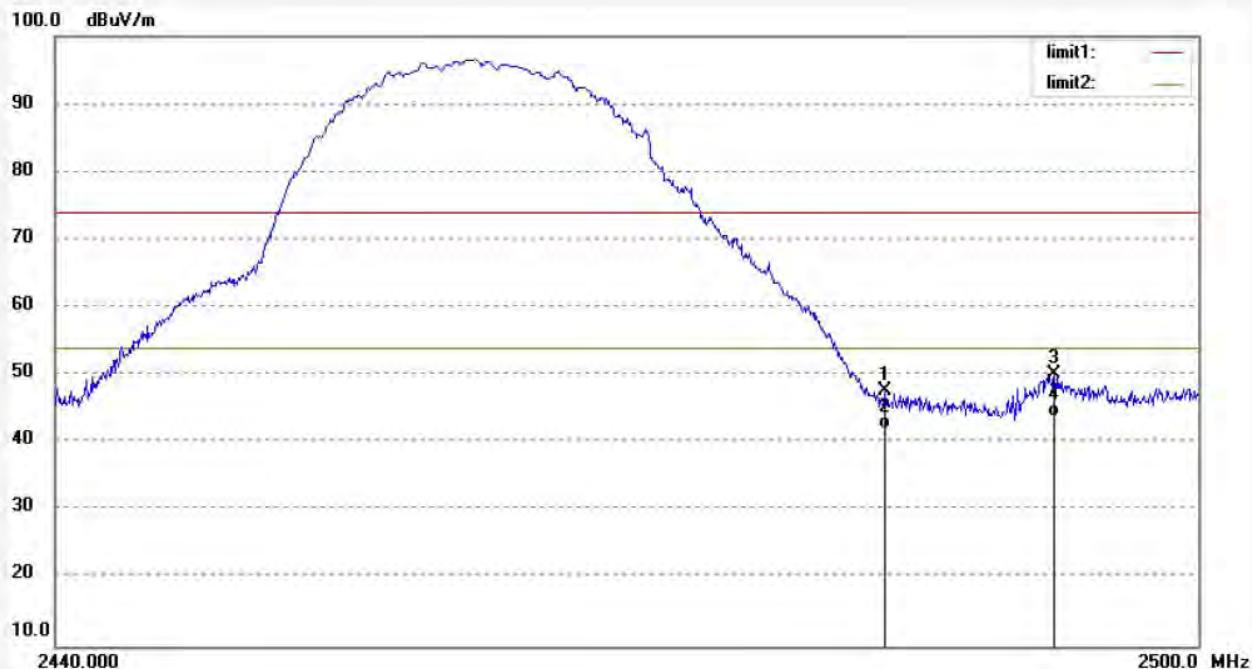
Mode: TX 2462MHz(802.11b)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.440	54.31	-6.54	47.77	74.00	-26.23	peak			
2	2483.440	48.65	-6.54	42.11	54.00	-11.89	AVG			
3	2492.380	56.60	-6.51	50.09	74.00	-23.91	peak			
4	2492.380	50.38	-6.51	43.87	54.00	-10.13	AVG			



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Site: 1# Chamber
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Fax:+86-0755-26503396

Job No.: alen #2774

Polarization: Horizontal

Standard: FCC PK

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/07/

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

Time: 8/37/42

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

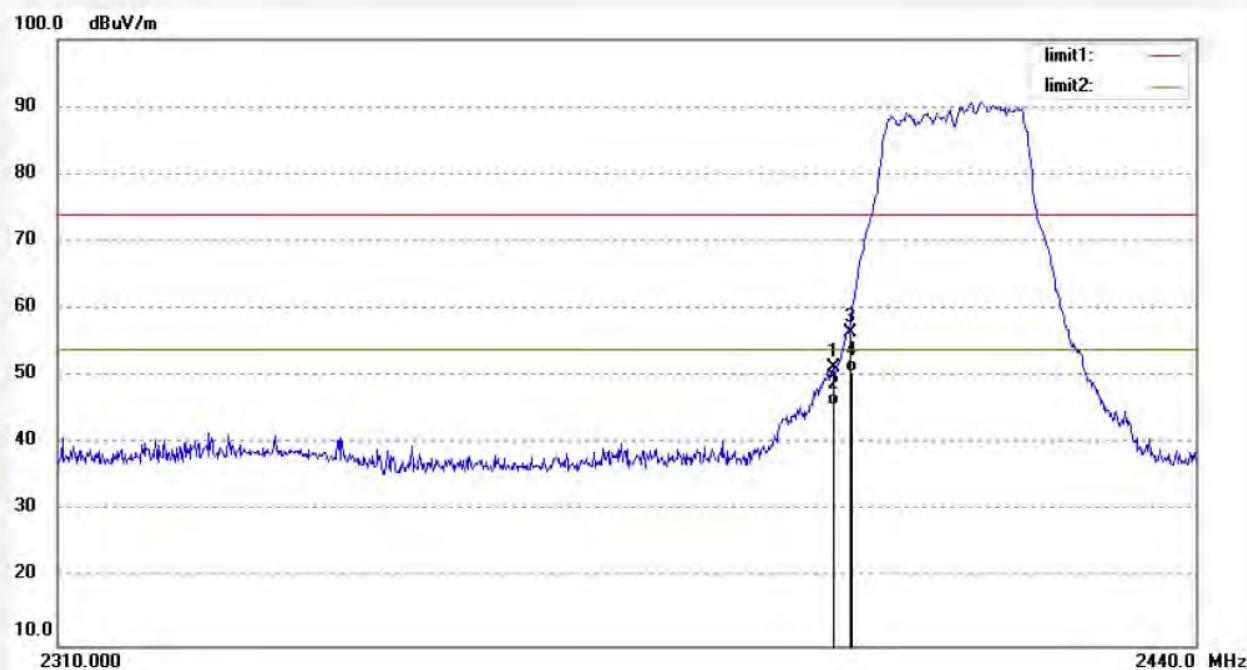
Mode: TX 2412MHz(802.11g)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2398.010	58.14	-6.76	51.38	74.00	-22.62	peak			
2	2398.010	52.32	-6.76	45.56	54.00	-8.44	AVG			
3	2399.700	63.12	-6.76	56.36	74.00	-17.64	peak			
4	2399.700	57.32	-6.76	50.56	54.00	-3.44	AVG			



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Fax:+86-0755-26503396

Job No.: alen #2773

Polarization: Vertical

Standard: FCC PK

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/07/

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

Time: 8/36/54

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

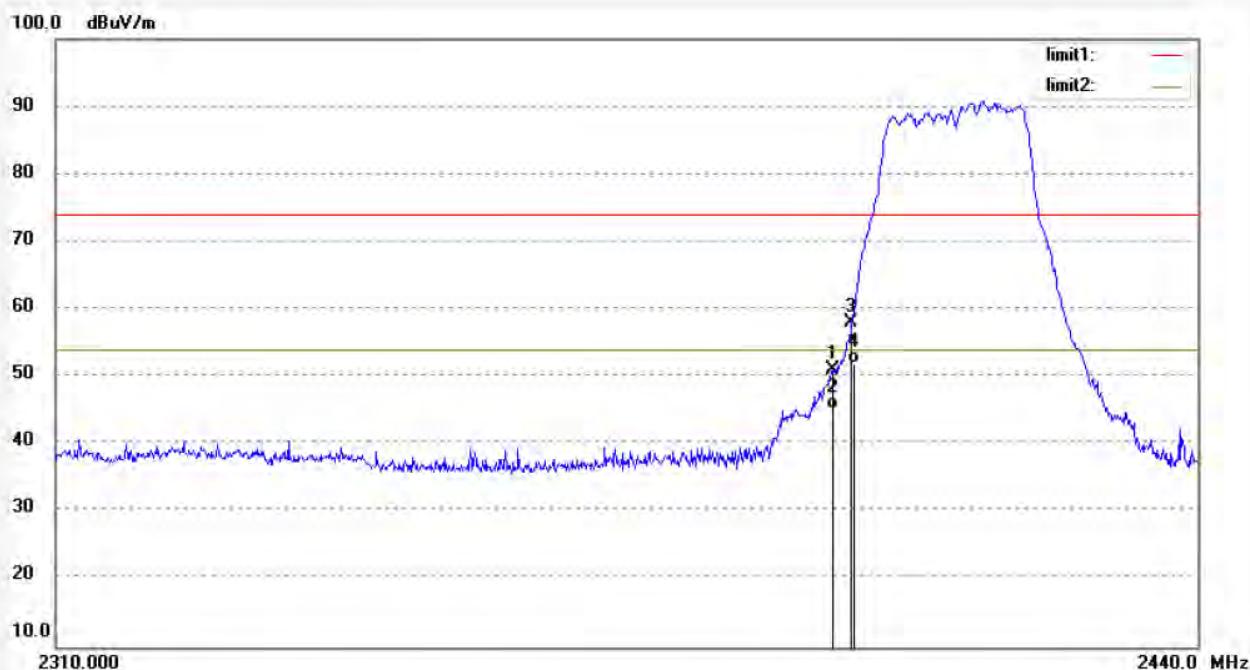
Mode: TX 2412MHz(802.11g)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2397.750	57.80	-6.76	51.04	74.00	-22.96	peak			
2	2397.750	51.91	-6.76	45.15	54.00	-8.85	AVG			
3	2399.960	64.83	-6.76	58.07	74.00	-15.93	peak			
4	2399.960	58.68	-6.76	51.92	54.00	-2.08	AVG			

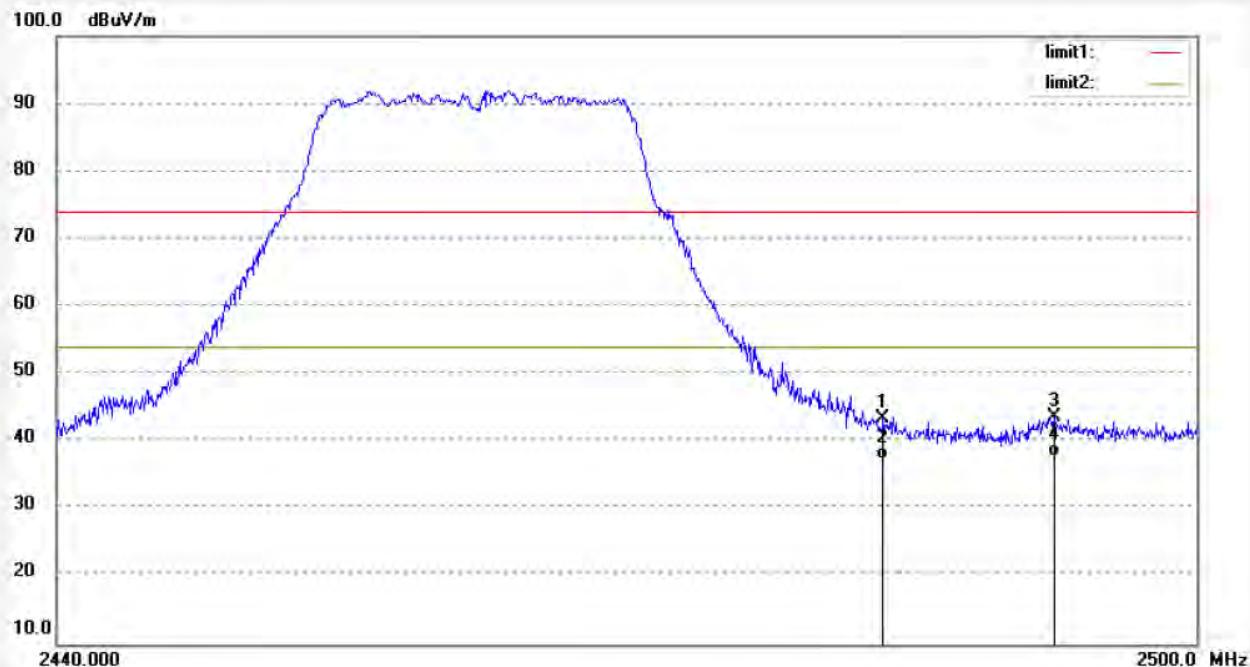


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Site: 1# Chamber
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Fax:+86-0755-26503396

Job No.: alen #2775	Polarization: Horizontal
Standard: FCC PK	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 13/12/07/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 8/47/39
EUT: Novo 7 Crystal II User Manual	Engineer Signature:
Mode: TX 2462MHz(802.11g)	Distance: 3m
Model: Novo 7 Crystal II	
Manufacturer: Ainol	
Note: Report No:ATE20132535	



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.380	49.87	-6.54	43.33	74.00	-30.67	peak			
2	2483.380	43.95	-6.54	37.41	54.00	-16.59	AVG			
3	2492.440	50.23	-6.51	43.72	74.00	-30.28	peak			
4	2492.440	44.35	-6.51	37.84	54.00	-16.16	AVG			



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Site: 1# Chamber
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Fax:+86-0755-26503396

Job No.: alen #2776

Polarization: Vertical

Standard: FCC PK

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/07/

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

Time: 8/48/20

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

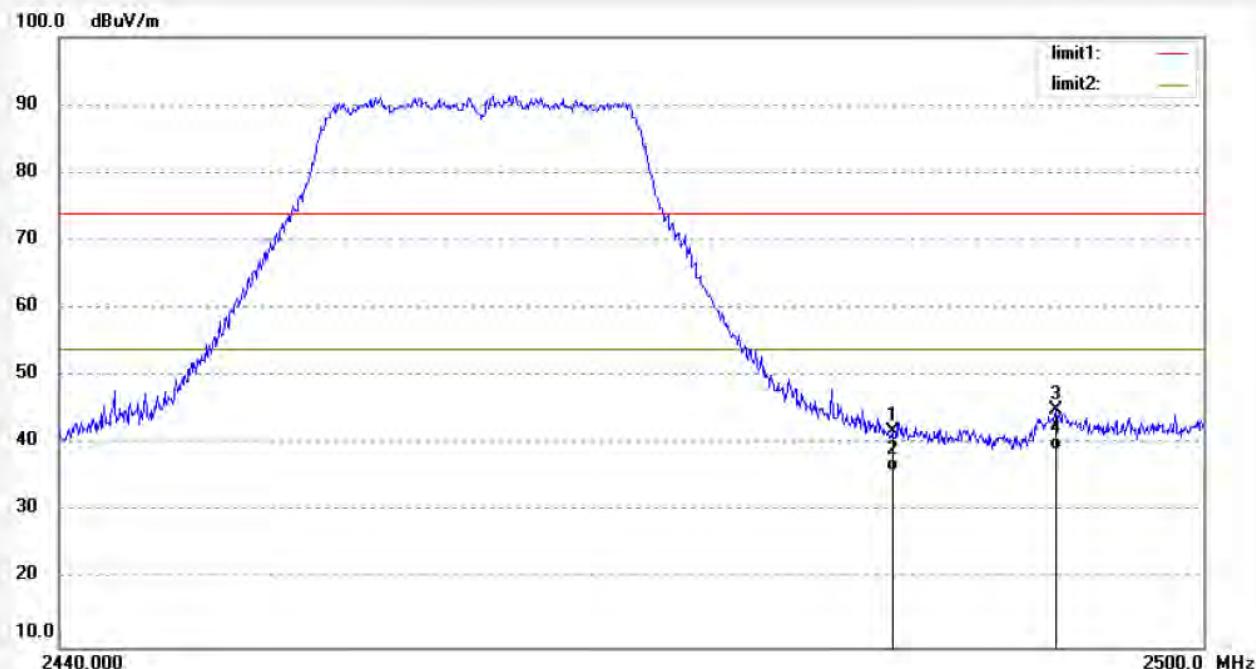
Mode: TX 2462MHz(802.11g)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.560	48.41	-6.54	41.87	74.00	-32.13	peak			
2	2483.560	42.54	-6.54	36.00	54.00	-18.00	AVG			
3	2492.200	51.41	-6.51	44.90	74.00	-29.10	peak			
4	2492.200	45.58	-6.51	39.07	54.00	-14.93	AVG			



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Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: alen #2779

Polarization: Horizontal

Standard: FCC PK

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/07/

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

Time: 8/54/20

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

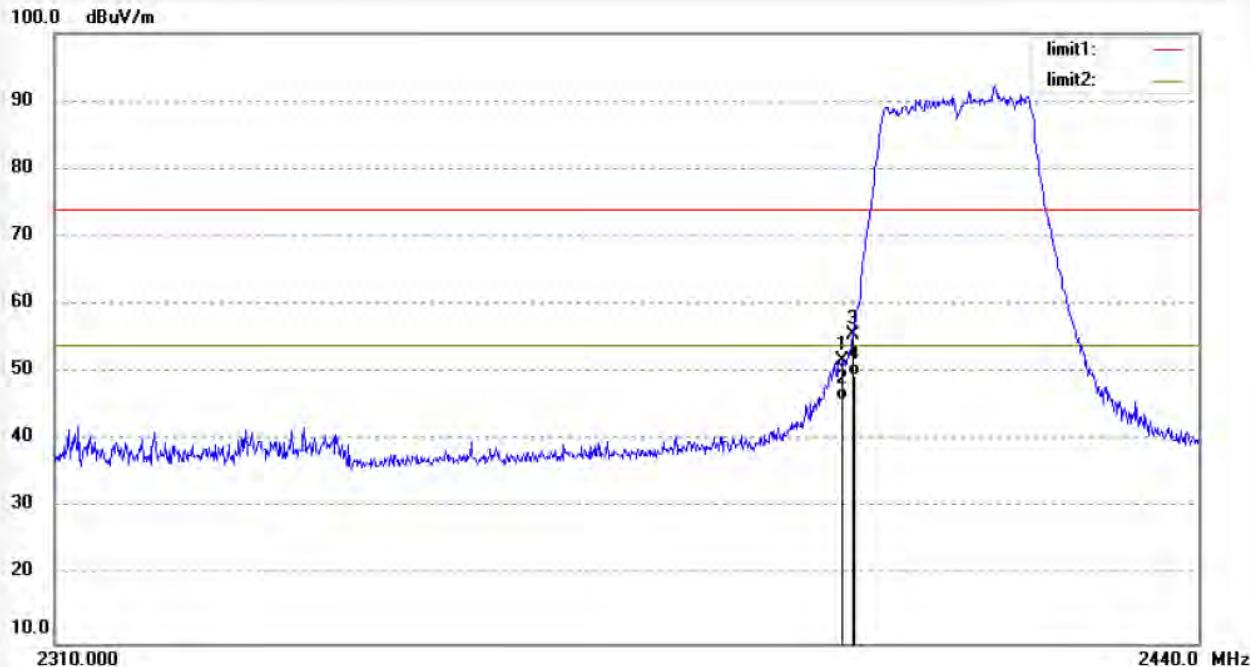
Mode: TX 2412MHz(802.11n20)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2398.920	58.58	-6.76	51.82	74.00	-22.18	peak			
2	2398.920	52.64	-6.76	45.88	54.00	-8.12	AVG			
3	2400.090	62.22	-6.76	55.46	74.00	-18.54	peak			
4	2400.090	56.28	-6.76	49.52	54.00	-4.48	AVG			



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Site: 1# Chamber
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Fax:+86-0755-26503396

Job No.: alen #2780

Polarization: Vertical

Standard: FCC PK

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/07/

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

Time: 8/55/26

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

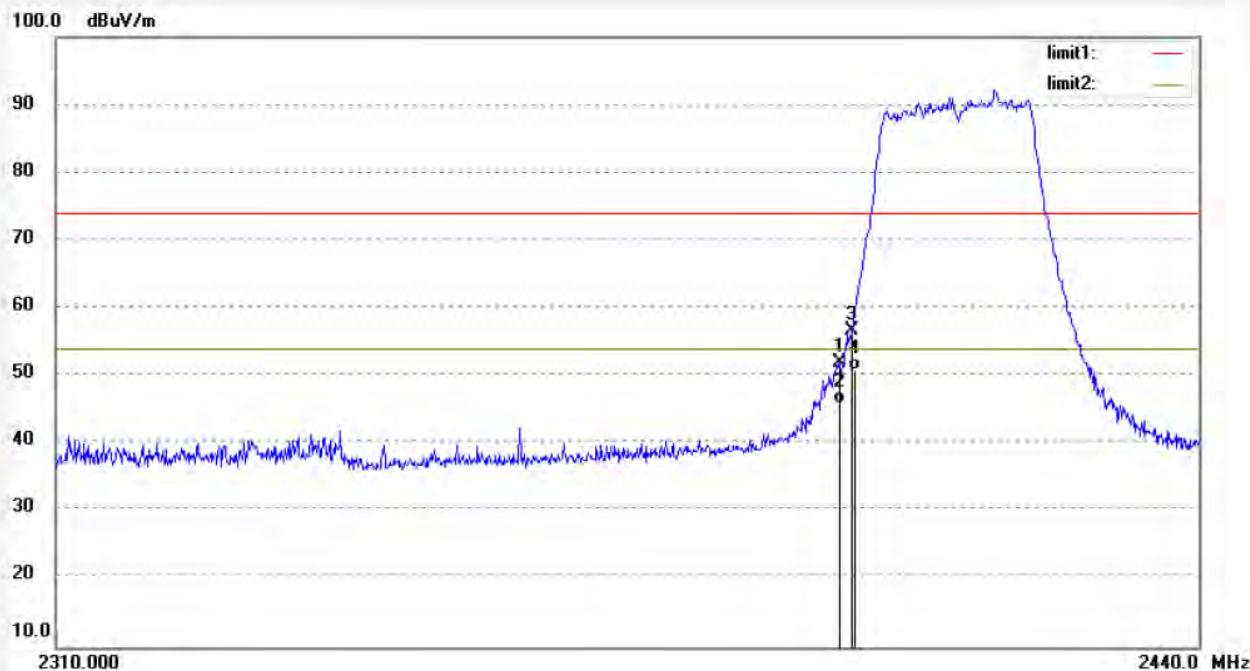
Mode: TX 2412MHz(802.11n20)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2398.530	58.68	-6.75	51.93	74.00	-22.07	peak			
2	2398.530	52.71	-6.75	45.96	54.00	-8.04	AVG			
3	2399.960	63.53	-6.76	56.77	74.00	-17.23	peak			
4	2399.960	57.54	-6.76	50.78	54.00	-3.22	AVG			



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Site: 1# Chamber
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Fax:+86-0755-26503396

Job No.: alen #2778

Polarization: Horizontal

Standard: FCC PK

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/07

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

Time: 8/51/04

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

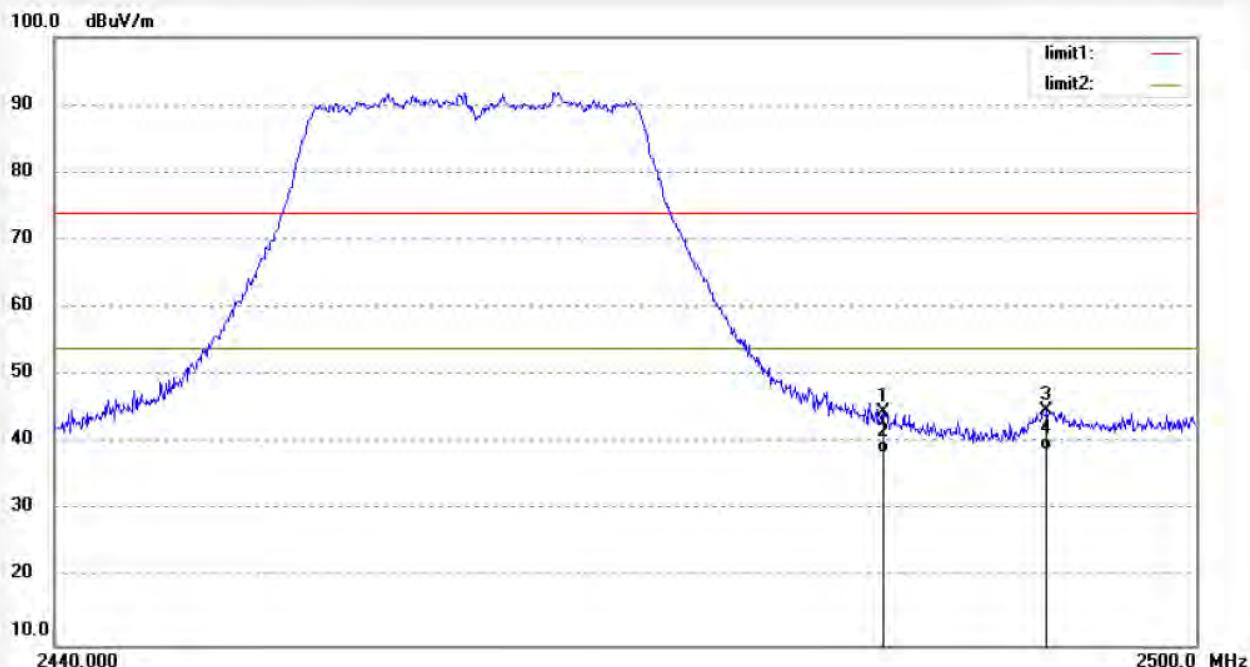
Mode: TX 2462MHz(802.11n20)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.440	50.98	-6.54	44.44	74.00	-29.56	peak			
2	2483.440	44.96	-6.54	38.42	54.00	-15.58	AVG			
3	2492.080	51.18	-6.51	44.67	74.00	-29.33	peak			
4	2492.080	45.32	-6.51	38.81	54.00	-15.19	AVG			



