FCC Radio Test Report

FCC ID: IFA-NU22

This report concerns (check one) : ■ **Original Grant** □ **Class I Change**

Issued Date	:	Jan. 09, 2009
Project No.	:	R0812006
Equipment	:	Wireless 11n USB Adapter
Model Name	:	NU22; NU22/Y
Applicant	:	Aceex Corporation
Address	:	2F, No 2, Alley 1, Sze-Wei Lane, (ABC Fareast Industrial Park) Chung-cheng Rd., Hsintien, Taipei 23138, Taiwan, R.O.C.

Tested by:
Neutron Engineering Inc. EMC Laboratory
Date of Test:
Dec. 19, 2008 ~ Jan. 07, 2009

Testing Engineer : Rush Kao
(Rush Kao)

Technical Manager : Jeff Yang
(Jeff Yang)

Authorized Signatory : Andy Chiu
(Andy Chiu)

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NVLAP Lab Code: 200145-0 ilac-MRA TAF Testing Laboratory 0659

Declaration

Neutron represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with the standards traceable to National Measurement Laboratory (**NML**) of **R.O.C**., or National Institute of Standards and Technology (**NIST**) of **U.S.A.**

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Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

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1. CERTIFICATION

Equipment : Wireless 11n USB Adapter
Brand Name : ACEEX
Model Name : NU22; NU22/Y
Applicant : Aceex Corporation
Date of Test : Dec. 19, 2008 ~ Jan. 07, 2009
Standards : FCC Part15, Subpart C / ANCI C63.4 : 2003

The above equipment has been tested and found compliance with the requirement of the relative standards by Neutron Engineering Inc. EMC Laboratory.
The test data, data evaluation, and equipment configuration contained in our test report (Ref No. NEI-FCCP-1-R0812006) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of NVLAP and TAF according to the ISO-17025 quality assessment standard and technical standard(s).

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15, Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.247 (c)	Antenna conducted Spurious Emission	PASS	
15.247 (a)(2)	6dB Bandwidth	PASS	
15.247 (b)	Peak Output Power	PASS	
15.247 (c)	Radiated Spurious Emission	PASS	
15.247 (d)	Power Spectral Density	PASS	
15.203	Antenna Requirement	PASS	
1.1307 1.1310 2.1091 2.1093	RF Exposure Compliance	PASS	

NOTE:

(1)" N/A" denotes test is not applicable in this Test Report

(2)This test report covers EUT radio function only. Its receive function testing is covered in another DOC test report: NEI-FCCE-1-R0812006.

2.1 TEST FACILITY

The test facilities used to collect the test data in this report is **C01/OS02 (FCC Test Firm Number: 95335)** at the location of No.132-1, Lane 329, Sec. 2, Palian Road, Shijr City, Taipei, Taiwan.

2.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement **y** ± **U**，where expended uncertainty **U** is based on a standard uncertainty multiplied by a coverage factor of **k=2**，providing a level of confidence of approximately **95** %。

A. Conducted Measurement :

Test Site	Method	Measurement Frequency Range	U，(dB)	NOTE
C01	ANSI	150 KHz ~ 30MHz	1.94	

B. Radiated Measurement :

Test Site	Method	Measurement Frequency Range	Ant. H / V	U，(dB)	NOTE
OS-01	ANSI	30MHz ~ 200MHz	V	3.82	
		30MHz ~ 200MHz	H	3.60	
		200MHz ~ 1,000MHz	V	3.86	
		200MHz ~ 1,000MHz	H	3.94	
OS-02	ANSI	30MHz ~ 200MHz	V	2.48	
		30MHz ~ 200MHz	H	2.16	
		200MHz ~ 1,000MHz	V	2.50	
		200MHz ~ 1,000MHz	H	2.66	

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	Wireless 11n USB Adapter
Brand Name	ACEEX
Model Name	NU22; NU22/Y
OEM Brand/Model Name	NET ZEN / NW-U300
Model Difference	Model NU22/Y and NW-U300 are identical to model NU22 except the model designation.
Product Description	The EUT is a Wireless 11n USB Adapter. Operation Frequency: 2412~2462 MHz Modulation Type: 802.11b:CCK, DQPSK, DBPSK 802.11g:OFDM 802.11n:OFDM Bit Rate of Transmitter: 802.11b: 11/5.5/2/1 Mbps 802.11g: 54/48/36/24/18/12/9/6 Mbps 802.11n(20MHz): 150+ Mbps 802.11n(40MHz): 150+ Mbps Number Of Channel: 11CH .Please see Note 2. Antenna Designation: Please see Note 4. Antenna Gain(Peak): Please see Note 4. EIRP Power(Max): 802.11b:15.34 dBm (Max.) 802.11g:20.61 dBm (Max.) 802.11n(20MHz):21.97 dBm (Max.) 802.11n(40MHz):22.96 dBm (Max.) Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.
Channel List	Please refer to the Note 3.
Power Source	Supplied from PC USB port.
Power Rating	DC I/P 5V 500mA
Connecting I/O Port(s)	Please refer to the User's Manual

Note:

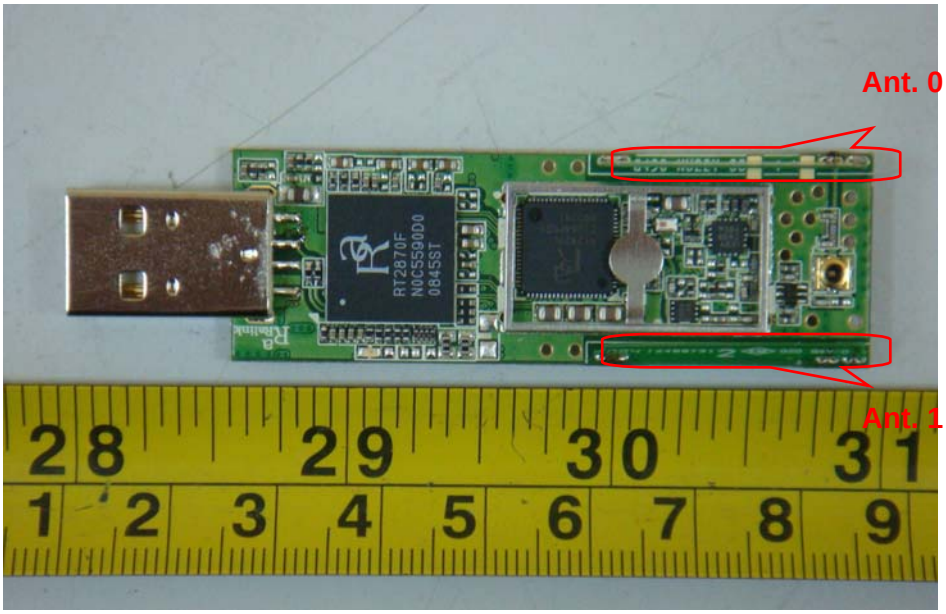
1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

2. CH 01 – CH 11 for 802.11b, 802.11g, 802.11n(20MHz)
   CH 03 – CH 09 for 802.11n(40MHz)

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

3. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	N/A	N/A	Printed Antenna	N/A	3.29
2	N/A	N/A	Printed Antenna	N/A	3.29



4 The EUT incorporates MIMO function. Physically, the EUT provides two completed transmitters and two receivers (2T2R)

Modulated type	TX Function
802.11b	1TX
802.11g	1TX
Draft 802.11n(20MHz)	2TX
Draft 802.11n(40MHz)	2TX

3.2 DESCRIPTION OF TEST MODES

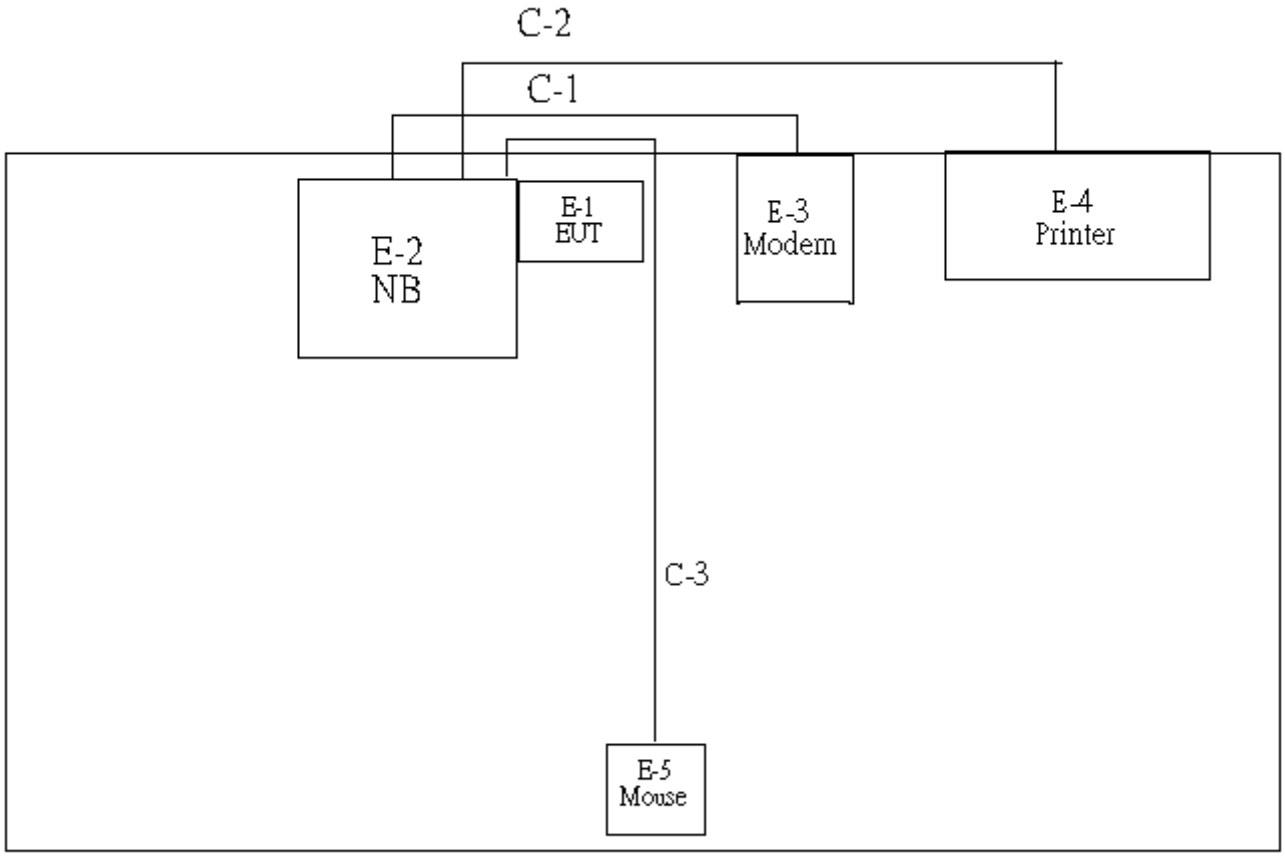
To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Test Mode	Description
Mode 1	802.11b/CH01, CH06, CH11
Mode 2	802.11g/CH01, CH06, CH11
Mode 3	802.11n/20M/CH01, CH06, CH11 (Ant. 0 / Ant. 1)
Mode 4	802.11n/40M/CH03, CH6, CH9 (Ant. 0 / Ant. 1)

For Conducted Test	
Final Test Mode	Description
Mode 1	802.11b/CH06

For Radiated Test	
Final Test Mode	Description
Mode 1	802.11b/CH01, CH06, CH11
Mode 2	802.11g/CH01, CH06, CH11
Mode 3	802.11n/20M/CH01, CH06, CH11 (Ant. 0 + Ant. 1)
Mode 4	802.11n/40M/CH03, CH6, CH9 (Ant. 0 + Ant. 1)

3.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



3.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.	Note
E-1	Wireless 11n USB Adapter	ACEEX	NU22	IFA-NU22	N/A	EUT
E-2	Notebook PC	DELL	D600	DOC	7T390 A03	
E-3	Modem	ACEEX	DM-1414V	DOC	8041708	
E-4	Printer	HP	C9025A	DOC	TH4B013021	
E-5	USB Mouse	IBM	MO28UO	DOC	23-271883	

Item	Shielded Type	Ferrite Core	Length	Note
C-1	No	No	180CM	
C-2	No	No	170CM	
C-3	No	No	170CM	

Note:

(1) The support equipment was authorized by Declaration of Confirmation.
(2) For detachable type I/O cable should be specified the length in cm in『Length』column.

4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 POWER LINE CONDUCTED EMISSION (Frequency Range 150KHz-30MHz)

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *
0.50 -5.0	73.00	60.00	56.00	46.00
5.0 -30.0	73.00	60.00	60.00	50.00

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

4.1.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Test Cable	N/A	SR03_C_01 &02	N/A	Oct. 19, 2009
2	LISN (SR03)	EMCO	3816/2	00042991	Jan. 29, 2009
3	Pulse Limiter	Electro-Metrics	EM-7600	112647	Dec. 15, 2009
4	50Ω Terminator	N/A	N/A	N/A	May 13, 2009
5	EMI Test Receiver	R&S	ESCI	100082	Mar. 23, 2009
6	LISN	EMCO	4825/2	00028234	Jul. 09, 2009

Remark: ” N/A” denotes No Model Name , Serial No. or No Calibration specified.

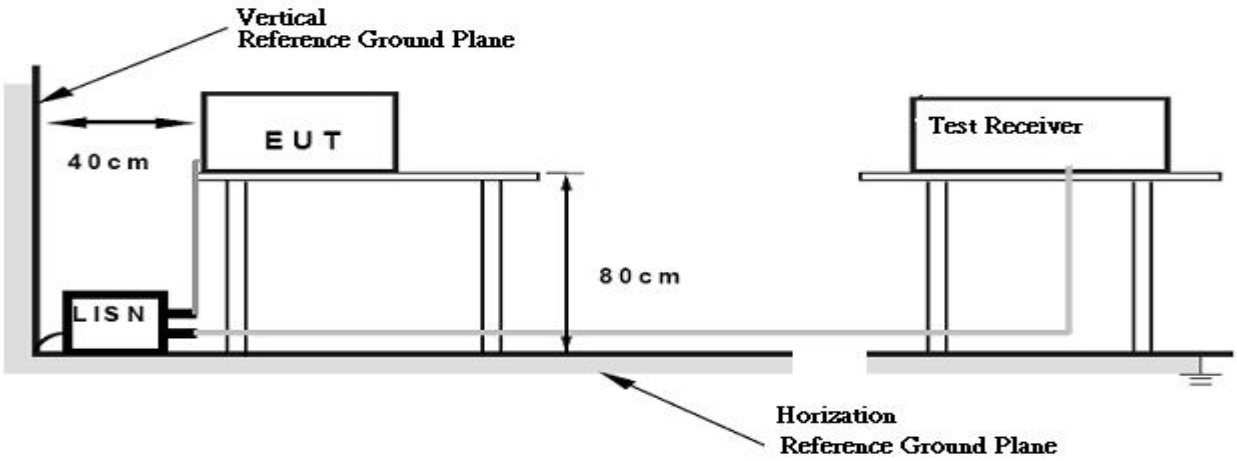
4.1.3 TEST PROCEDURE

a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
d. LISN at least 80 cm from nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



4.1.6 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

4.1.7 TEST RESULTS

EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	26°C	Relative Humidity：	55%
Test Voltage：	AC 120V/60Hz		
Test Mode ：	802.11b/CH06		

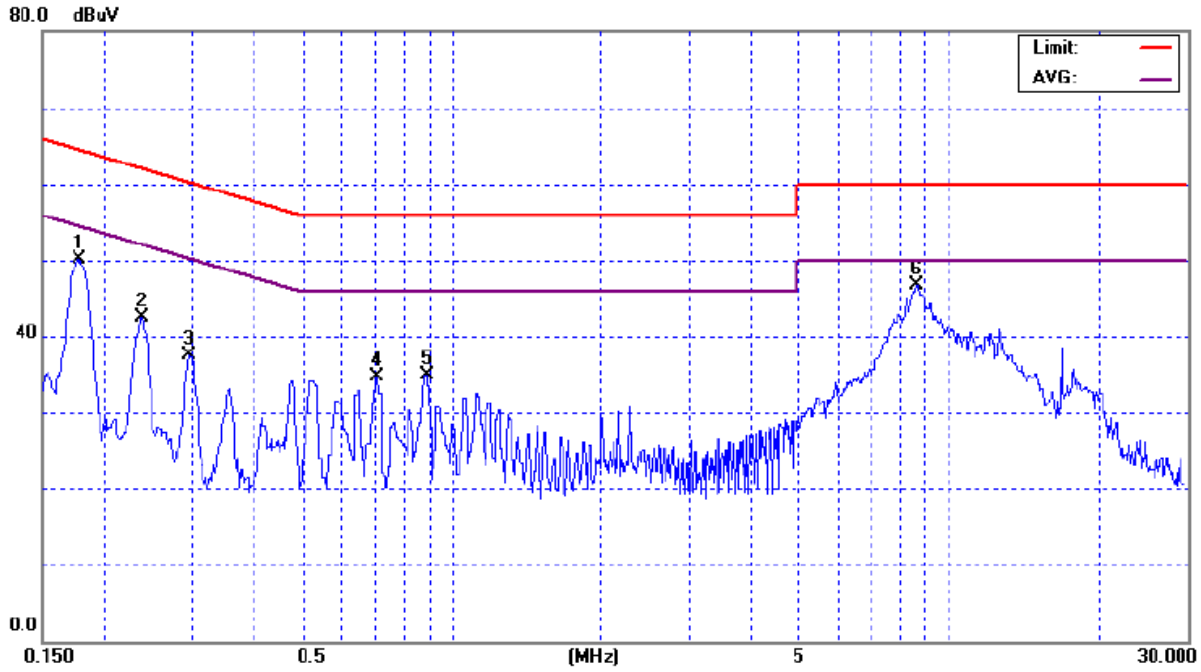
Freq. (MHz)	Terminal L/N	Measured(dBuV)		Limits(dBuV)		Margin (dB)	Note
		QP-Mode	AV-Mode	QP-Mode	AV-Mode		
0.18	Line	50.05	*	64.61	54.61	-14.56	(QP)
0.24	Line	42.44	*	62.21	52.21	-19.77	(QP)
0.30	Line	37.59	*	60.33	50.33	-22.74	(QP)
0.71	Line	34.61	*	56.00	46.00	-21.39	(QP)
0.89	Line	34.97	*	56.00	46.00	-21.03	(QP)
8.60	Line	46.67	*	60.00	50.00	-13.33	(QP)

Remark

(1) Reading in which marked as QP means measurements by using are Quasi-Peak Mode with Detector BW=9KHz；SPA setting in RBW=10KHz,VBW =10KHz, Swp. Time = 0.3 sec./MHz。Reading in which marked as AV means measurements by using are Average Mode with instrument setting in RBW=1MHz,VBW=10Hz, Swp. Time =0.3 sec./MHz。

(2) All readings are QP Mode value unless otherwise stated AVG in column of『Note』. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform。In this case, a " * " marked in AVG Mode column of Interference Voltage Measured。

(3) Measuring frequency range from 150KHz to 30MHz。



EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	26°C	Relative Humidity：	55%
Test Voltage：	AC 120V/60Hz		
Test Mode ：	802.11b/CH06		

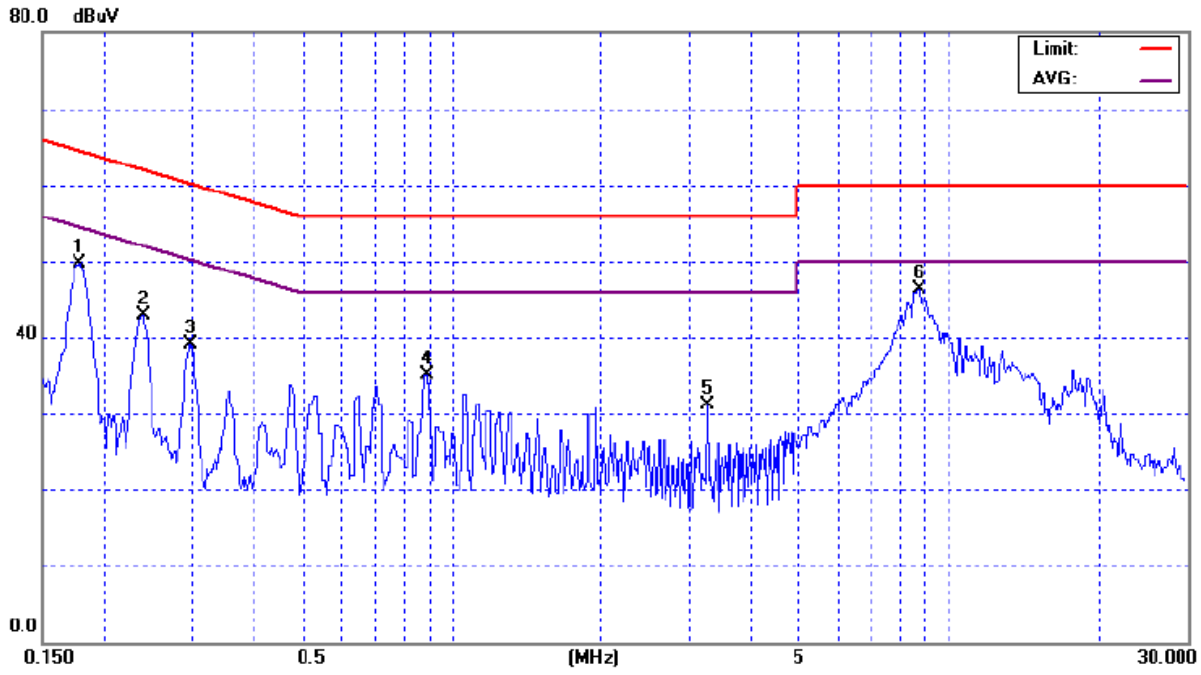
Freq. (MHz)	Terminal L/N	Measured(dBuV)		Limits(dBuV)		Margin (dB)	Note
		QP-Mode	AV-Mode	QP-Mode	AV-Mode		
0.18	Neutral	49.69	*	64.55	54.55	-14.86	(QP)
0.24	Neutral	42.96	*	62.16	52.16	-19.20	(QP)
0.30	Neutral	39.03	*	60.31	50.31	-21.28	(QP)
0.89	Neutral	35.19	*	56.00	46.00	-20.81	(QP)
3.27	Neutral	31.14	*	56.00	46.00	-24.86	(QP)
8.70	Neutral	46.37	*	60.00	50.00	-13.63	(QP)

Remark

(1) Reading in which marked as QP means measurements by using are Quasi-Peak Mode with Detector BW=9KHz；SPA setting in RBW=10KHz,VBW =10KHz, Swp. Time = 0.3 sec./MHz。Reading in which marked as AV means measurements by using are Average Mode with instrument setting in RBW=1MHz,VBW=10Hz, Swp. Time =0.3 sec./MHz。

(2) All readings are QP Mode value unless otherwise stated AVG in column of『Note』. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform。In this case, a " * " marked in AVG Mode column of Interference Voltage Measured。

(3) Measuring frequency range from 150KHz to 30MHz。



4.2 RADIATED EMISSION MEASUREMENT

4.2.1 RADIATED EMISSION LIMITS (Frequency Range 9kHz-1000MHz)

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	Class A (dBuV/m) (at 3m)		Class B (dBuV/m) (at 3m)	
	PEAK	AVERAGE	PEAK	AVERAGE
Above 1000	80	60	74	54

Notes:

(1) The limit for radiated test was performed according to FCC PART 15B.

(2) The tighter limit applies at the band edges.

(3) Emission level (dBuV/m)=20log Emission level (uV/m).

4.2.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Log-Bicon Antenna	Schwarzbeck	VULB 9160	3176	Jul. 24, 2009
2	Test Cable	N/A	10M_OS01	N/A	Oct. 20, 2009
3	Test Cable	N/A	3M_OS01	N/A	Oct. 08, 2009
4	Test Cable	N/A	OS01-1/-2	N/A	Oct. 08, 2009
5	Pre-Amplifier	Anritsu	MH648A(OS 01)	M09961	Oct. 08, 2009
6	Positioning Controller (OS01)	MF	MF7802	N/A	N/A
7	Turn Table	Chance Most	CMTB-1.5	N/A	N/A
8	Spectrum Analyzer	HP	8591EM	3536A006810 10	Mar. 13, 2009
9	EMI Measuring Receiver	SHCAFFNER	SCR 3501	408	Nov.24.2009
10	Spectrum Analyzer	R&S	FSP-30	100854	Apr. 14, 2009
11	Horn Antenna	Schwarzbeck	BBHA 9120 D	9120D-546	May 27, 2009
12	Microwave Pre_amplifier	Agilent	8449B	3008A02331	Jan. 15, 2009
13	Microflex Cable	NA	NA	1m	Sep. 15, 2009
14	Microflex Cable	NA	NA	10M	Feb. 20, 2009

Remark: ” N/A” denotes No Model Name / Serial No. and No Calibration specified.

4.2.3 TEST PROCEDURE

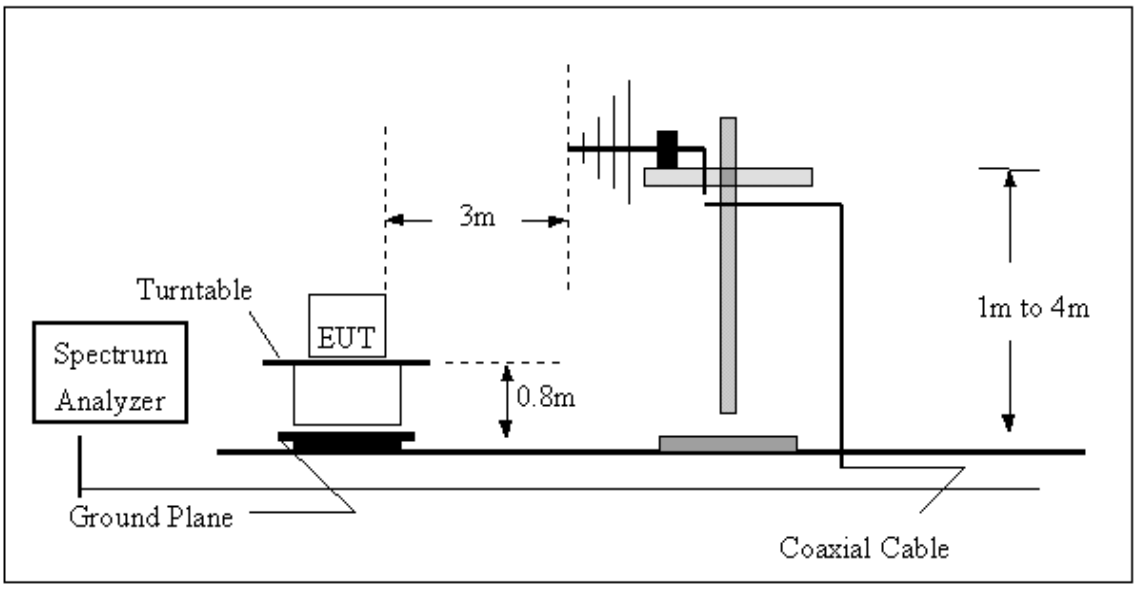
a. The measuring distance of at 10 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3m or 10 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.2.4 DEVIATION FROM TEST STANDARD

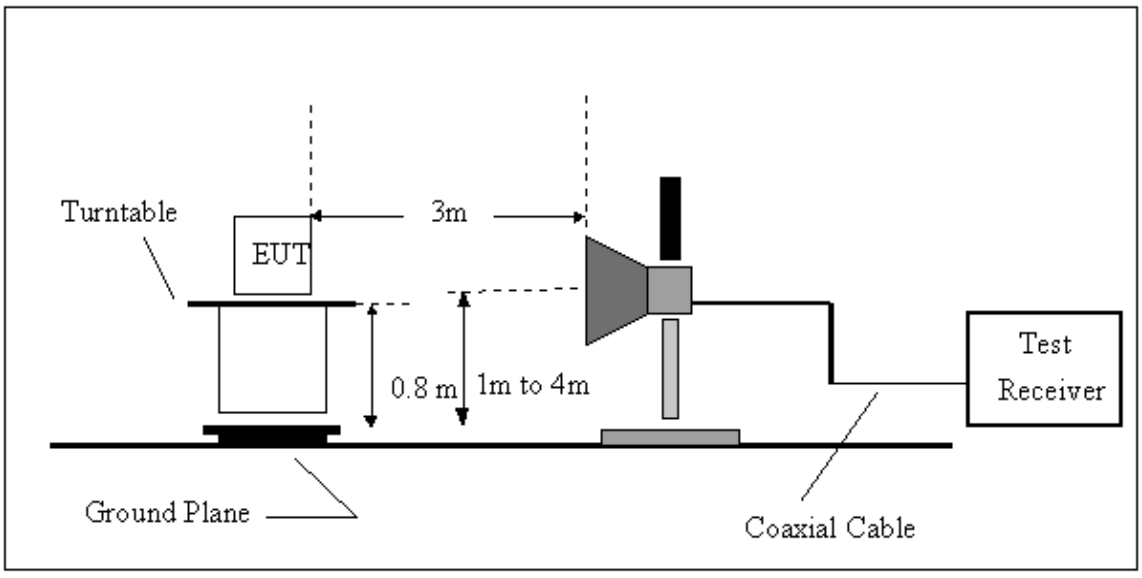
No deviation

4.2.5 TEST SETUP

(A) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(B) Radiated Emission Test Set-UP Frequency Over 1 GHz



4.2.6 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **4.1.6** Unless otherwise a special operating condition is specified in the follows during the testing.

4.2.7 TEST RESULTS-BETWEEN 30MHZ - 1000MHZ

EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17°C	Relative Humidity：	89%
Test Voltage：	AC 120V/60Hz		
Test Mode ：	802.11b/CH06		

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
133.68	V	27.69	-4.48	23.21	43.50	- 20.29	
215.13	V	36.05	-4.69	31.36	43.50	- 12.14	
366.18	V	36.31	0.98	37.29	46.00	- 8.71	
533.80	V	28.75	5.25	34.00	46.00	- 12.00	
750.80	V	25.27	9.89	35.16	46.00	- 10.84	
801.20	V	26.44	11.32	37.76	46.00	- 8.24	

Remark：

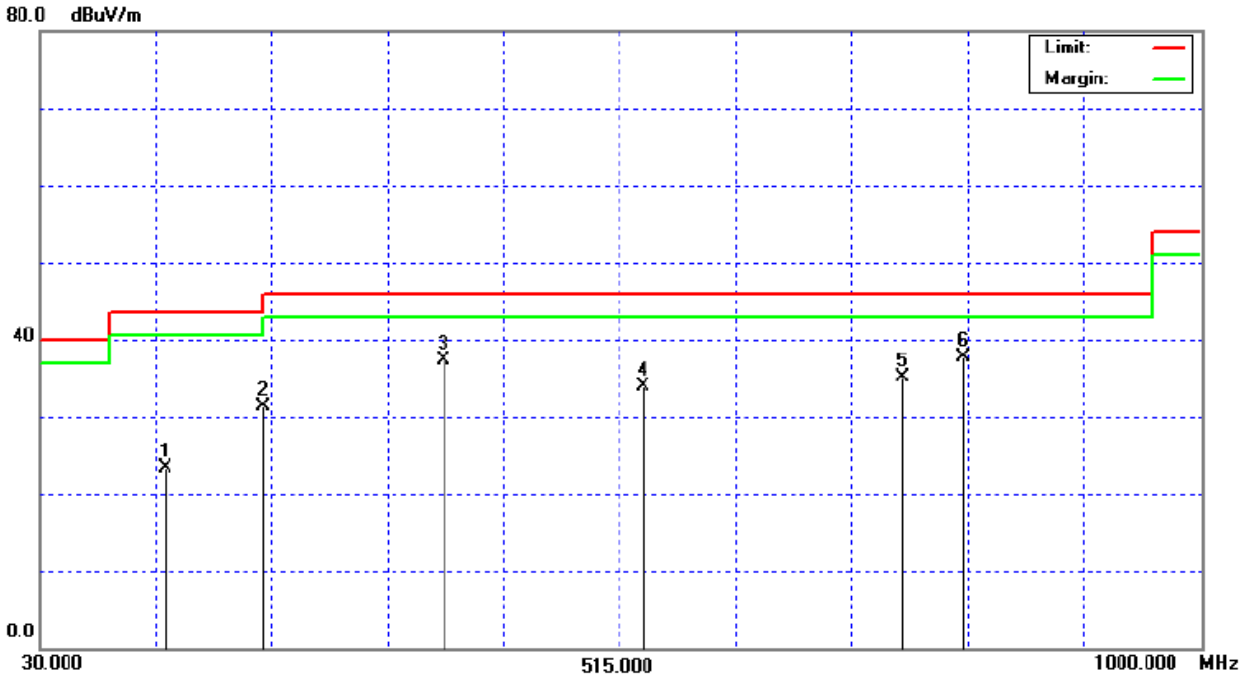
(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto

(2) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; " H" denotes spurious frequency. "E" denotes band edge frequency.

(4) Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Peak detector mode or QP detector mode of the emission 。

(5) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17°C	Relative Humidity：	89%
Test Voltage：	AC 120V/60Hz		
Test Mode ：	802.11b/CH06		

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
268.37	H	31.27	-3.03	28.24	46.00	- 17.76	
321.19	H	29.31	-0.84	28.47	46.00	- 17.53	
533.19	H	31.20	5.24	36.44	46.00	- 9.56	
679.40	H	29.97	8.37	38.34	46.00	- 7.66	
750.80	H	27.54	9.89	37.43	46.00	- 8.57	
801.20	H	27.71	11.32	39.03	46.00	- 6.97	

Remark：

(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto

(2) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; " H" denotes spurious frequency. "E" denotes band edge frequency.

(4) Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Peak detector mode or QP detector mode of the emission 。

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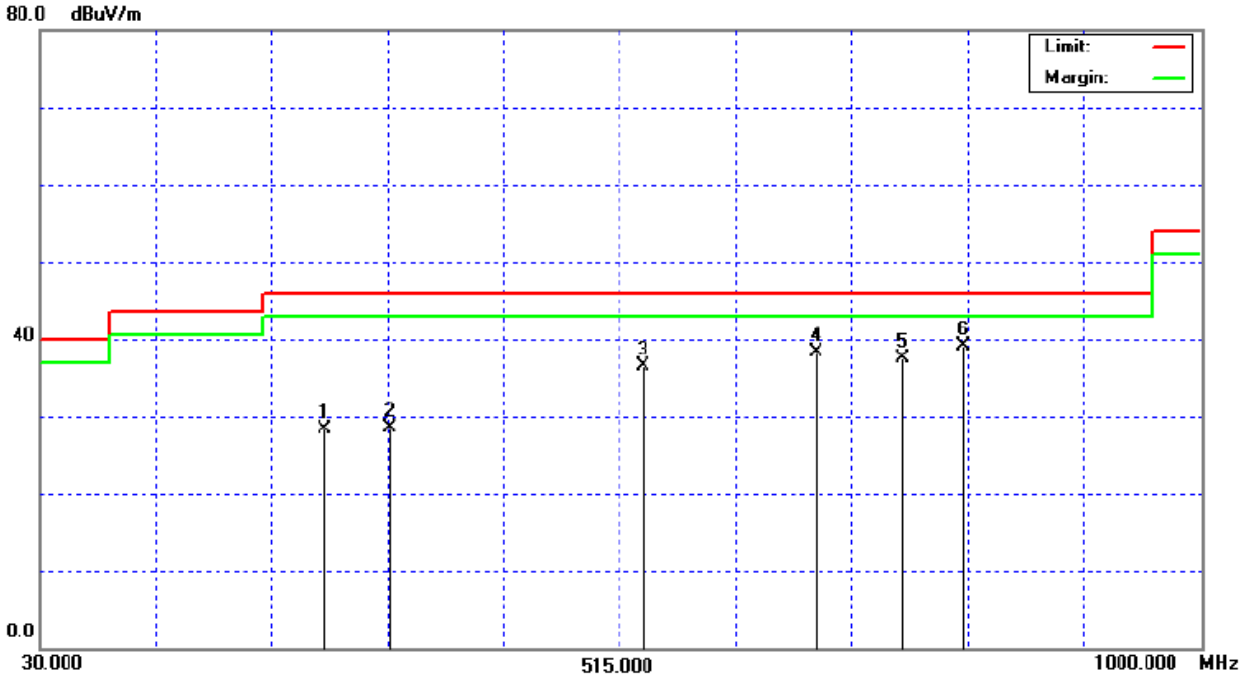


4.2.8 TEST RESULTS - ABOVE 1000MHZ

EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17°C	Relative Humidity：	89%
Test Voltage：	AC 120V/60Hz		
Test Mode ：	802.11b/CH01		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2390.00	V	22.98	13.47	32.57	55.55	46.04	74.00	54.00	X/H
2414.80	V	69.42	65.09	32.71	102.13	97.80			X/F
4824.02	V	52.77	49.65	4.05	56.82	53.70	74.00	54.00	X/H

Remark：

(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto

(2) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

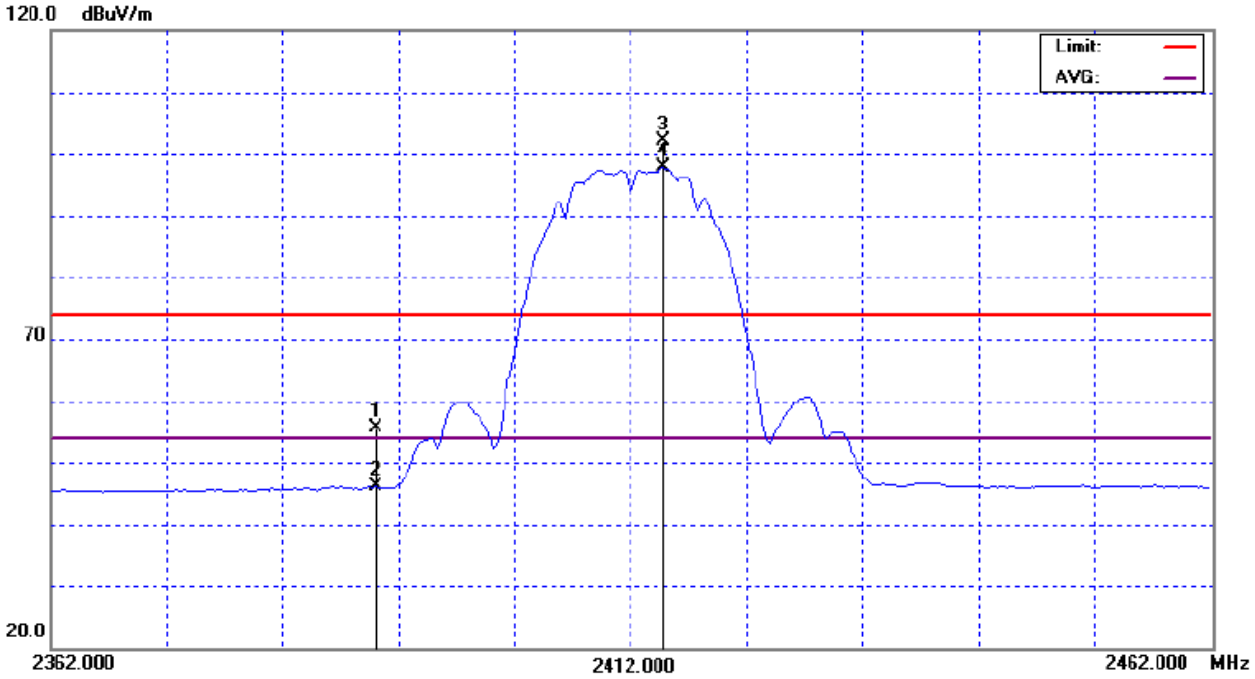
(5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

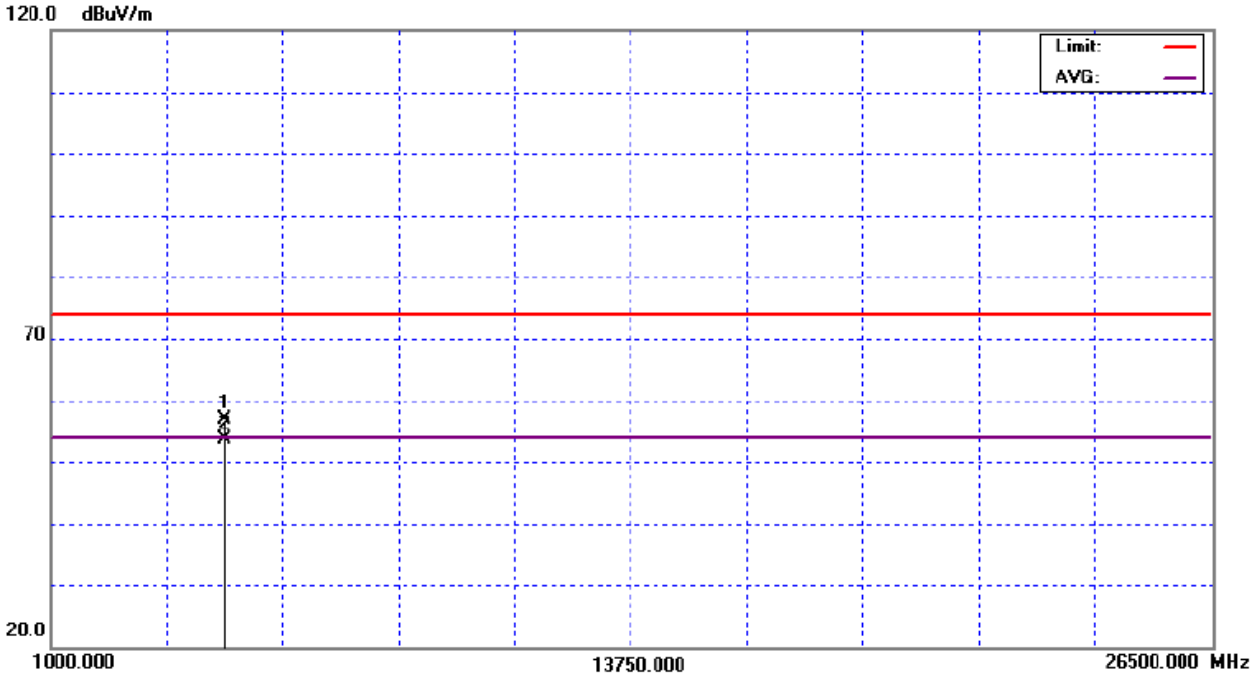
(6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(7) EUT Orthogonal Axes：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.

Orthogonal Axis：X
802.11b/CH01(Above 1000 MHz, Vertical)





EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17°C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode ：	802.11b/CH01		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2390.00	H	27.37	16.40	32.57	59.94	48.97	74.00	54.00	X/H
2414.80	H	74.83	72.09	32.71	107.54	104.80			X/F
4824.06	H	47.83	42.06	4.05	51.88	46.11	74.00	54.00	X/H

Remark：

(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto

(2) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

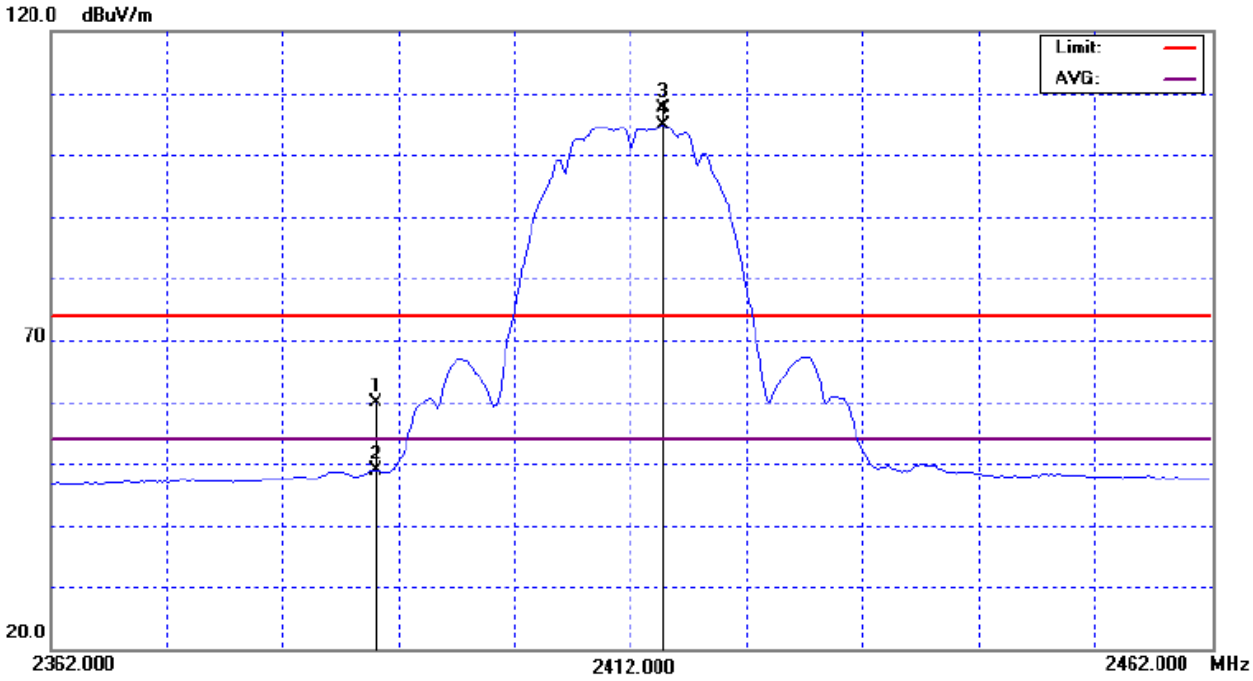
(5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

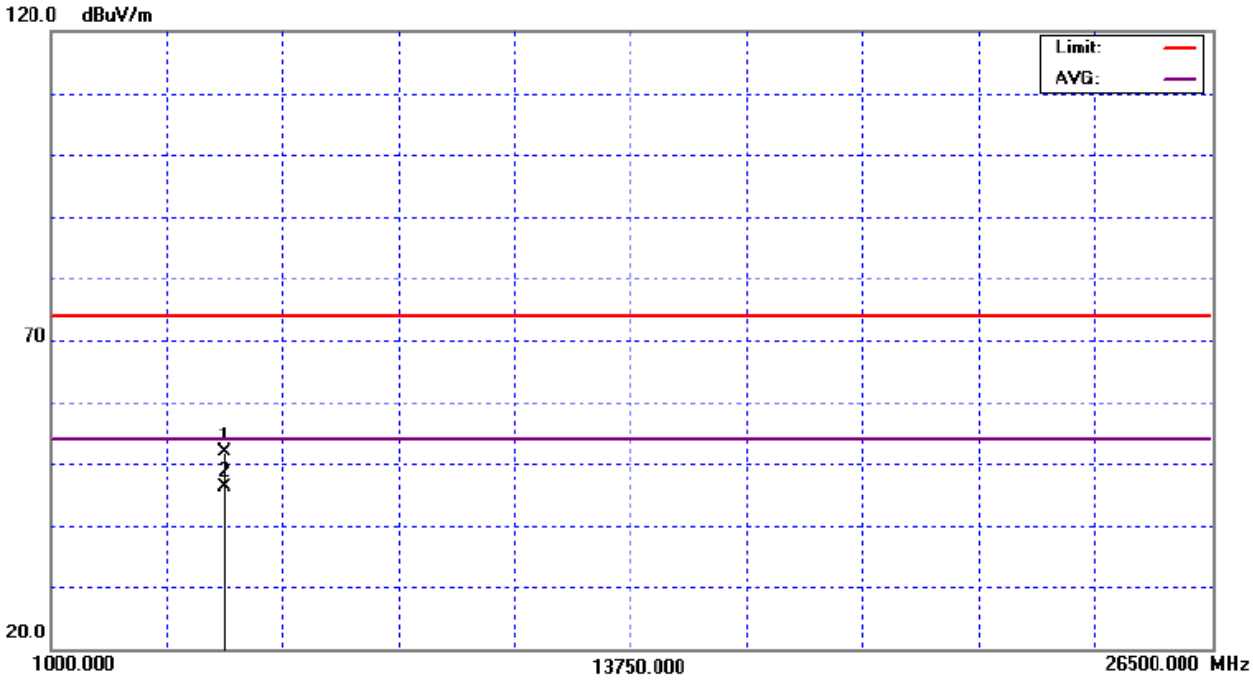
(6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(7) EUT Orthogonal Axes：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.

Orthogonal Axis：X
802.11b/CH01(Above 1000 MHz, Horizontal)





EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17°C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode ：	802.11b/CH06		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2439.80	V	68.51	65.63	32.85	101.36	98.48			X/F
4874.03	V	52.74	49.37	4.29	57.03	53.66	74.00	54.00	X/H

Remark：

(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto

(2) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

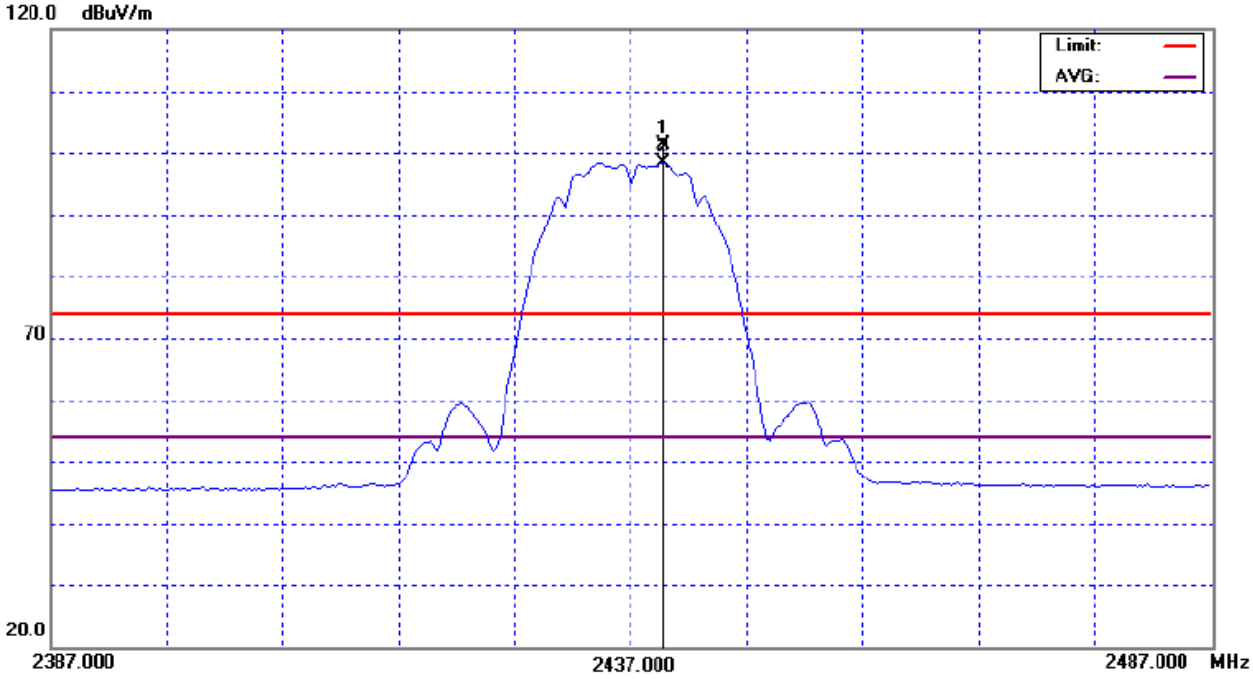
(5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

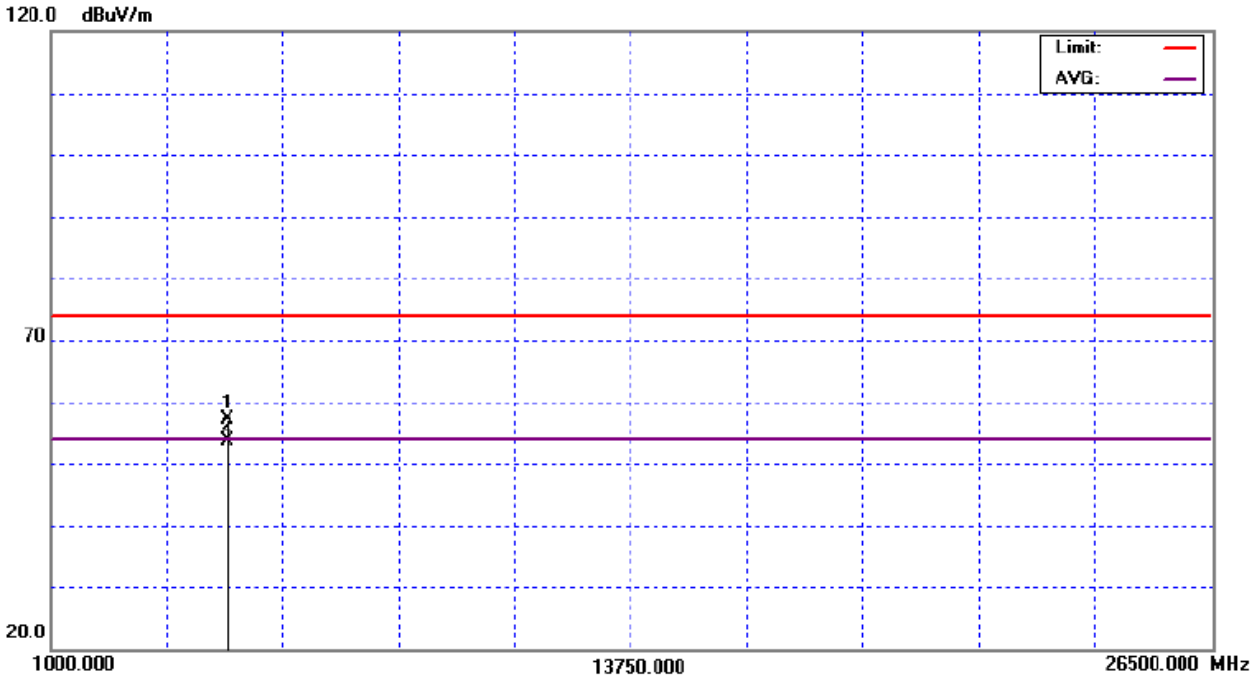
(6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(7) EUT Orthogonal Axes：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.