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Fax:+86-0755-26503396

Job No.: alen #2777

Polarization: Vertical

Standard: FCC PK

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/07/

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

Time: 8/50/11

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

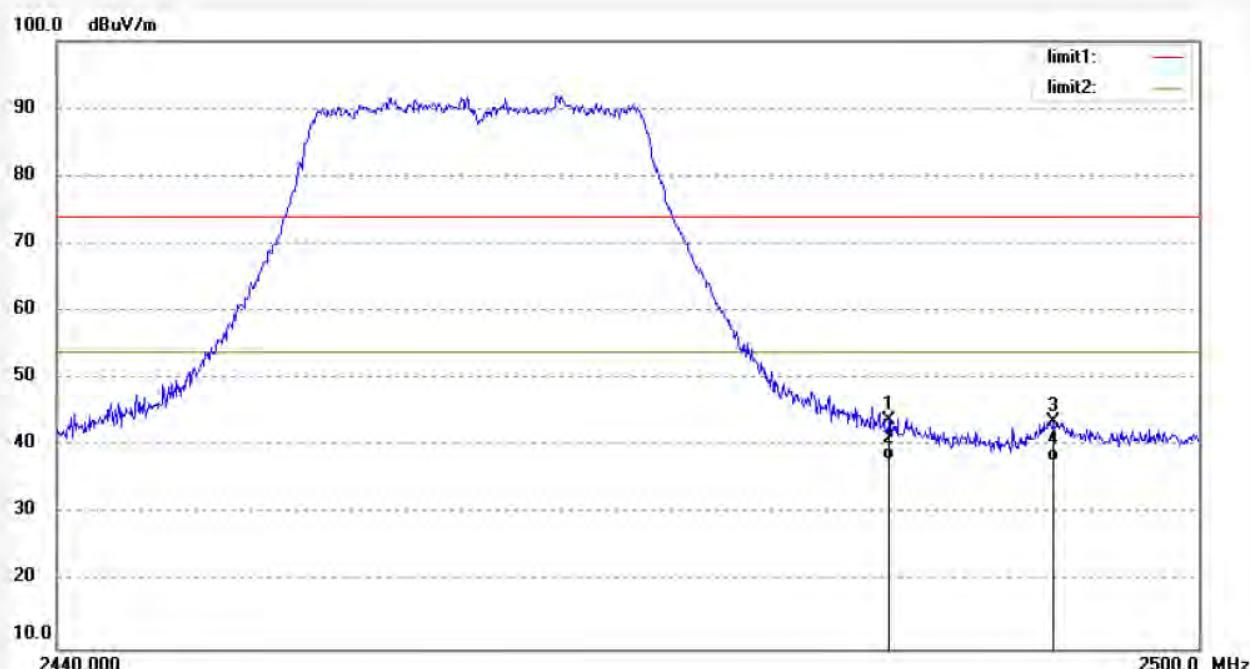
Mode: TX 2462MHz(802.11n20)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.620	50.45	-6.54	43.91	74.00	-30.09	peak			
2	2483.620	44.52	-6.54	37.98	54.00	-16.02	AVG			
3	2492.320	50.23	-6.51	43.72	74.00	-30.28	peak			
4	2492.320	44.38	-6.51	37.87	54.00	-16.13	AVG			

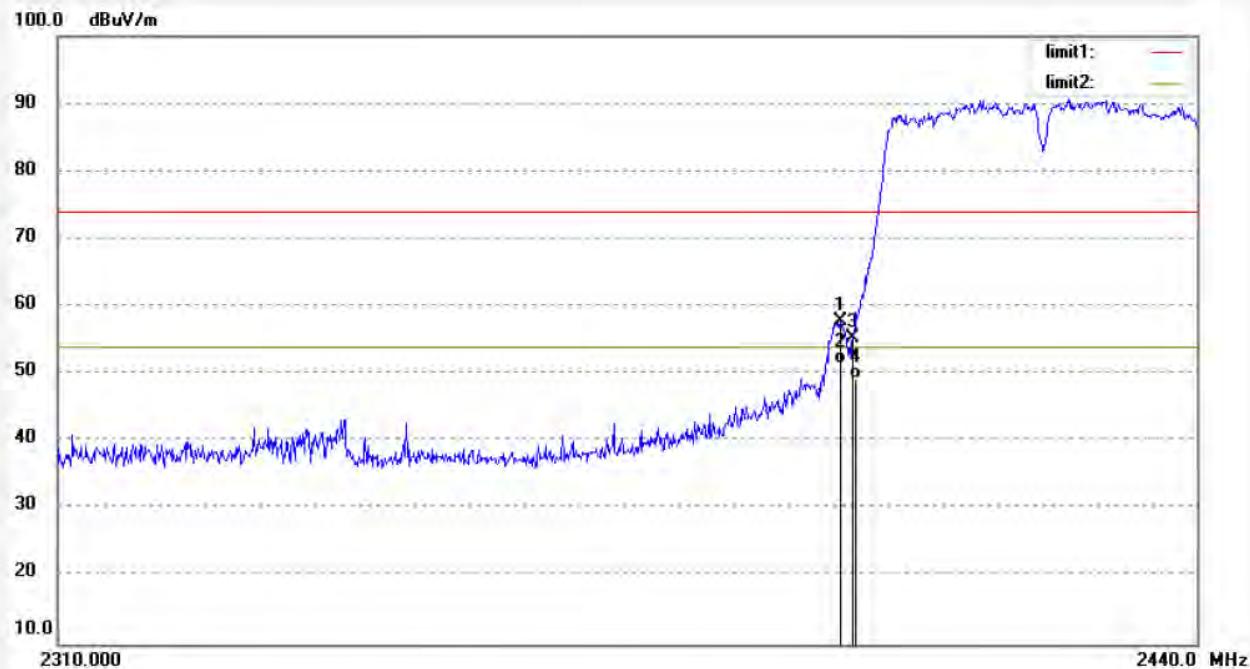


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Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.:	alen #2766	Polarization:	Horizontal
Standard:	FCC PK	Power Source:	AC 120V/60Hz
Test item:	Radiation Test	Date:	13/12/06/
Temp.(C)/Hum.(%)	25 C / 55 %	Time:	10/44/33
EUT:	Novo 7 Crystal II User Manual	Engineer Signature:	
Mode:	TX 2422MHz(802.11n40)	Distance:	3m
Model:	Novo 7 Crystal II		
Manufacturer:	Ainol		
Note:	Report No:ATE20132535		



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2398.660	64.67	-6.76	57.91	74.00	-16.09	peak			
2	2398.660	58.21	-6.76	51.45	54.00	-2.55	AVG			
3	2400.090	62.08	-6.76	55.32	74.00	-18.68	peak			
4	2400.090	56.01	-6.76	49.25	54.00	-4.75	AVG			

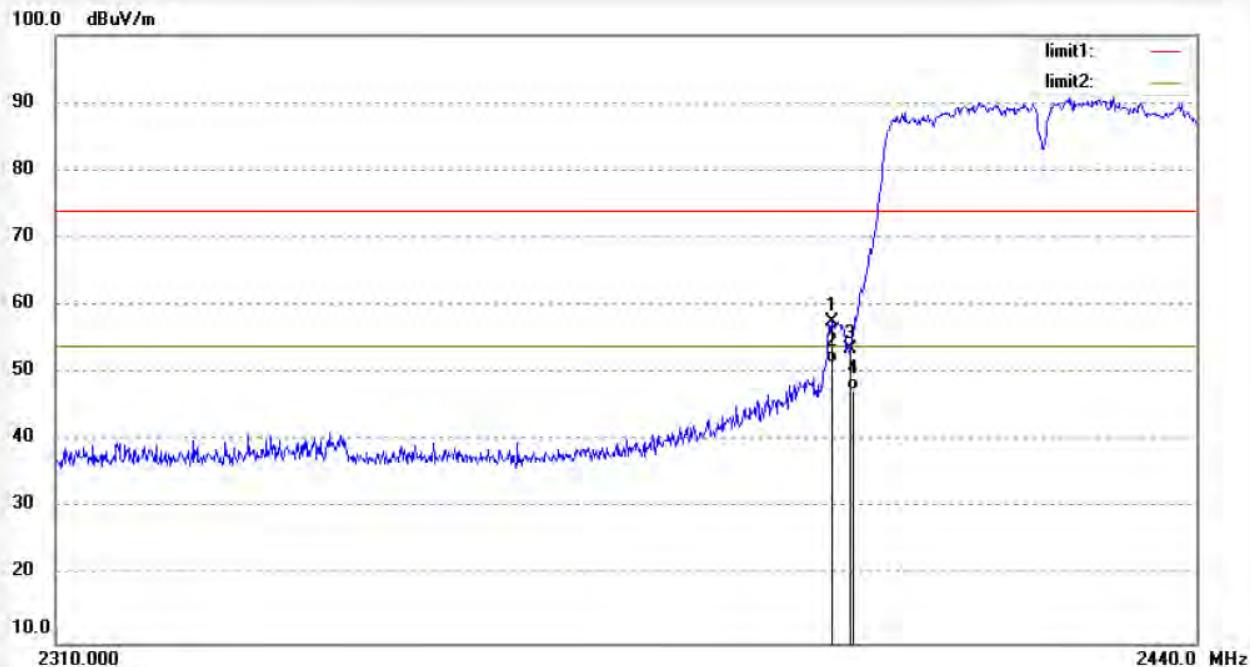


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Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: alen #2765	Polarization: Vertical
Standard: FCC PK	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 13/12/06/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 10/43/57
EUT: Novo 7 Crystal II User Manual	Engineer Signature:
Mode: TX 2422MHz(802.11n40)	Distance: 3m
Model: Novo 7 Crystal II	
Manufacturer: Ainol	
Note: Report No:ATE20132535	



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2397.750	64.34	-6.76	57.58	74.00	-16.42	peak			
2	2397.750	58.38	-6.76	51.62	54.00	-2.38	Avg			
3	2399.960	60.24	-6.76	53.48	74.00	-20.52	peak			
4	2399.960	54.19	-6.76	47.43	54.00	-6.57	Avg			



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Fax:+86-0755-26503396

Job No.: alen #2768

Polarization: Horizontal

Standard: FCC PK

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 10/52/22

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

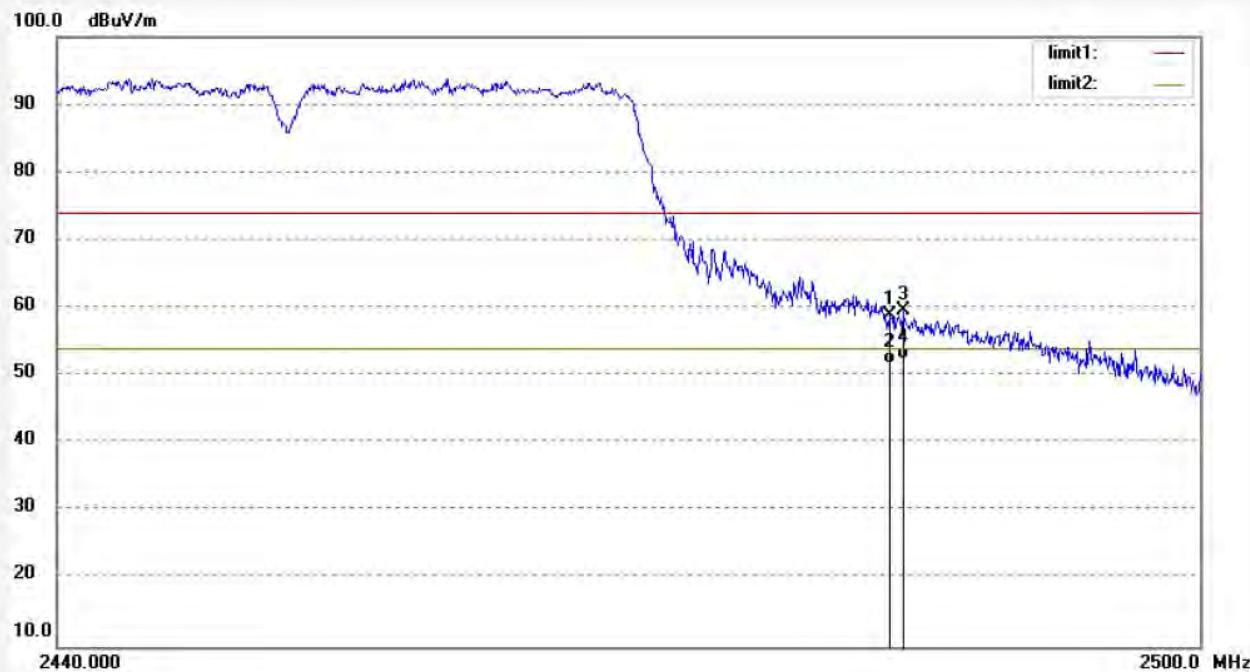
Mode: TX 2452MHz(802.11n40)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.560	65.51	-6.54	58.97	74.00	-15.03	peak			
2	2483.560	58.36	-6.54	51.82	54.00	-2.18	AVG			
3	2484.280	66.15	-6.54	59.61	74.00	-14.39	peak			
4	2484.280	58.86	-6.54	52.32	54.00	-1.68	AVG			



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Site: 1# Chamber
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Fax:+86-0755-26503396

Job No.: alen #2767

Polarization: Vertical

Standard: FCC PK

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 10/51/44

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

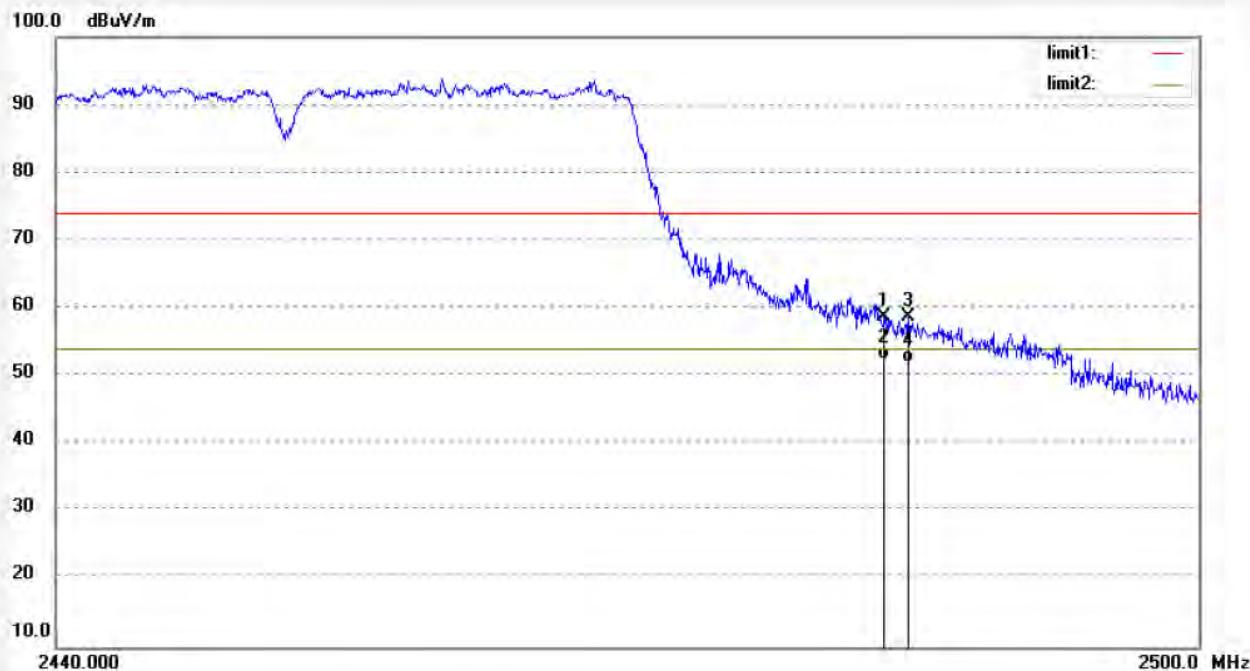
Mode: TX 2452MHz(802.11n40)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.380	65.22	-6.54	58.68	74.00	-15.32	peak			
2	2483.380	59.01	-6.54	52.47	54.00	-1.53	AVG			
3	2484.640	65.21	-6.54	58.67	74.00	-15.33	peak			
4	2484.640	58.57	-6.54	52.03	54.00	-1.97	AVG			

10.RADIATED SPURIOUS EMISSION TEST

10.1.Block Diagram of Test Setup

10.1.1.Block diagram of connection between the EUT and peripherals

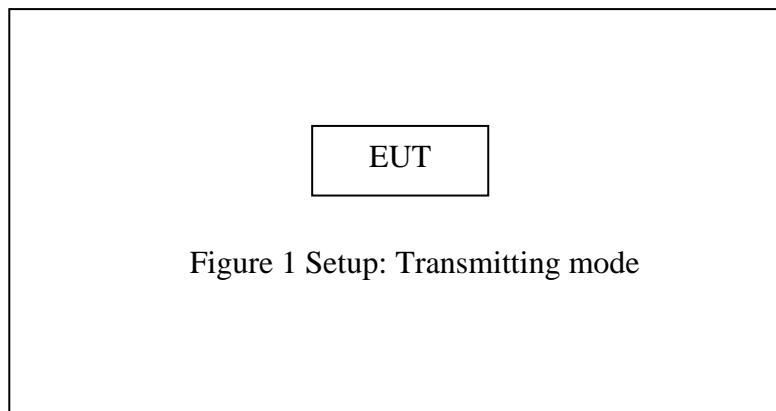
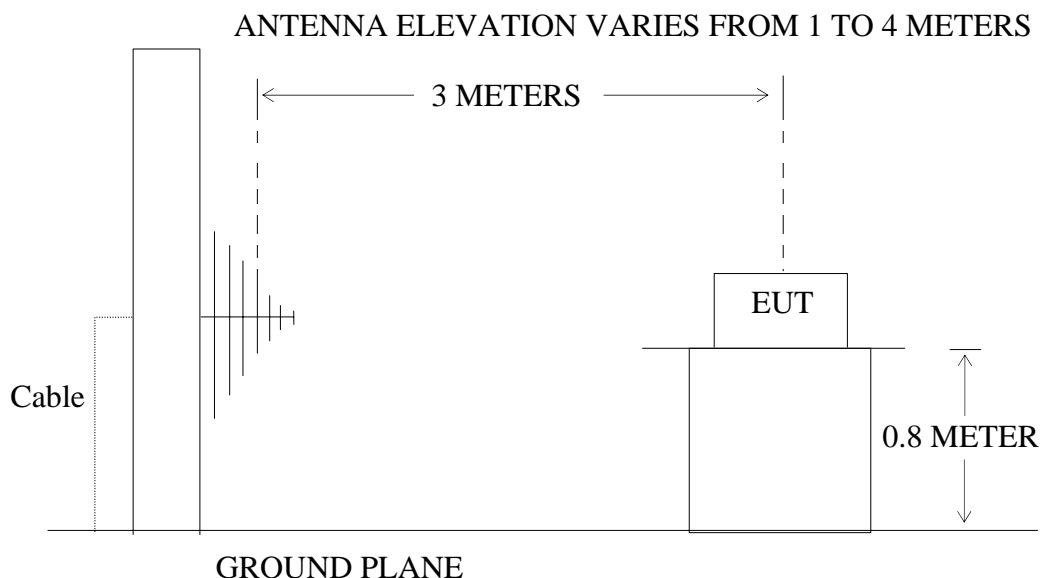


Figure 1 Setup: Transmitting mode

10.1.2.Semi-Anechoic Chamber Test Setup Diagram



10.2.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).

10.3. Restricted bands of operation

10.3.1. 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.

10.4. 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.

10.5.Operating Condition of EUT

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

10.5.2.Turn on the power of all equipment.

10.5.3.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.

10.6.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 bandwidth of test receiver is set at 9kHz in below 30MHz. and set at 120kHz in 30-1000MHz, and 1MHz in above 1000MHz.

The frequency range from 9kHz to 25GHz is checked.

The final measurement in band 9-90kHz, 110-490kHz 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.

The field strength is calculated by adding the antenna factor, and cable loss, and subtracting the amplifier gain from the measured reading. The basic equation calculation is as follows: Result = Reading + Corrected Factor

Where Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

10.7.The Field Strength of Radiation Emission Measurement Results

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

2. *: Denotes restricted band of operation.

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

4. 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.

5. The radiation emissions from 18-25GHz are not reported, because the test values lower than the limits of 20dB.

Below 1G



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Site: 1# Chamber

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Fax:+86-0755-26503396

Job No.: alen #2740

Polarization: Horizontal

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 9/28/49

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

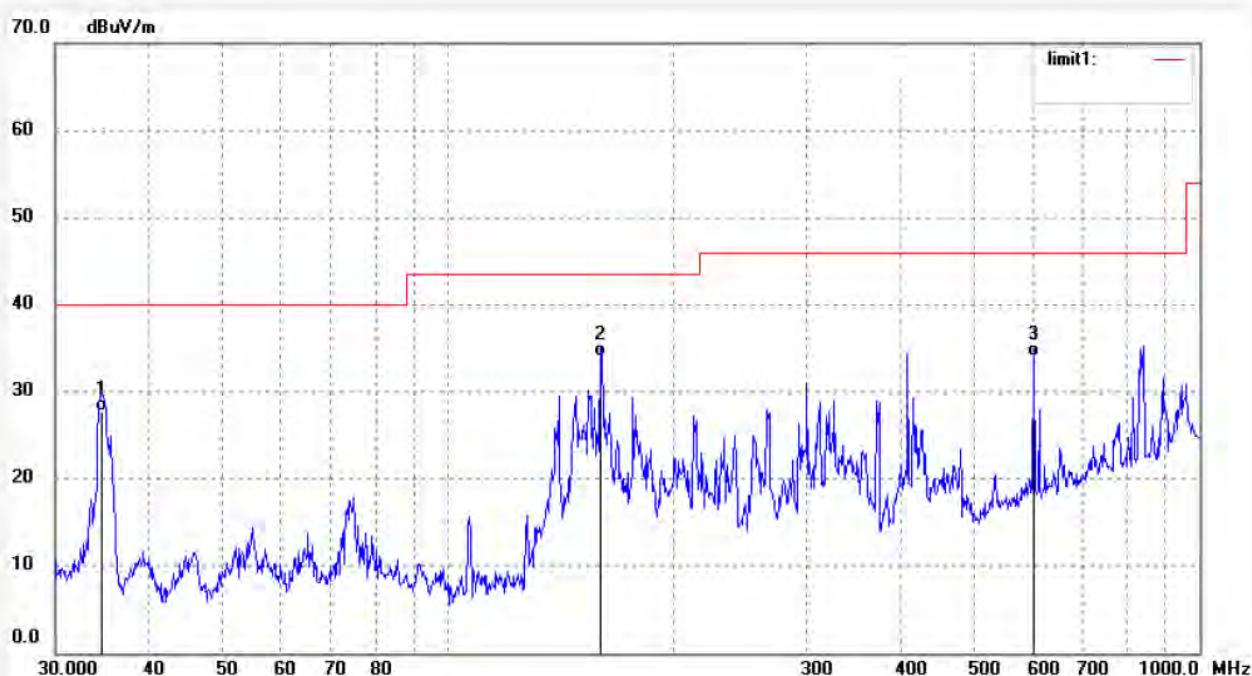
Mode: TX 2412MHz(802.11b)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	34.5172	47.01	-19.34	27.67	40.00	-12.33	QP			
2	159.2250	57.05	-22.93	34.12	43.50	-9.38	QP			
3	601.4265	45.68	-11.65	34.03	46.00	-11.97	QP			



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Job No.: alen #2739

Polarization: Vertical

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 9/27/32

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

Mode: TX 2412MHz(802.11b)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	34.1561	53.25	-19.22	34.03	40.00	-5.97	QP			
2	212.2694	52.14	-20.00	32.14	43.50	-11.36	QP			
3	833.3170	41.25	-7.22	34.03	46.00	-11.97	QP			



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Job No.: alen #2737

Polarization: Horizontal

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 9/26/00

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

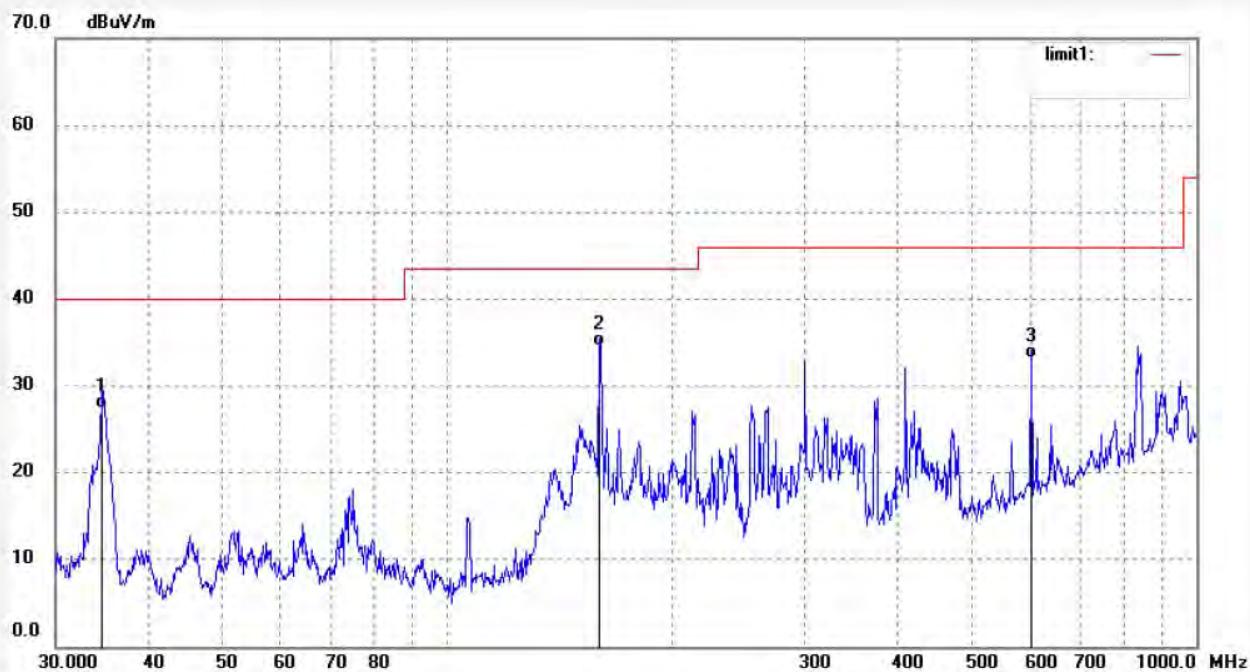
Mode: TX 2437MHz(802.11b)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	34.6385	46.74	-19.38	27.36	40.00	-12.64	QP			
2	159.2250	57.54	-22.93	34.61	43.50	-8.89	QP			
3	601.4265	44.89	-11.65	33.24	46.00	-12.76	QP			