Orthogonal Axis：X
802.11b/CH06(Above 1000 MHz, Vertical)





EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17°C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode ：	802.11b/CH06		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2439.80	H	74.01	70.72	32.85	106.86	103.57			X/F
4874.08	H	46.27	39.36	4.29	50.56	43.65	74.00	54.00	X/H

Remark：

(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto

(2) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

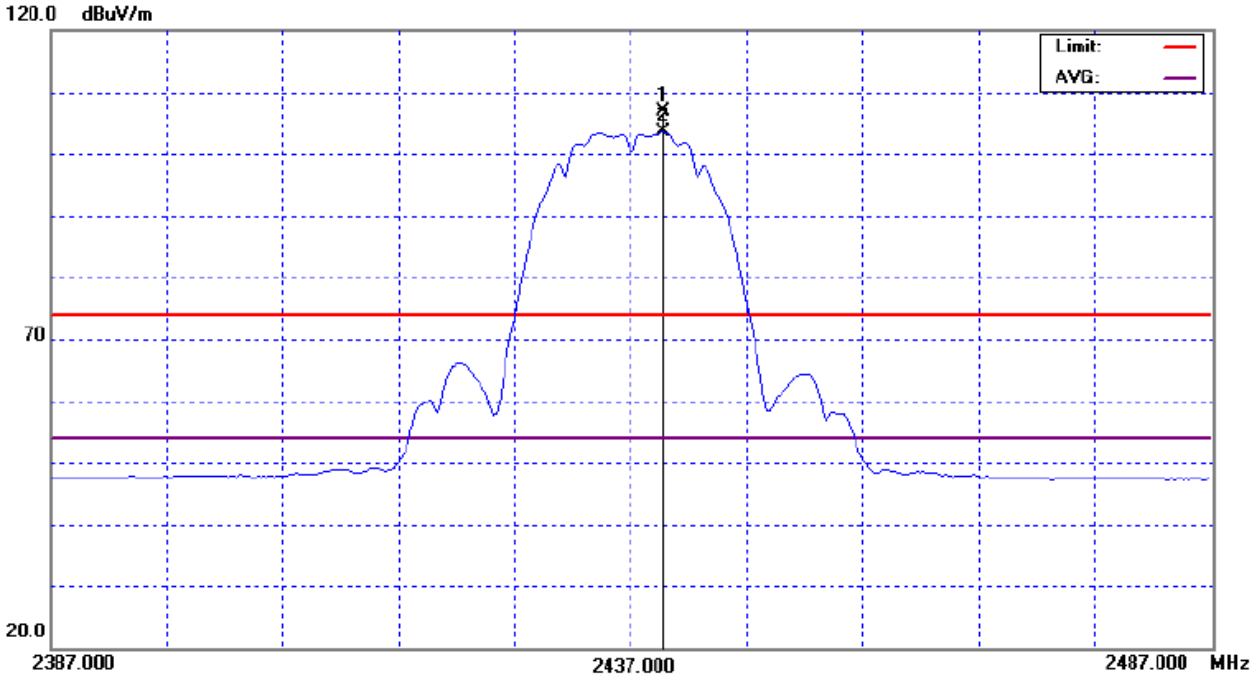
(5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

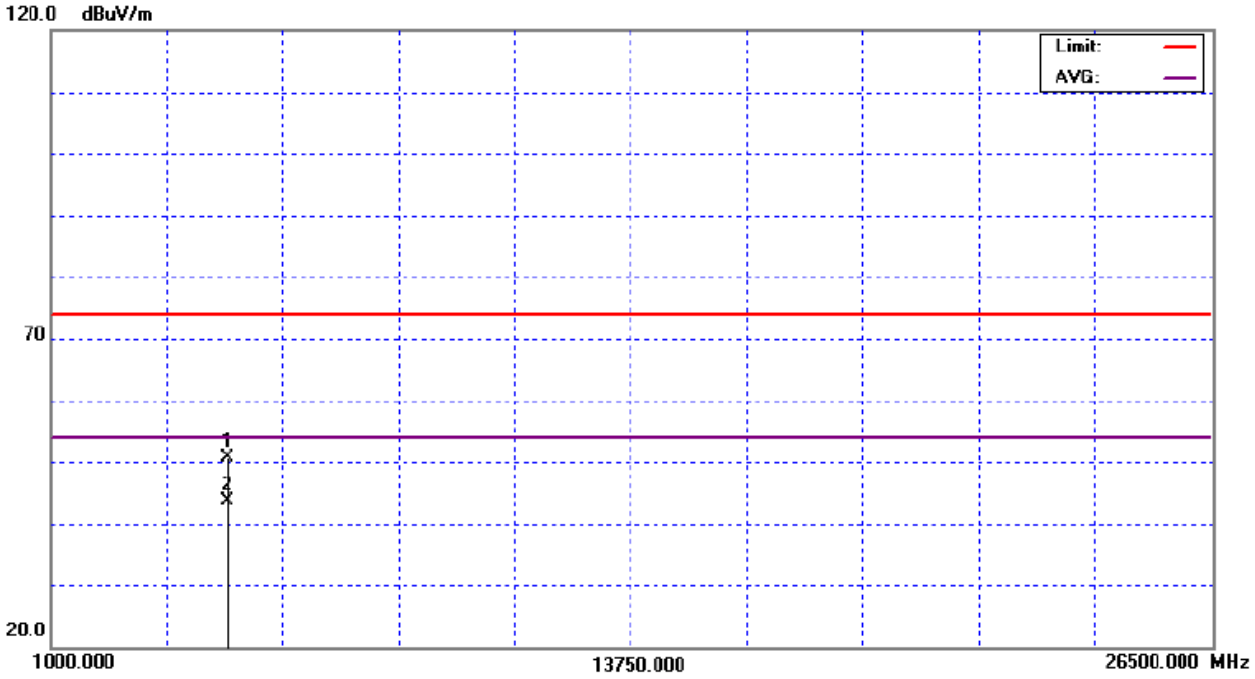
(6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(7) EUT Orthogonal Axes：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.

Orthogonal Axis：X
802.11b/CH06(Above 1000 MHz, Horizontal)





EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17°C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode ：	802.11b/CH11		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2464.80	V	68.41	65.41	32.99	101.40	98.40			X/F
2483.50	V	23.11	13.13	33.10	56.21	46.23	74.00	54.00	X/H
4924.04	V	51.75	48.71	4.54	56.29	53.25	74.00	54.00	X/H

Remark：

(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto

(2) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

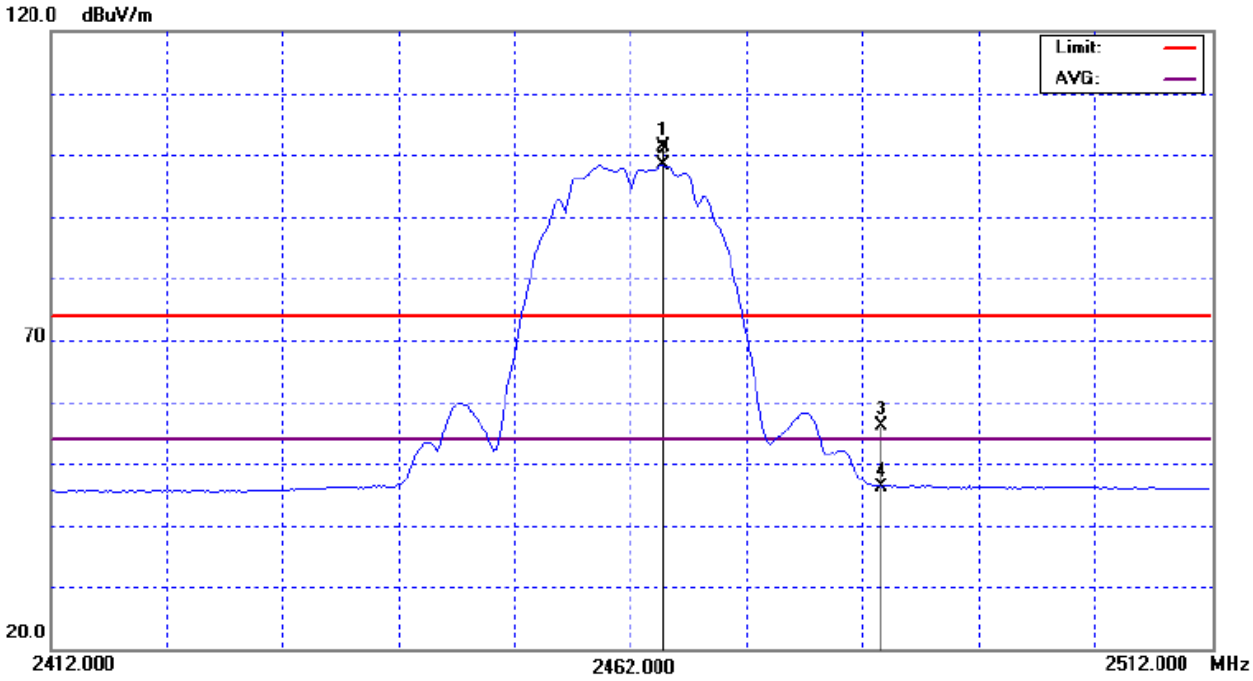
(5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

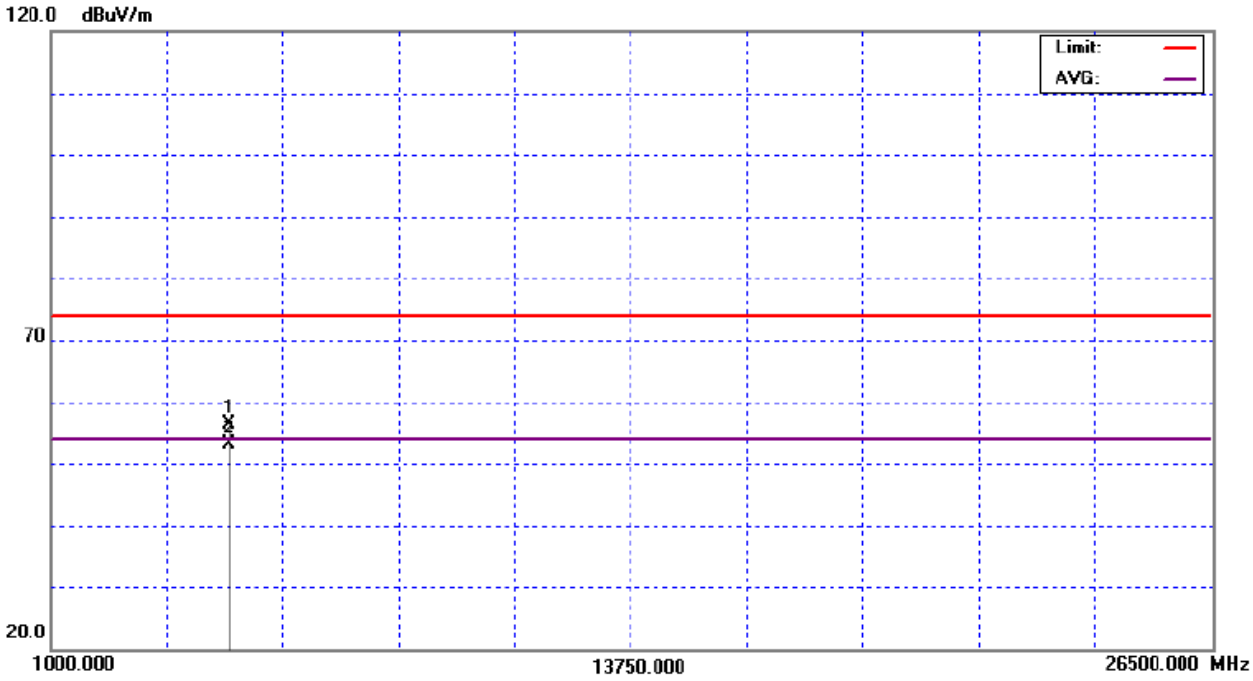
(6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(7) EUT Orthogonal Axes：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.

Orthogonal Axis：X
802.11b/CH11(Above 1000 MHz, Vertical)





EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17°C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode ：	802.11b/CH11		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2459.20	H	72.79	69.97	32.96	105.75	102.93			X/F
2483.50	H	25.75	15.06	33.10	58.85	48.16	74.00	54.00	X/H
4923.99	H	47.03	39.64	4.54	51.57	44.18	74.00	54.00	X/H

Remark：

(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto

(2) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

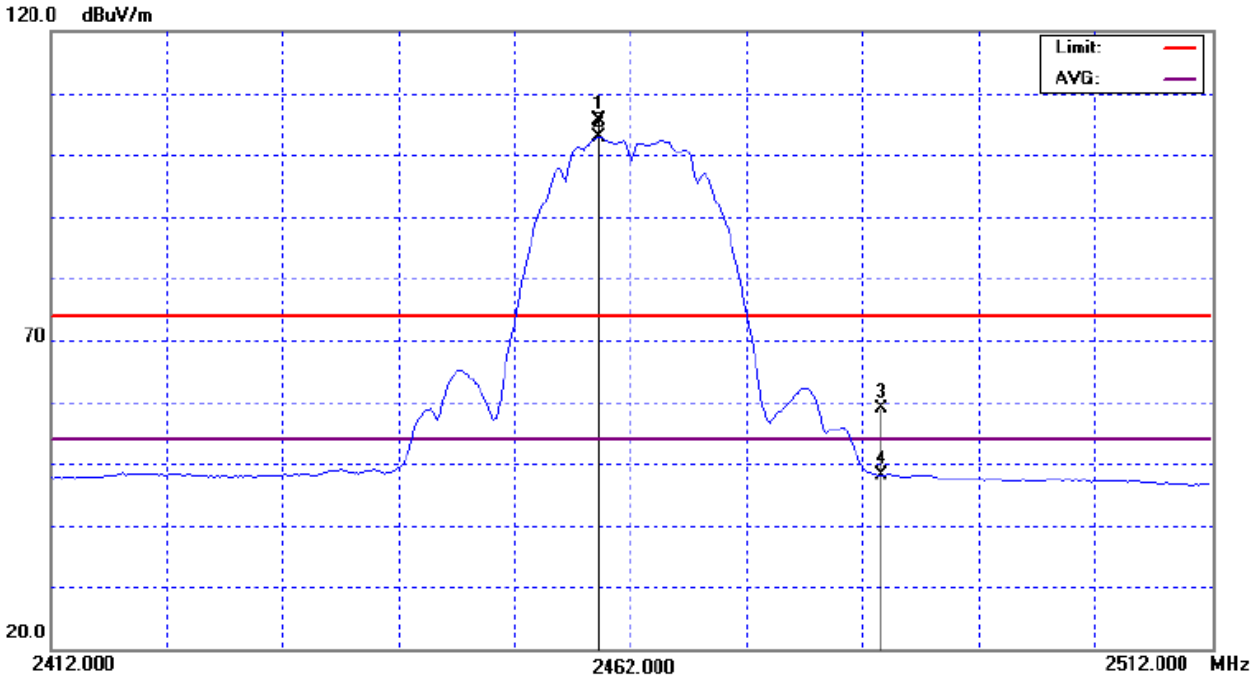
(5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

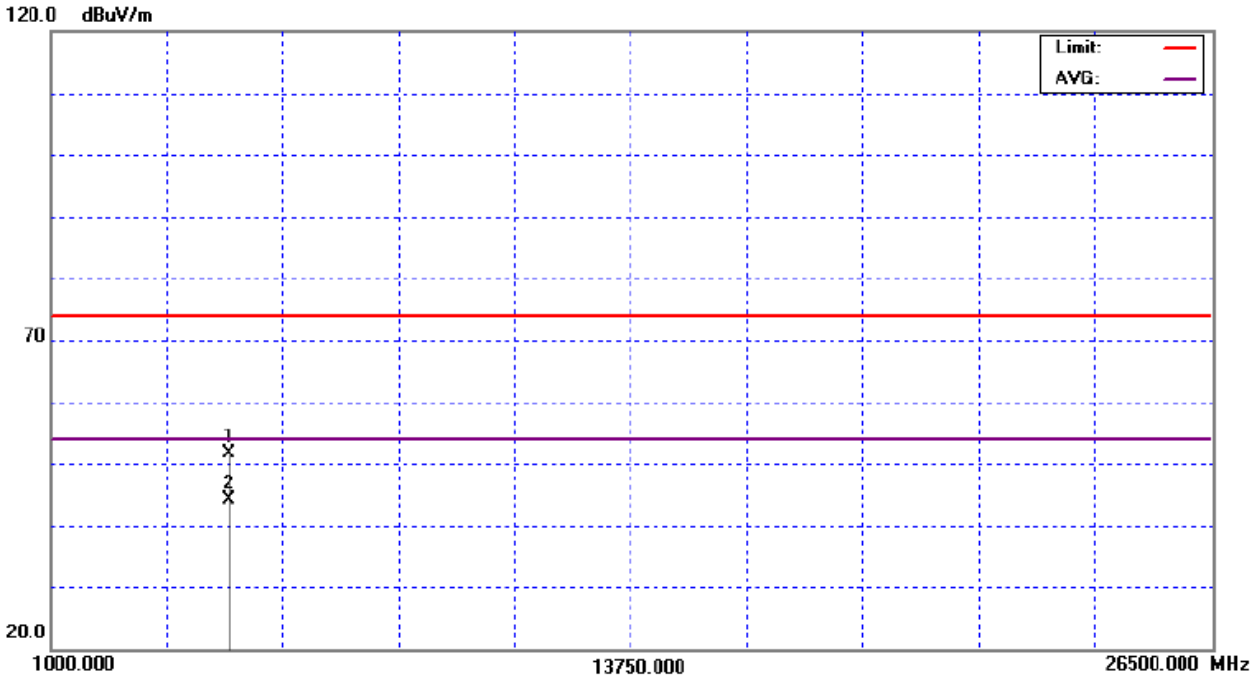
(6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(7) EUT Orthogonal Axes：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.

Orthogonal Axis：X
802.11b/CH11(Above 1000 MHz, Horizontal)





EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17°C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode ：	802.11g/CH01		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2390.00	V	31.65	17.05	32.57	64.22	49.62	74.00	54.00	X/H
2418.60	V	71.13	63.92	32.73	103.86	96.65			X/F
4824.20	V	51.13	38.84	4.05	55.18	42.89	74.00	54.00	X/H

Remark：

(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto

(2) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

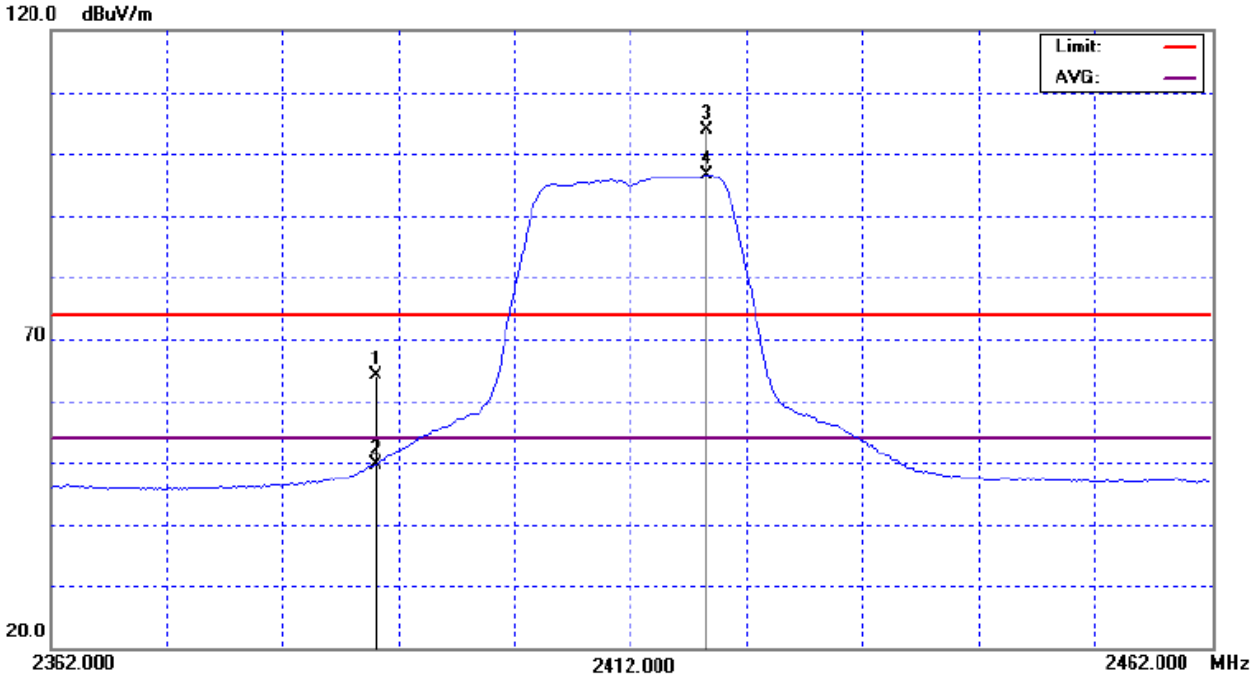
(5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

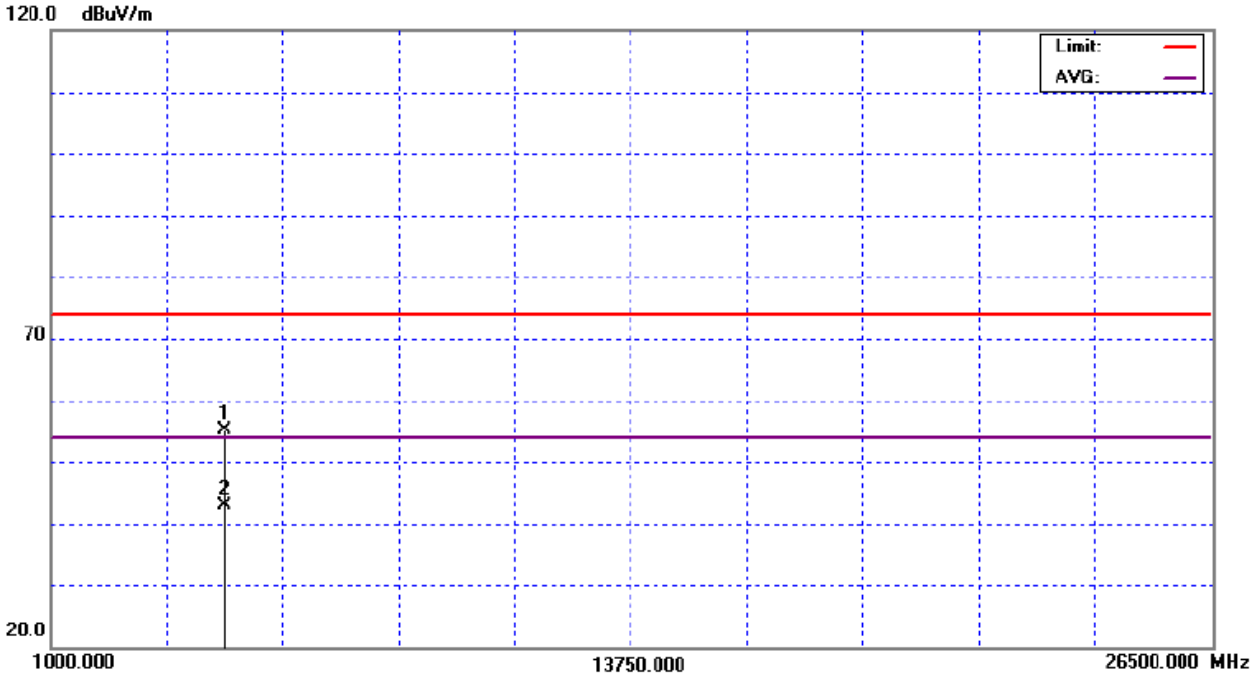
(6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(7) EUT Orthogonal Axes：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.

Orthogonal Axis：X
802.11g/CH01(Above 1000 MHz, Vertical)





EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17°C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode ：	802.11g/CH01		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2390.00	H	37.58	20.80	32.57	70.15	53.37	74.00	54.00	X/H
2418.60	H	76.12	67.24	32.73	108.85	99.97			X/F
4826.00	H	42.75	32.43	4.05	46.80	36.48	74.00	54.00	X/H

Remark：

(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto

(2) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

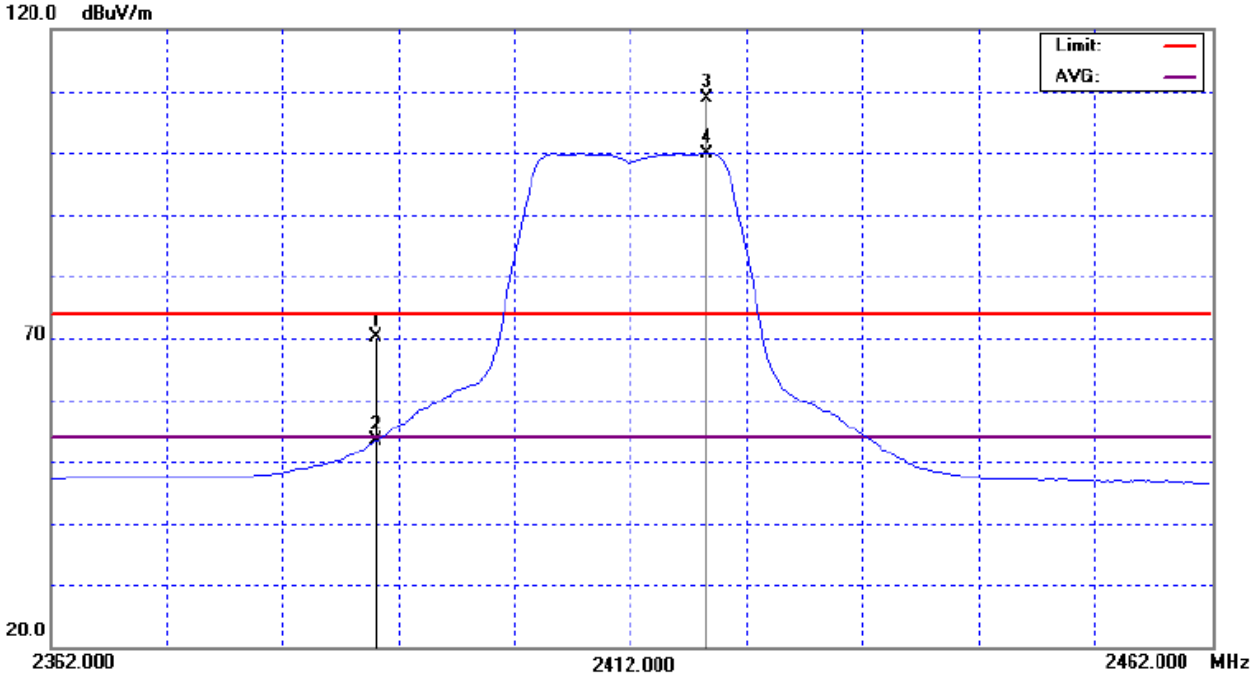
(5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

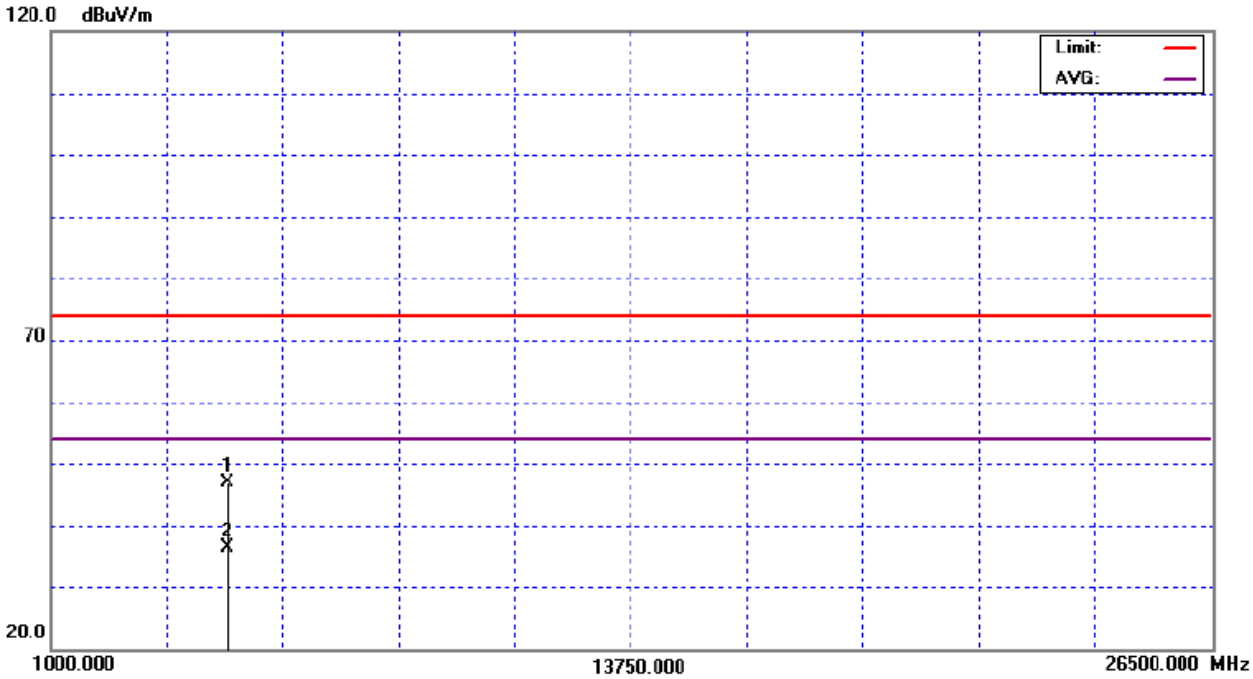
(6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(7) EUT Orthogonal Axes：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.

Orthogonal Axis：X
802.11g/CH01(Above 1000 MHz, Horizontal)





EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17°C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode ：	802.11g/CH06		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2433.60	V	76.94	69.03	32.82	109.76	101.85			X/F
4871.80	V	56.33	44.35	4.28	60.61	48.63	74.00	54.00	X/H

Remark：

(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto

(2) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

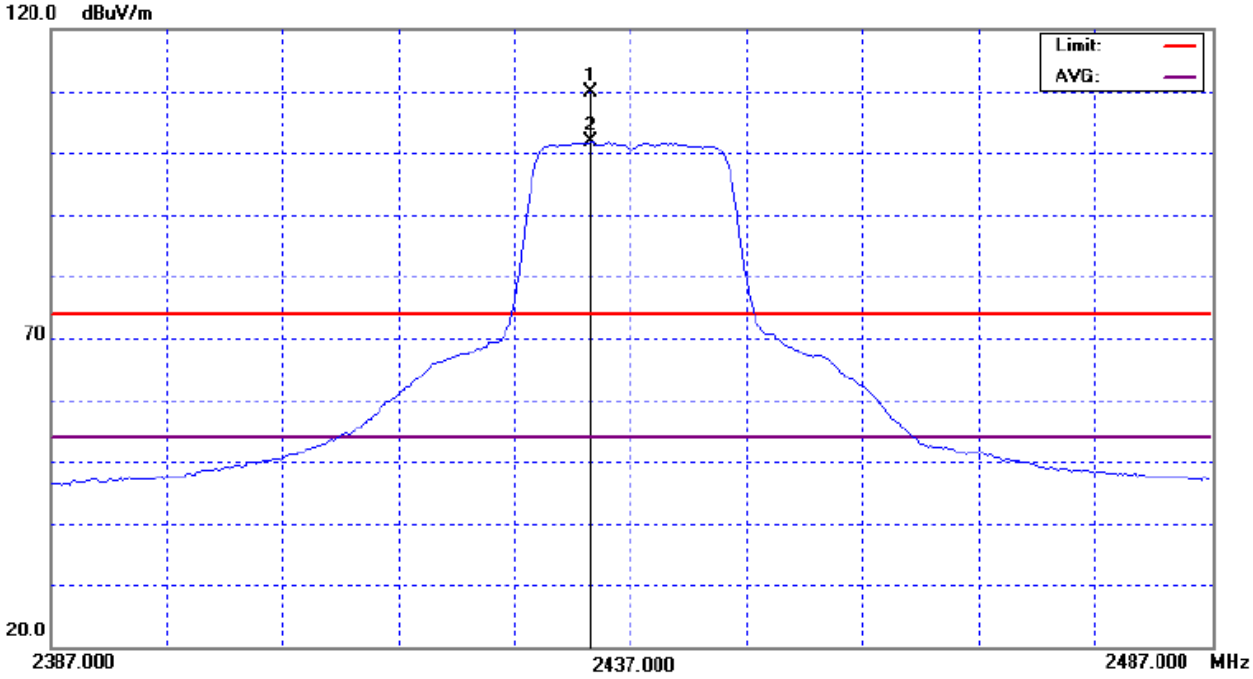
(5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

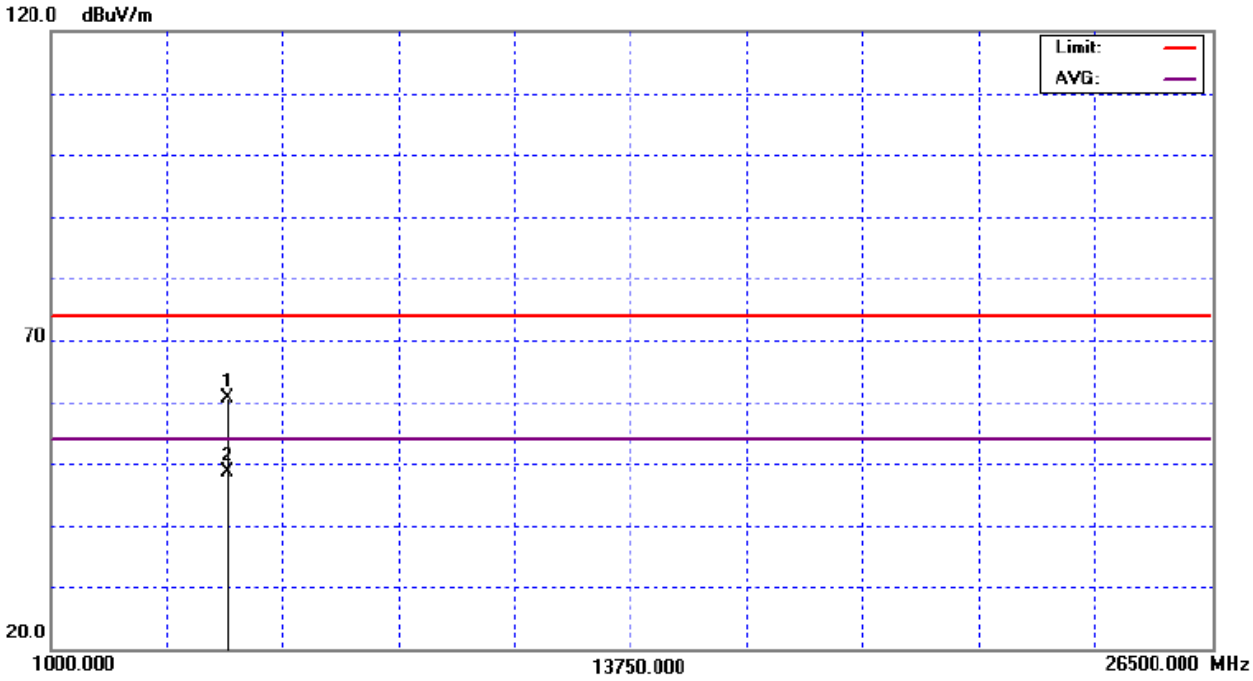
(6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(7) EUT Orthogonal Axes：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.

Orthogonal Axis：X
802.11g/CH06(Above 1000 MHz, Vertical)





EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17°C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode ：	802.11g/CH06		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2433.80	H	82.74	74.03	32.82	115.56	106.85			X/F
4876.00	H	47.13	35.92	4.30	51.43	40.22	74.00	54.00	X/H

Remark：

(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto

(2) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

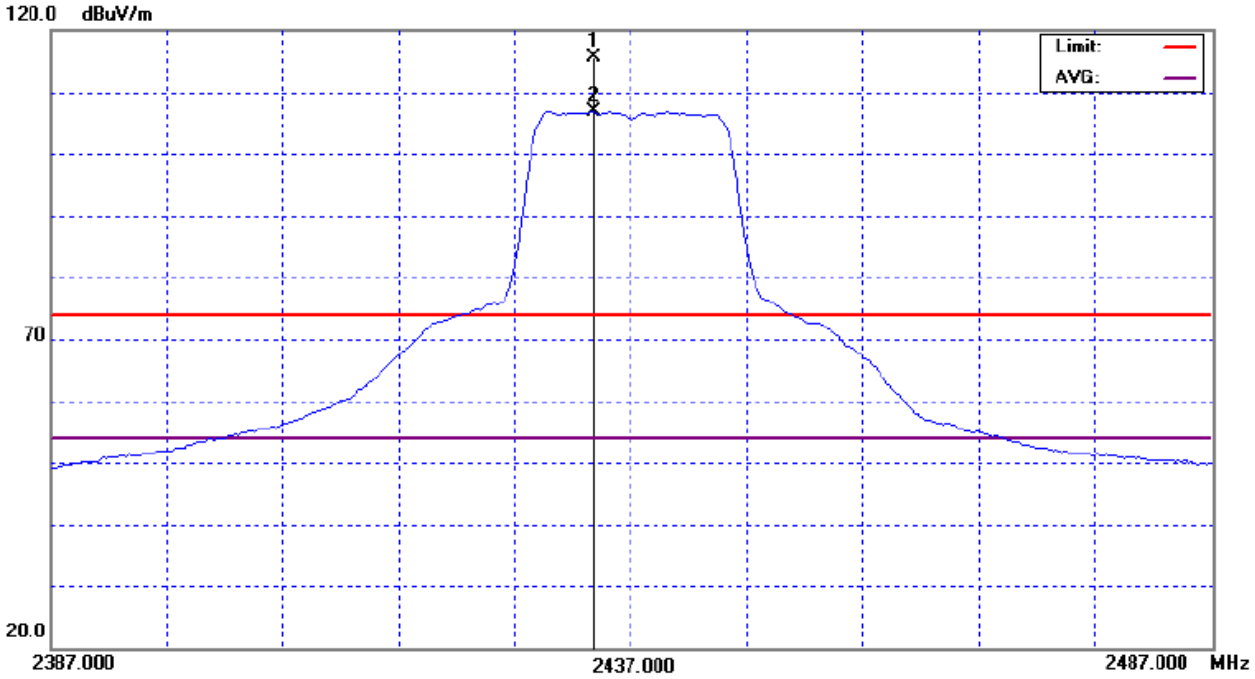
(5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

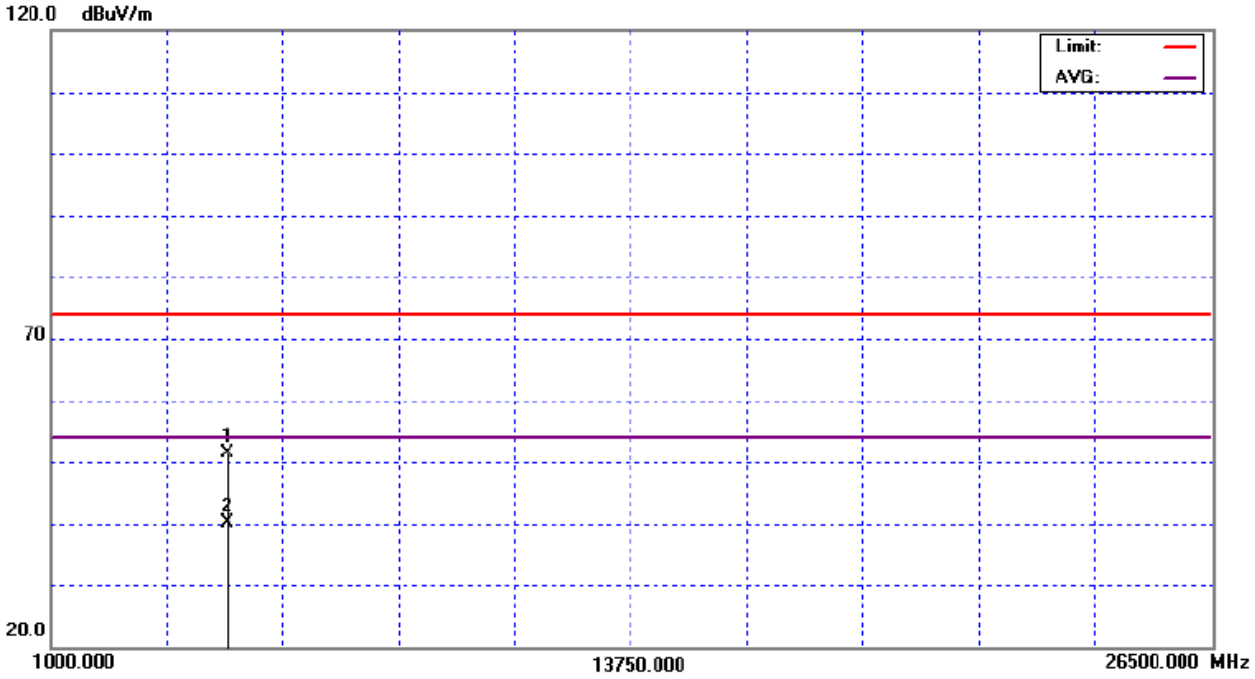
(6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(7) EUT Orthogonal Axes：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.

Orthogonal Axis：X
802.11g/CH06(Above 1000 MHz, Horizontal)





EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17°C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode ：	802.11g/CH11		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2465.20	V	73.48	64.81	33.00	106.48	97.81			X/F
2483.50	V	29.22	17.29	33.10	62.32	50.39	74.00	54.00	X/H
4924.00	V	51.54	38.78	4.54	56.08	43.32	74.00	54.00	X/H

Remark：

(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto

(2) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

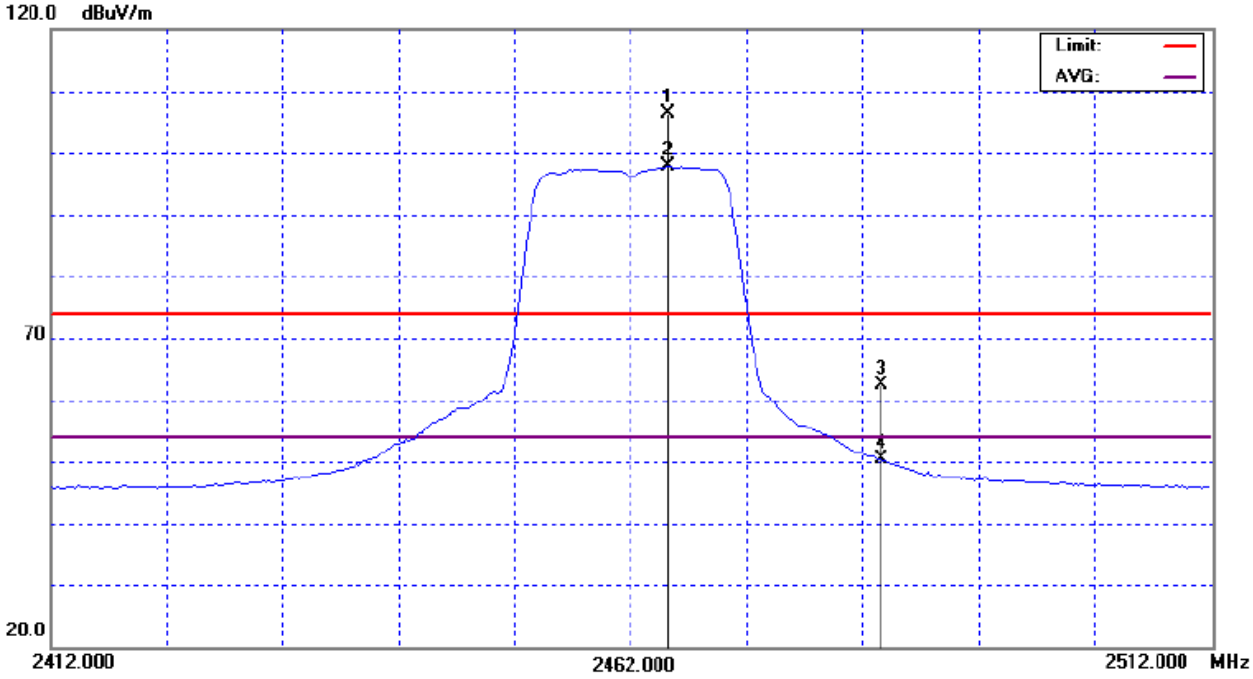
(5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

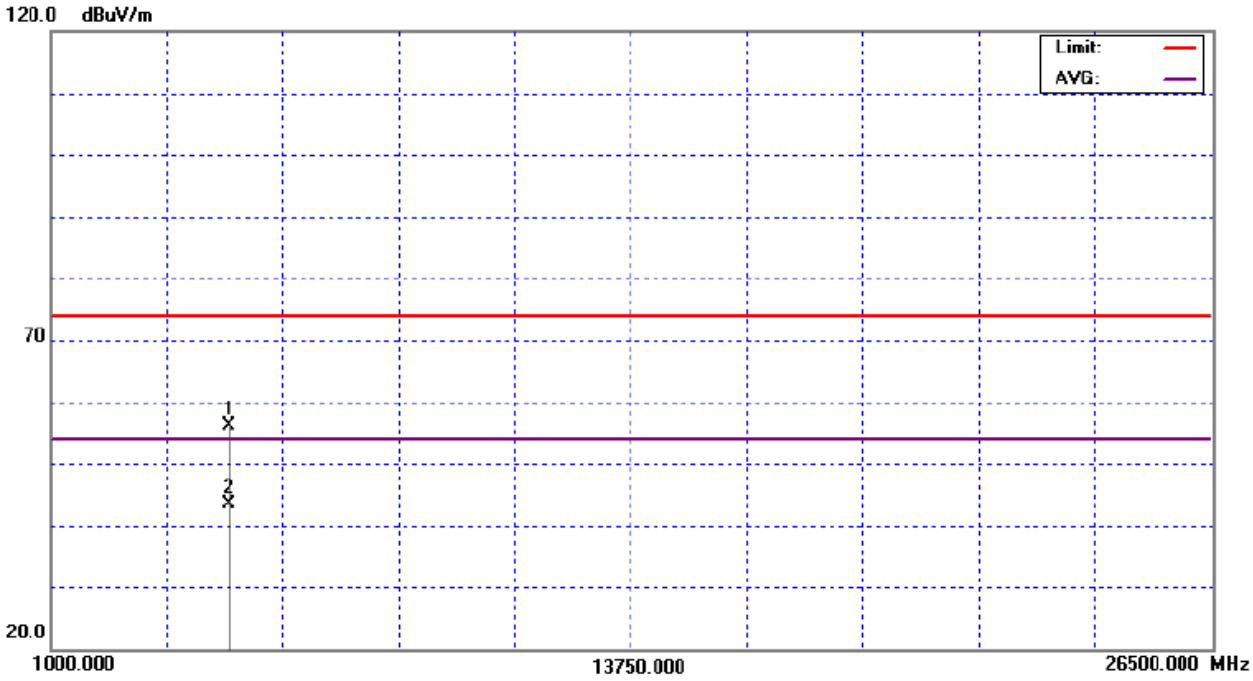
(6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(7) EUT Orthogonal Axes：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.

Orthogonal Axis：X
802.11g/CH11(Above 1000 MHz, Vertical)





EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17°C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode ：	802.11g/CH11		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2457.40	H	77.41	68.90	32.95	110.36	101.85			X/F
2483.50	H	33.52	20.52	33.10	66.62	53.62	74.00	54.00	X/H
4926.00	H	46.30	33.73	4.55	50.85	38.28	74.00	54.00	X/H

Remark：

(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto

(2) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

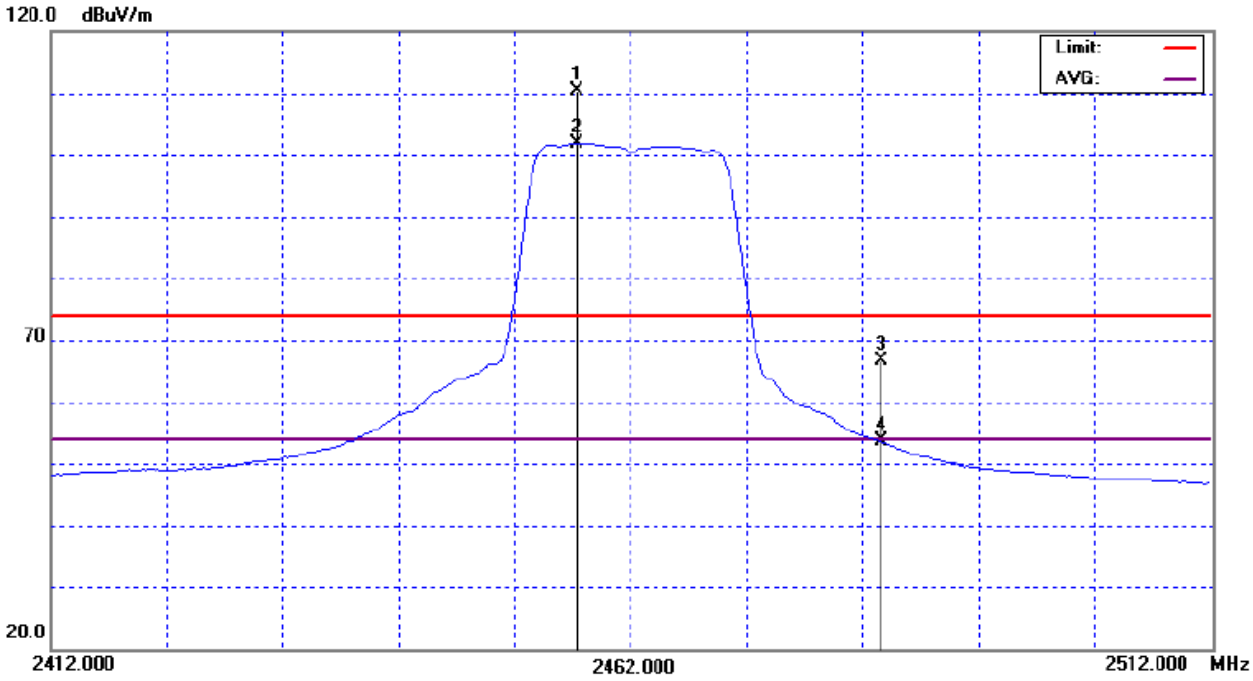
(5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

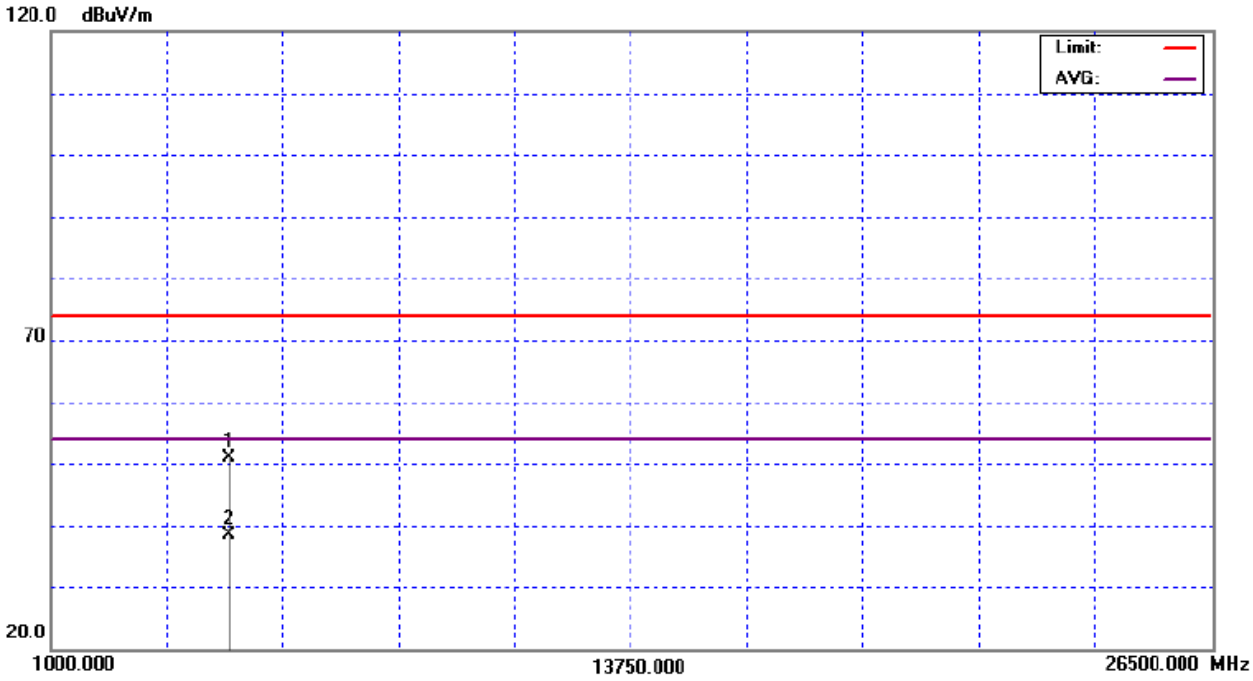
(6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(7) EUT Orthogonal Axes：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.