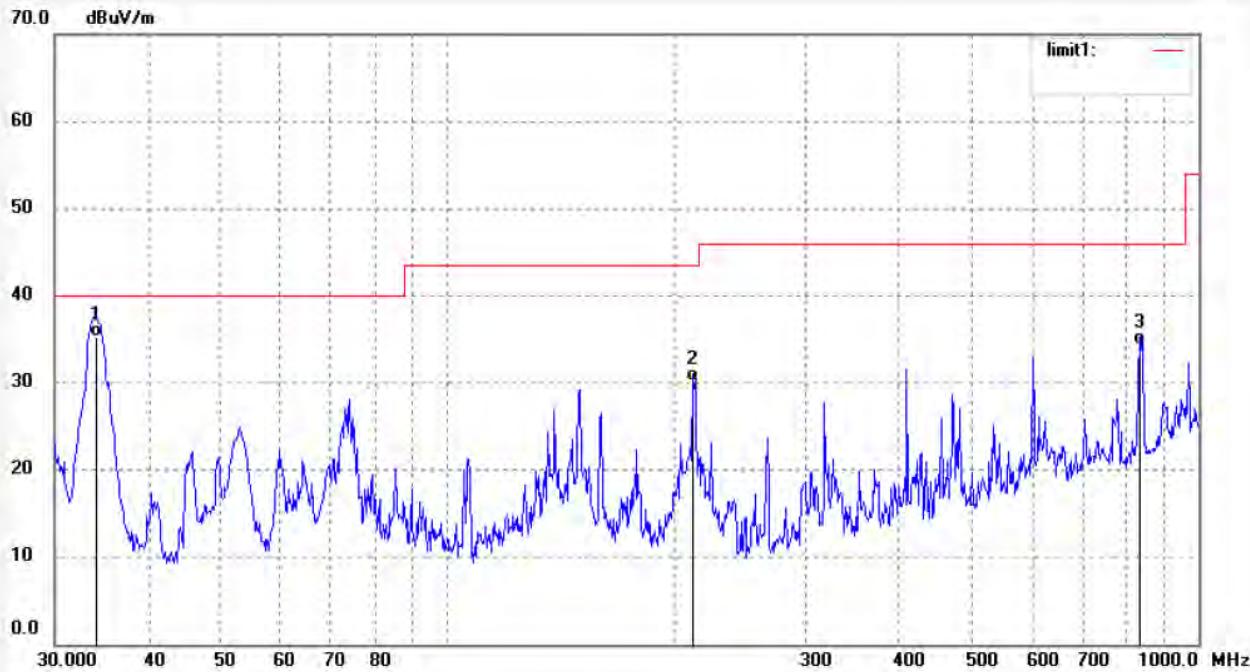


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Job No.: alen #2738	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 13/12/06/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 9/26/51
EUT: Novo 7 Crystal II User Manual	Engineer Signature:
Mode: TX 2437MHz(802.11b)	Distance: 3m
Model: Novo 7 Crystal II	
Manufacturer: Ainol	
Note: Report No:ATE20132535	



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	34.0363	54.35	-19.17	35.18	40.00	-4.82	QP			
2	212.2694	50.21	-20.00	30.21	43.50	-13.29	QP			
3	833.3170	41.57	-7.22	34.35	46.00	-11.65	QP			



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Job No.: alen #2736

Polarization: Horizontal

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 9/25/15

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

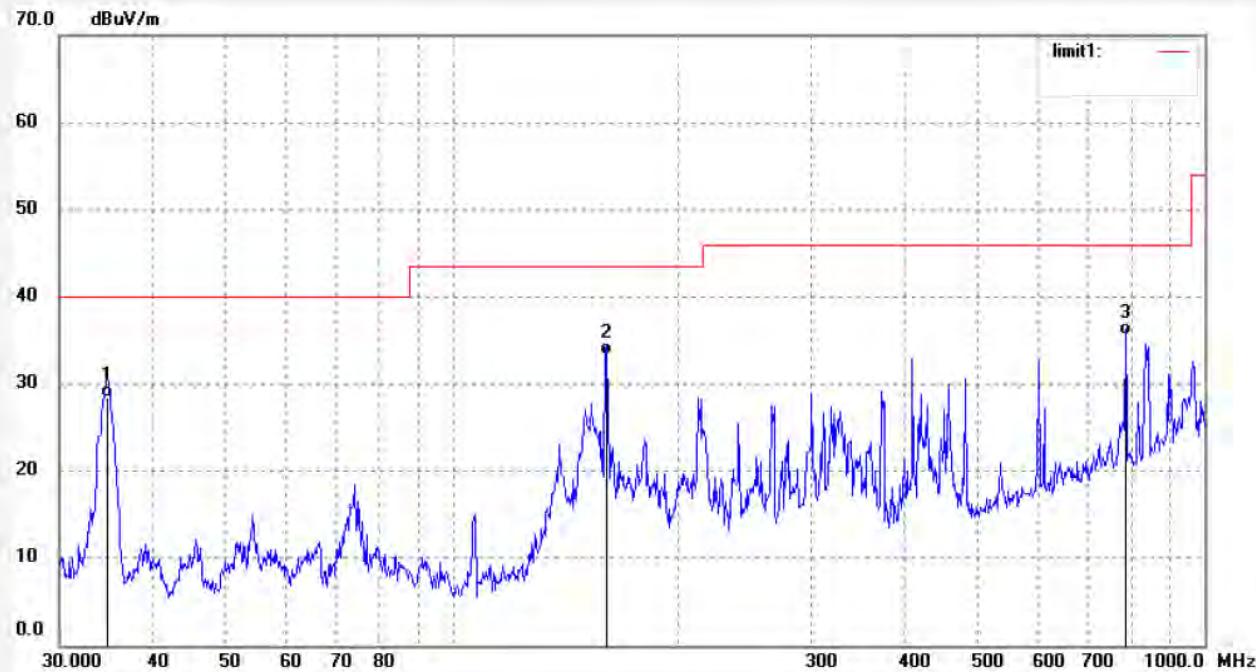
Mode: TX 2462MHz(802.11b)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	34.7601	47.85	-19.42	28.43	40.00	-11.57	QP			
2	160.3456	56.21	-22.82	33.39	43.50	-10.11	QP			
3	785.0934	43.58	-8.02	35.56	46.00	-10.44	QP			

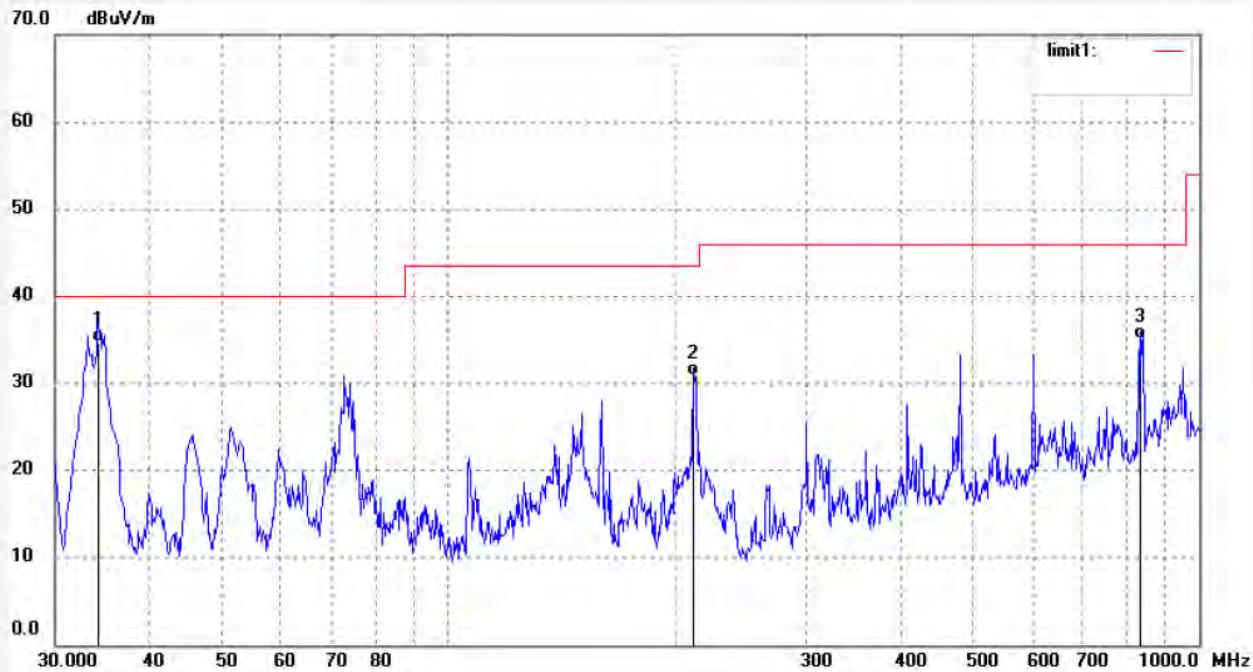


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Fax:+86-0755-26503396

Job No.: alen #2735	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 13/12/06/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 9/24/27
EUT: Novo 7 Crystal II User Manual	Engineer Signature:
Mode: TX 2462MHz(802.11b)	Distance: 3m
Model: Novo 7 Crystal II	
Manufacturer: Ainol	
Note: Report No:ATE20132535	



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	34.2760	54.04	-19.26	34.78	40.00	-5.22	QP			
2	212.2694	50.89	-20.00	30.89	43.50	-12.61	QP			
3	833.3170	42.36	-7.22	35.14	46.00	-10.86	QP			



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Job No.: alen #2729

Polarization: Horizontal

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 9/14/55

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

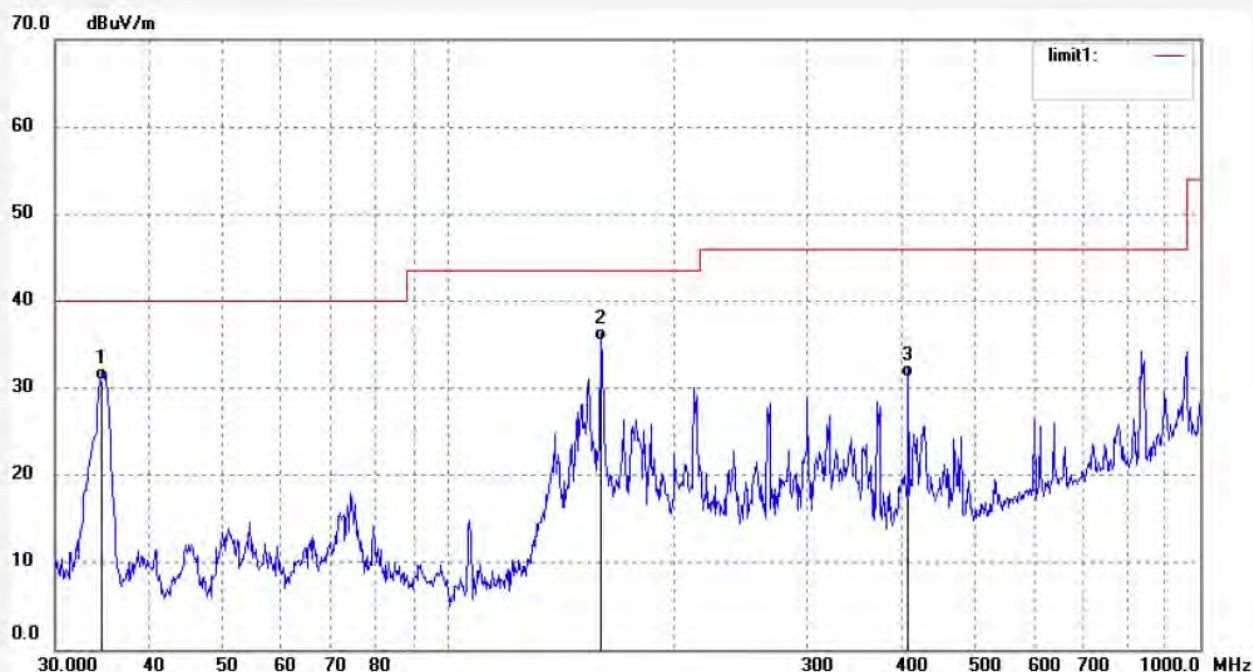
Mode: TX 2412MHz(802.11g)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	34.6385	50.32	-19.38	30.94	40.00	-9.06	QP			
2	159.2250	58.35	-22.93	35.42	43.50	-8.08	QP			
3	408.9460	46.68	-15.48	31.20	46.00	-14.80	QP			

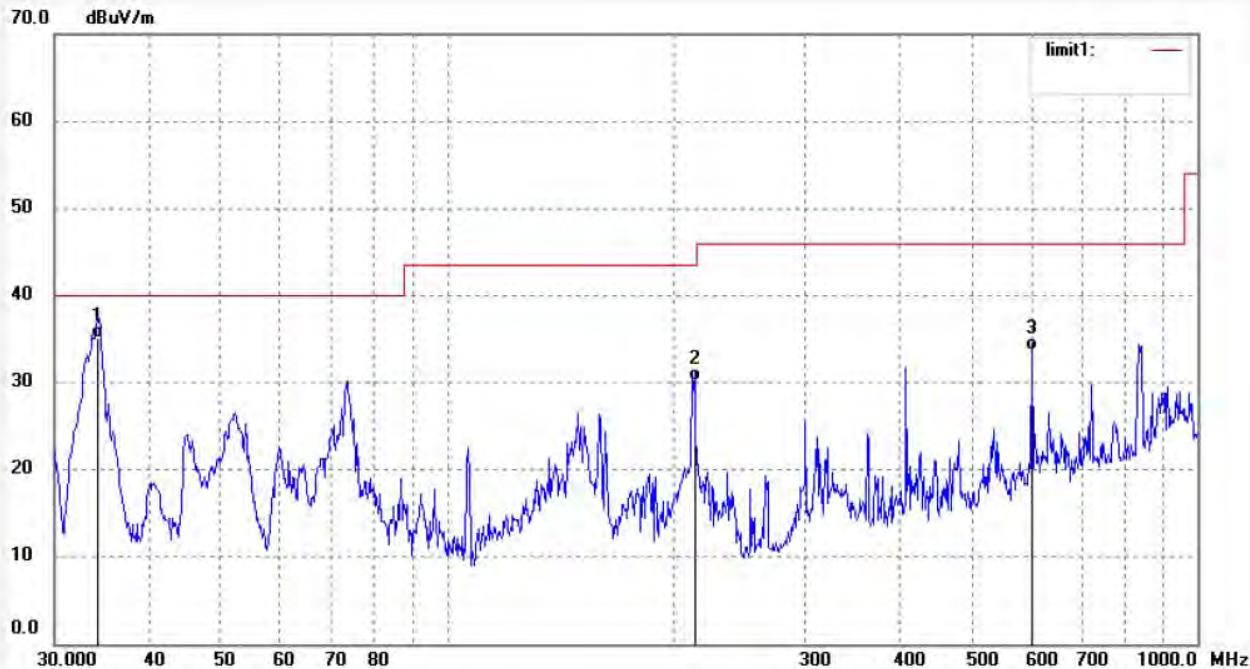


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Fax:+86-0755-26503396

Job No.: alen #2730	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 13/12/06/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 9/15/46
EUT: Novo 7 Crystal II User Manual	Engineer Signature:
Mode: TX 2412MHz(802.11g)	Distance: 3m
Model: Novo 7 Crystal II	
Manufacturer: Ainol	
Note: Report No:ATE20132535	



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	34.2760	54.36	-19.26	35.10	40.00	-4.90	QP			
2	213.7633	50.12	-19.98	30.14	43.50	-13.36	QP			
3	601.4265	45.32	-11.65	33.67	46.00	-12.33	QP			



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Job No.: alen #2732	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 13/12/06/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 9/21/13
EUT: Novo 7 Crystal II User Manual	Engineer Signature:
Mode: TX 2437MHz(802.11g)	Distance: 3m
Model: Novo 7 Crystal II	
Manufacturer: Ainol	
Note: Report No:ATE20132535	



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	34.6385	49.35	-19.38	29.97	40.00	-10.03	QP			
2	154.2786	58.65	-23.45	35.20	43.50	-8.30	QP			
3	480.5276	47.36	-14.16	33.20	46.00	-12.80	QP			



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Fax:+86-0755-26503396

Job No.: alen #2731	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 13/12/06/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 9/16/41
EUT: Novo 7 Crystal II User Manual	Engineer Signature:
Mode: TX 2437MHz(802.11g)	Distance: 3m
Model: Novo 7 Crystal II	
Manufacturer: Ainol	
Note: Report No:ATE20132535	



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	34.3962	54.65	-19.30	35.35	40.00	-4.65	QP			
2	73.3593	50.12	-21.54	28.58	40.00	-11.42	QP			
3	480.5276	49.65	-14.16	35.49	46.00	-10.51	QP			



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Fax:+86-0755-26503396

Job No.: alen #2733

Polarization: Horizontal

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 9/22/35

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

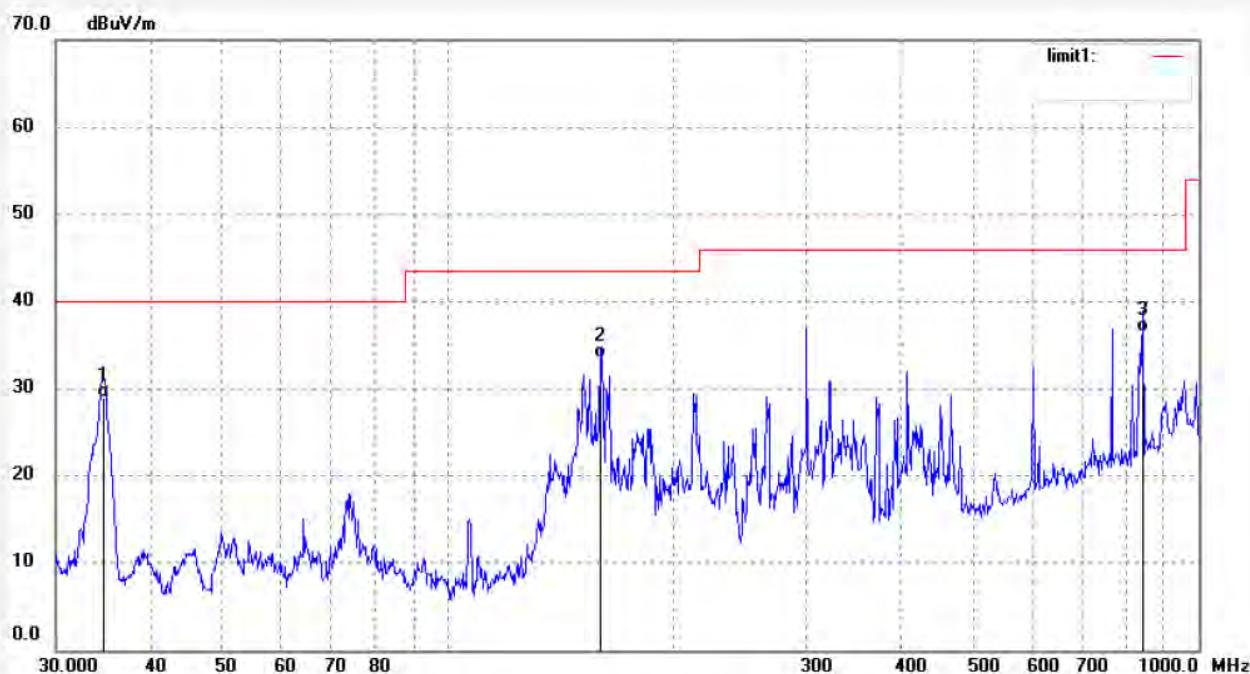
Mode: TX 2462MHz(802.11g)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	34.7601	48.35	-19.42	28.93	40.00	-11.07	QP			
2	159.2249	56.40	-22.93	33.47	43.50	-10.03	QP			
3	842.1295	43.65	-7.10	36.55	46.00	-9.45	QP			

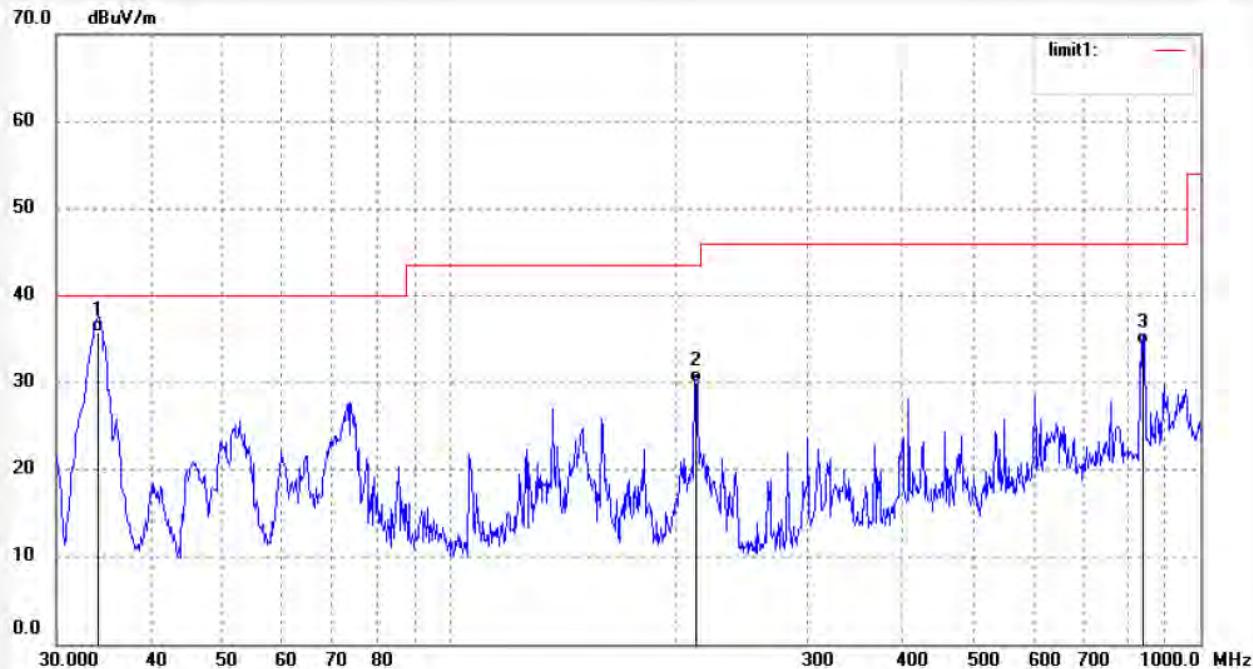


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Site: 1# Chamber
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Job No.: alen #2734	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 13/12/06/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 9/23/37
EUT: Novo 7 Crystal II User Manual	Engineer Signature:
Mode: TX 2462MHz(802.11g)	Distance: 3m
Model: Novo 7 Crystal II	
Manufacturer: Ainol	
Note: Report No:ATE20132535	



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	34.0363	54.87	-19.17	35.70	40.00	-4.30	QP			
2	213.0149	50.08	-19.98	30.10	43.50	-13.40	QP			
3	839.1816	41.57	-7.15	34.42	46.00	-11.58	QP			



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Fax:+86-0755-26503396

Job No.: alen #2728

Polarization: Horizontal

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 9/14/02

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

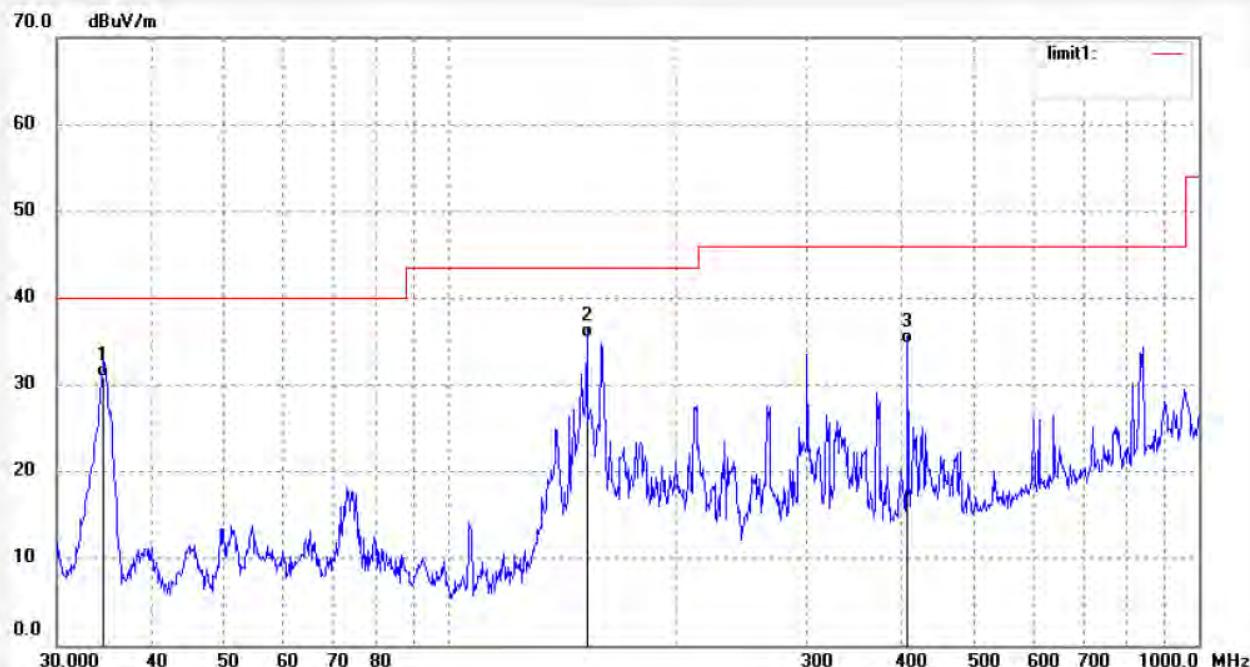
Mode: TX 2412MHz(802.11n20)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	34.6385	50.20	-19.38	30.82	40.00	-9.18	QP			
2	152.6640	59.02	-23.59	35.43	43.50	-8.07	QP			
3	408.9460	50.23	-15.48	34.75	46.00	-11.25	QP			