Orthogonal Axis：X
802.11g/CH11(Above 1000 MHz, Horizontal)





EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17°C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode ：	802.11n/20M/CH01 (Ant 0 + Ant 1)		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2390.00	V	26.22	15.95	32.57	58.79	48.52	74.00	54.00	X/H
2405.40	V	70.21	60.99	32.66	102.87	93.65			X/F
4824.60	V	47.93	37.47	4.05	51.98	41.52	74.00	54.00	X/H

Remark：

(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto

(2) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

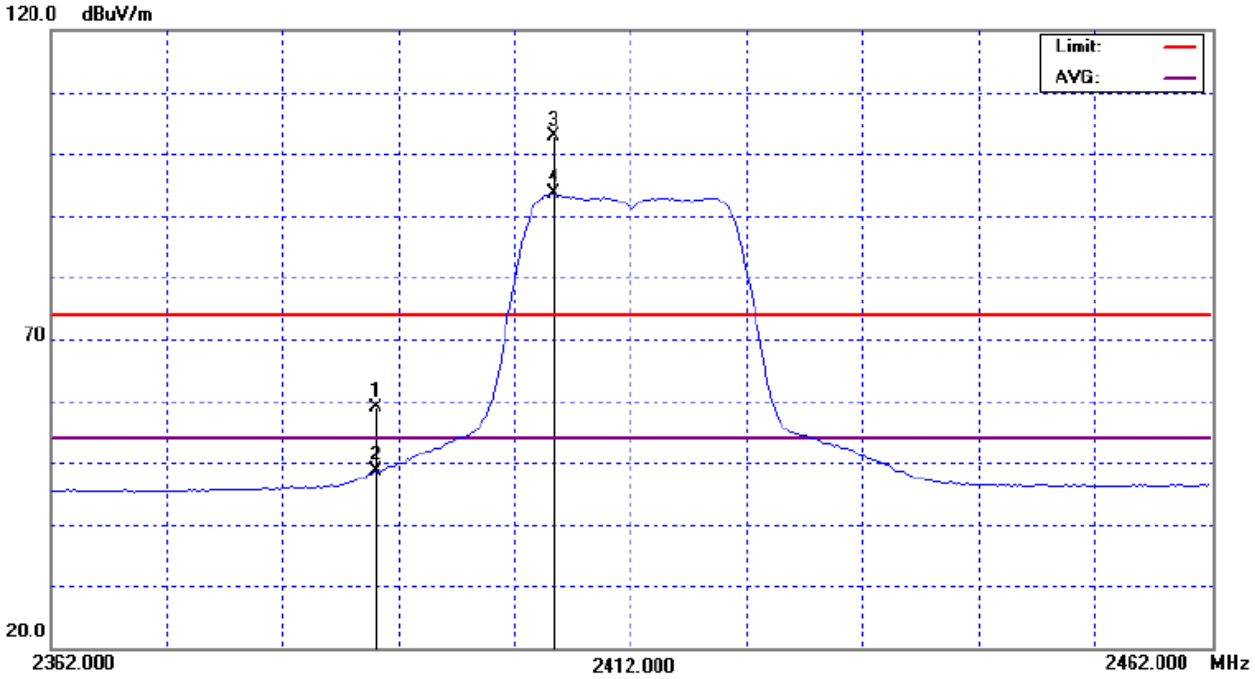
(5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

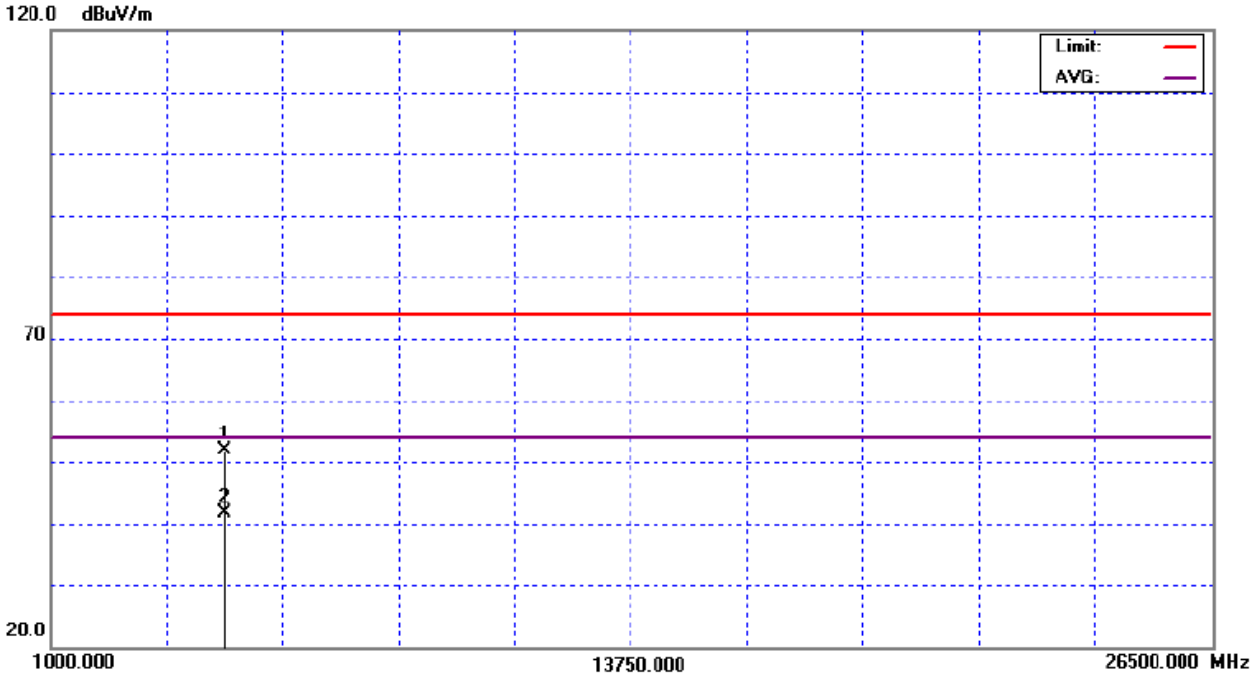
(6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(7) EUT Orthogonal Axes：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.

Orthogonal Axis：X
802.11n/20M/CH01(Ant 0 + Ant 1) (Above 1000 MHz, Vertical)





EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17°C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode ：	802.11n/20M/CH01 (Ant 0 + Ant 1)		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2390.00	H	35.65	20.73	32.57	68.22	53.30	74.00	54.00	X/H
2418.60	H	78.08	68.04	32.73	110.81	100.77			X/F
4824.80	H	43.06	31.43	4.05	47.11	35.48	74.00	54.00	X/H

Remark：

(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto

(2) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

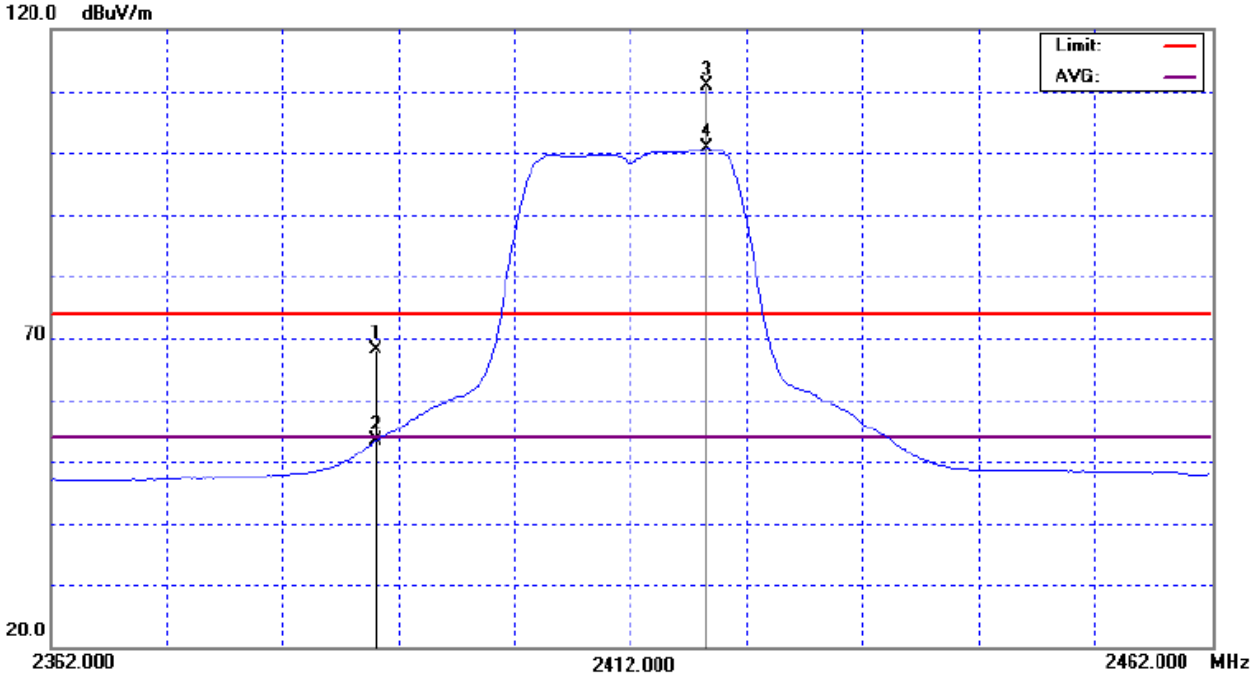
(6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

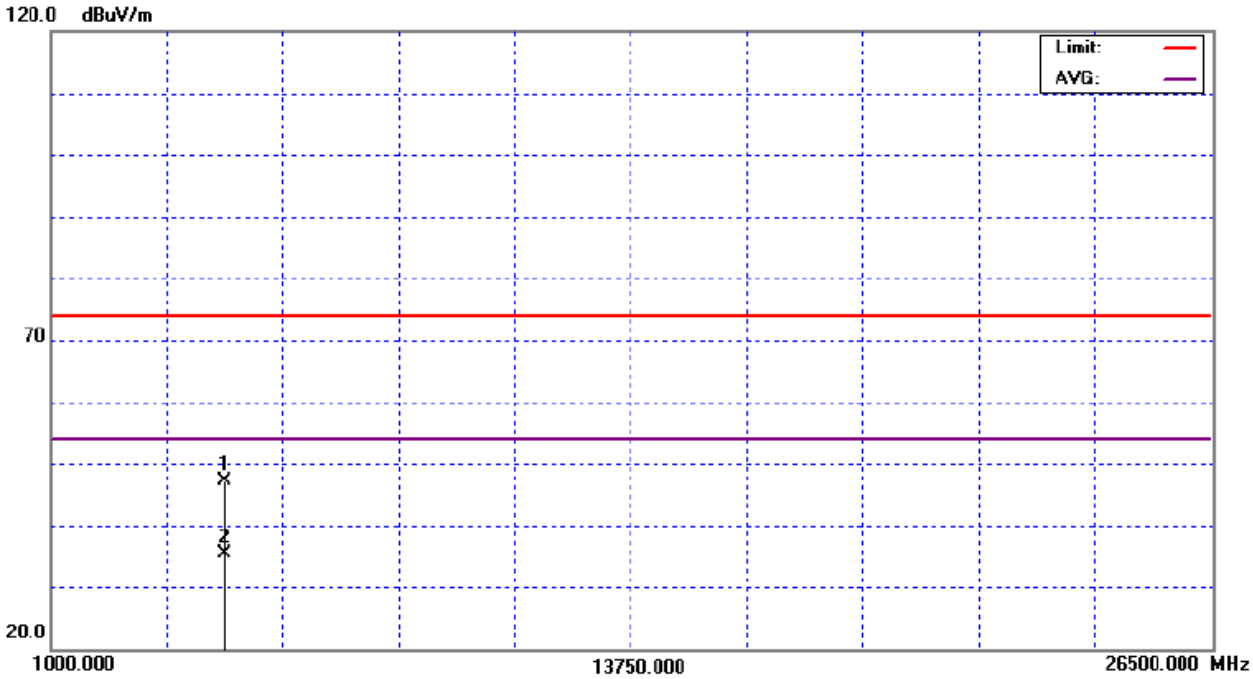
(7) EUT Orthogonal Axes：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.

Orthogonal Axis：X

802.11n/20M/CH01(Ant 0 + Ant 1) (Above 1000 MHz, Horizontal)





EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17°C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode ：	802.11n/20M/CH06 (Ant 0 + Ant 1)		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2439.40	V	76.21	66.57	32.85	109.06	99.42			X/F
4873.80	V	57.28	45.50	4.29	61.57	49.79	74.00	54.00	X/H

Remark：

(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto

(2) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

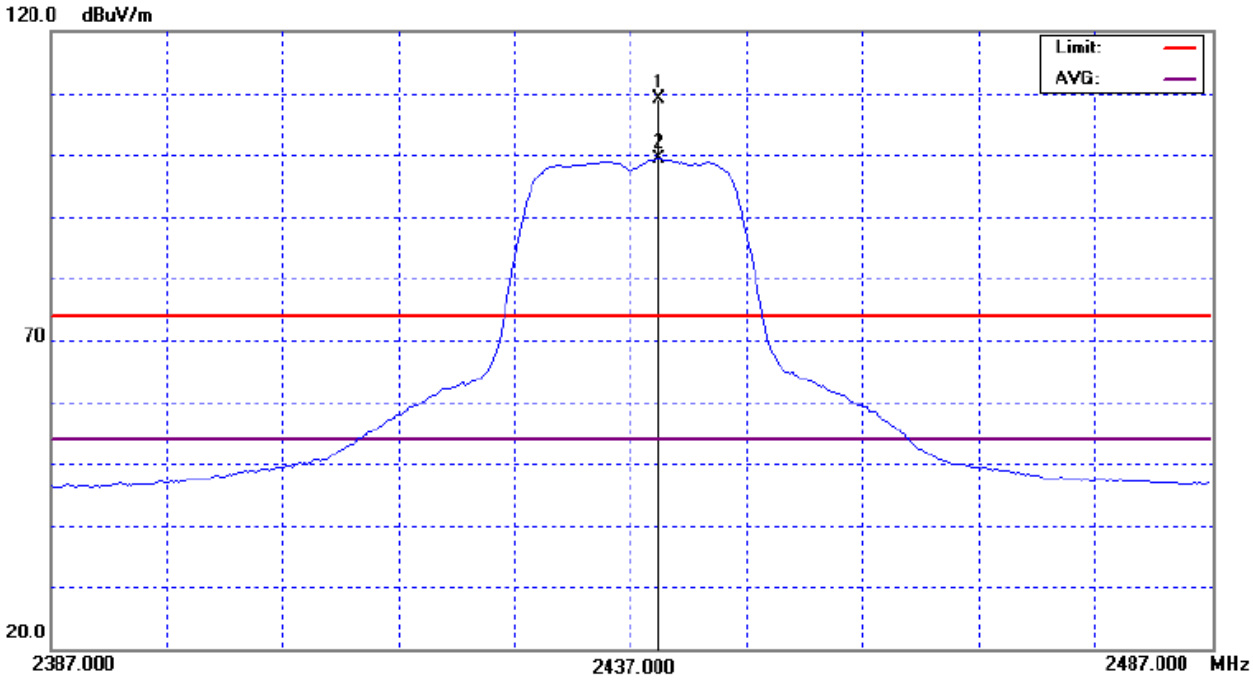
(6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

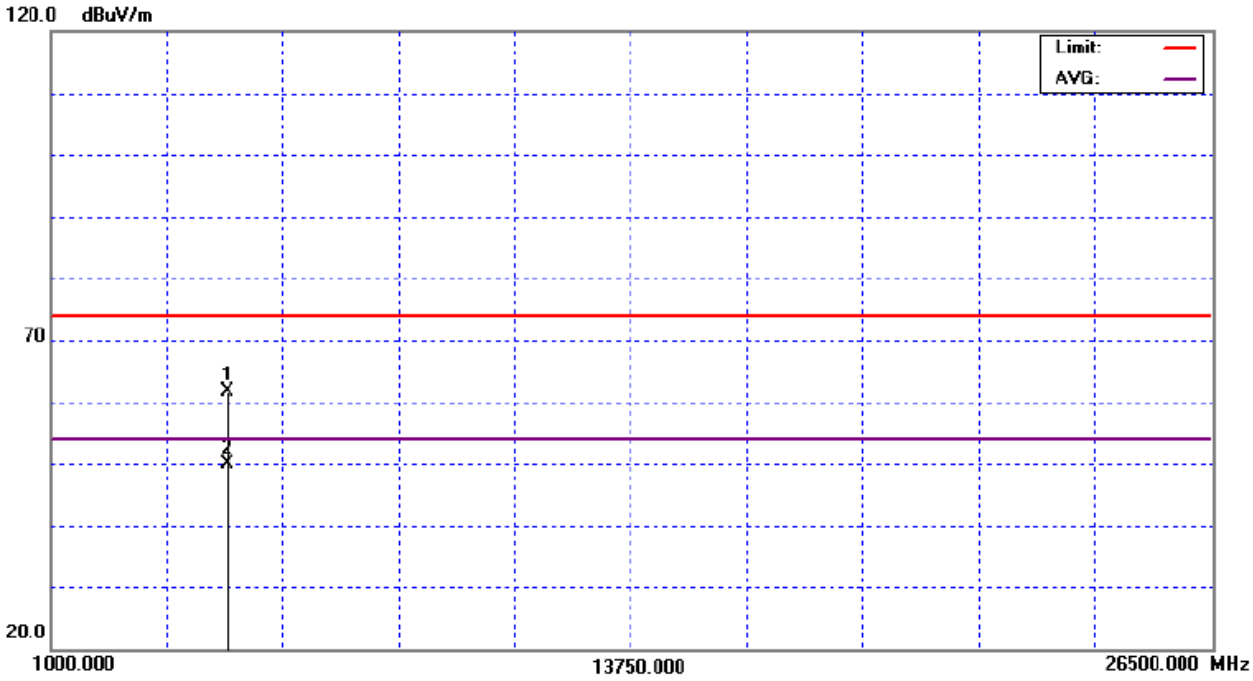
(7) EUT Orthogonal Axes：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.

Orthogonal Axis：X

802.11n/20M/CH06(Ant 0 + Ant 1) (Above 1000 MHz, Vertical)





EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17°C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode ：	802.11n/20M/CH06 (Ant 0 + Ant 1)		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2430.40	H	81.92	72.64	32.80	114.72	105.44			X/F
4874.00	H	49.60	37.11	4.29	53.89	41.40	74.00	54.00	X/H

Remark：

(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto

(2) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

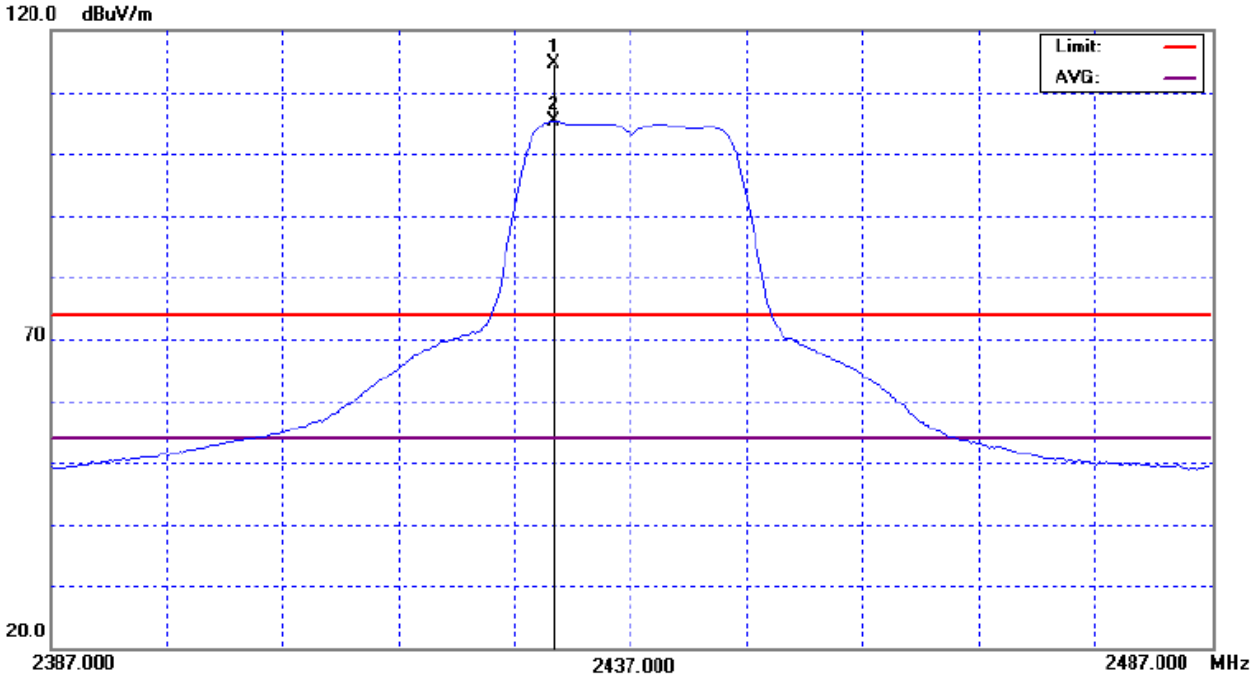
(6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

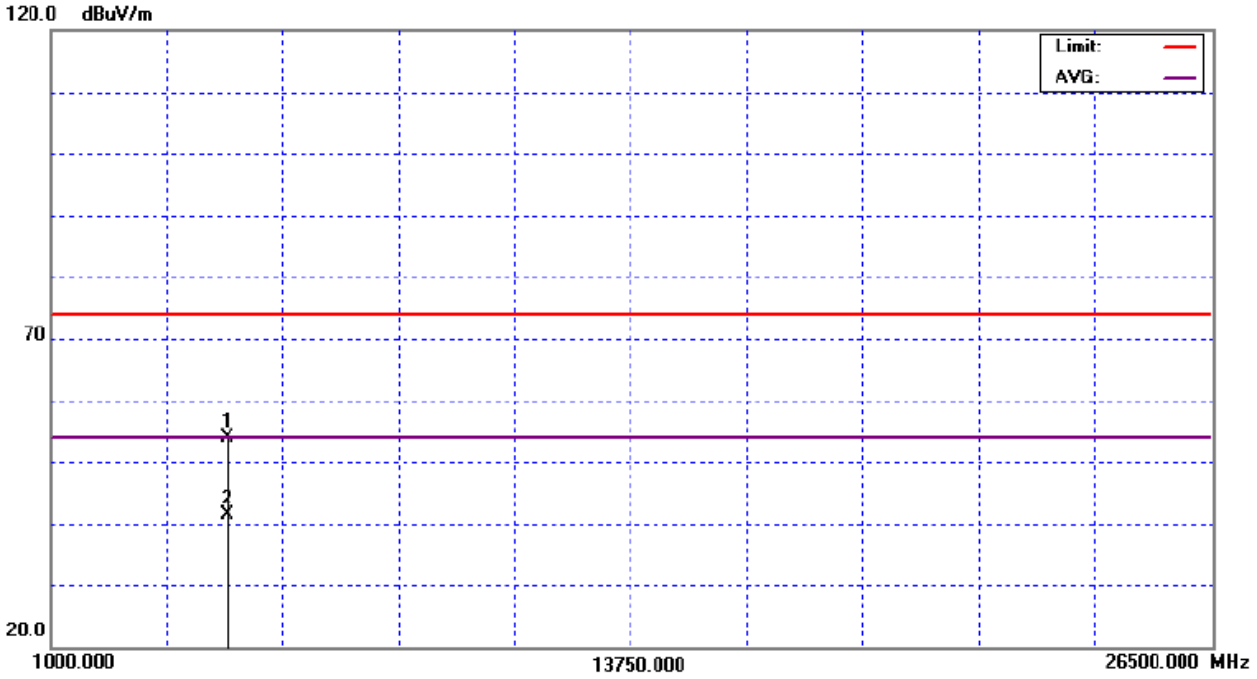
(7) EUT Orthogonal Axes：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.

Orthogonal Axis：X

802.11n/20M/CH06(Ant 0 + Ant 1) (Above 1000 MHz, Horizontal)





EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17°C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode ：	802.11n/20M/CH11 (Ant 0 + Ant 1)		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2466.20	V	70.57	62.46	33.00	103.57	95.46			X/F
2483.50	V	28.25	16.11	33.10	61.35	49.21	74.00	54.00	X/H
4922.40	V	48.19	36.76	4.53	52.72	41.29	74.00	54.00	X/H

Remark：

(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto

(2) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

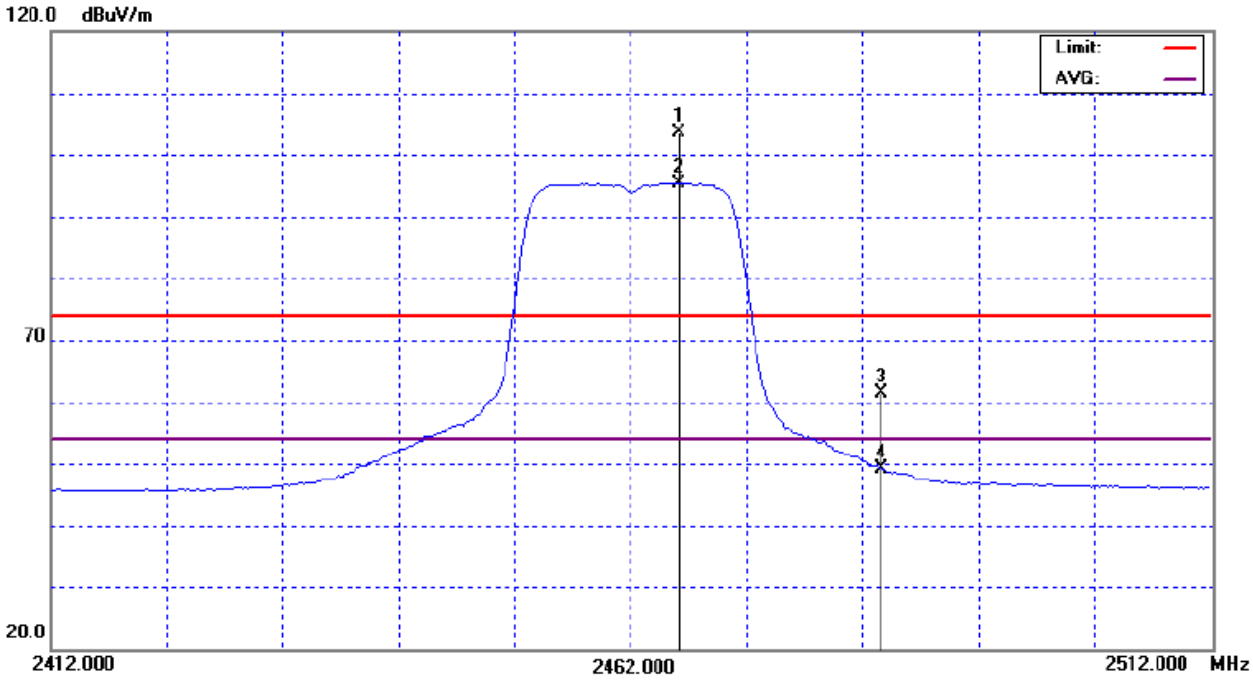
(5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

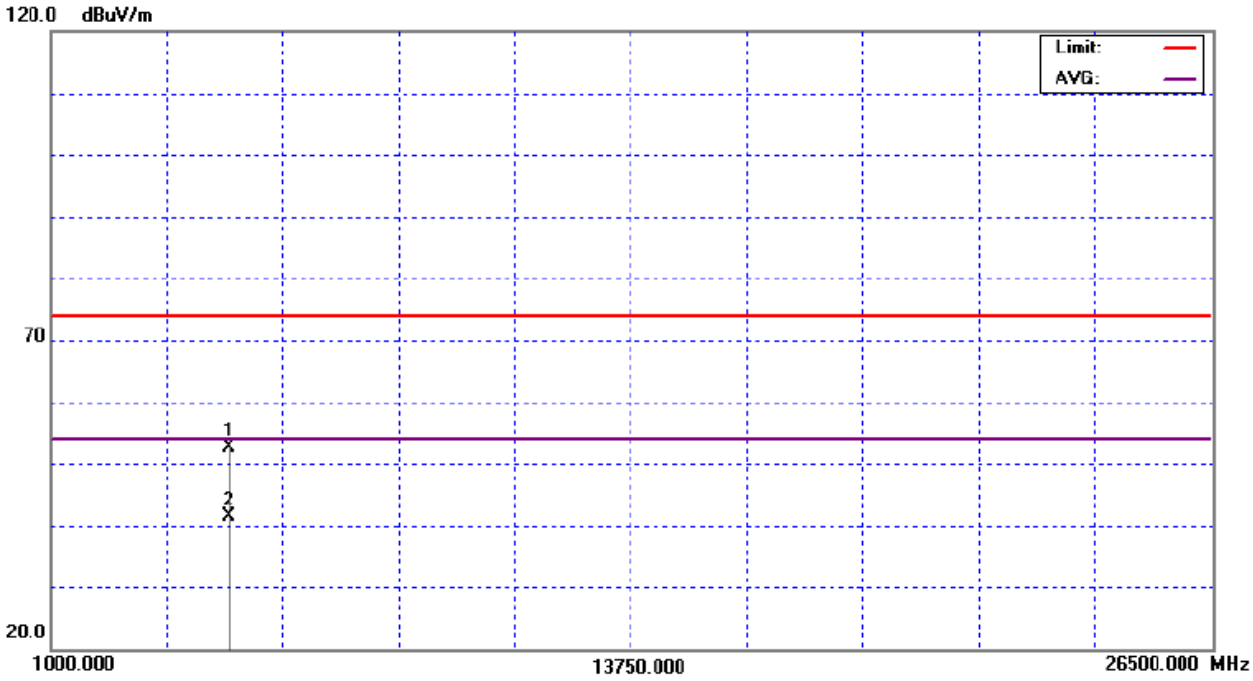
(6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(7) EUT Orthogonal Axes：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.

Orthogonal Axis：X
802.11n/20M/CH11(Ant 0 + Ant 1) (Above 1000 MHz, Vertical)





EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17°C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode ：	802.11n/20M/CH11 (Ant 0 + Ant 1)		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2455.20	H	76.69	68.10	32.94	109.63	101.04			X/F
2483.50	H	32.87	20.16	33.10	65.97	53.26	74.00	54.00	X/H
4922.00	H	44.12	32.35	4.53	48.65	36.88	74.00	54.00	X/H

Remark：

(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto

(2) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

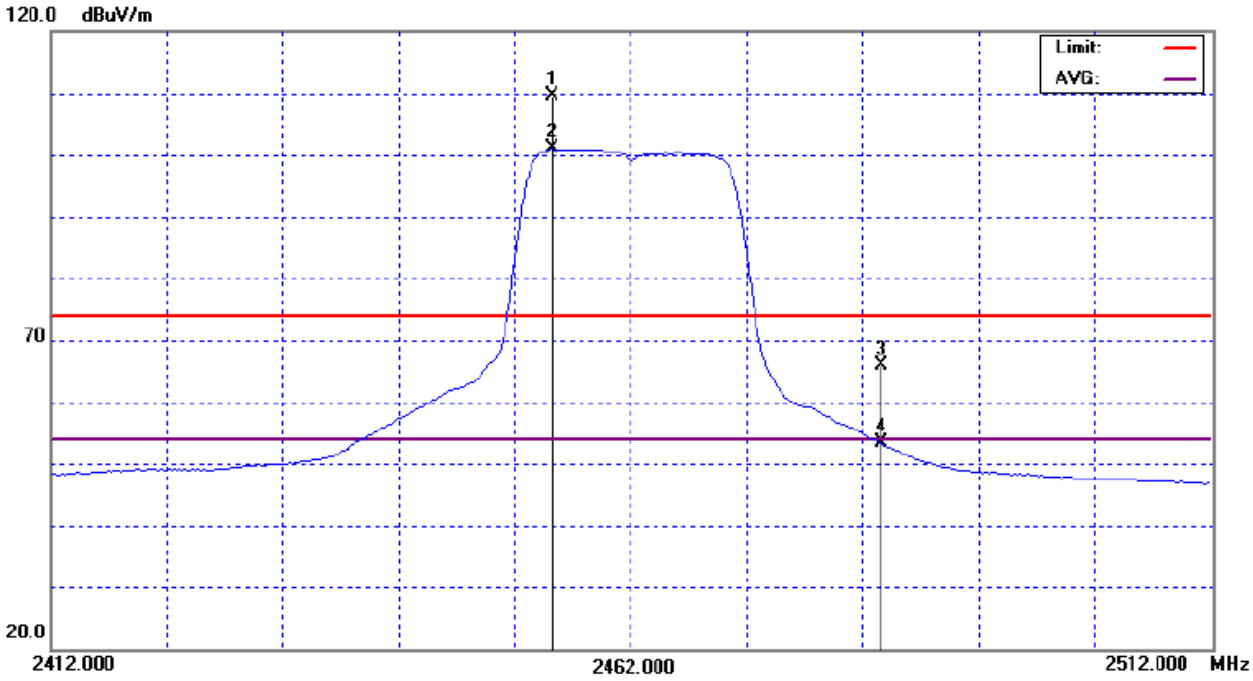
(6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

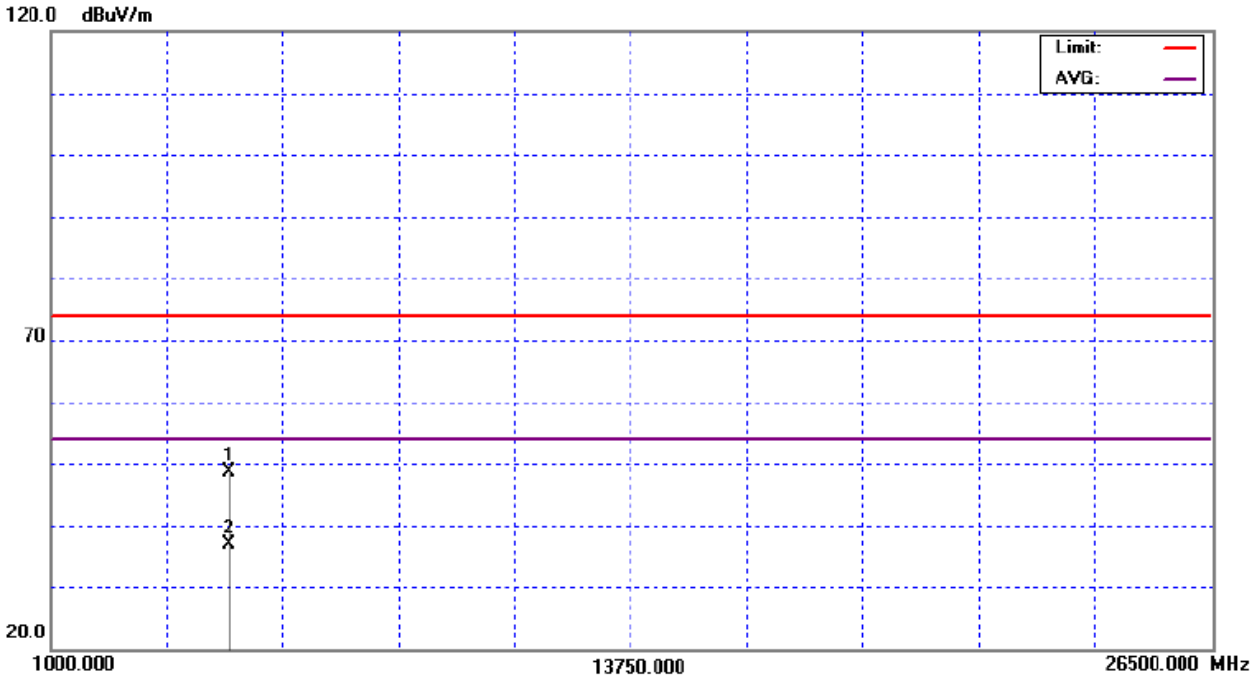
(7) EUT Orthogonal Axes：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.

Orthogonal Axis：X

802.11n/20M/CH11(Ant 0 + Ant 1) (Above 1000 MHz, Horizontal)





EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17°C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode ：	802.11n/40M/CH03 (Ant 0 + Ant 1)		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2390.00	V	23.99	16.08	32.57	56.56	48.65	74.00	54.00	X/H
2438.40	V	66.38	56.48	32.85	99.23	89.33			X/F
4844.40	V	43.47	33.35	4.15	47.62	37.50	74.00	54.00	X/H

Remark：

(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto

(2) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

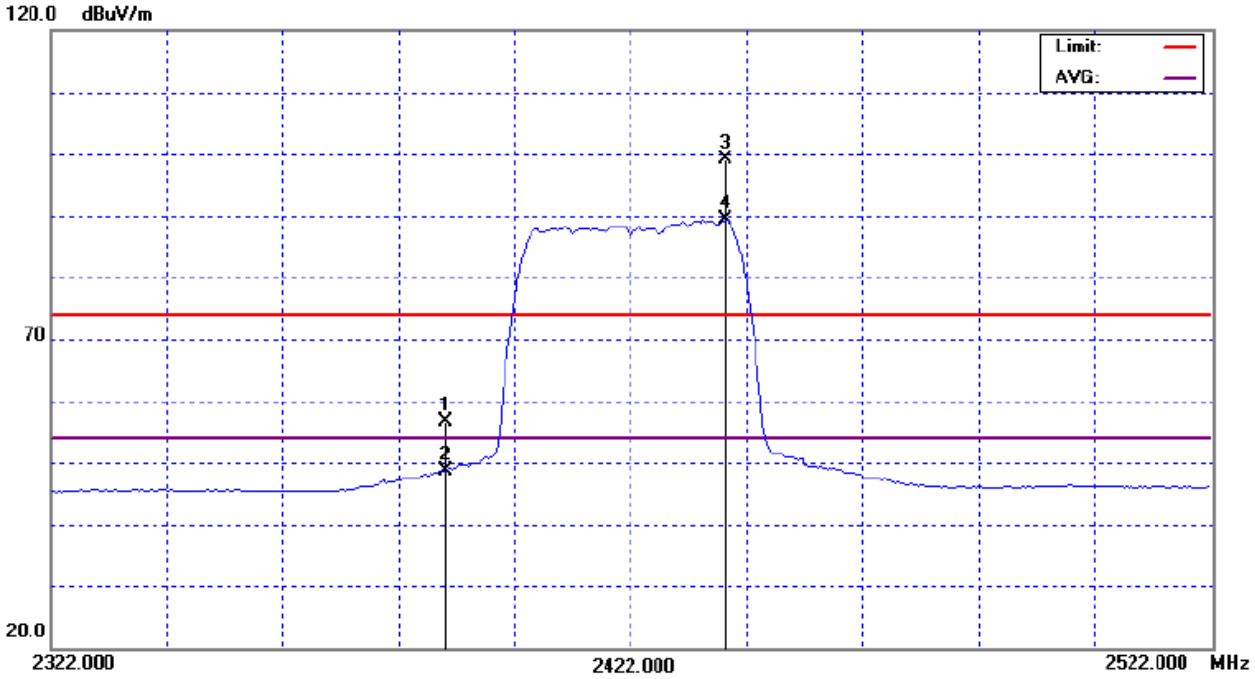
(5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

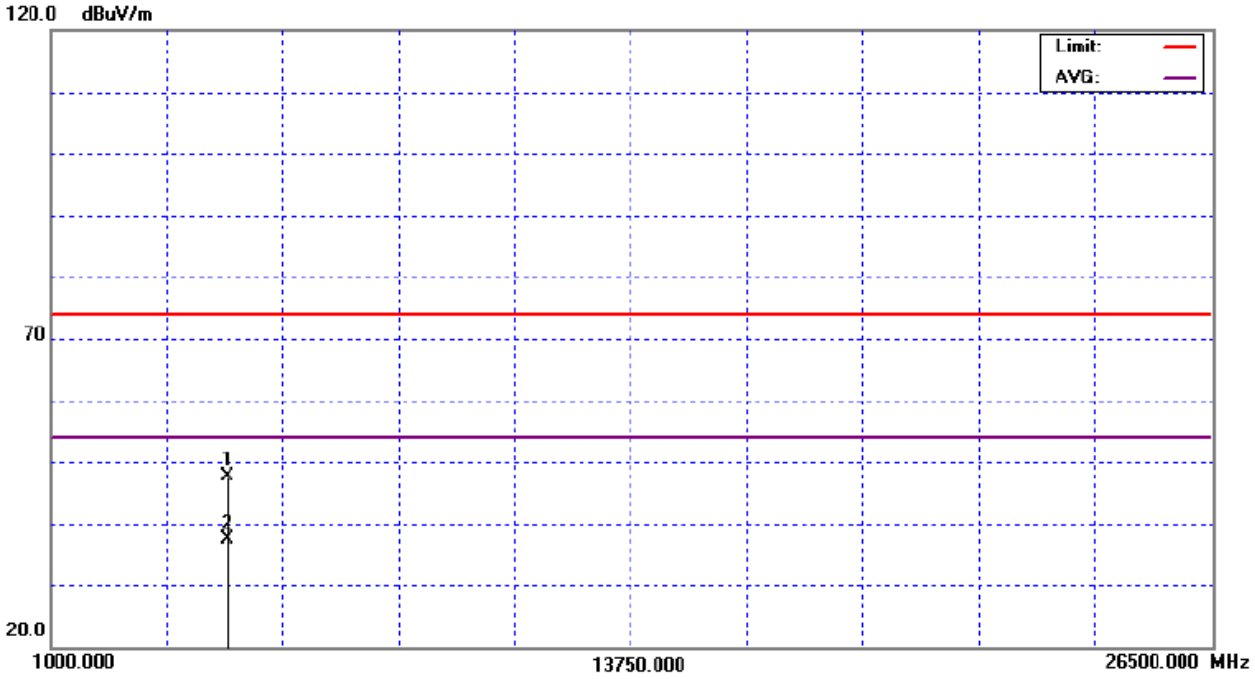
(6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(7) EUT Orthogonal Axes：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.

Orthogonal Axis：X
802.11n/40M/CH03(Ant 0 + Ant 1) (Above 1000 MHz, Vertical)





EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17°C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode ：	802.11n/40M/CH03 (Ant 0 + Ant 1)		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2390.00	H	32.52	21.09	32.57	65.09	53.66	74.00	54.00	X/H
2420.40	H	73.04	63.50	32.74	105.78	96.24			X/F
4841.60	H	43.29	30.25	4.13	47.42	34.38	74.00	54.00	X/H

Remark：

(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto

(2) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

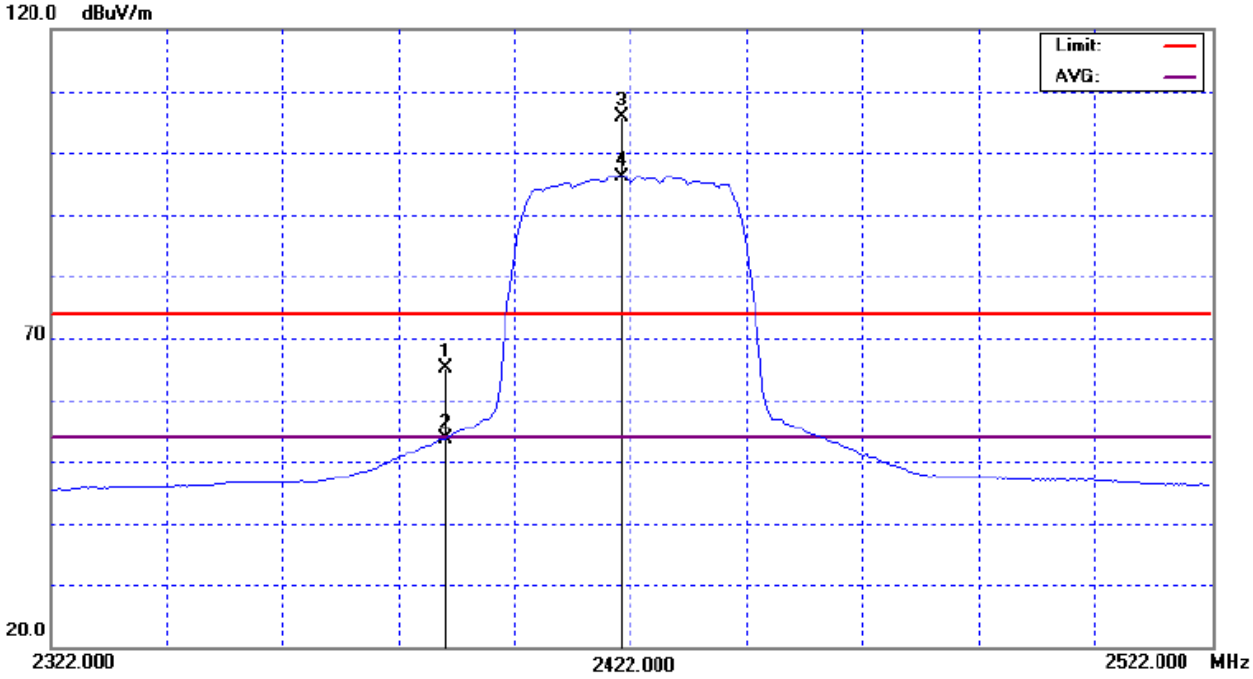
(6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

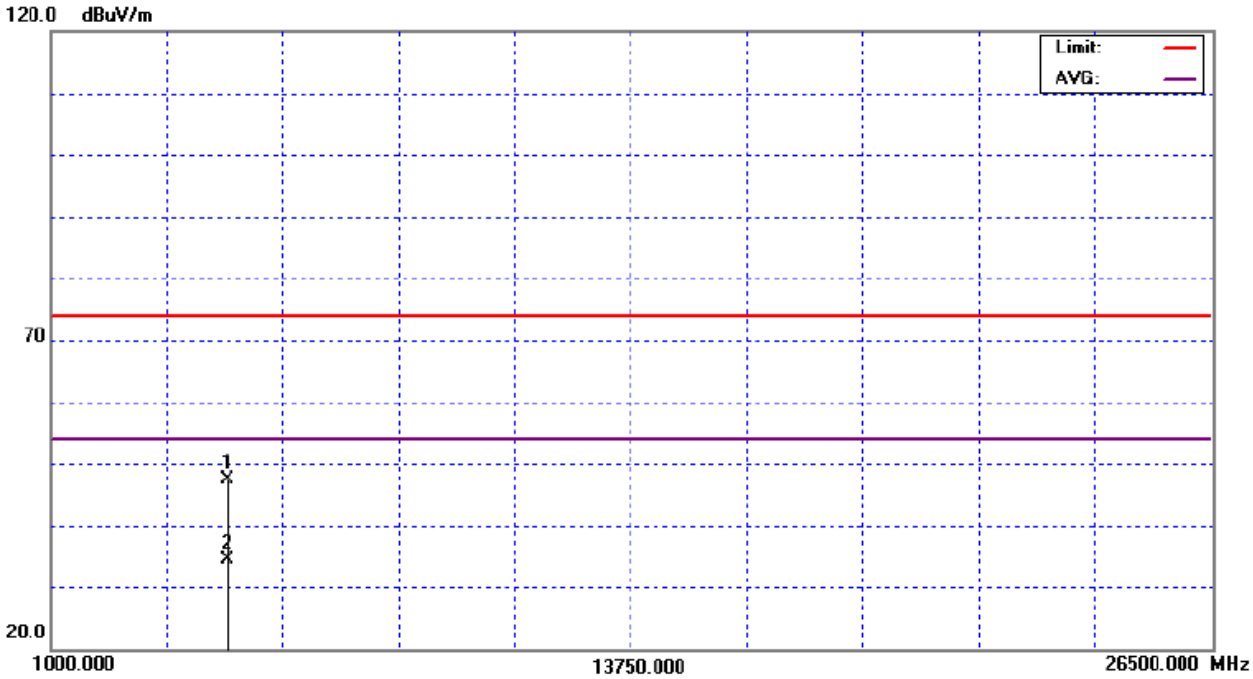
(7) EUT Orthogonal Axes：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.

Orthogonal Axis：X

802.11n/40M/CH03(Ant 0 + Ant 1) (Above 1000 MHz, Horizontal)





EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17°C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode ：	802.11n/40M/CH06 (Ant 0 + Ant 1)		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2438.60	V	70.21	59.99	32.85	103.06	92.84			X/F
4872.80	V	48.76	36.65	4.28	53.04	40.93	74.00	54.00	X/H

Remark：

(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto

(2) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

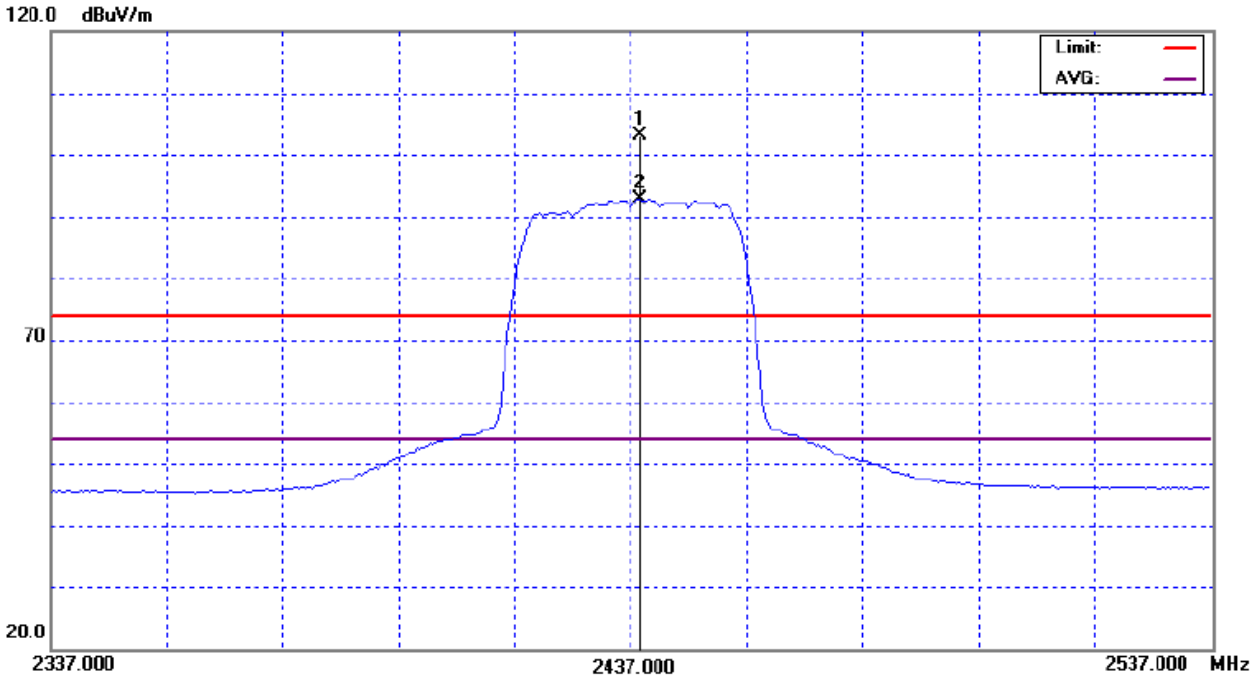
(6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

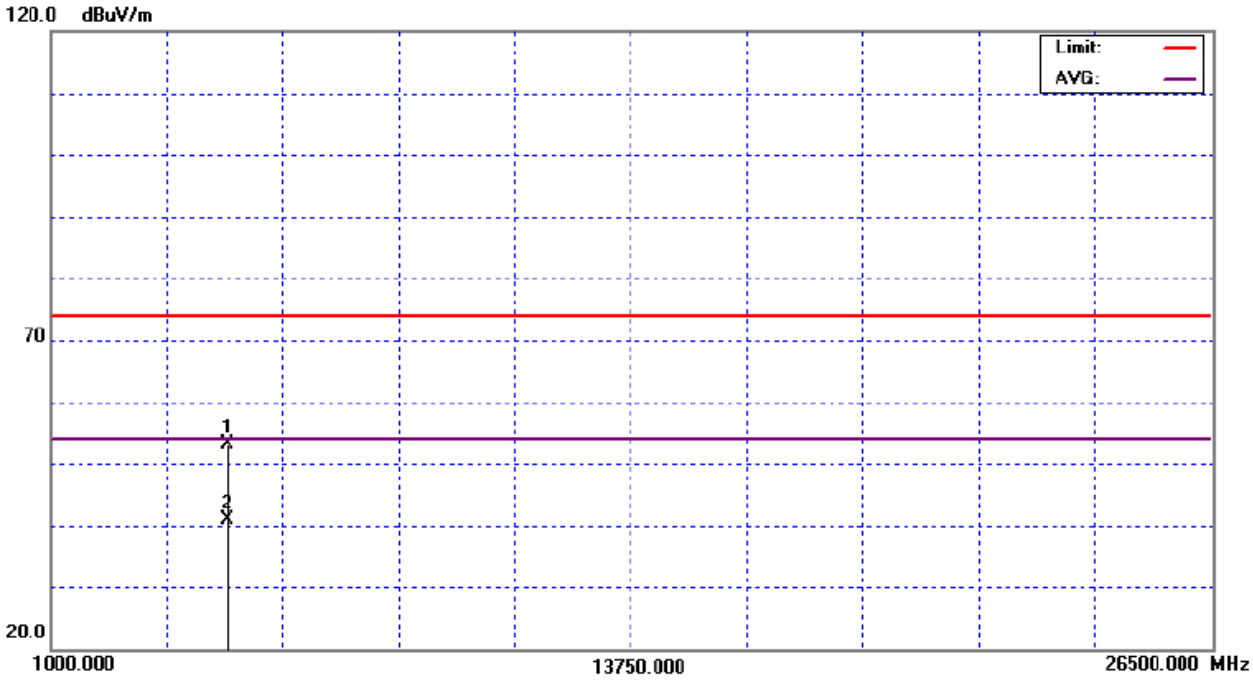
(7) EUT Orthogonal Axes：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.