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Job No.: alen #2727

Polarization: Vertical

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 9/13/13

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

Mode: TX 2412MHz(802.11n20)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	34.1561	55.32	-19.22	36.10	40.00	-3.90	QP			
2	73.3593	50.04	-21.54	28.50	40.00	-11.50	QP			
3	842.1295	41.08	-7.10	33.98	46.00	-12.02	QP			

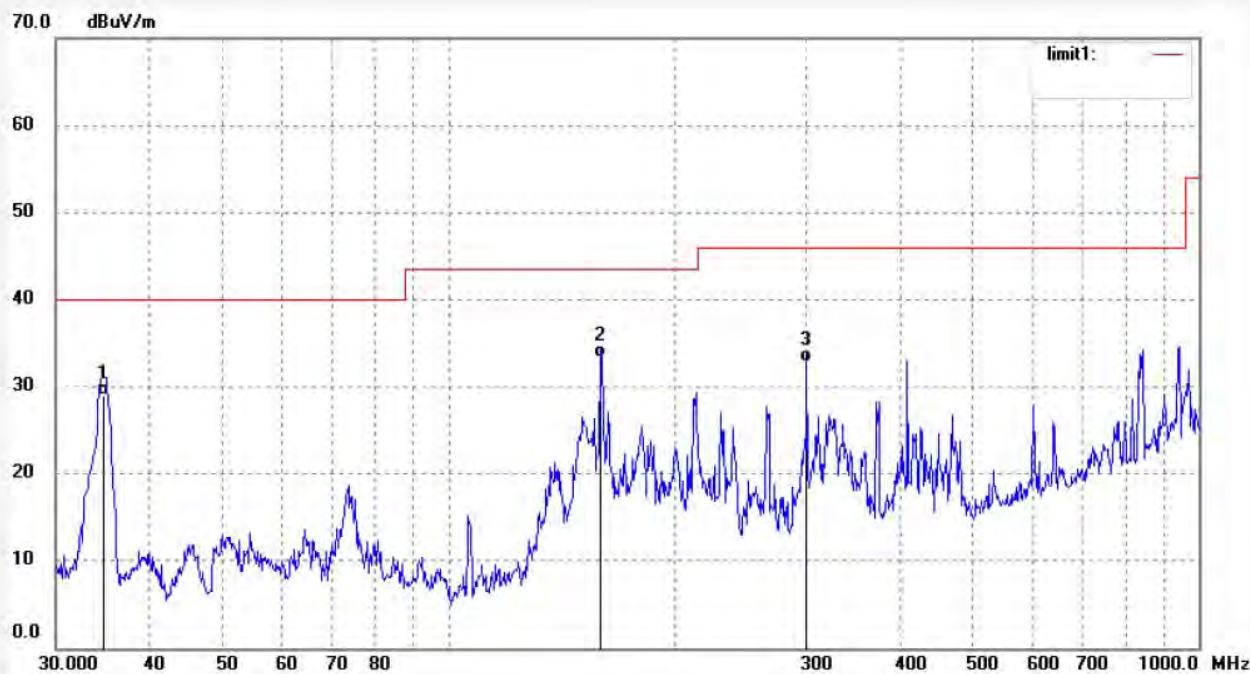


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Job No.: alen #2725	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 13/12/06/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 9/11/39
EUT: Novo 7 Crystal II User Manual	Engineer Signature:
Mode: TX 2437MHz(802.11n20)	Distance: 3m
Model: Novo 7 Crystal II	
Manufacturer: Ainol	
Note: Report No:ATE20132535	



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	34.7601	48.35	-19.42	28.93	40.00	-11.07	QP			
2	159.2250	56.32	-22.93	33.39	43.50	-10.11	QP			
3	300.3672	50.74	-17.86	32.88	46.00	-13.12	QP			



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Fax:+86-0755-26503396

Job No.:	alen #2726	Polarization:	Vertical
Standard:	FCC Class B 3M Radiated	Power Source:	AC 120V/60Hz
Test item:	Radiation Test	Date:	13/12/06/
Temp.(C)/Hum.(%)	25 C / 55 %	Time:	9/12/30
EUT:	Novo 7 Crystal II User Manual	Engineer Signature:	
Mode:	TX 2437MHz(802.11n20)	Distance:	3m
Model:	Novo 7 Crystal II		
Manufacturer:	Ainol		
Note:	Report No:ATE20132535		



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	34.1561	55.01	-19.22	35.79	40.00	-4.21	QP			
2	212.2693	50.32	-20.00	30.32	43.50	-13.18	QP			
3	842.1295	40.85	-7.10	33.75	46.00	-12.25	QP			



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Fax:+86-0755-26503396

Job No.: alen #2724

Polarization: Horizontal

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 9/10/59

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

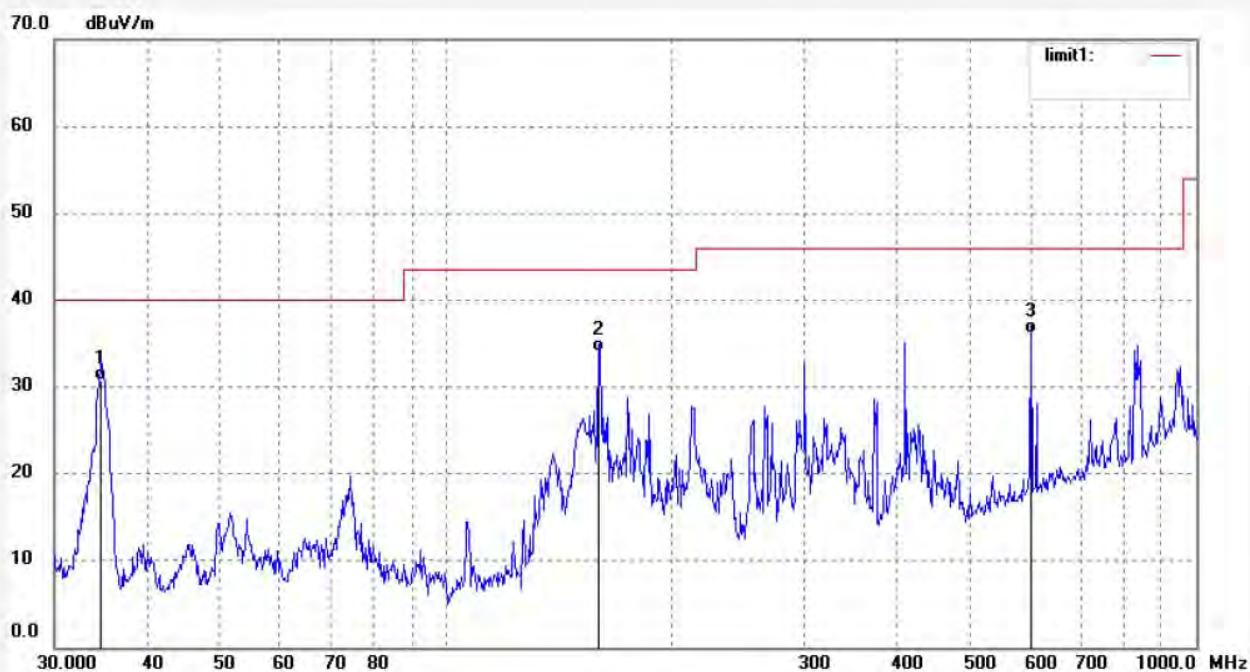
Mode: TX 2462MHz(802.11n20)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	34.6385	50.10	-19.38	30.72	40.00	-9.28	QP			
2	159.2250	57.02	-22.93	34.09	43.50	-9.41	QP			
3	601.4265	47.78	-11.65	36.13	46.00	-9.87	QP			



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Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: alen #2723

Polarization: Vertical

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 9/10/05

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

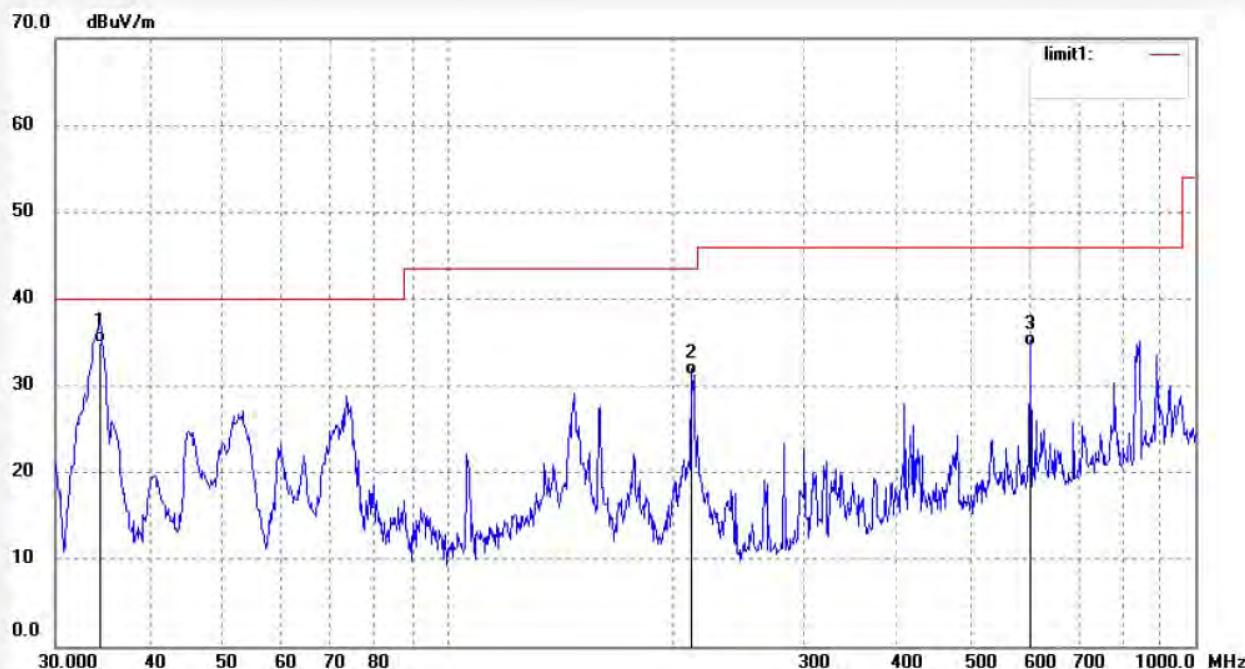
Mode: TX 2462MHz(802.11n20)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	34.3962	54.21	-19.30	34.91	40.00	-5.09	QP			
2	212.2693	51.20	-20.00	31.20	43.50	-12.30	QP			
3	601.4265	46.20	-11.65	34.55	46.00	-11.45	QP			



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Site: 1# Chamber
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Fax:+86-0755-26503396

Job No.: alen #2717

Polarization: Horizontal

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 9/04/55

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

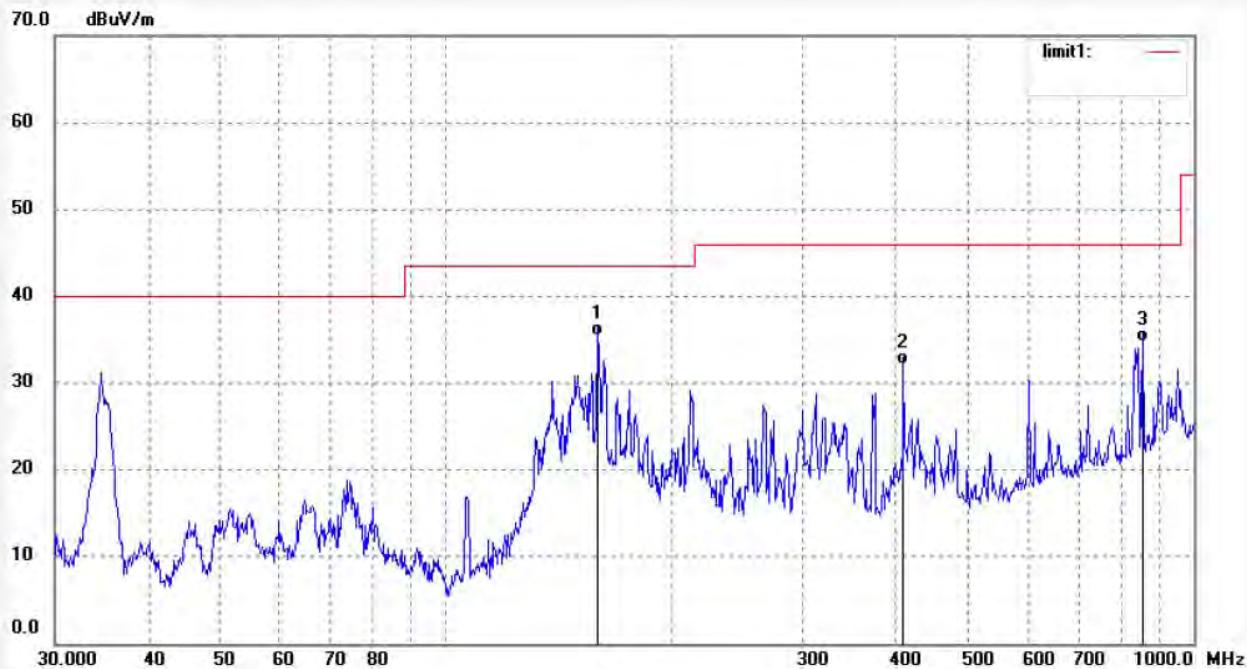
Mode: TX 2422MHz(802.11n40)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	159.2251	58.41	-22.93	35.48	43.50	-8.02	QP			
2	408.9460	47.65	-15.48	32.17	46.00	-13.83	QP			
3	854.0247	41.74	-6.92	34.82	46.00	-11.18	QP			



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Job No.: alen #2718

Polarization: Vertical

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 9/06/12

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

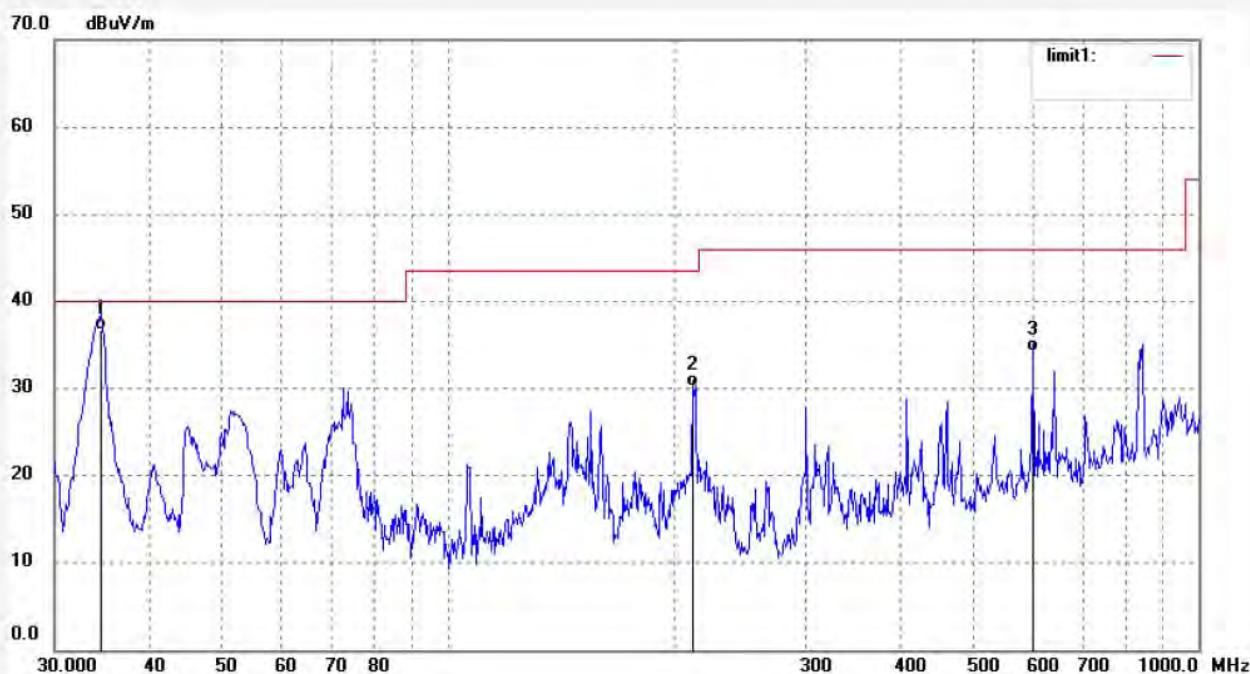
Mode: TX 2422MHz(802.11n40)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	34.5172	56.01	-19.34	36.67	40.00	-3.33	QP			
2	212.2694	50.15	-20.00	30.15	43.50	-13.35	QP			
3	601.4265	45.89	-11.65	34.24	46.00	-11.76	QP			



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Site: 1# Chamber
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Job No.: alen #2720	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 13/12/06/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 9/07/43
EUT: Novo 7 Crystal II User Manual	Engineer Signature:
Mode: TX 2437MHz(802.11n40)	Distance: 3m
Model: Novo 7 Crystal II	
Manufacturer: Ainol	
Note: Report No:ATE20132535	



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	35.0048	48.07	-19.50	28.57	40.00	-11.43	QP			
2	159.7844	57.24	-22.87	34.37	43.50	-9.13	QP			
3	408.9460	48.54	-15.48	33.06	46.00	-12.94	QP			



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Fax:+86-0755-26503396

Job No.: alen #2719

Polarization: Vertical

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 9/06/54

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

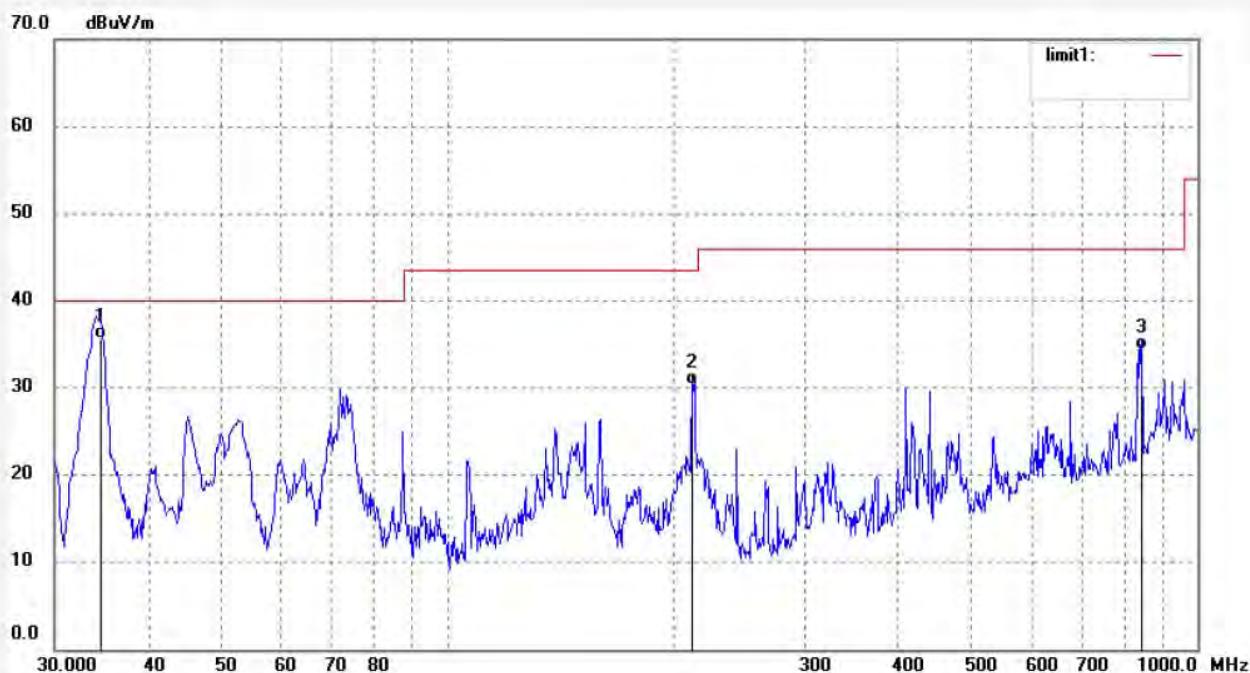
Mode: TX 2437MHz(802.11n40)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	34.5172	54.89	-19.34	35.55	40.00	-4.45	QP			
2	212.2694	50.42	-20.00	30.42	43.50	-13.08	QP			
3	842.1295	41.53	-7.10	34.43	46.00	-11.57	QP			

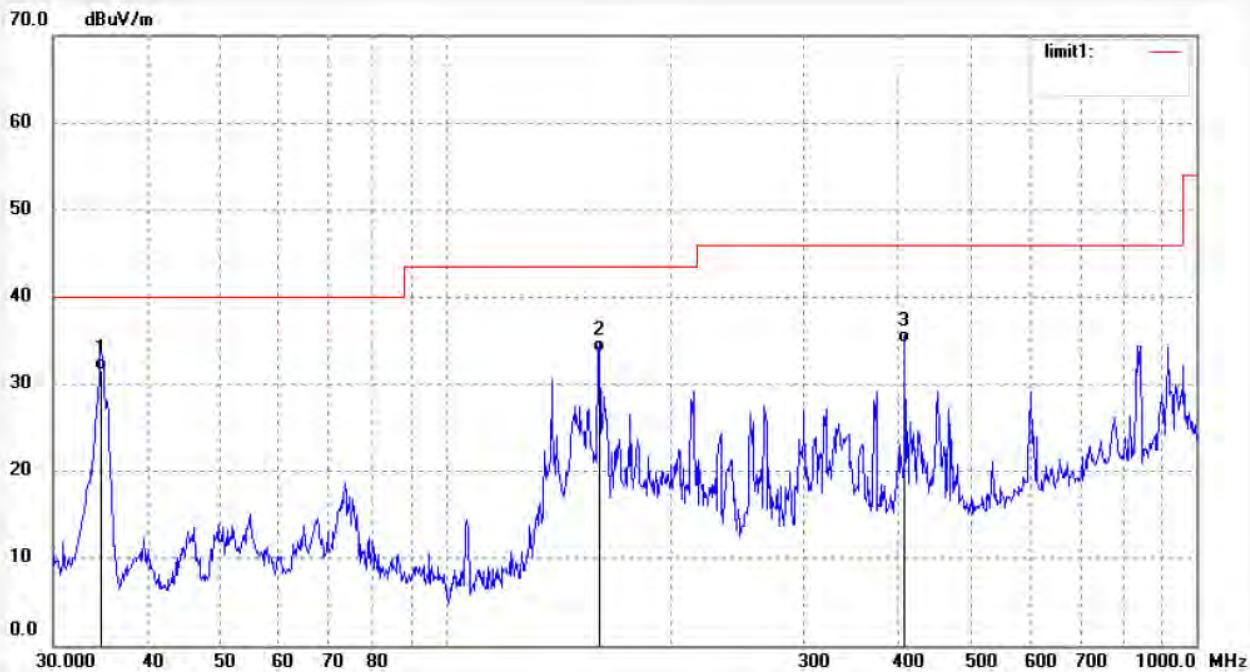


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Site: 1# Chamber
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Fax:+86-0755-26503396

Job No.: alen #2721	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 13/12/06/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 9/08/21
EUT: Novo 7 Crystal II User Manual	Engineer Signature:
Mode: TX 2452MHz(802.11n40)	Distance: 3m
Model: Novo 7 Crystal II	
Manufacturer: Ainol	
Note: Report No:ATE20132535	



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	34.7601	51.02	-19.42	31.60	40.00	-8.40	QP			
2	160.3456	56.54	-22.82	33.72	43.50	-9.78	QP			
3	408.9460	50.21	-15.48	34.73	46.00	-11.27	QP			



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Job No.: alen #2722

Polarization: Vertical

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 9/09/22

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

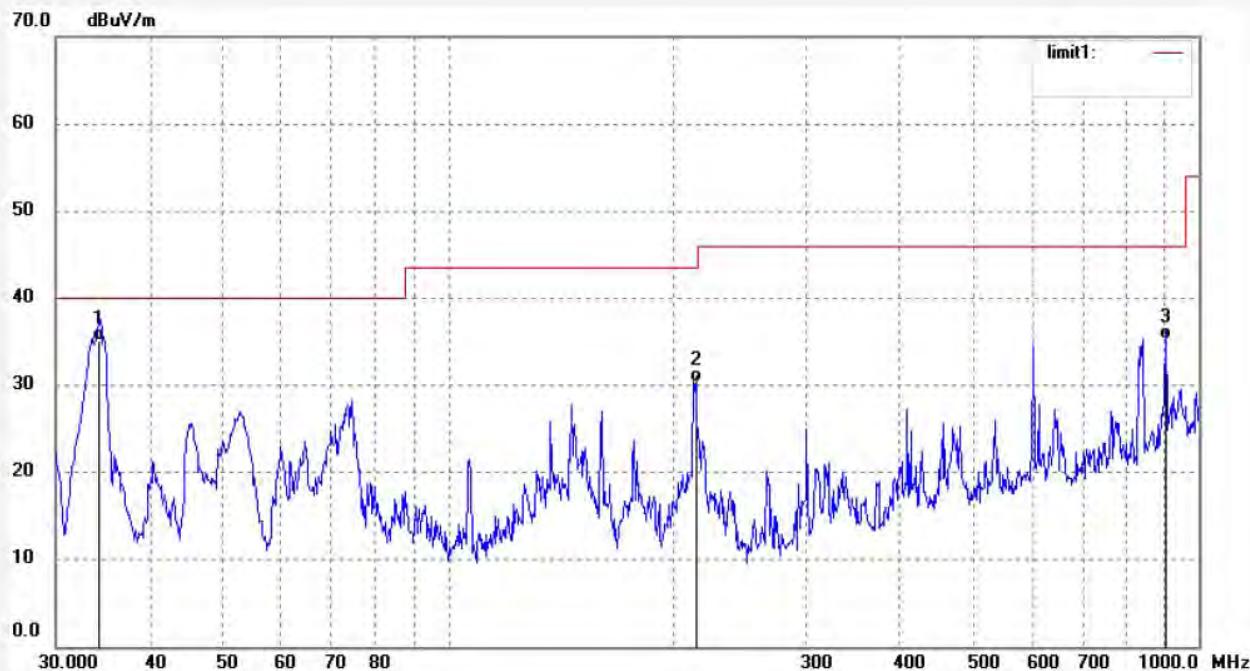
Mode: TX 2452MHz(802.11n40)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	34.2760	54.28	-19.26	35.02	40.00	-4.98	QP			
2	213.7632	50.27	-19.98	30.29	43.50	-13.21	QP			
3	903.3093	41.34	-6.05	35.29	46.00	-10.71	QP			