Orthogonal Axis：X

802.11n/40M/CH06(Ant 0 + Ant 1) (Above 1000 MHz, Vertical)





EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17°C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode ：	802.11n/40M/CH06 (Ant 0 + Ant 1)		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2423.80	H	76.48	66.32	32.76	109.24	99.08			X/F
4877.60	H	43.97	32.64	4.31	48.28	36.95	74.00	54.00	X/H

Remark：

(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto

(2) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

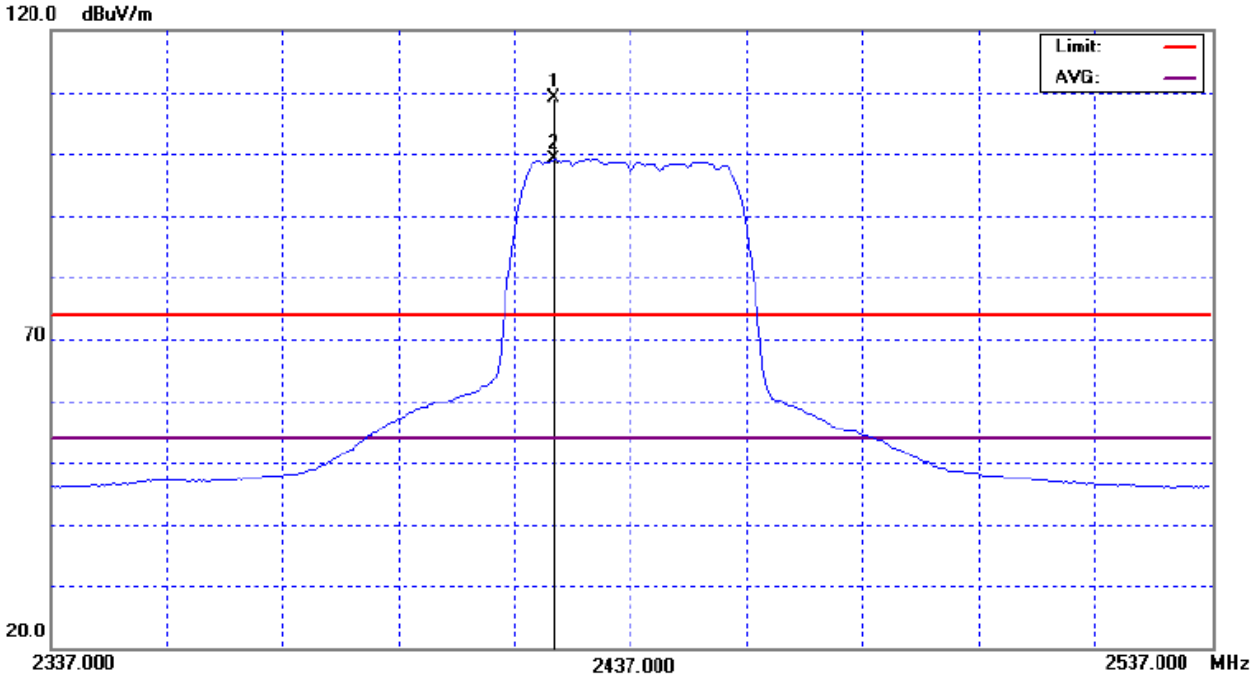
(6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

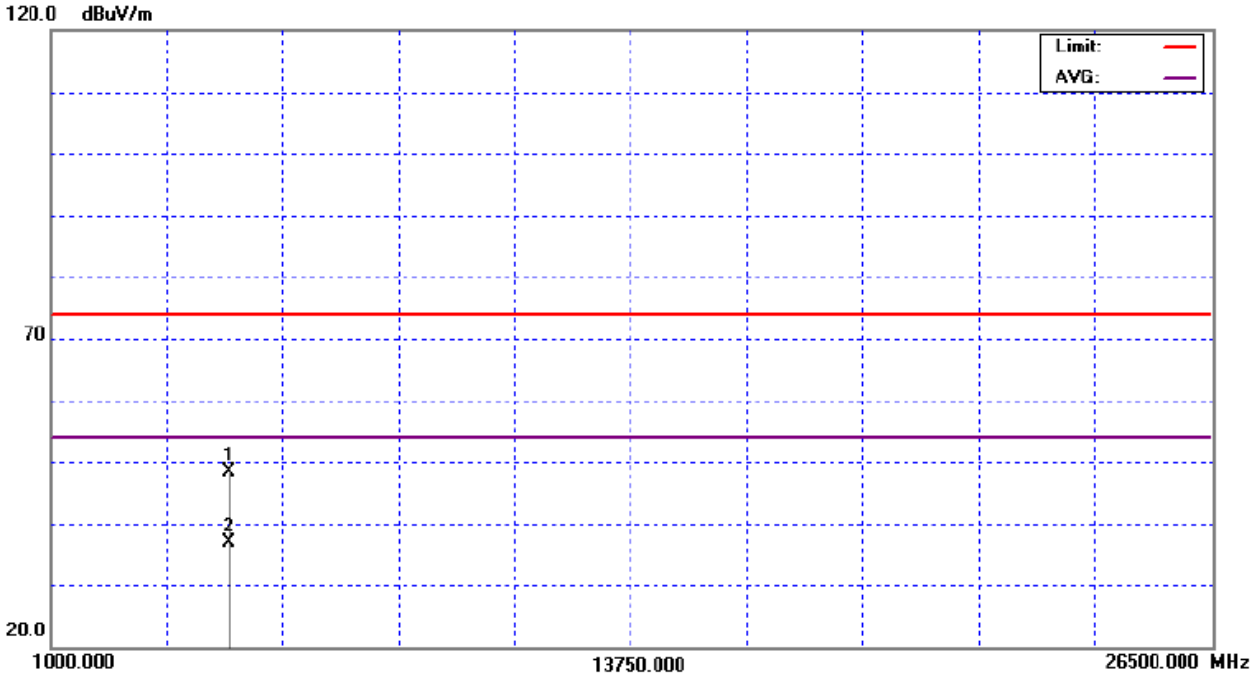
(7) EUT Orthogonal Axes：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.

Orthogonal Axis：X

802.11g/40M/CH06(Ant 0 + Ant 1) (Above 1000 MHz, Horizontal)





EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17°C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode ：	802.11n/40M/CH09 (Ant 0 + Ant 1)		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2457.60	V	65.26	57.61	32.95	98.21	90.56			X/F
2483.50	V	26.42	16.81	33.10	59.52	49.91	74.00	54.00	X/H
4911.20	V	45.08	33.66	4.47	49.55	38.13	74.00	54.00	X/H

Remark：

(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto

(2) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

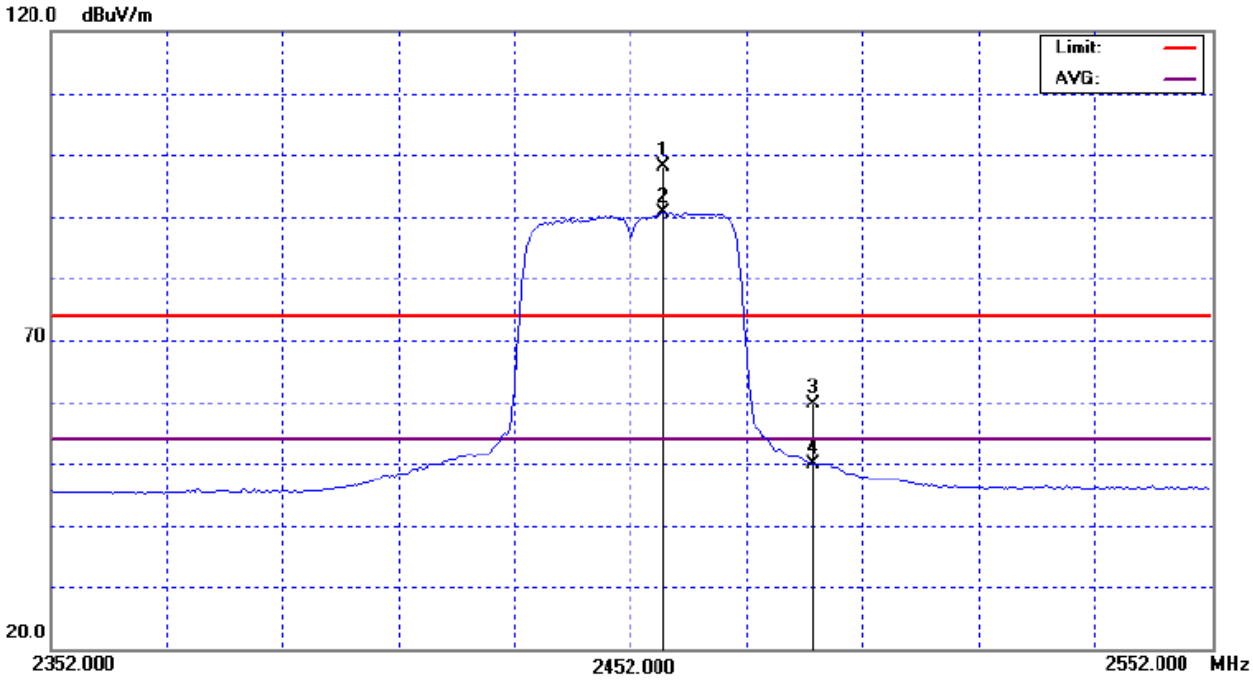
(6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

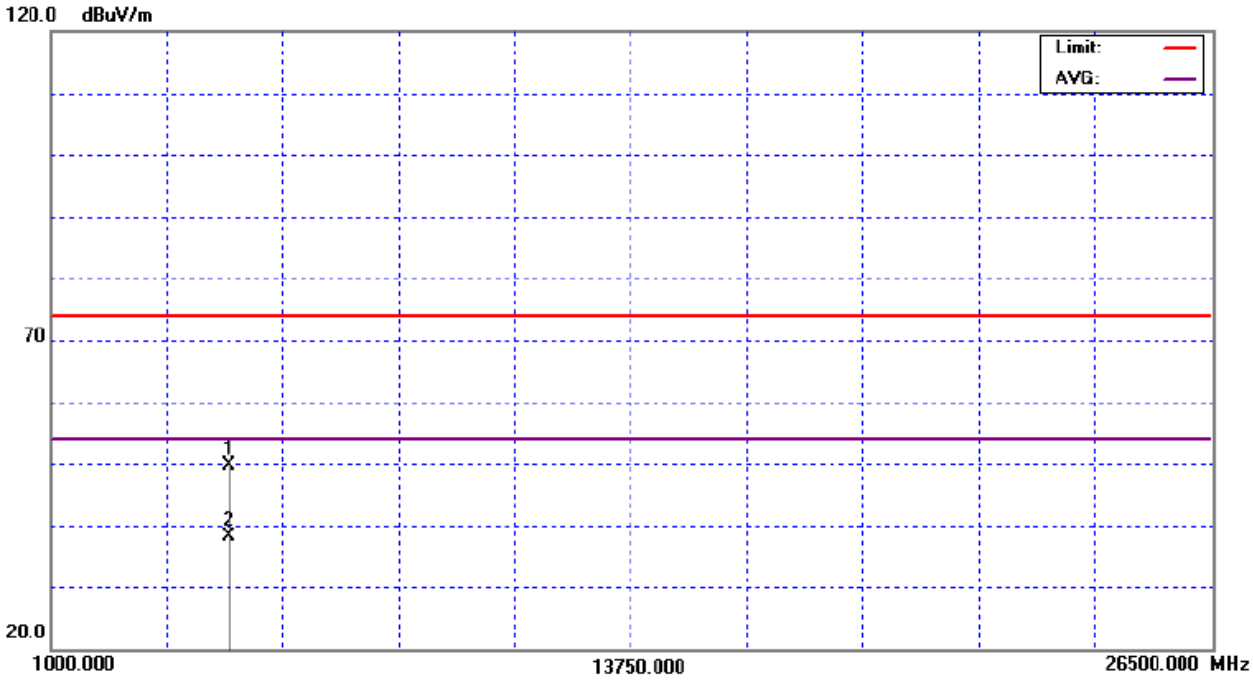
(7) EUT Orthogonal Axes：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.

Orthogonal Axis：X

802.11g/40M/CH09(Ant 0 + Ant 1) (Above 1000 MHz, Vertical)





EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17°C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode ：	802.11n/40M/CH09 (Ant 0 + Ant 1)		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2449.20	H	71.86	63.57	32.91	104.77	96.48			X/F
2483.50	H	32.30	20.53	33.10	65.40	53.63	74.00	54.00	X/H
4902.80	H	42.07	30.78	4.43	46.50	35.21	74.00	54.00	X/H

Remark：

(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto

(2) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

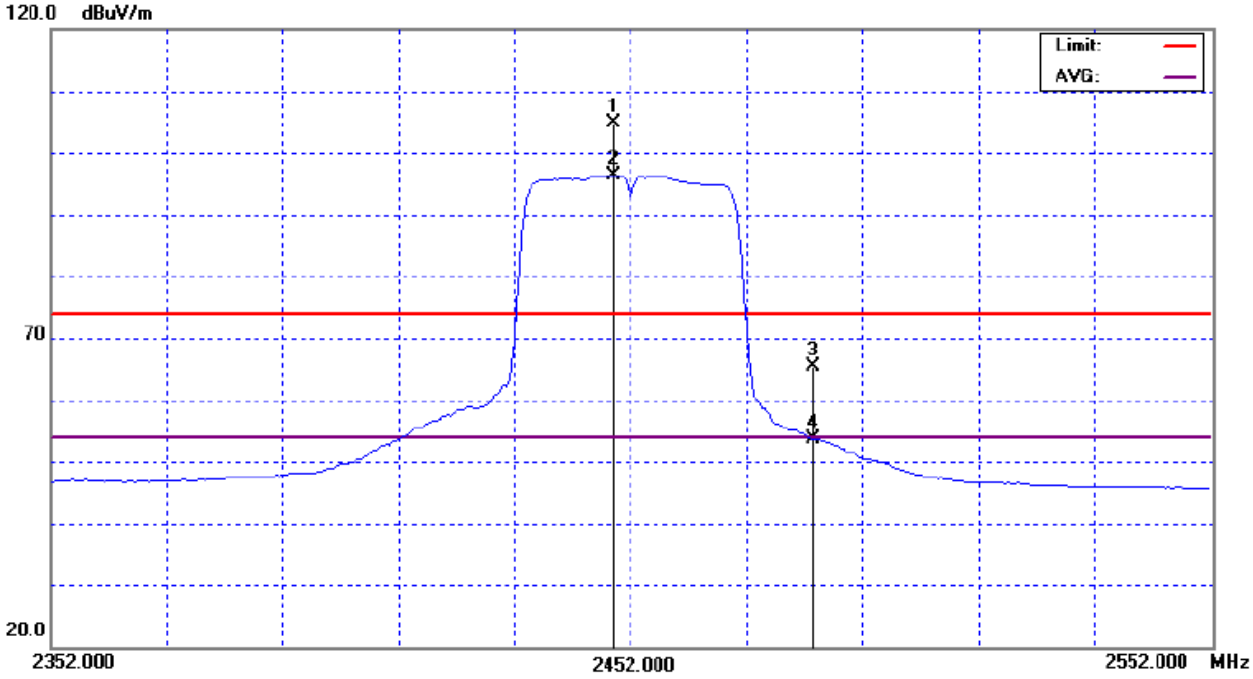
(6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

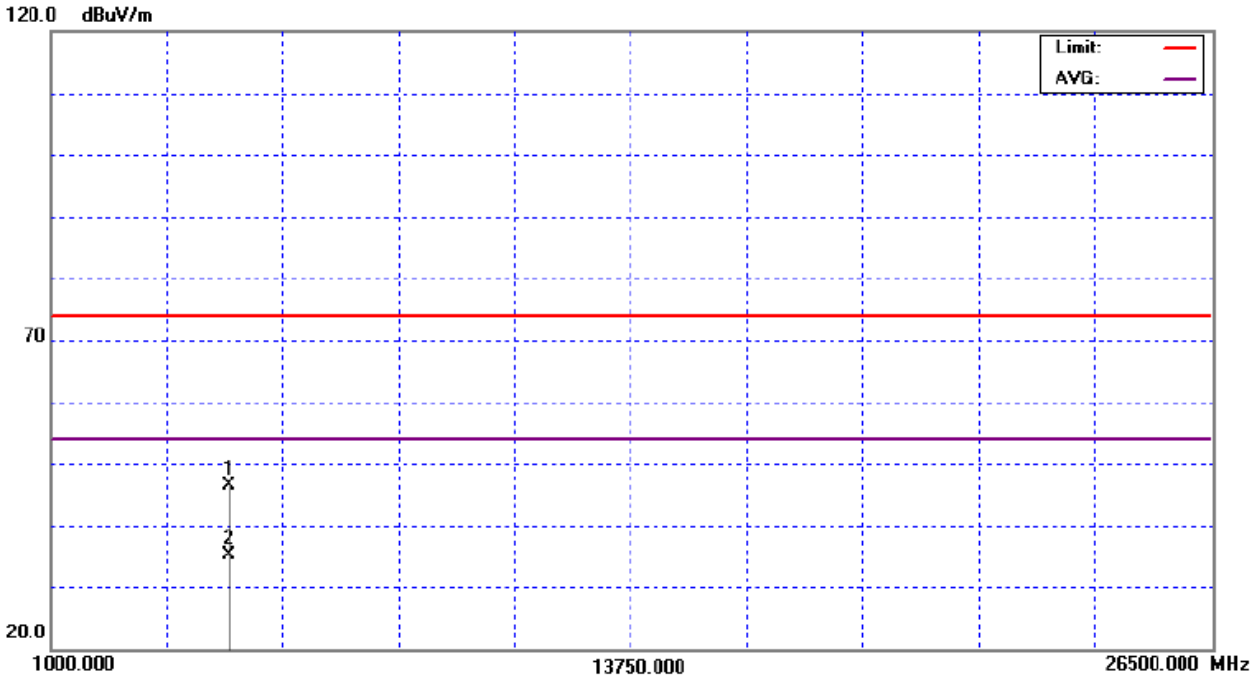
(7) EUT Orthogonal Axes：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

(8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.

Orthogonal Axis：X

802.11g/40M/CH09(Ant 0 + Ant 1) (Above 1000 MHz, Horizontal)





4.2.9 TEST RESULTS-RESTRICTED BANDS REQUIREMENTS

EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17°C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode ：	802.11b(Vertical)		
Note：	The emission of the carrier radiated field strength is measured for CH01/CH11 (Peak and AV) as following: 1. The transmitter was then configured with the worst case antenna and setup to transmit at the lowest channel (CH01). Then the field strength was measured at 2310-2390 MHz. 2. The transmitter was configured with the worst case antenna and setup to transmit at the highest channel (CH11). Then the field strength was measured at 2483.5-2500 MHz.		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2390.00	V	22.98	13.47	32.57	55.55	46.04	74.00	54.00	X
2483.50	V	23.11	13.13	33.10	56.21	46.23	74.00	54.00	X

Remark：

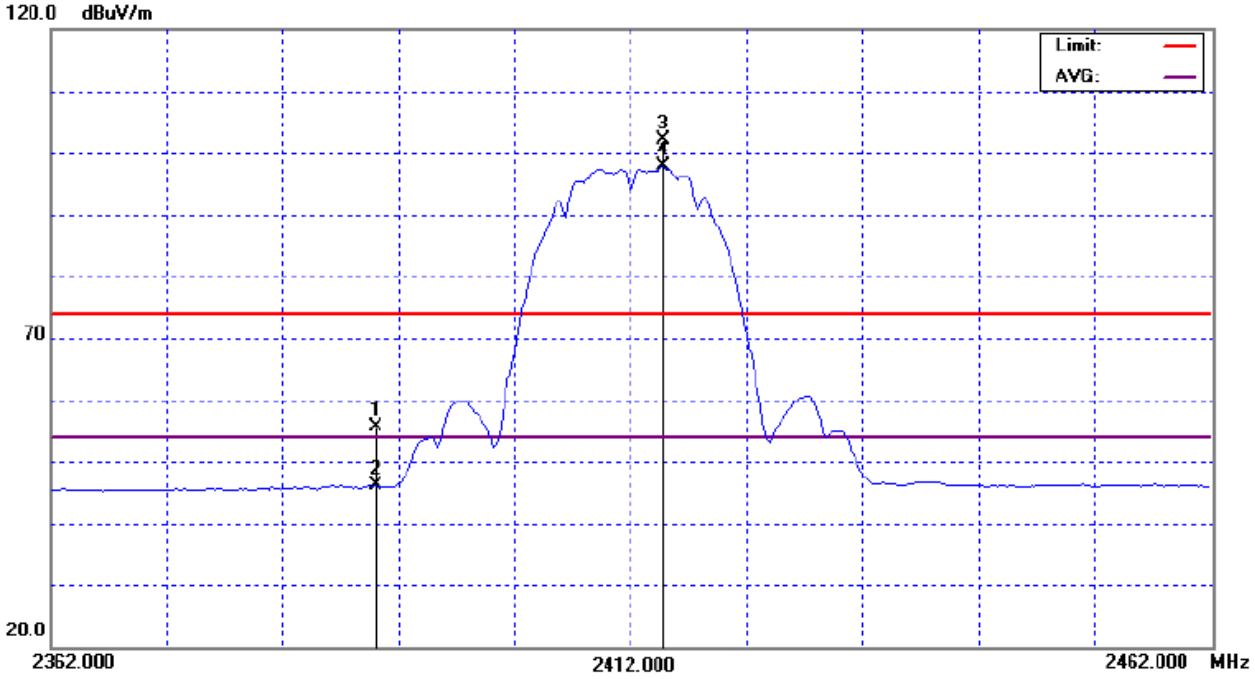
(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto

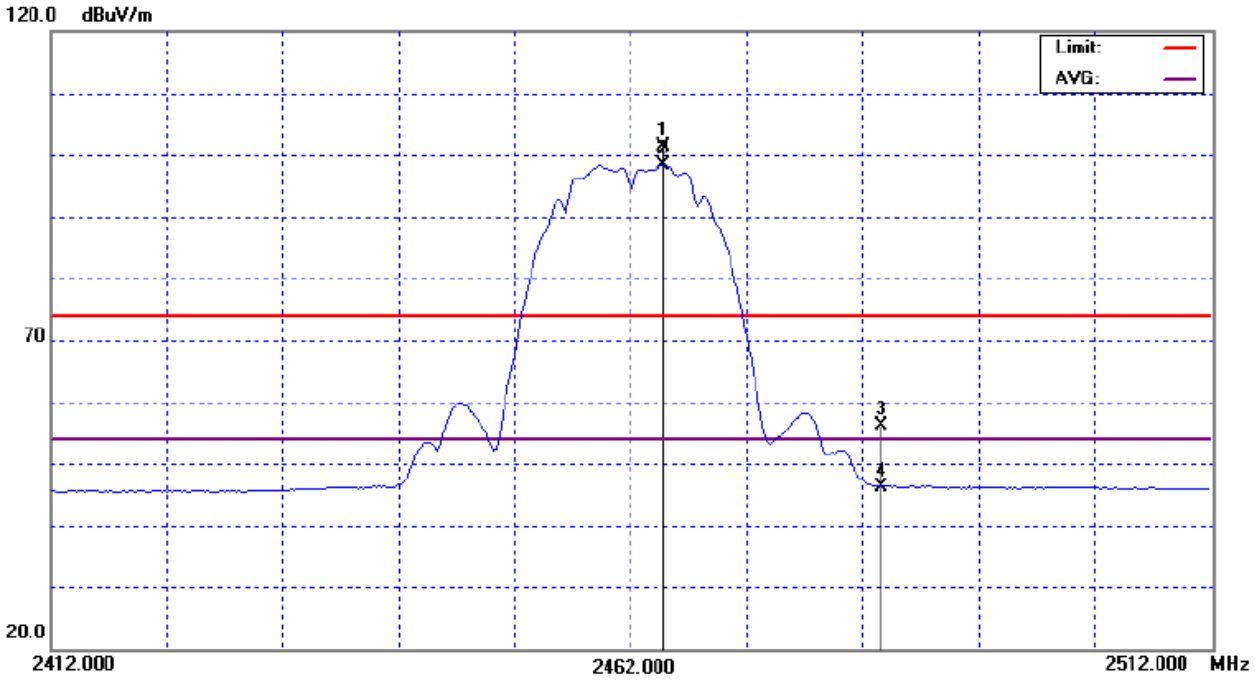
(2) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(3) EUT Orthogonal Axes：

"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

802.11b (Restricted Bands Requirements, Vertical)





EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17°C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode ：	802.11b(Horizontal)		
Note：	The emission of the carrier radiated field strength is measured for CH01/CH11 (Peak and AV) as following: 1. The transmitter was then configured with the worst case antenna and setup to transmit at the lowest channel (CH01). Then the field strength was measured at 2310-2390 MHz. 2. The transmitter was configured with the worst case antenna and setup to transmit at the highest channel (CH11). Then the field strength was measured at 2483.5-2500 MHz.		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2390.00	H	27.37	16.40	32.57	59.94	48.97	74.00	54.00	X
2483.50	H	25.75	15.06	33.10	58.85	48.16	74.00	54.00	X