Above 1G



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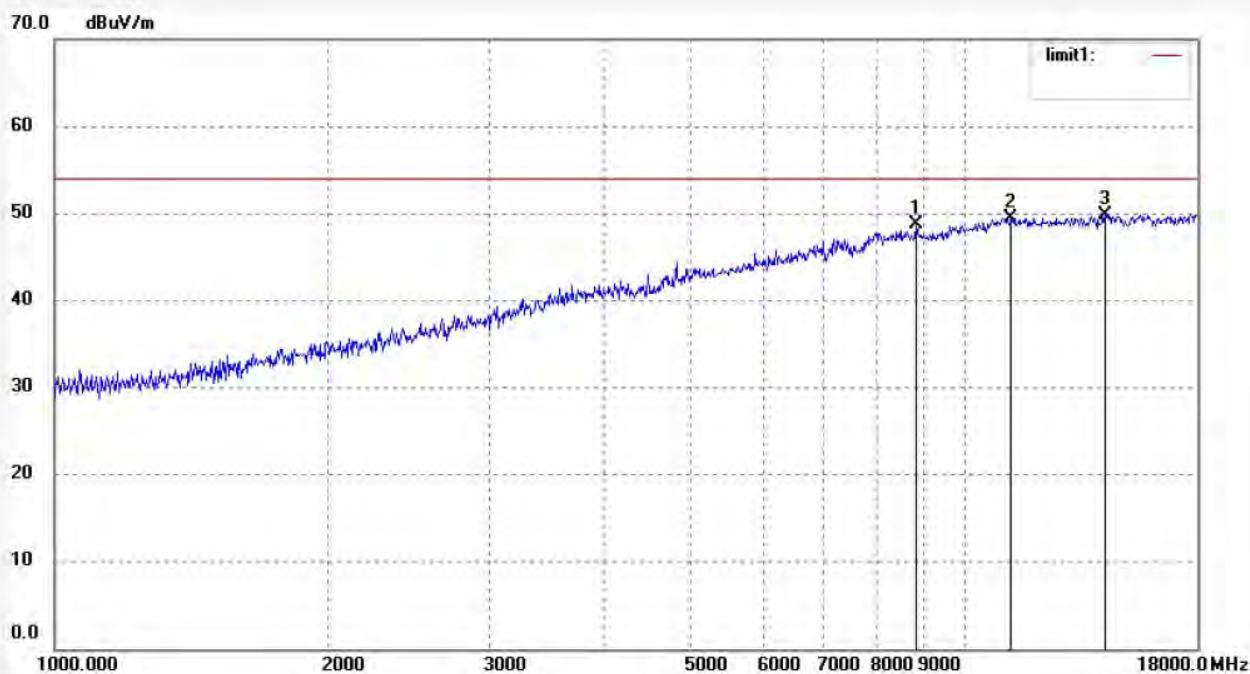
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Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: alen #2741	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 13/12/06/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 9/35/28
EUT: Novo 7 Crystal II User Manual	Engineer Signature:
Mode: TX 2412MHz(802.11b)	Distance: 3m
Model: Novo 7 Crystal II	
Manufacturer: Ainol	
Note: Report No:ATE20132535	



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	8840.472	45.34	3.34	48.68	74.00	-25.32	peak			
2	11237.329	43.68	5.76	49.44	74.00	-24.56	peak			
3	14242.802	38.11	11.66	49.77	74.00	-24.23	peak			

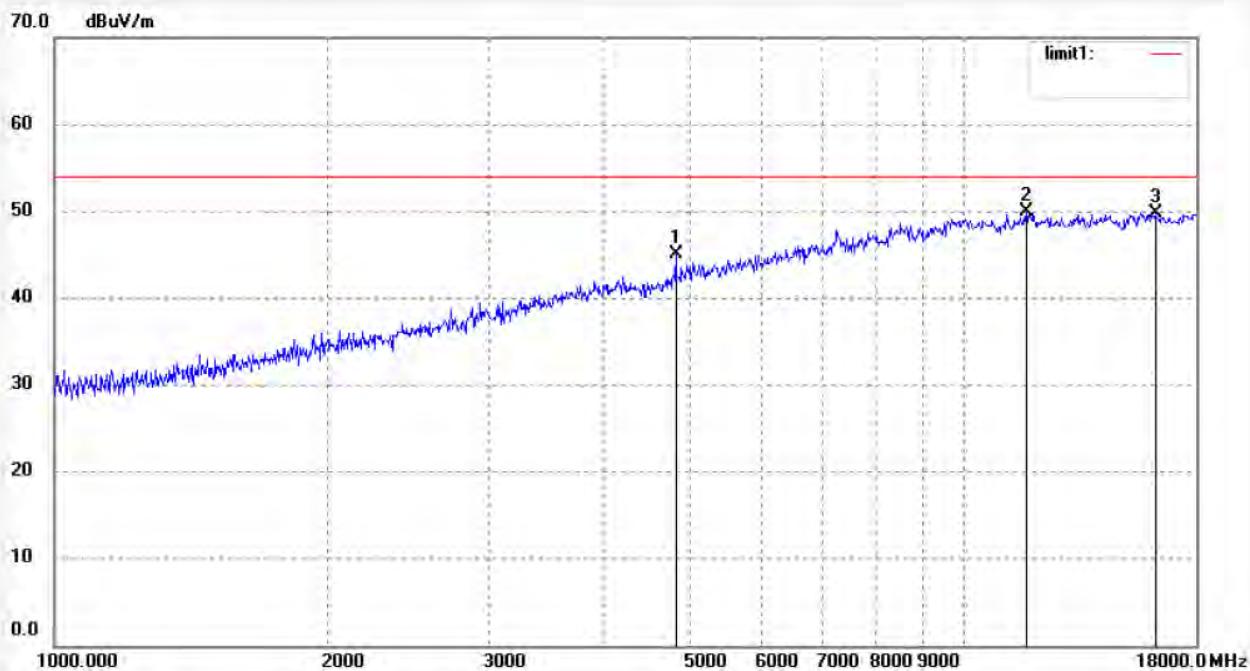


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Job No.: alen #2742	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 13/12/06/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 9/36/22
EUT: Novo 7 Crystal II User Manual	Engineer Signature:
Mode: TX 2412MHz(802.11b)	Distance: 3m
Model: Novo 7 Crystal II	
Manufacturer: Ainol	
Note: Report No:ATE20132535	



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4818.016	46.69	-1.54	45.15	74.00	-28.85	peak			
2	11701.375	43.67	6.23	49.90	74.00	-24.10	peak			
3	16221.189	37.97	11.84	49.81	74.00	-24.19	peak			



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Fax:+86-0755-26503396

Job No.: alen #2744

Polarization: Horizontal

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 9/38/50

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

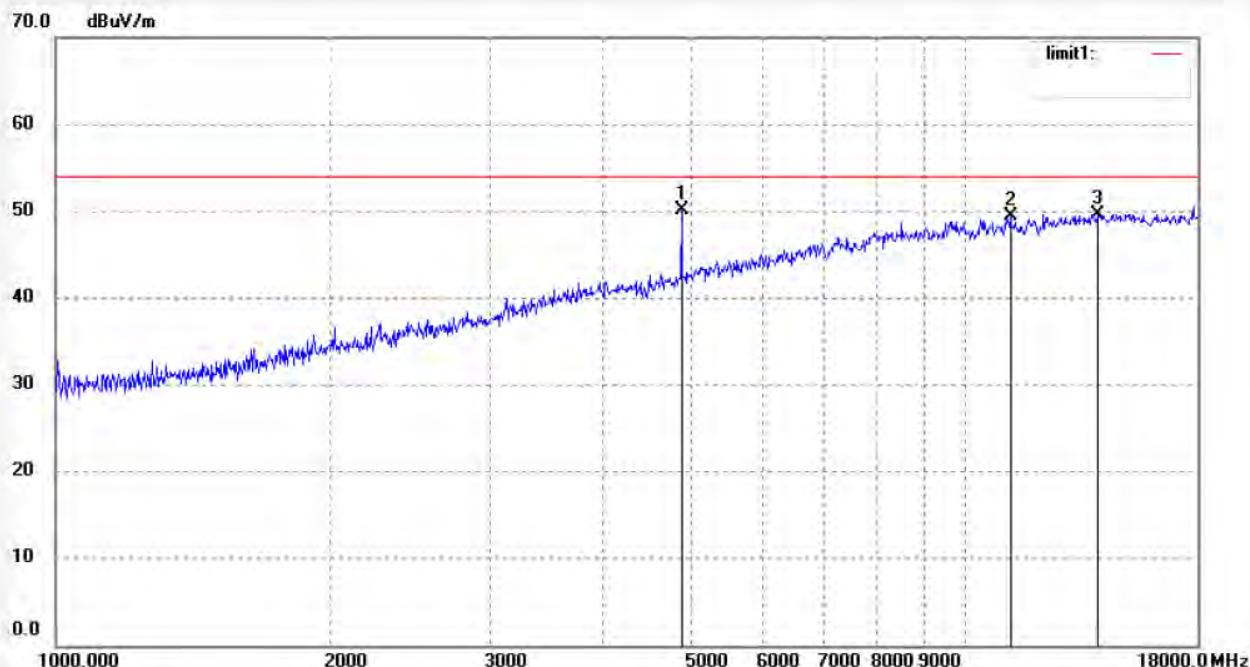
Mode: TX 2437MHz(802.11b)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4874.043	51.47	-1.37	50.10	74.00	-23.90	peak			
2	11204.896	43.75	5.72	49.47	74.00	-24.53	peak			
3	13957.529	39.30	10.31	49.61	74.00	-24.39	peak			



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Fax:+86-0755-26503396

Job No.: alen #2743

Polarization: Vertical

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 9/38/04

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

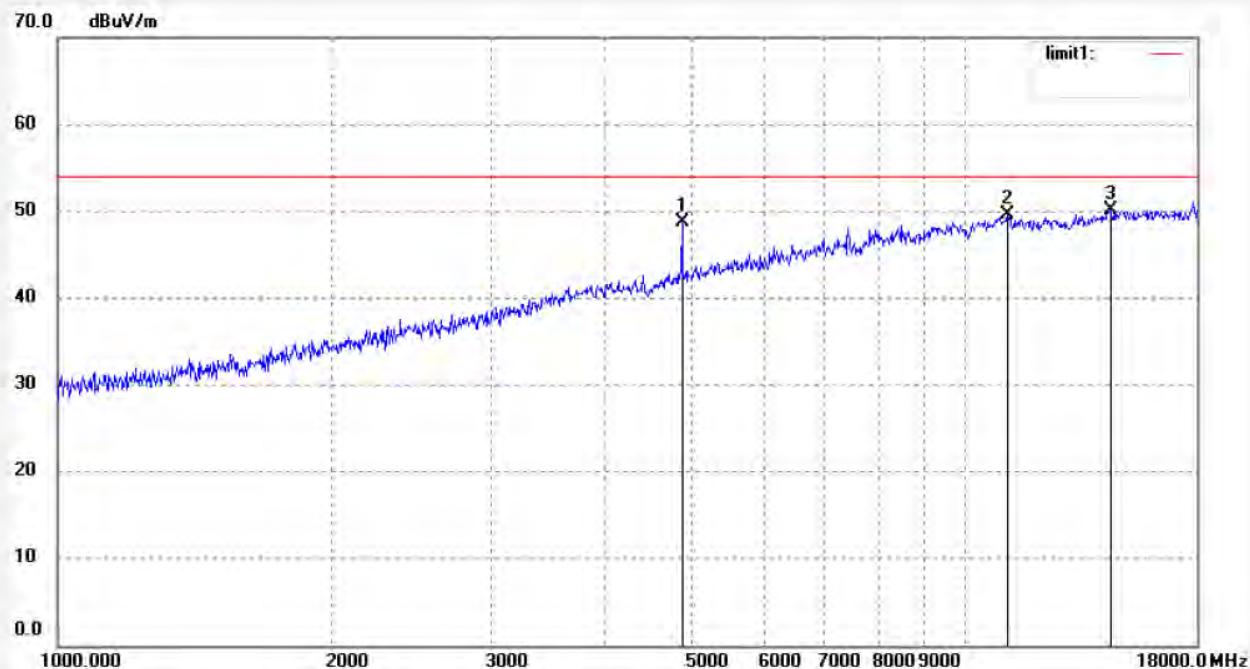
Mode: TX 2437MHz(802.11b)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4874.042	50.15	-1.37	48.78	74.00	-25.22	peak			
2	11140.310	43.96	5.65	49.61	74.00	-24.39	peak			
3	14450.131	37.45	12.73	50.18	74.00	-23.82	peak			



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Site: 1# Chamber

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Fax:+86-0755-26503396

Job No.: alen #2745

Polarization: Horizontal

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 9/40/34

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

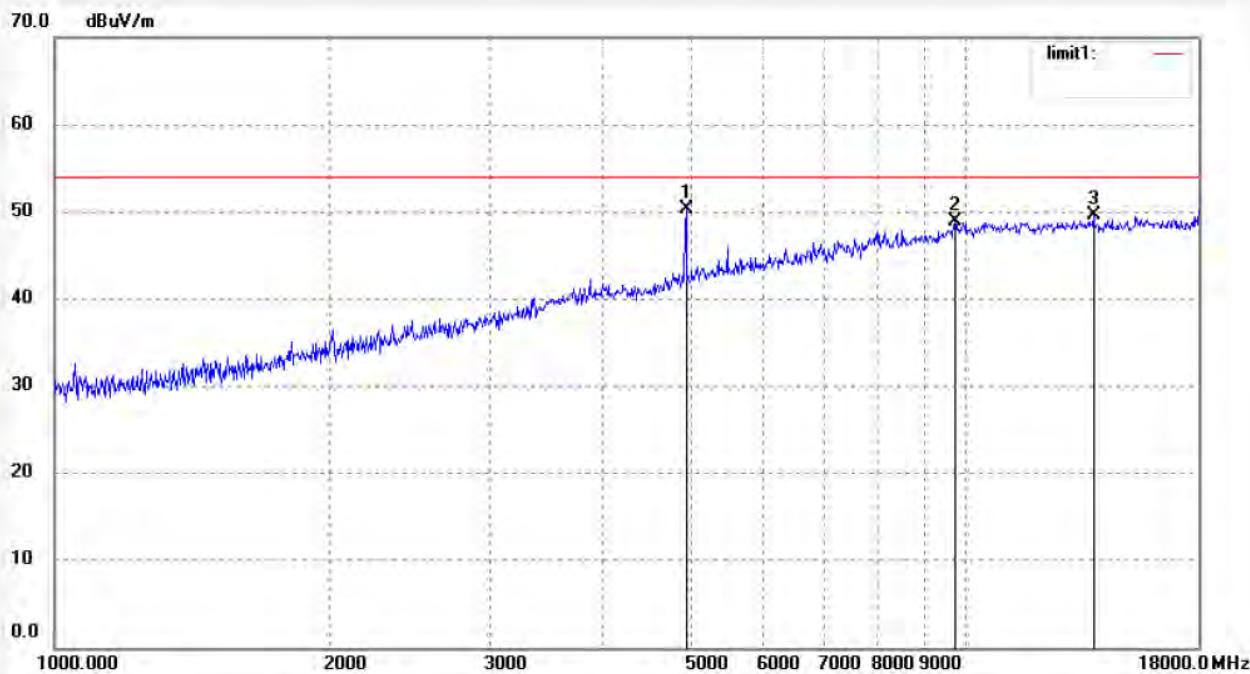
Mode: TX 2462MHz(802.11b)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4930.721	51.61	-1.21	50.40	74.00	-23.60	peak			
2	9725.221	43.85	5.03	48.88	74.00	-25.12	peak			
3	13797.088	39.75	9.87	49.62	74.00	-24.38	peak			



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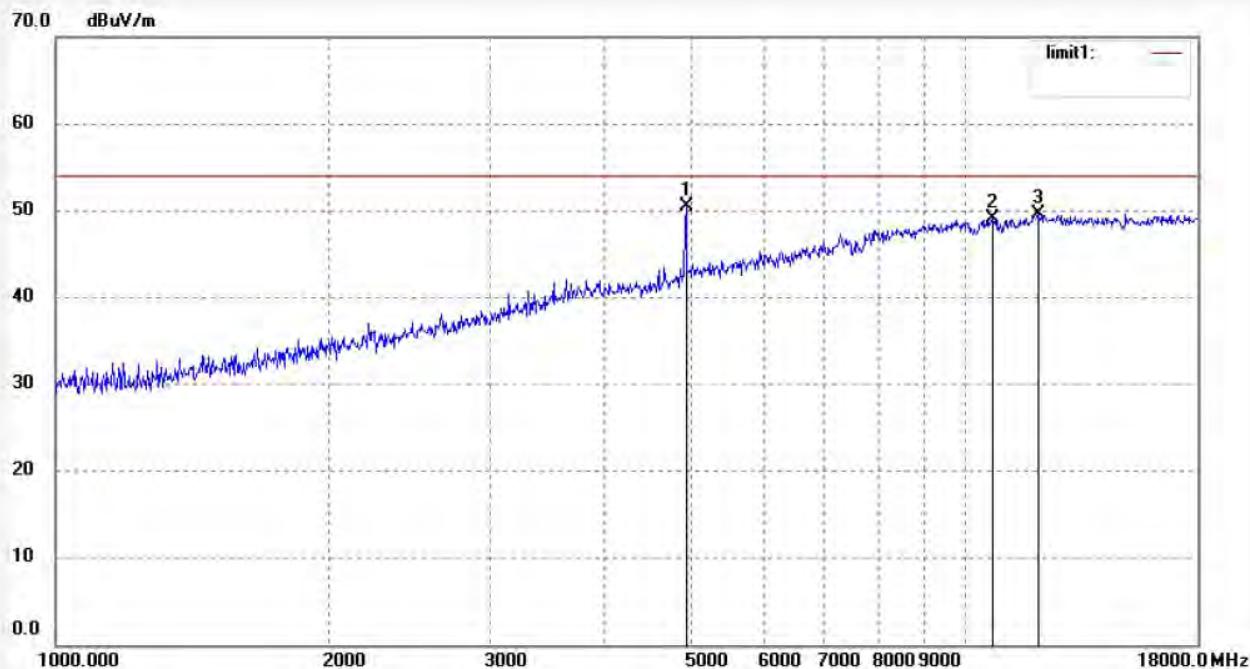
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Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.:	alen #2746	Polarization:	Vertical
Standard:	FCC Class B 3M Radiated	Power Source:	AC 120V/60Hz
Test item:	Radiation Test	Date:	13/12/06/
Temp.(C)/Hum.(%)	25 C / 55 %	Time:	9/41/26
EUT:	Novo 7 Crystal II User Manual	Engineer Signature:	
Mode:	TX 2462MHz(802.11b)	Distance:	3m
Model:	Novo 7 Crystal II		
Manufacturer:	Ainol		
Note:	Report No:ATE20132535		



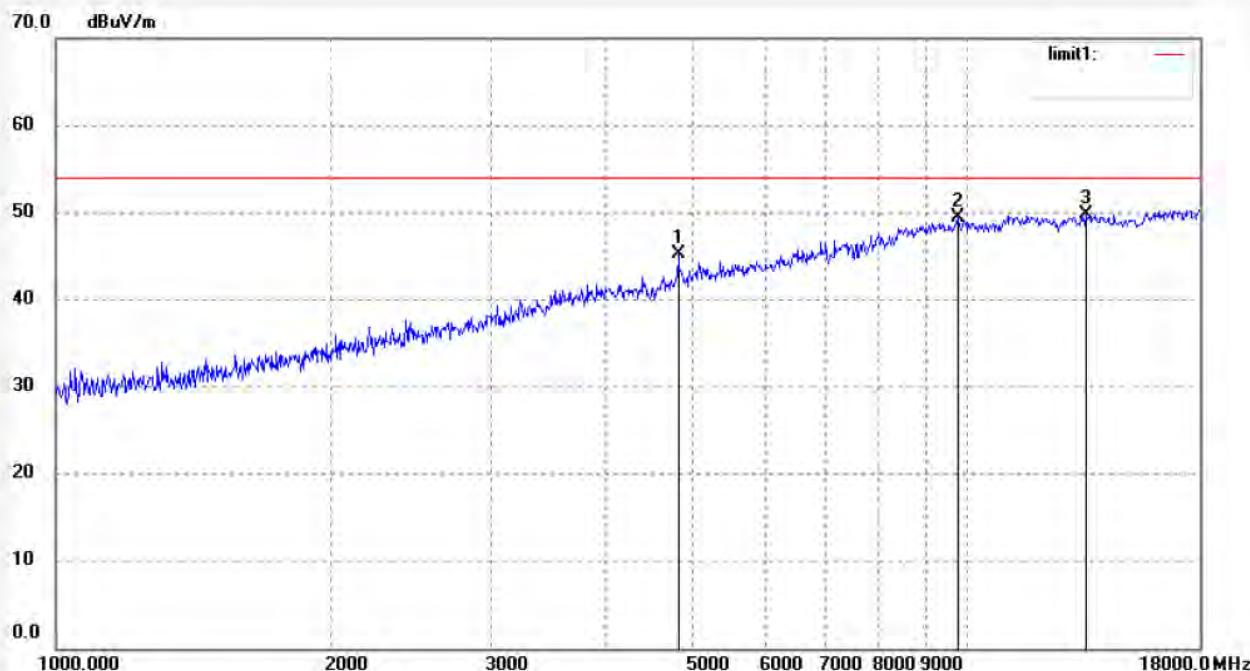
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4930.721	51.74	-1.21	50.53	74.00	-23.47	peak			
2	10729.481	43.82	5.34	49.16	74.00	-24.84	peak			
3	12009.761	43.15	6.51	49.66	74.00	-24.34	peak			



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Job No.: alen #2752	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 13/12/06/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 9/52/48
EUT: Novo 7 Crystal II User Manual	Engineer Signature:
Mode: TX 2412MHz(802.11g)	Distance: 3m
Model: Novo 7 Crystal II	
Manufacturer: Ainol	
Note: Report No:ATE20132535	



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4818.016	46.85	-1.54	45.31	74.00	-28.69	peak			
2	9753.371	44.36	5.06	49.42	74.00	-24.58	peak			
3	13481.719	40.85	9.01	49.86	74.00	-24.14	peak			



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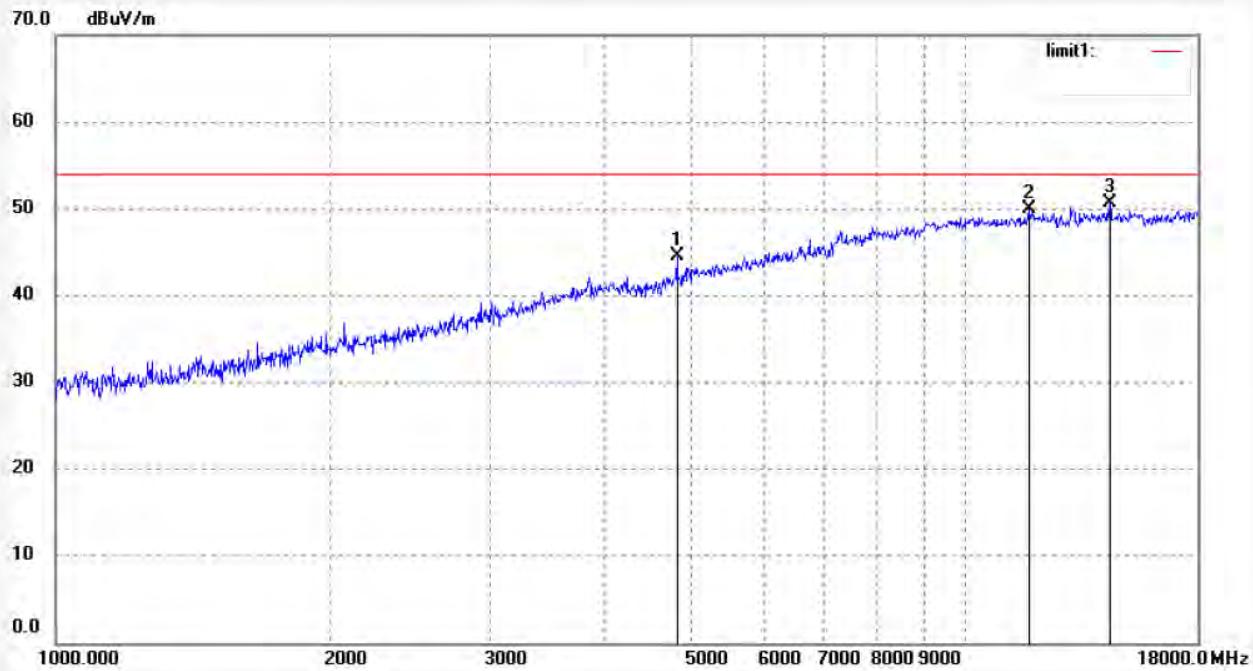
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Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.:	alen #2751	Polarization:	Vertical
Standard:	FCC Class B 3M Radiated	Power Source:	AC 120V/60Hz
Test item:	Radiation Test	Date:	13/12/06/
Temp.(C)/Hum.(%)	25 C / 55 %	Time:	9/52/04
EUT:	Novo 7 Crystal II User Manual	Engineer Signature:	
Mode:	TX 2412MHz(802.11g)	Distance:	3m
Model:	Novo 7 Crystal II		
Manufacturer:	Ainol		
Note:	Report No:ATE20132535		



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4818.016	46.16	-1.54	44.62	74.00	-29.38	peak			
2	11735.245	43.77	6.25	50.02	74.00	-23.98	peak			
3	14408.425	38.06	12.53	50.59	74.00	-23.41	peak			



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Site: 1# Chamber
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Fax:+86-0755-26503396

Job No.: alen #2749

Polarization: Horizontal

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 9/49/52

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

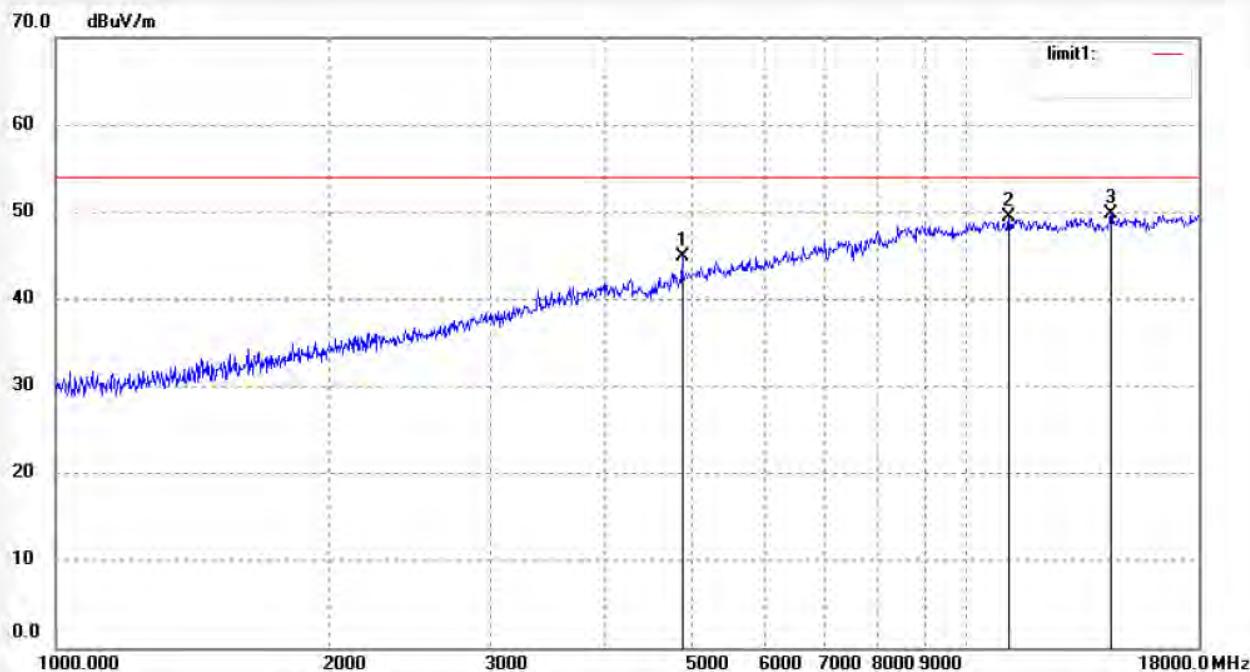
Mode: TX 2437MHz(802.11g)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4874.043	46.21	-1.37	44.84	74.00	-29.16	peak			
2	11140.310	43.84	5.65	49.49	74.00	-24.51	peak			
3	14408.425	37.26	12.53	49.79	74.00	-24.21	peak			



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Site: 1# Chamber
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Fax:+86-0755-26503396

Job No.: alen #2750

Polarization: Vertical

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 9/50/53

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

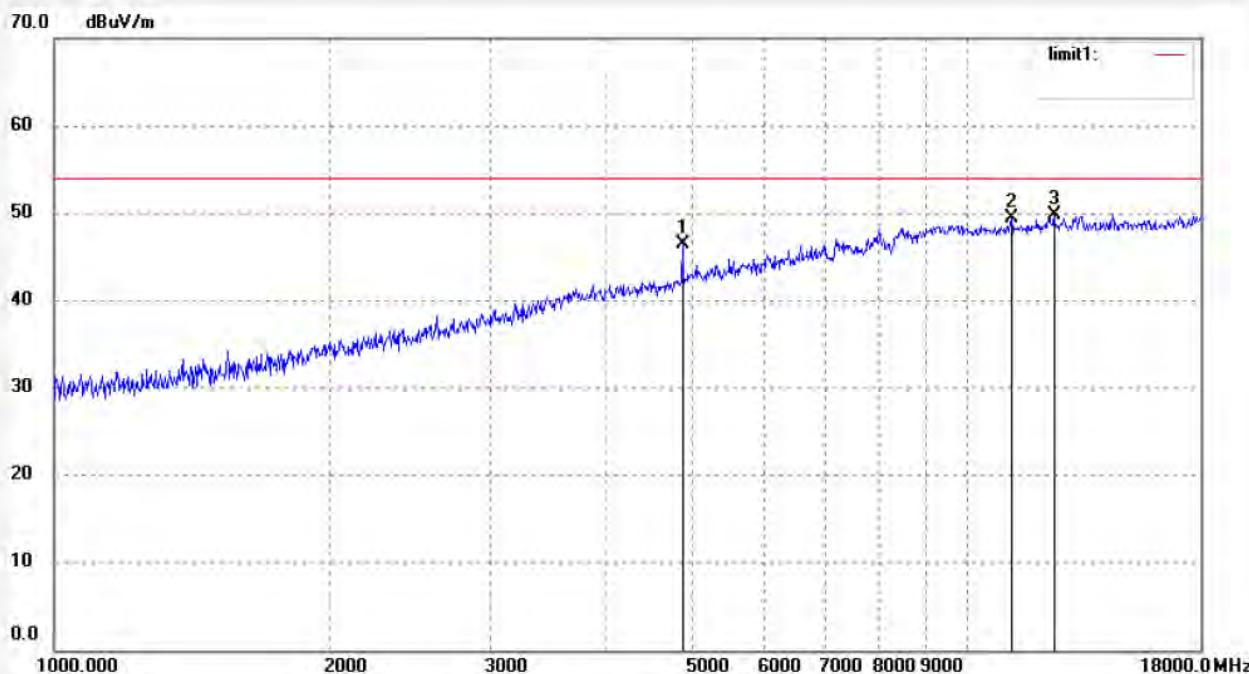
Mode: TX 2437MHz(802.11g)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4874.043	47.85	-1.37	46.48	74.00	-27.52	peak			
2	11172.556	43.69	5.69	49.38	74.00	-24.62	peak			
3	12433.621	42.71	7.06	49.77	74.00	-24.23	peak			



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Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: alen #2748

Polarization: Horizontal

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 9/48/02

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

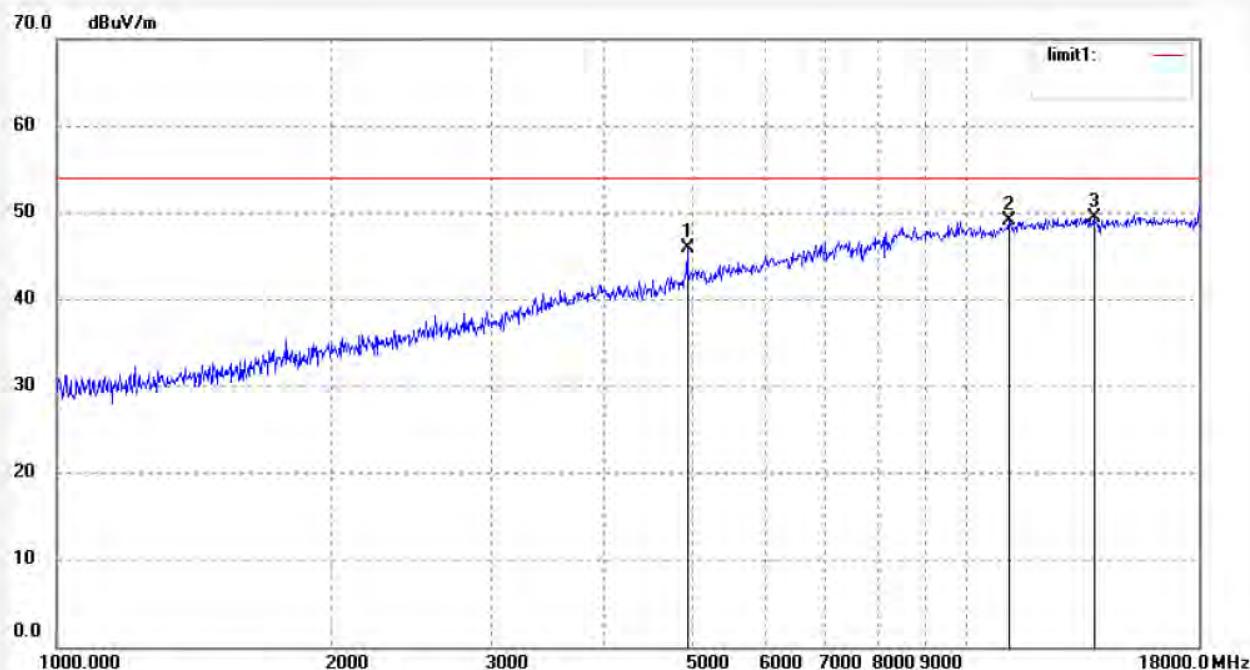
Mode: TX 2462MHz(802.11g)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4930.721	47.13	-1.21	45.92	74.00	-28.08	peak			
2	11140.310	43.40	5.65	49.05	74.00	-24.95	peak			
3	13797.088	39.53	9.87	49.40	74.00	-24.60	peak			



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Fax:+86-0755-26503396

Job No.: alen #2747

Polarization: Vertical

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 9/47/21

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

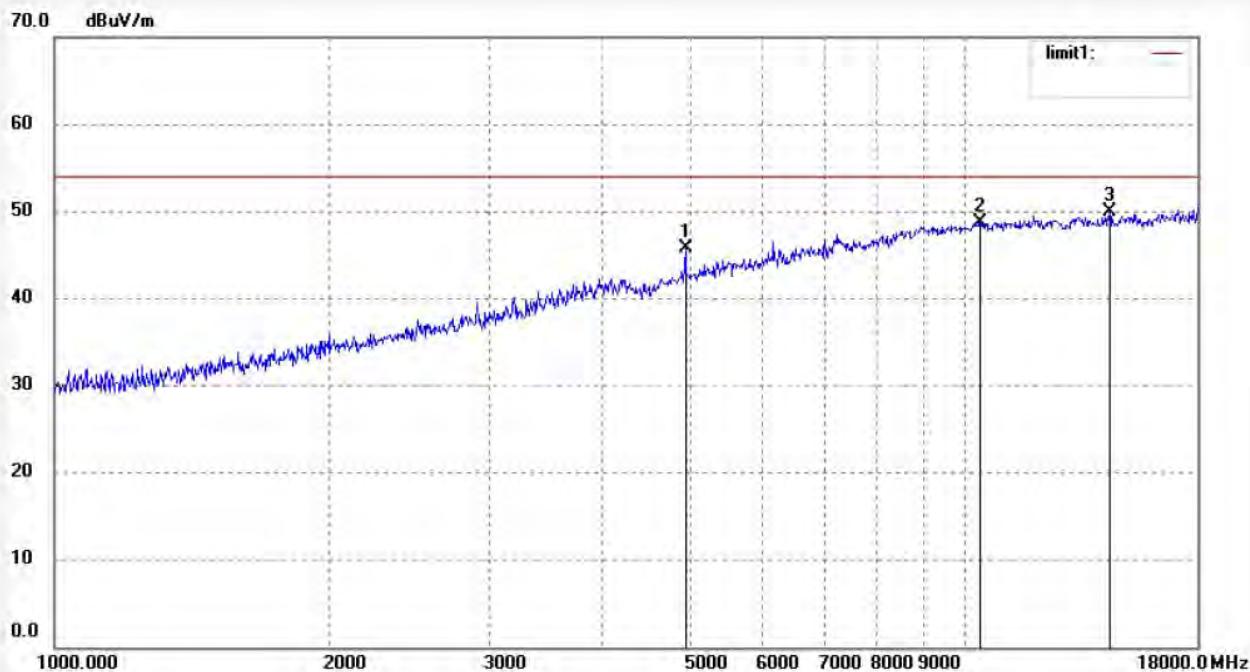
Mode: TX 2462MHz(802.11g)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4930.721	46.98	-1.21	45.77	74.00	-28.23	peak			
2	10393.713	43.44	5.24	48.68	74.00	-25.32	peak			
3	14408.425	37.50	12.53	50.03	74.00	-23.97	peak			



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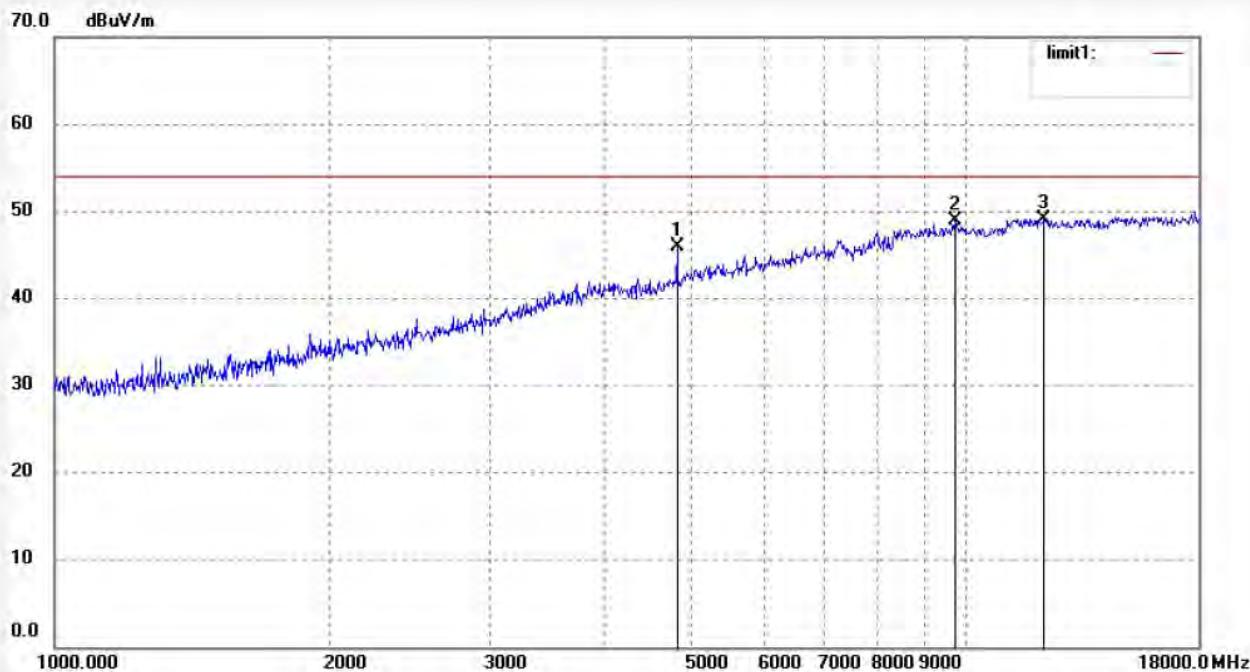
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: alen #2753	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 13/12/06/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 9/54/02
EUT: Novo 7 Crystal II User Manual	Engineer Signature:
Mode: TX 2412MHz(802.11n20)	Distance: 3m
Model: Novo 7 Crystal II	
Manufacturer: Ainol	
Note: Report No:ATE20132535	



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4818.016	47.46	-1.54	45.92	74.00	-28.08	peak			
2	9725.221	43.93	5.03	48.96	74.00	-25.04	peak			
3	12184.584	42.36	6.73	49.09	74.00	-24.91	peak			



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Job No.: alen #2754

Polarization: Vertical

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 9/54/39

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

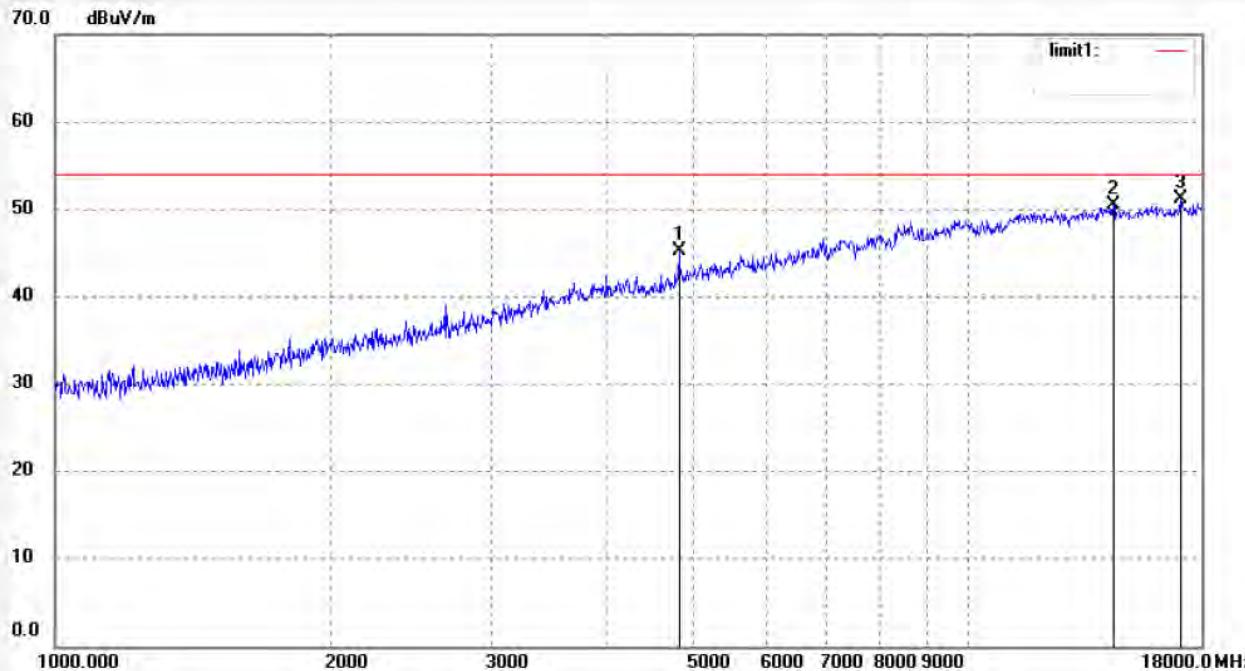
Mode: TX 2412MHz(802.11n20)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4818.016	46.80	-1.54	45.26	74.00	-28.74	peak			
2	14408.425	37.98	12.53	50.51	74.00	-23.49	peak			
3	17087.464	37.41	13.86	51.27	74.00	-22.73	peak			



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Fax:+86-0755-26503396

Job No.: alen #2755

Polarization: Horizontal

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 9/55/45

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

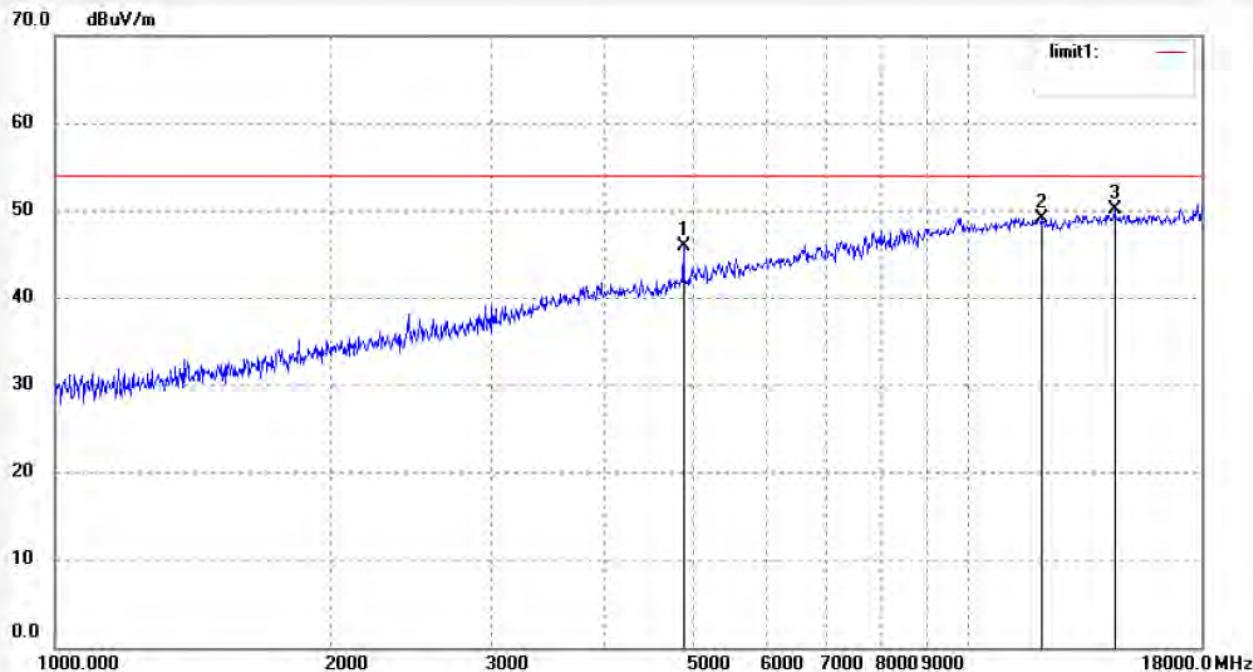
Mode: TX 2437MHz(802.11n20)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4874.043	47.34	-1.37	45.97	74.00	-28.03	peak			
2	12044.524	42.59	6.56	49.15	74.00	-24.85	peak			
3	14450.131	37.45	12.73	50.18	74.00	-23.82	peak			



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Fax:+86-0755-26503396

Job No.: alen #2756

Polarization: Vertical

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 9/56/20

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

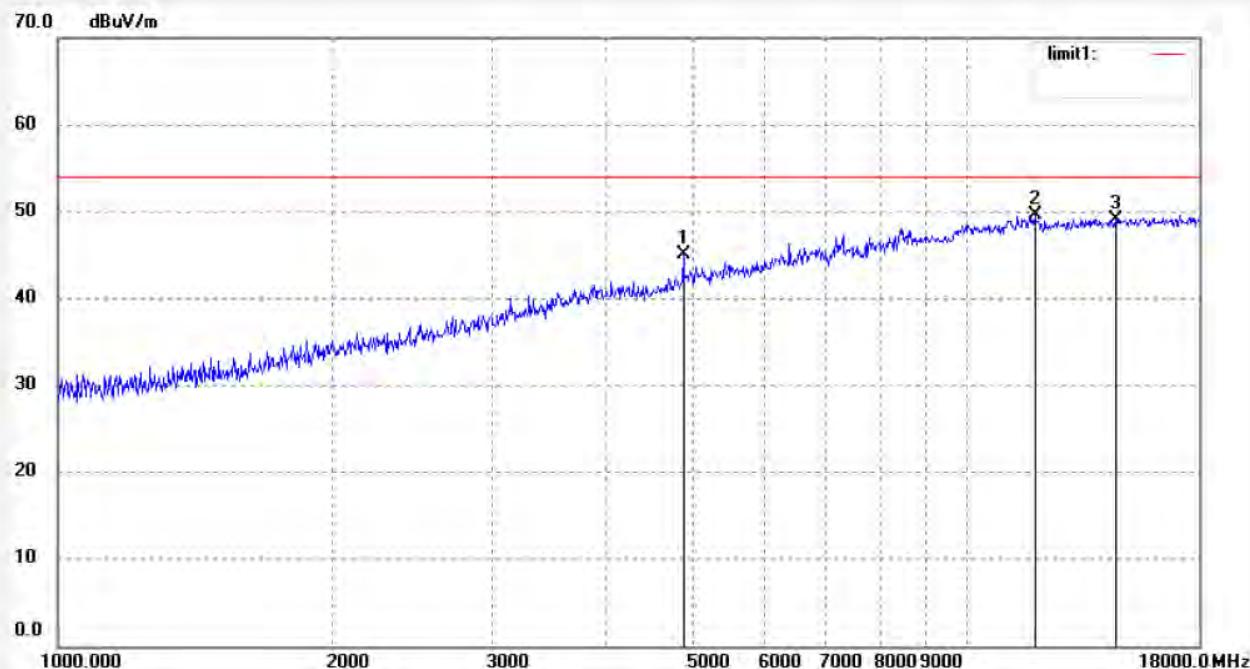
Mode: TX 2437MHz(802.11n20)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4874.043	46.51	-1.37	45.14	74.00	-28.86	peak			
2	11871.710	43.21	6.38	49.59	74.00	-24.41	peak			
3	14575.975	36.33	12.82	49.15	74.00	-24.85	peak			



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Fax:+86-0755-26503396

Job No.: alen #2757

Polarization: Horizontal

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 9/57/23

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

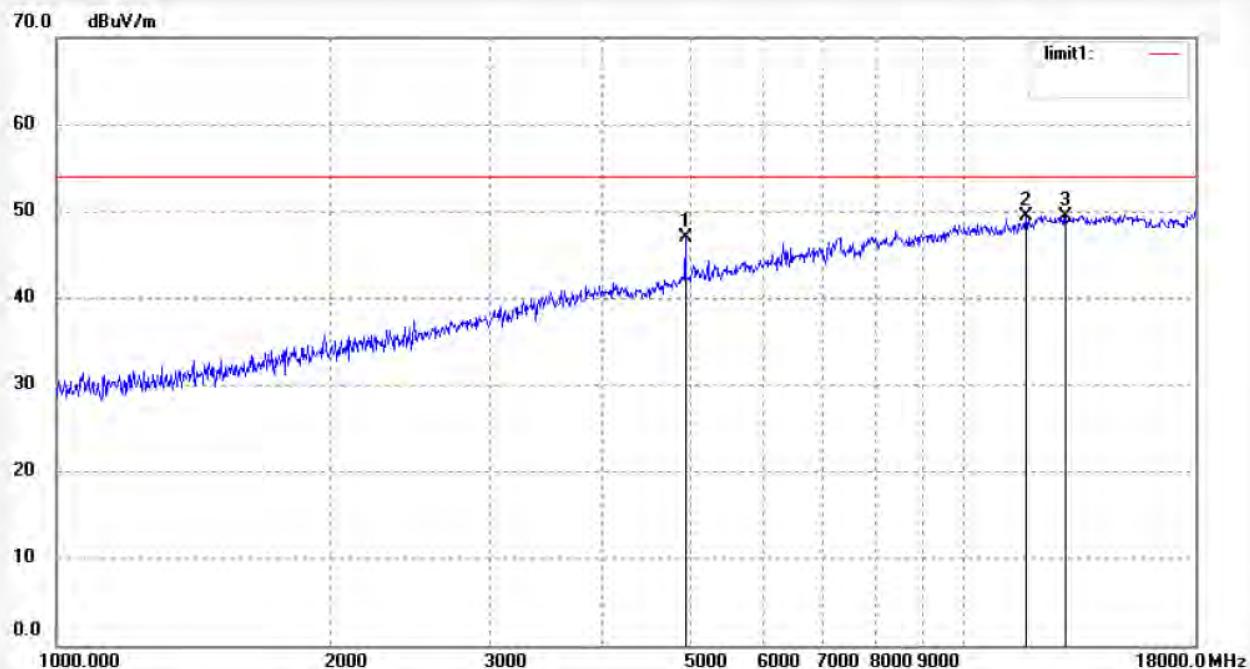
Mode: TX 2462MHz(802.11n20)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4930.721	48.18	-1.21	46.97	74.00	-27.03	peak			
2	11701.375	43.28	6.23	49.51	74.00	-24.49	peak			
3	12947.068	41.66	7.83	49.49	74.00	-24.51	peak			



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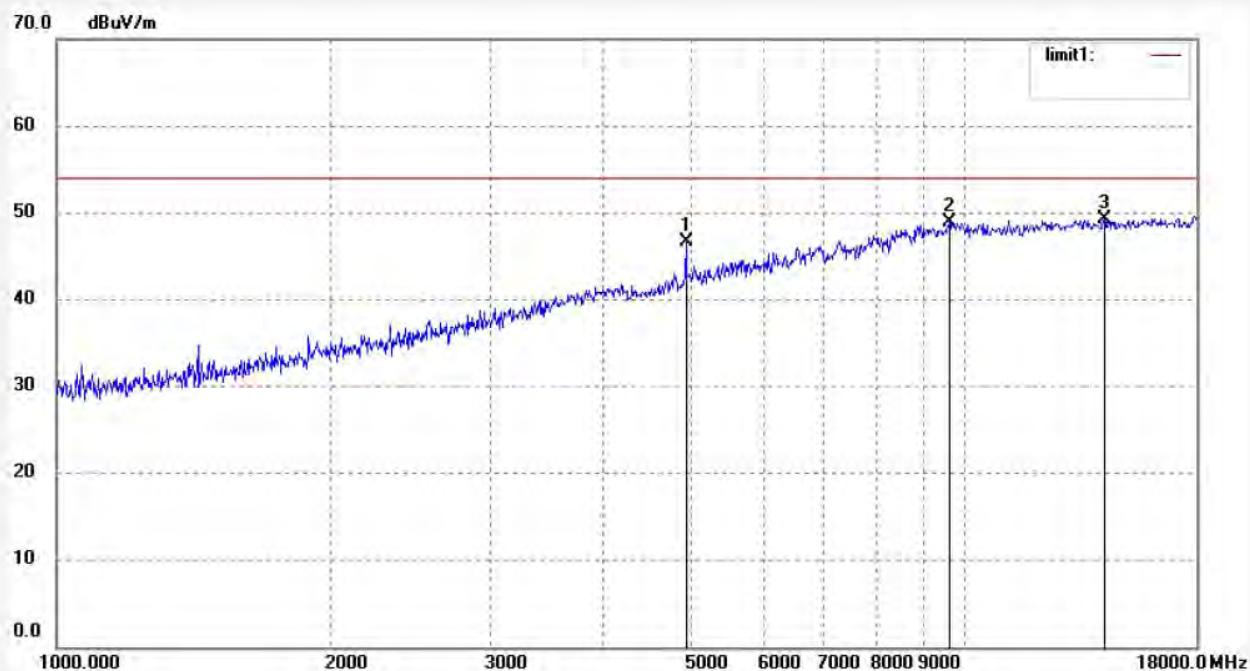
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Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: alen #2758	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 13/12/06/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 9/58/01
EUT: Novo 7 Crystal II User Manual	Engineer Signature:
Mode: TX 2462MHz(802.11n20)	Distance: 3m
Model: Novo 7 Crystal II	
Manufacturer: Ainol	
Note: Report No:ATE20132535	



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4930.721	47.90	-1.21	46.69	74.00	-27.31	peak			
2	9613.430	44.03	4.92	48.95	74.00	-25.05	peak			
3	14242.802	37.60	11.66	49.26	74.00	-24.74	peak			



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Site: 1# Chamber
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Fax:+86-0755-26503396

Job No.: alen #2763

Polarization: Horizontal

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 10/02/14

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

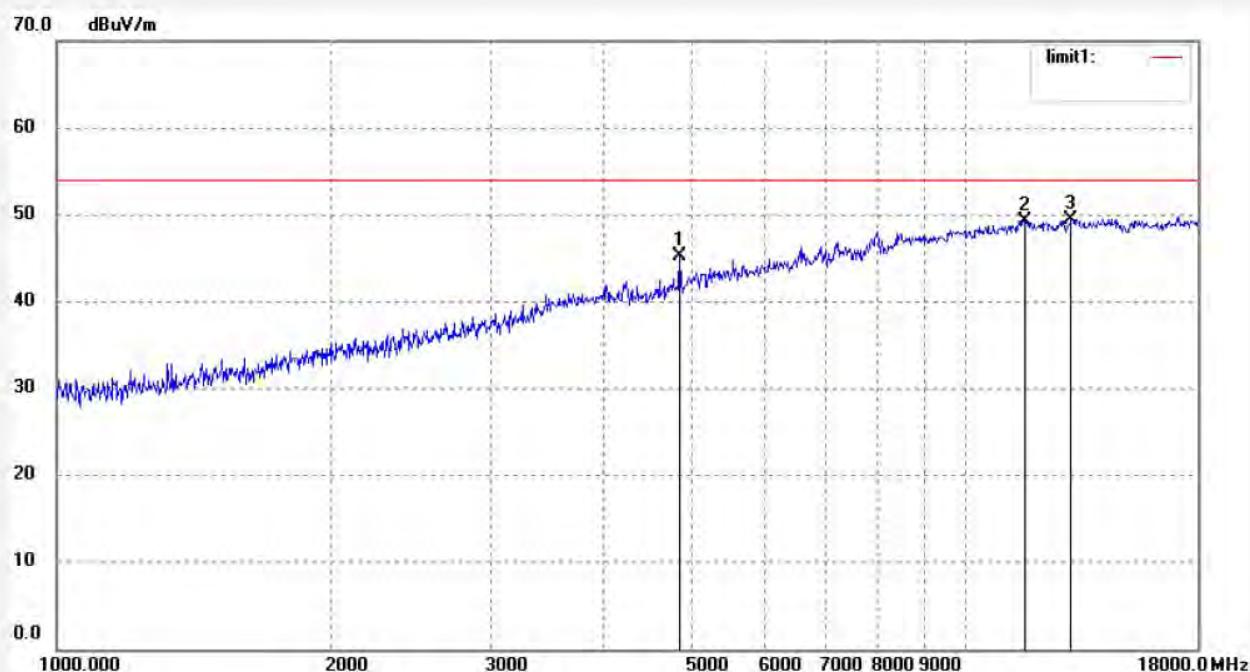
Mode: TX 2422MHz(802.11n40)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4845.948	46.70	-1.45	45.25	74.00	-28.75	peak			
2	11600.350	43.13	6.14	49.27	74.00	-24.73	peak			
3	13059.822	41.42	8.02	49.44	74.00	-24.56	peak			



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Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: alen #2764

Polarization: Vertical

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 10/02/47

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

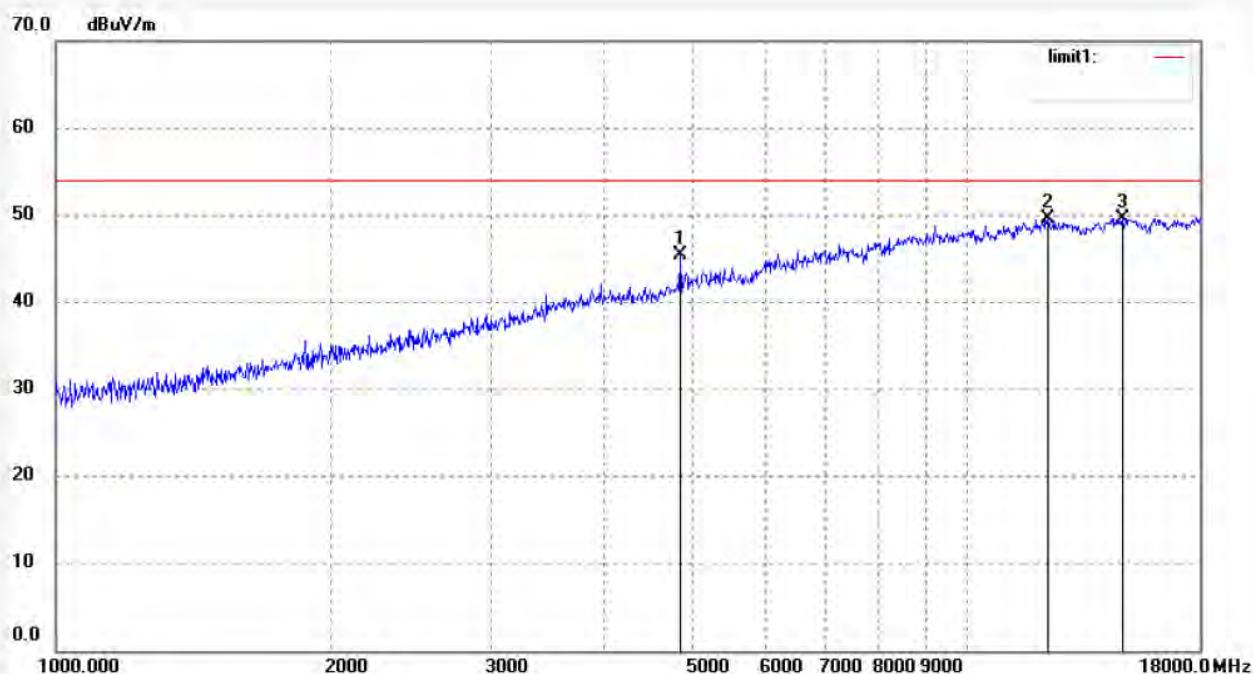
Mode: TX 2422MHz(802.11n40)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4845.948	46.93	-1.45	45.48	74.00	-28.52	peak			
2	12255.224	42.75	6.84	49.59	74.00	-24.41	peak			
3	14788.154	37.27	12.36	49.63	74.00	-24.37	peak			



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Fax:+86-0755-26503396

Job No.: alen #2762

Polarization: Horizontal

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 10/01/17

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

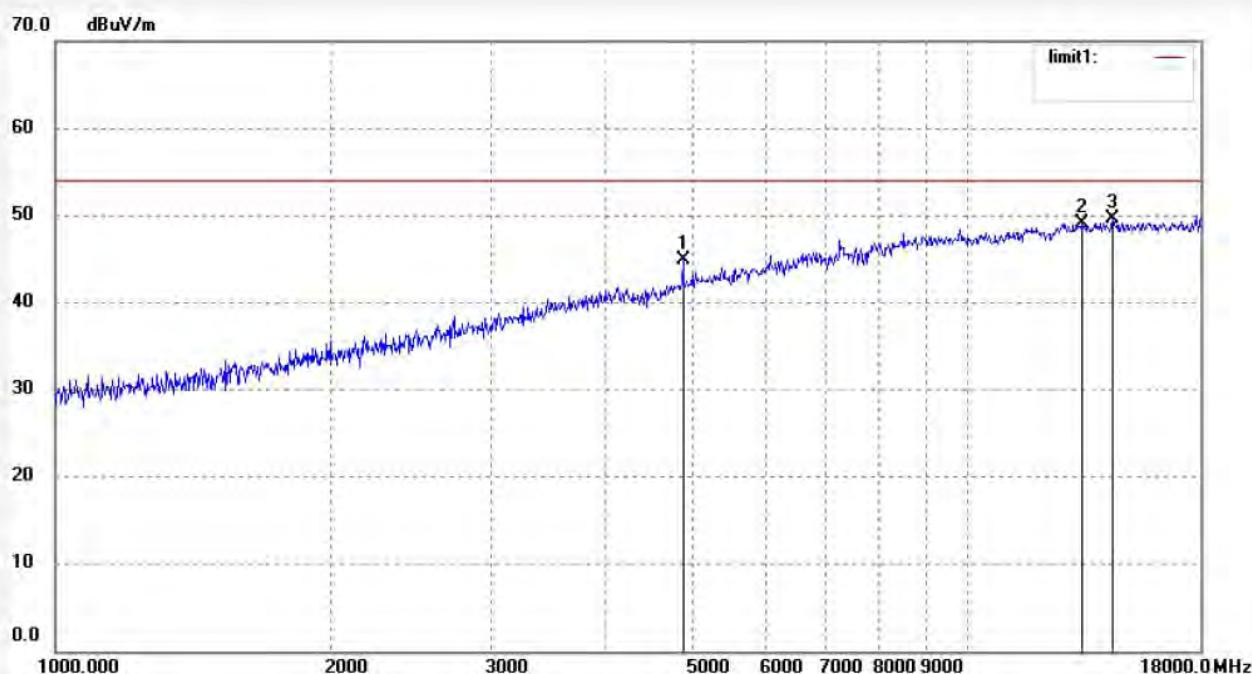
Mode: TX 2437MHz(802.11n40)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4874.043	46.27	-1.37	44.90	74.00	-29.10	peak			
2	13365.322	40.32	8.74	49.06	74.00	-24.94	peak			
3	14408.425	37.17	12.53	49.70	74.00	-24.30	peak			



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Site: 1# Chamber
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Fax:+86-0755-26503396

Job No.: alen #2761

Polarization: Vertical

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 10/00/45

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

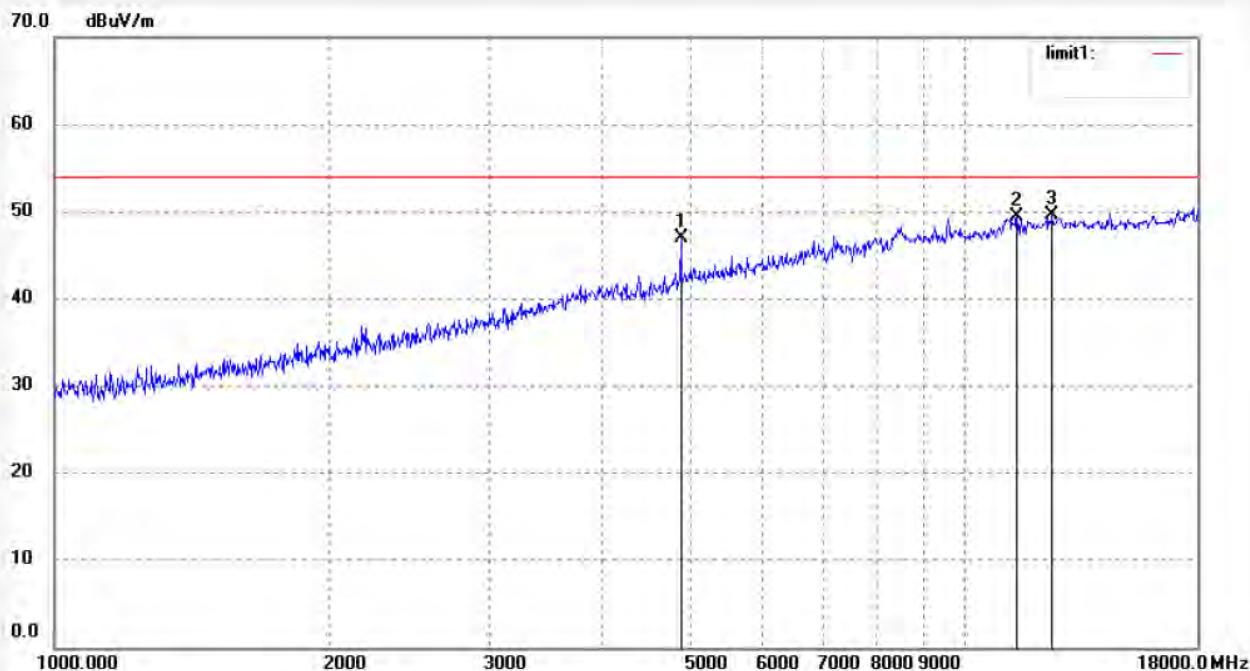
Mode: TX 2437MHz(802.11n40)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4874.042	48.40	-1.37	47.03	74.00	-26.97	peak			
2	11400.908	43.46	5.94	49.40	74.00	-24.60	peak			
3	12469.611	42.46	7.12	49.58	74.00	-24.42	peak			



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Fax:+86-0755-26503396

Job No.: alen #2759

Polarization: Horizontal

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 9/59/08

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

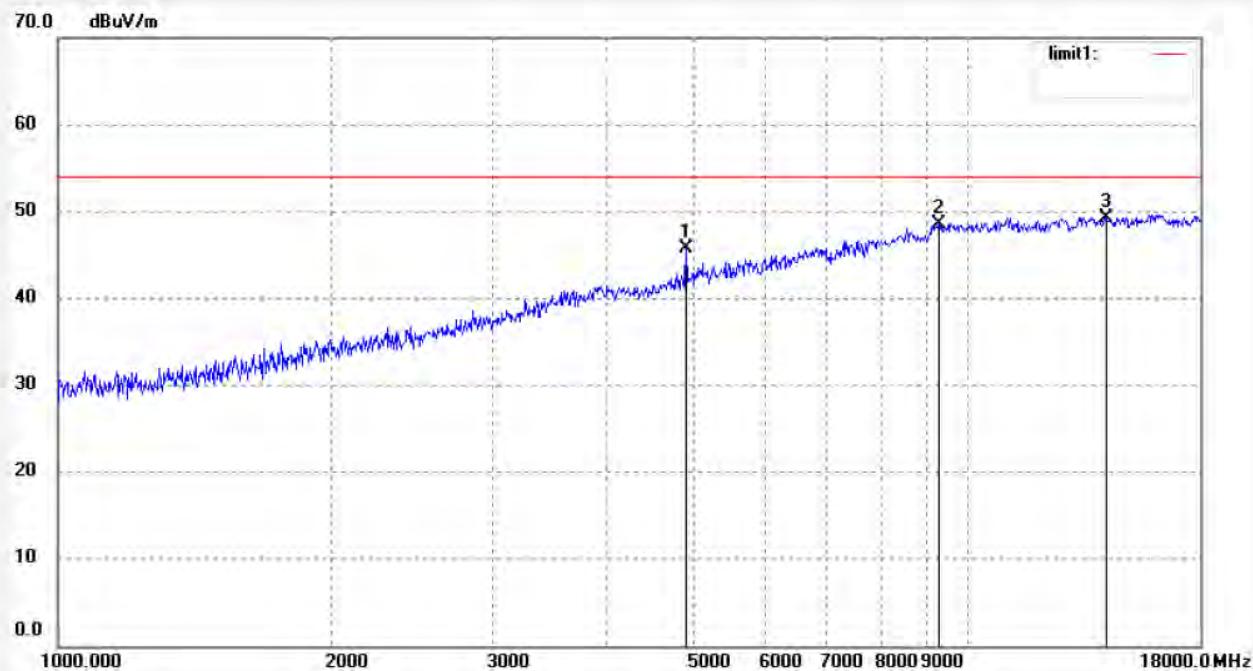
Mode: TX 2452MHz(802.11n40)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4902.300	47.13	-1.29	45.84	74.00	-28.16	peak			
2	9285.710	44.32	4.23	48.55	74.00	-25.45	peak			
3	14201.694	37.90	11.45	49.35	74.00	-24.65	peak			



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Fax:+86-0755-26503396

Job No.: alen #2760

Polarization: Vertical

Standard: FCC Class B 3M Radiated

Power Source: AC 120V/60Hz

Test item: Radiation Test

Date: 13/12/06/

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

Time: 9/59/42

EUT: Novo 7 Crystal II User Manual

Engineer Signature:

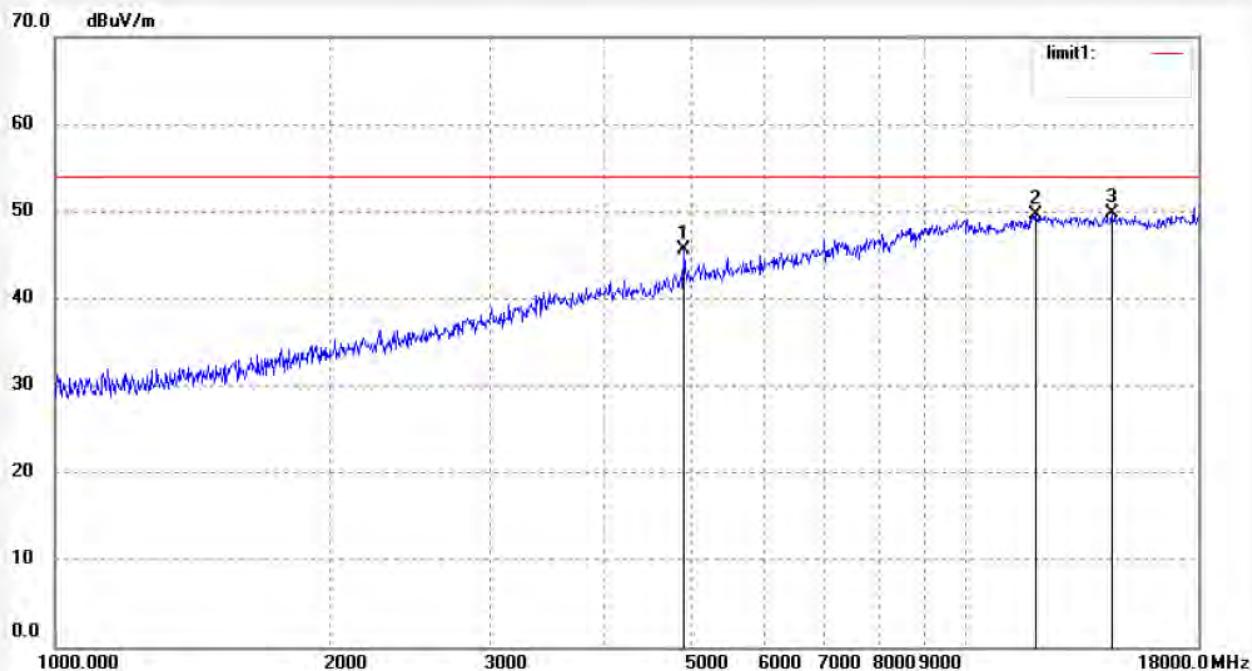
Mode: TX 2452MHz(802.11n40)

Distance: 3m

Model: Novo 7 Crystal II

Manufacturer: Ainol

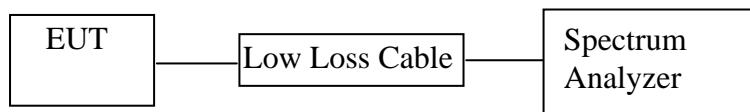
Note: Report No:ATE20132535



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4902.300	46.85	-1.29	45.56	74.00	-28.44	peak			
2	11940.535	43.12	6.43	49.55	74.00	-24.45	peak			
3	14450.131	37.06	12.73	49.79	74.00	-24.21	peak			

11.CONDUCTED SPURIOUS EMISSION COMPLIANCE TEST

11.1.Block Diagram of Test Setup



11.2.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).

11.3.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.

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 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.

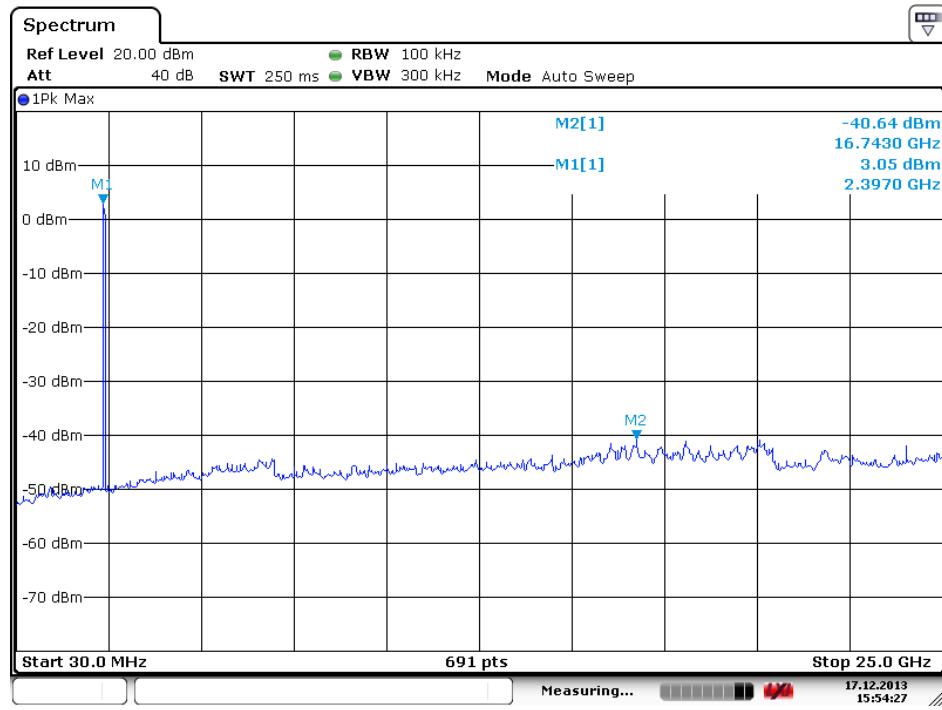
11.5. Test Procedure

- 11.5.1. The transmitter output was connected to the spectrum analyzer via a low loss cable.
- 11.5.2. Set RBW of spectrum analyzer to 100kHz and VBW to 300kHz (below 1GHz).
- 11.5.3. Set RBW of spectrum analyzer to 1MHz and VBW to 3MHz (above 1GHz).
- 11.5.4. The Conducted Spurious Emission was measured and recorded.

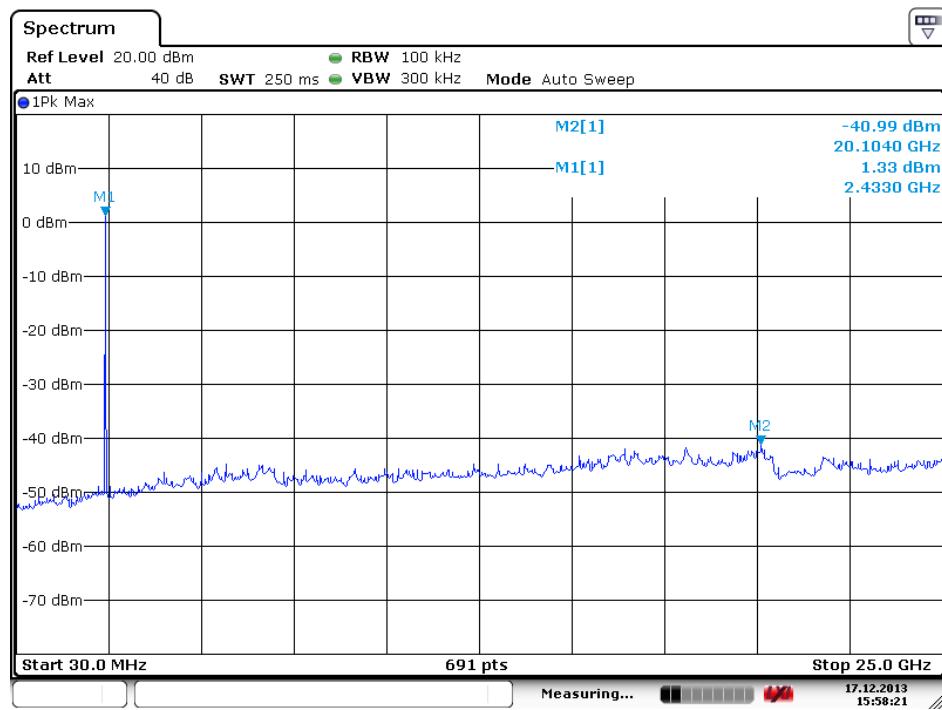
11.6. Test Result

Pass.

The spectrum analyzer plots are attached as below.

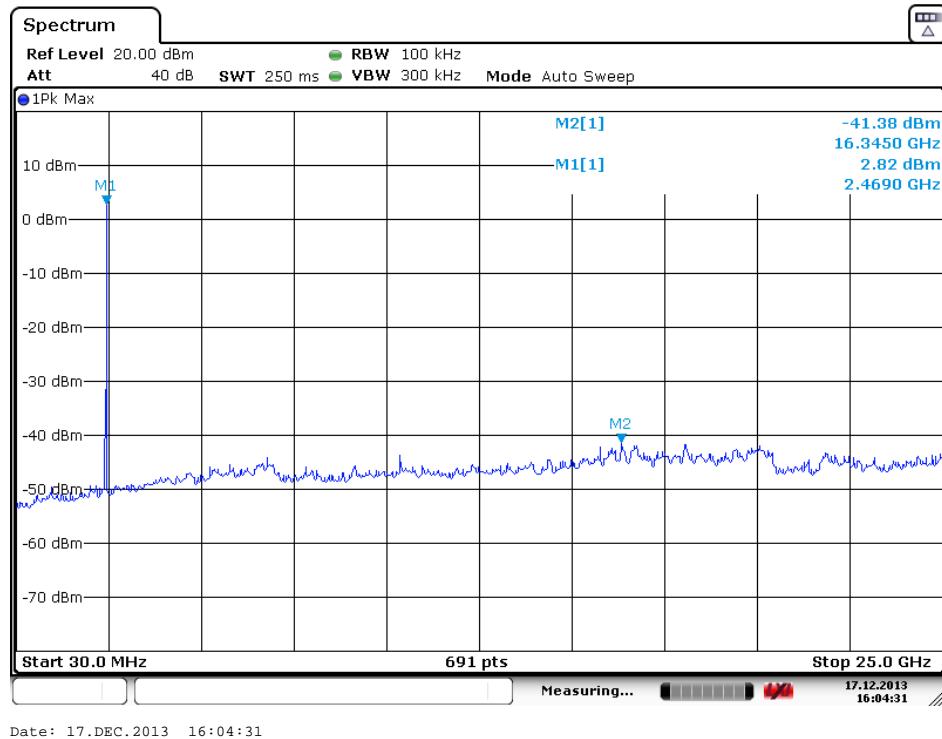
TX 802.11b Channel Low 2412MHz

Date: 17.DEC.2013 15:54:27

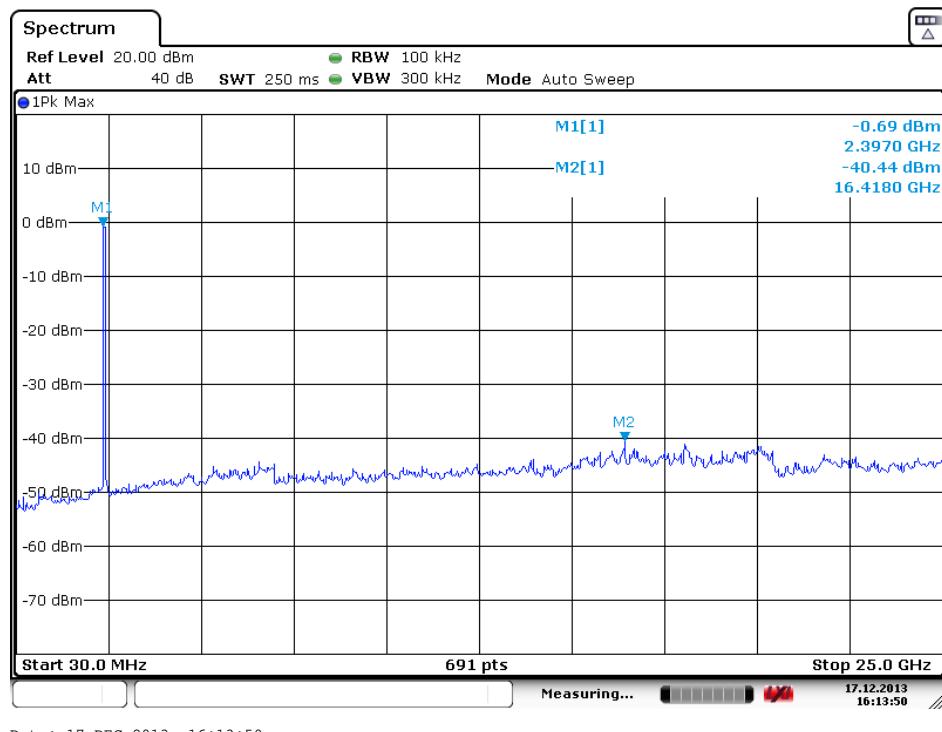
TX 802.11b Channel Middle 2437MHz

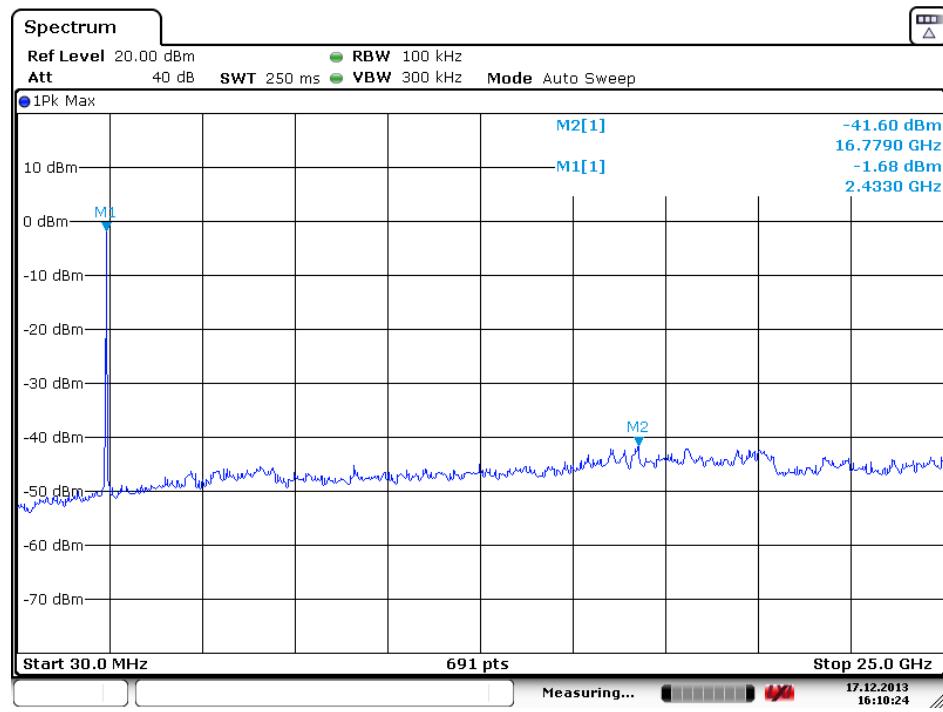
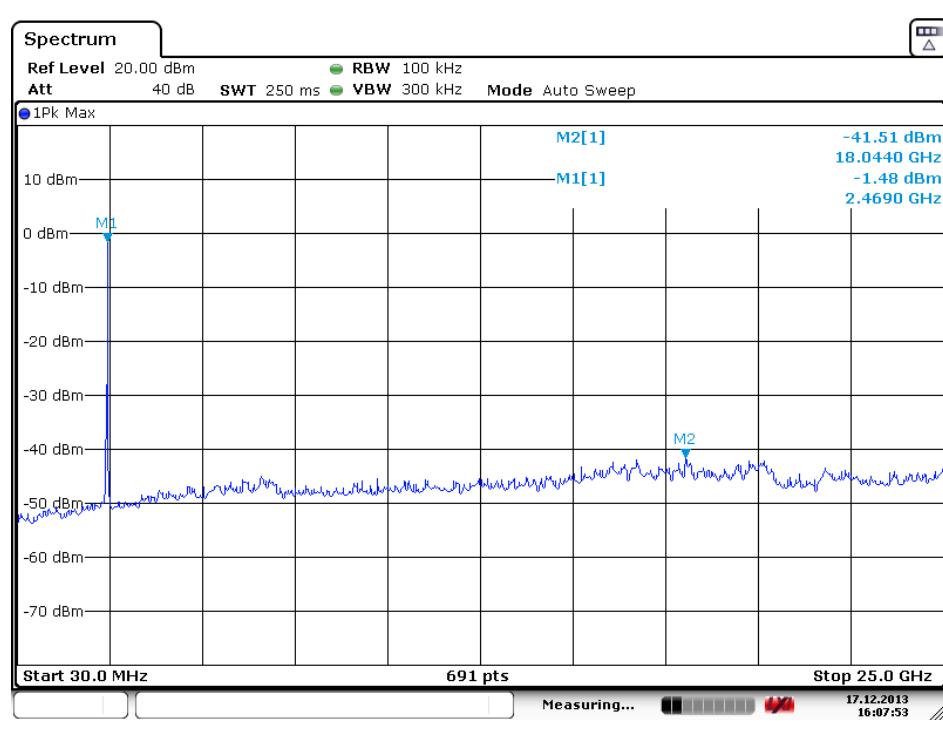
Date: 17.DEC.2013 15:58:21

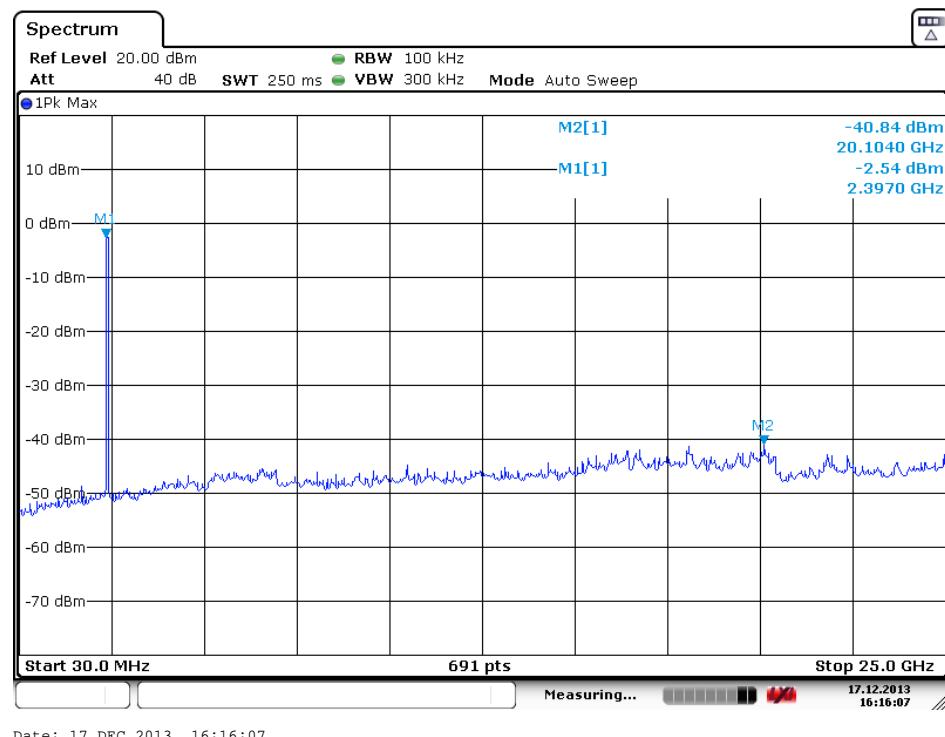
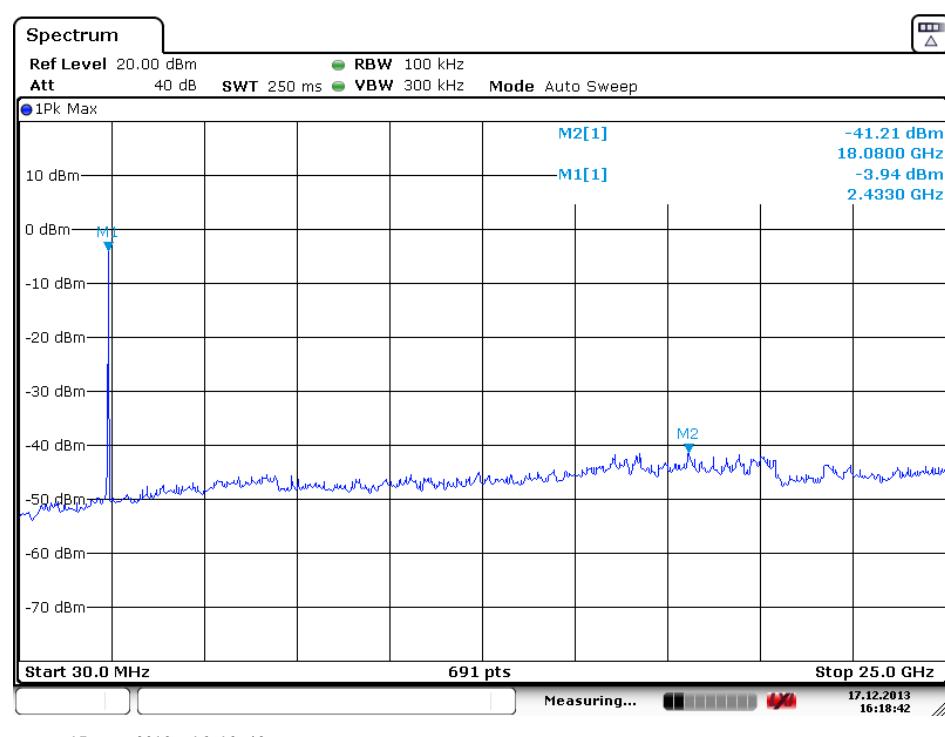
TX 802.11b Channel High 2462MHz

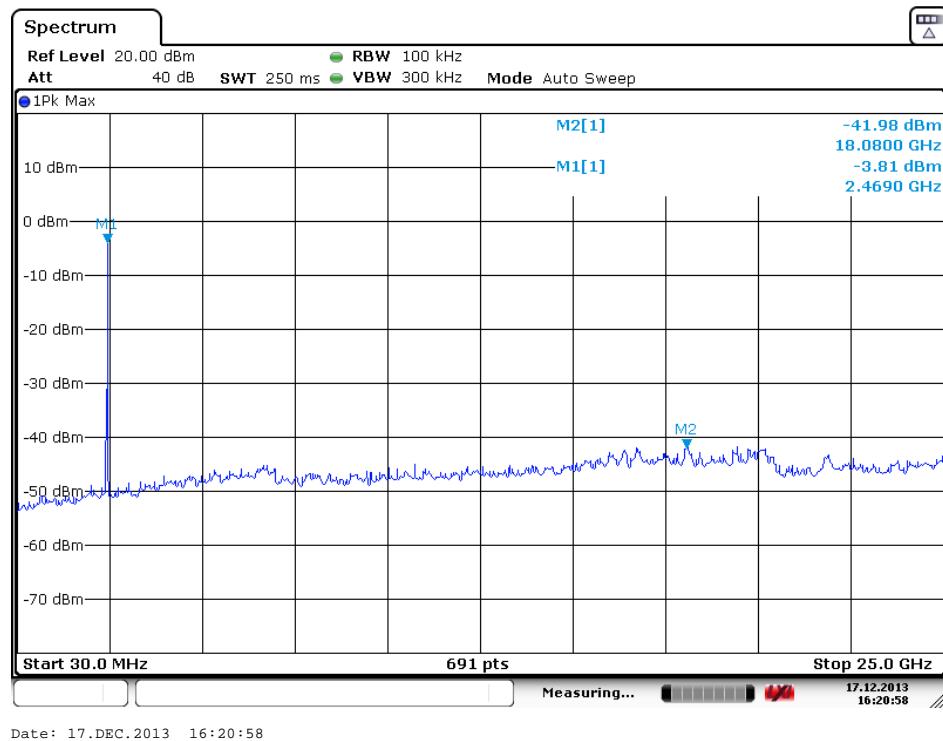
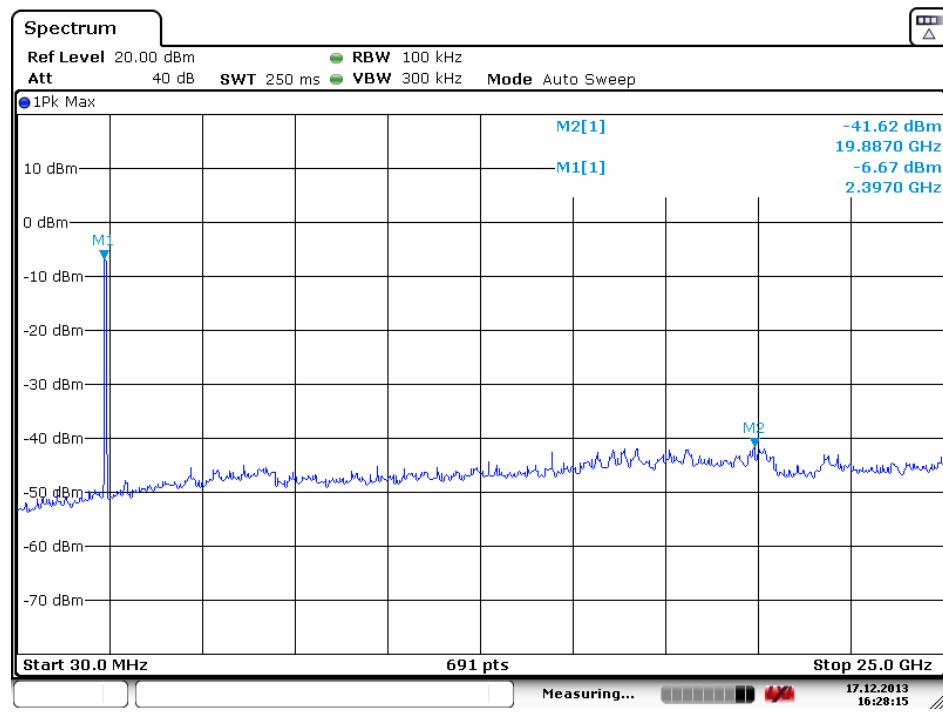


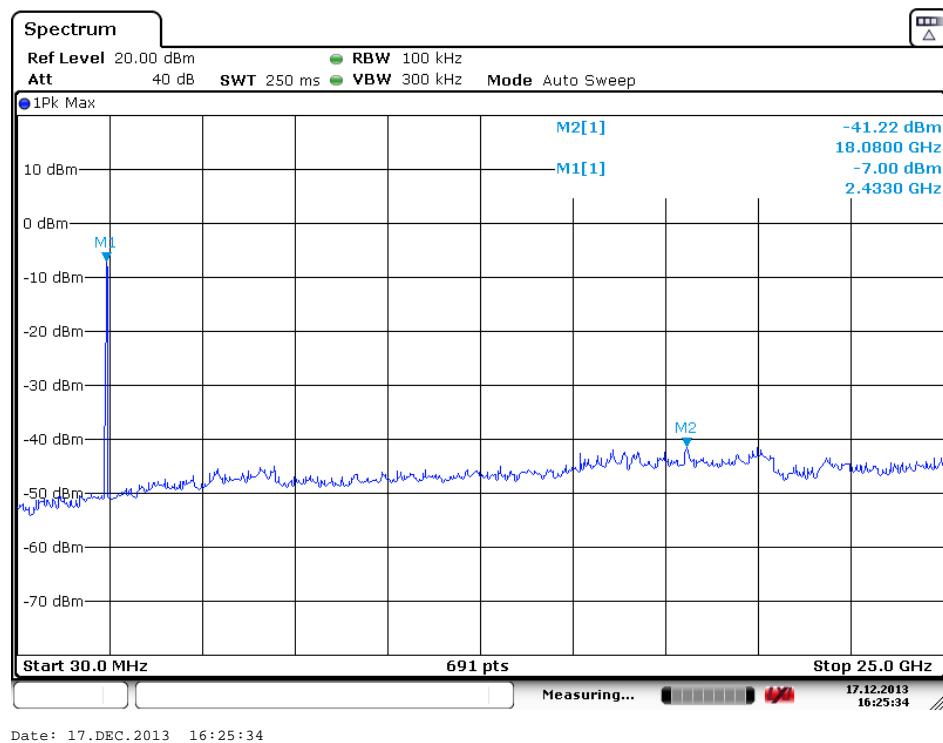
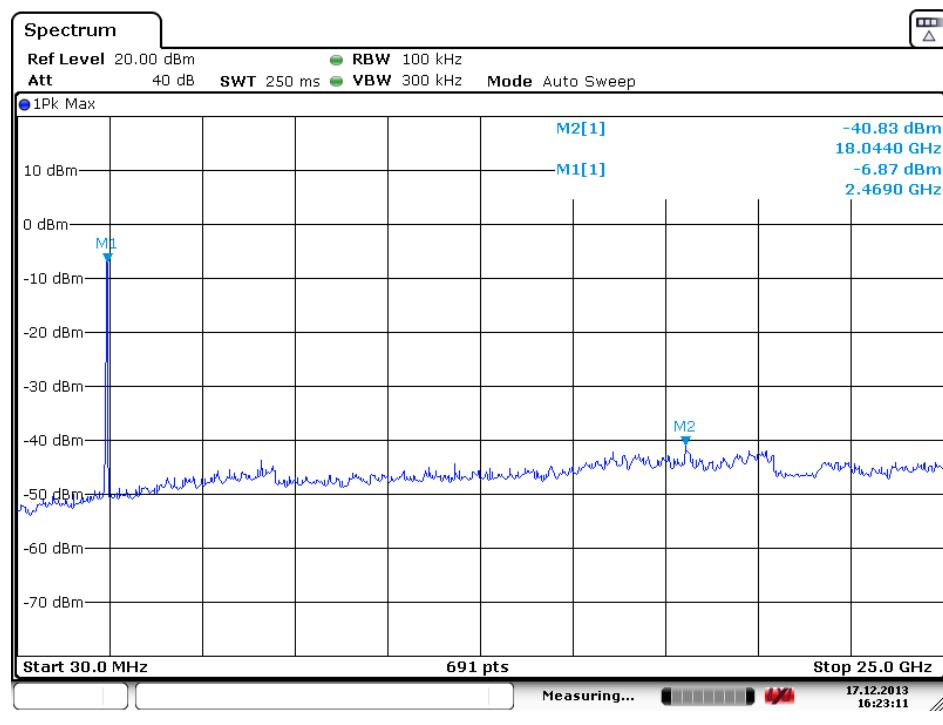
TX 802.11g Channel Low 2412MHz



TX 802.11g Channel Middle 2437MHz**TX 802.11g Channel High 2462MHz**

TX 802.11n Channel Low 2412MHz (20MHz)**TX 802.11n Channel Middle 2437MHz (20MHz)**

TX 802.11n Channel High 2462MHz (20MHz)**TX 802.11n Channel Low 2422MHz (40MHz)**

TX 802.11n Channel Middle 2437MHz (40MHz)**TX 802.11n Channel High 2452MHz (40MHz)**

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 Ceramic antenna, which isn't displaced by other antenna. Therefore, the equipment complies with the antenna requirement of Section 15.203.



Antenna