Remark：

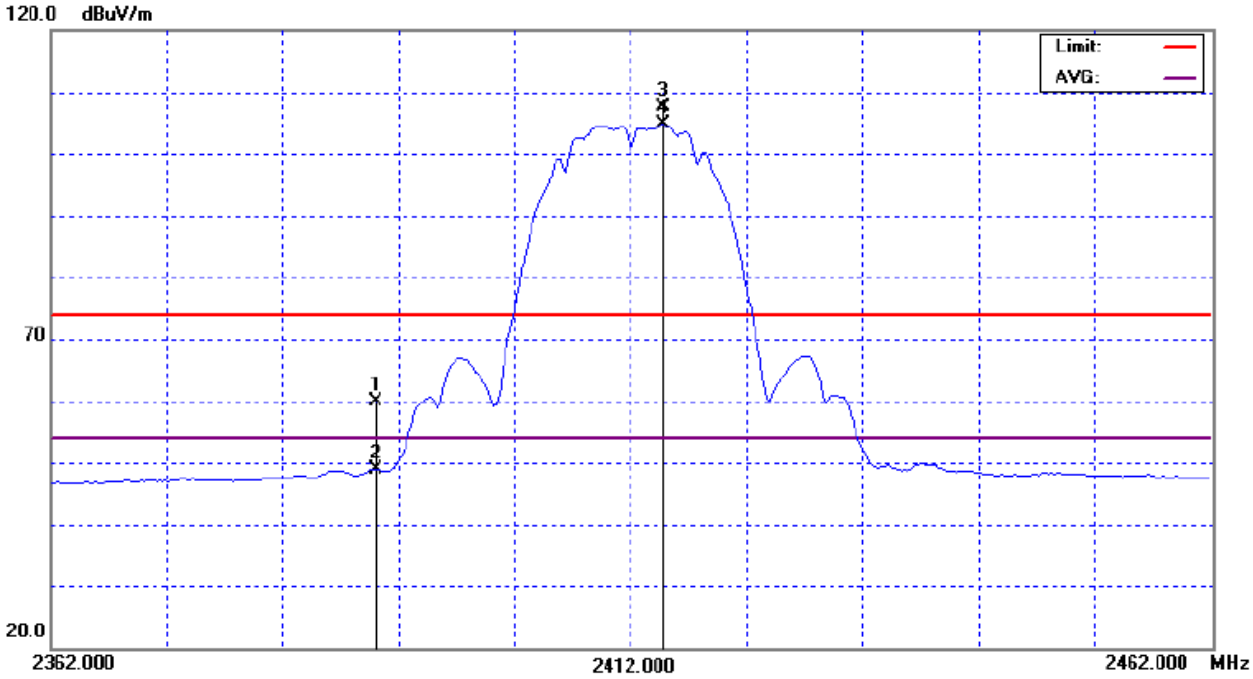
(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto

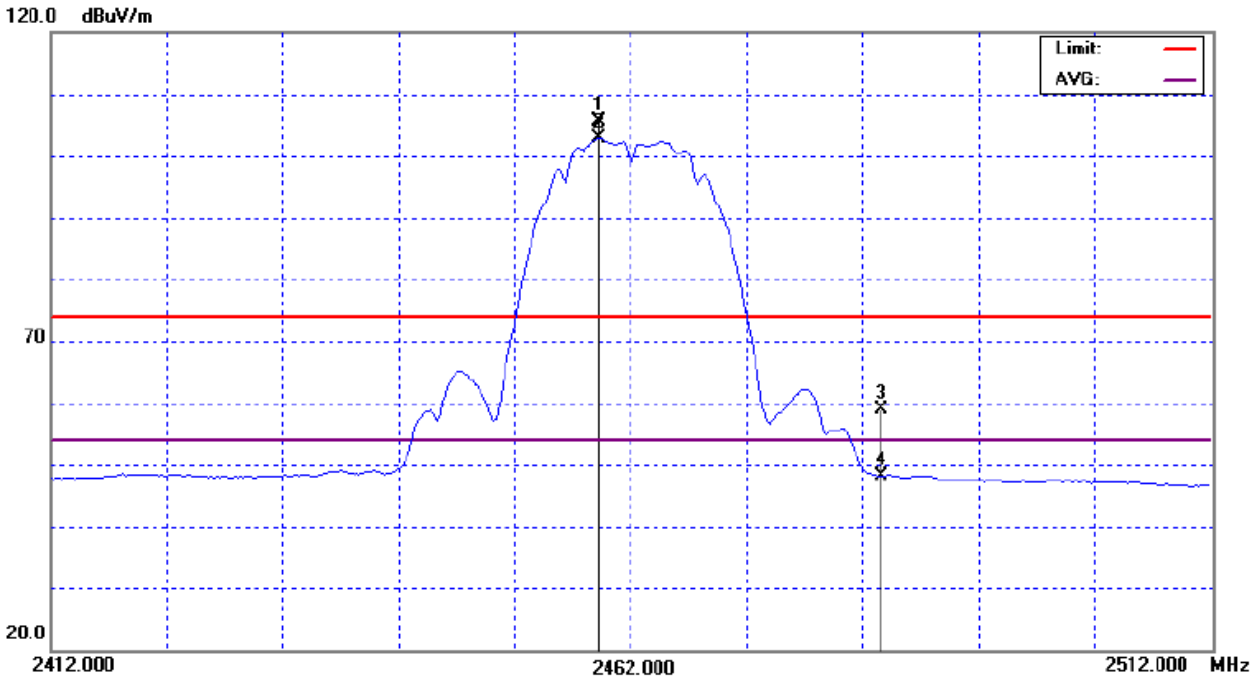
(2) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(3) EUT Orthogonal Axes：

"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

802.11b (Restricted Bands Requirements, Horizontal)





EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17°C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode ：	802.11g(Vertical)		
Note：	The emission of the carrier radiated field strength is measured for CH01/CH11 (Peak and AV) as following: 1. The transmitter was then configured with the worst case antenna and setup to transmit at the lowest channel (CH01). Then the field strength was measured at 2310-2390 MHz. 2. The transmitter was configured with the worst case antenna and setup to transmit at the highest channel (CH11). Then the field strength was measured at 2483.5-2500 MHz.		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2390.00	V	31.65	17.05	32.57	64.22	49.62	74.00	54.00	X
2483.50	V	29.22	17.29	33.10	62.32	50.39	74.00	54.00	X

Remark：

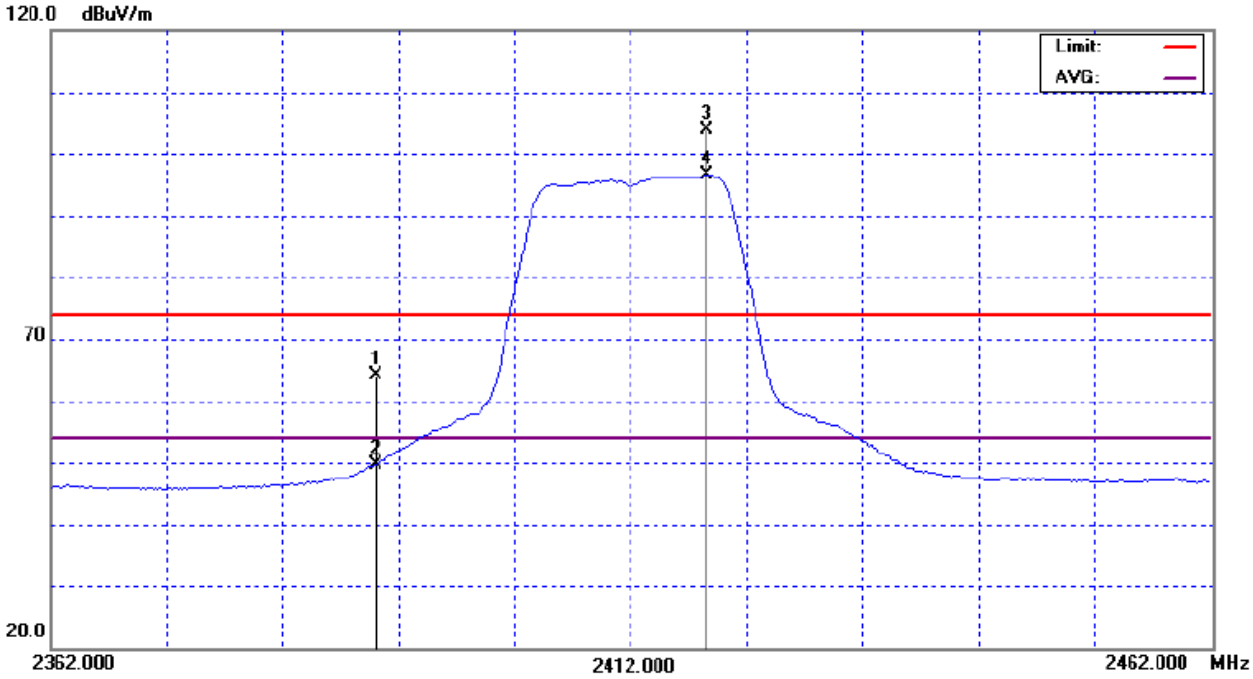
(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto

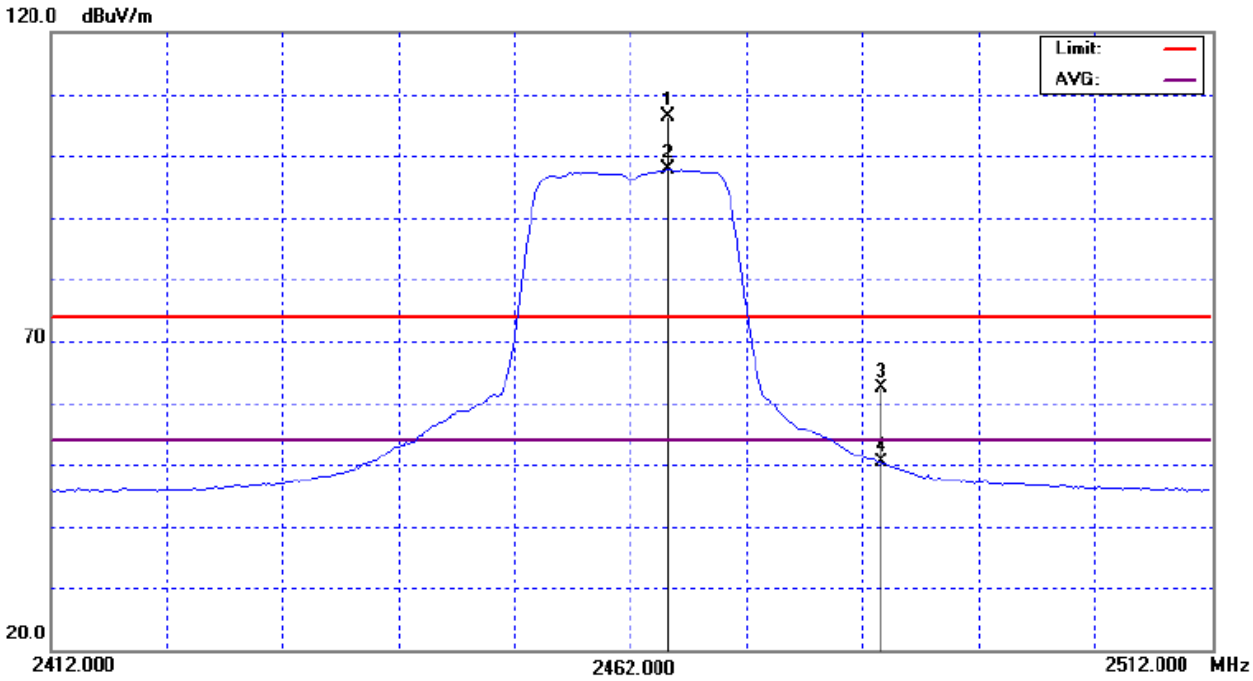
(2) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(3) EUT Orthogonal Axes：

"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

802.11g (Restricted Bands Requirements, Vertical)





EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17°C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode ：	802.11g(Horizontal)		
Note：	The emission of the carrier radiated field strength is measured for CH01/CH11 (Peak and AV) as following: 1. The transmitter was then configured with the worst case antenna and setup to transmit at the lowest channel (CH01). Then the field strength was measured at 2310-2390 MHz. 2. The transmitter was configured with the worst case antenna and setup to transmit at the highest channel (CH11). Then the field strength was measured at 2483.5-2500 MHz.		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2390.00	H	37.58	20.80	32.57	70.15	53.37	74.00	54.00	X
2483.50	H	33.52	20.52	33.10	66.62	53.62	74.00	54.00	X

Remark：

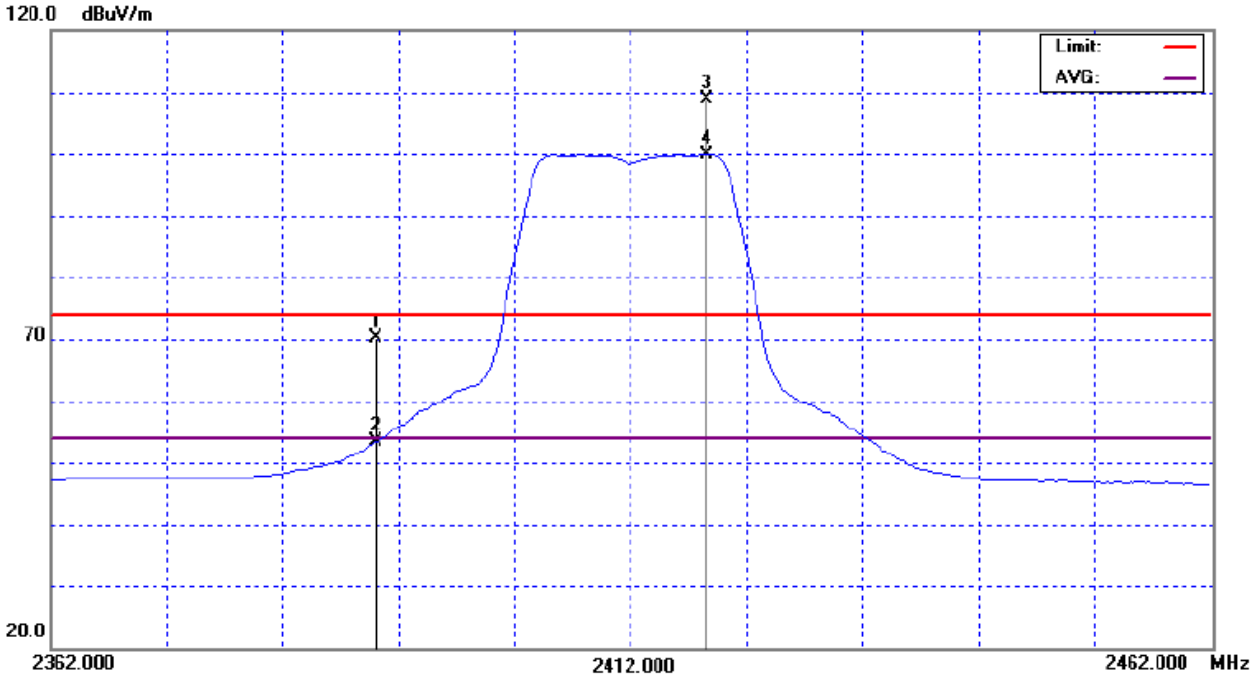
(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto

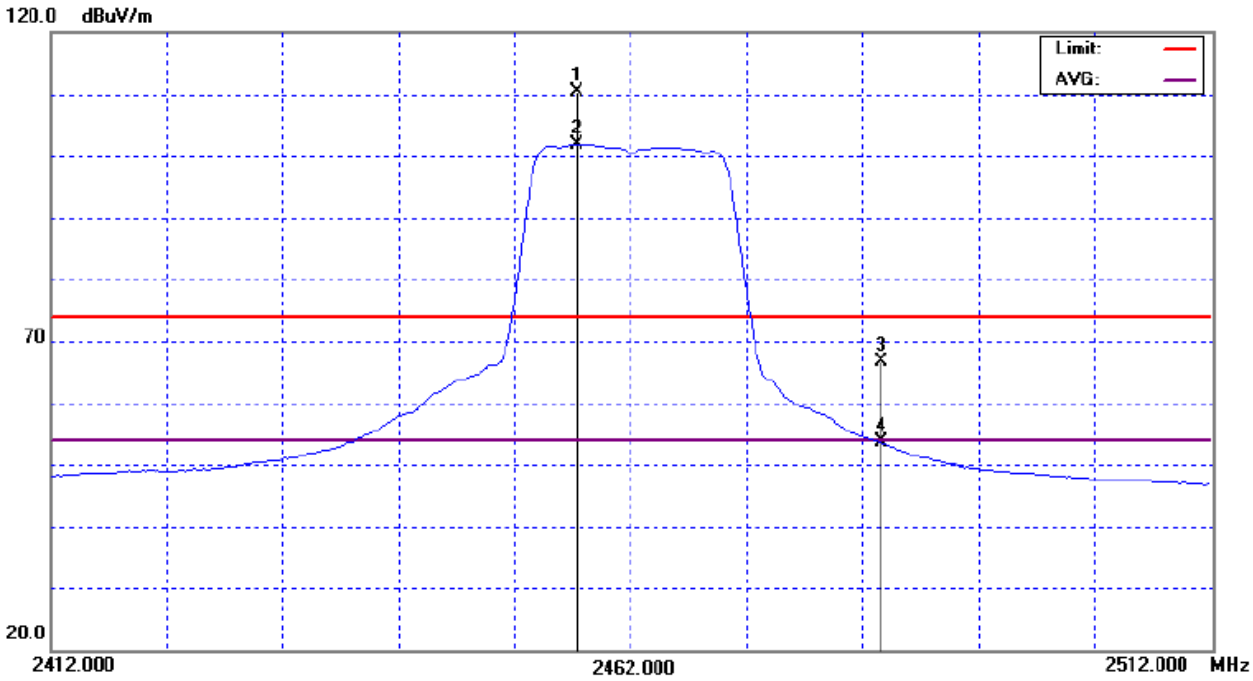
(2) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(3) EUT Orthogonal Axes：

"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

802.11g (Restricted Bands Requirements, Horizontal)





EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17°C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode ：	802.11n/20M(Ant 0 + Ant 1) (Vertical)		
Note：	The emission of the carrier radiated field strength is measured for CH01/CH11 (Peak and AV) as following: 1. The transmitter was then configured with the worst case antenna and setup to transmit at the lowest channel (CH01). Then the field strength was measured at 2310-2390 MHz. 2. The transmitter was configured with the worst case antenna and setup to transmit at the highest channel (CH11). Then the field strength was measured at 2483.5-2500 MHz.		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2390.00	V	26.22	15.95	32.57	58.79	48.52	74.00	54.00	X
2483.50	V	28.25	16.11	33.10	61.35	49.21	74.00	54.00	X

Remark：

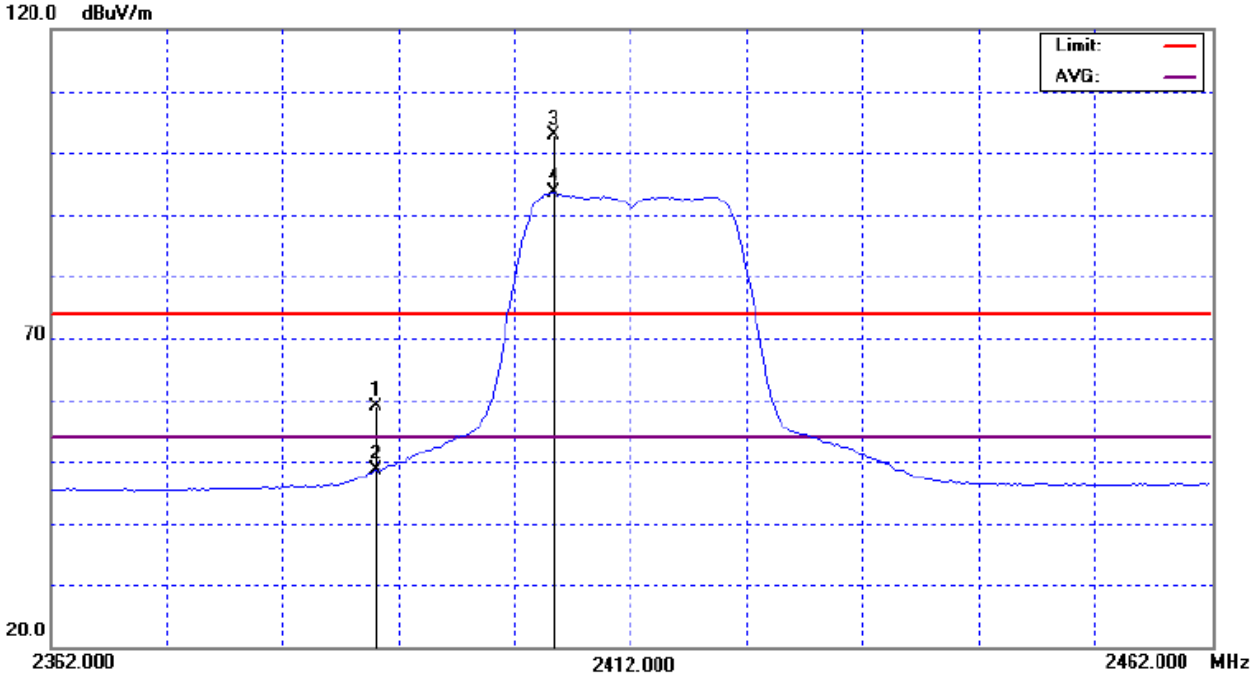
(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto

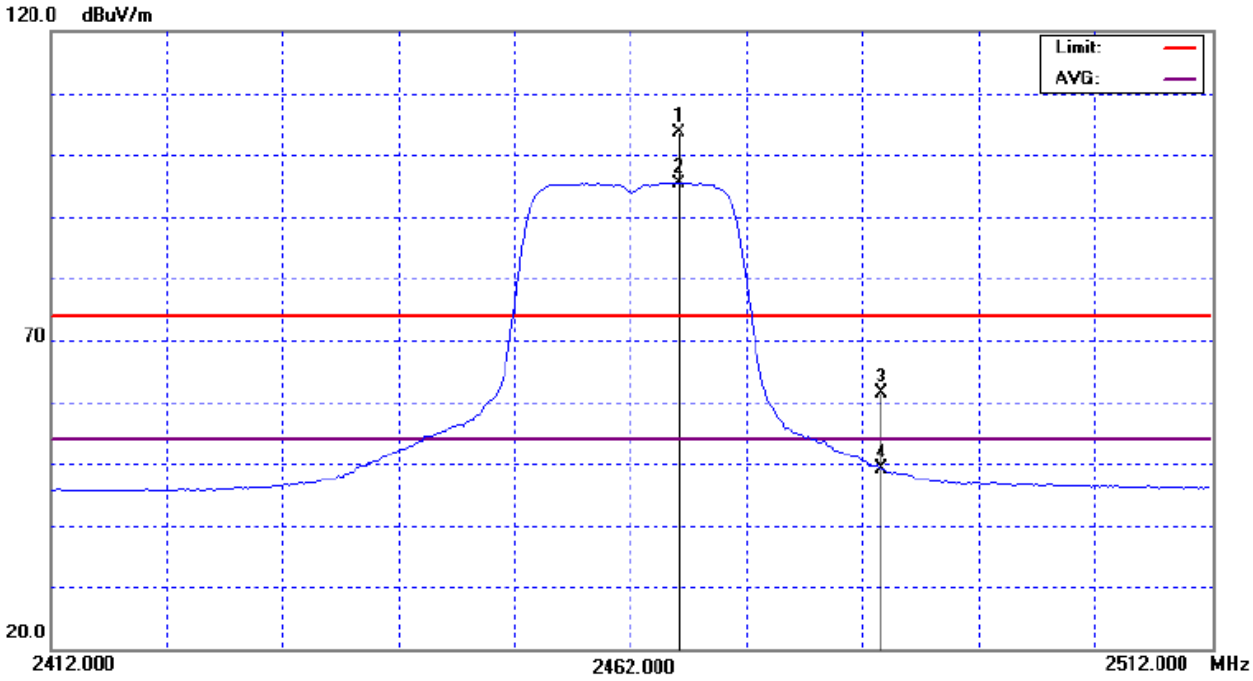
(2) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(3) EUT Orthogonal Axes：

"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

802.11n/20M (Ant 0 + Ant 1) (Restricted Bands Requirements, Vertical)





EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17°C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode ：	802.11n/20M**(Ant 0 + Ant 1)** (Horizontal)		
Note：	The emission of the carrier radiated field strength is measured for CH01/CH11 (Peak and AV) as following: 1. The transmitter was then configured with the worst case antenna and setup to transmit at the lowest channel (CH01). Then the field strength was measured at 2310-2390 MHz. 2. The transmitter was configured with the worst case antenna and setup to transmit at the highest channel (CH11). Then the field strength was measured at 2483.5-2500 MHz.		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2390.00	H	35.65	20.73	32.57	68.22	53.30	74.00	54.00	X
2483.50	H	32.87	20.16	33.10	65.97	53.26	74.00	54.00	X

Remark：

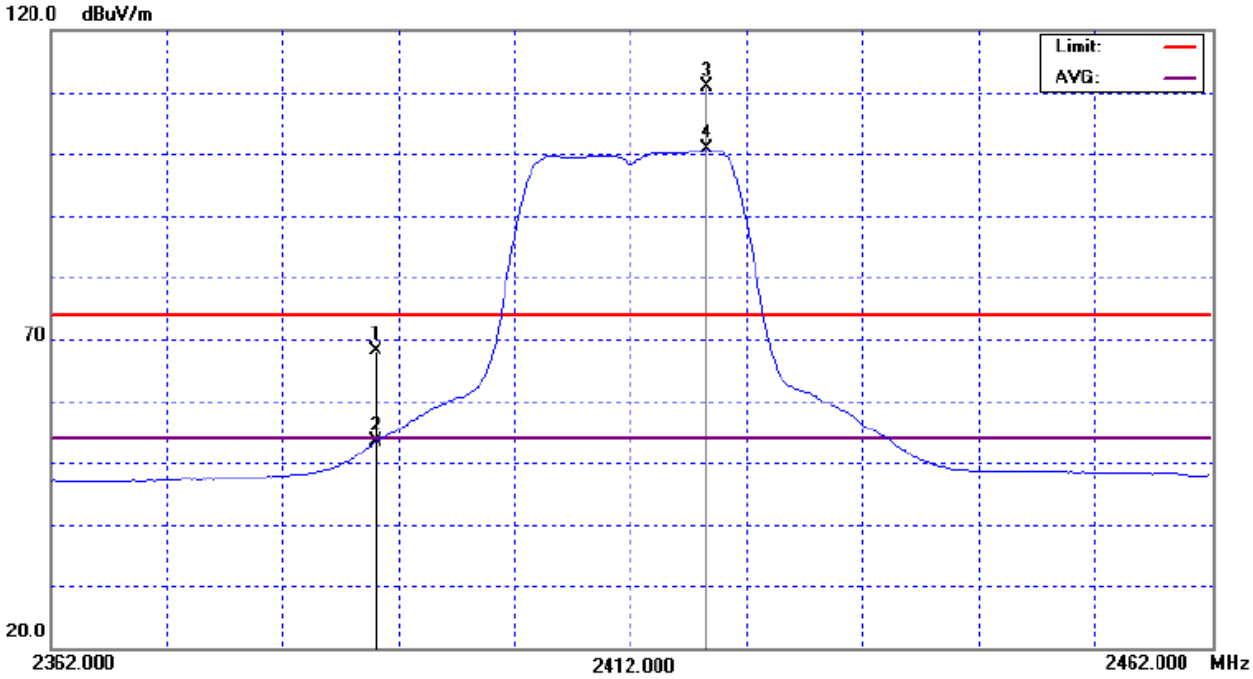
(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto

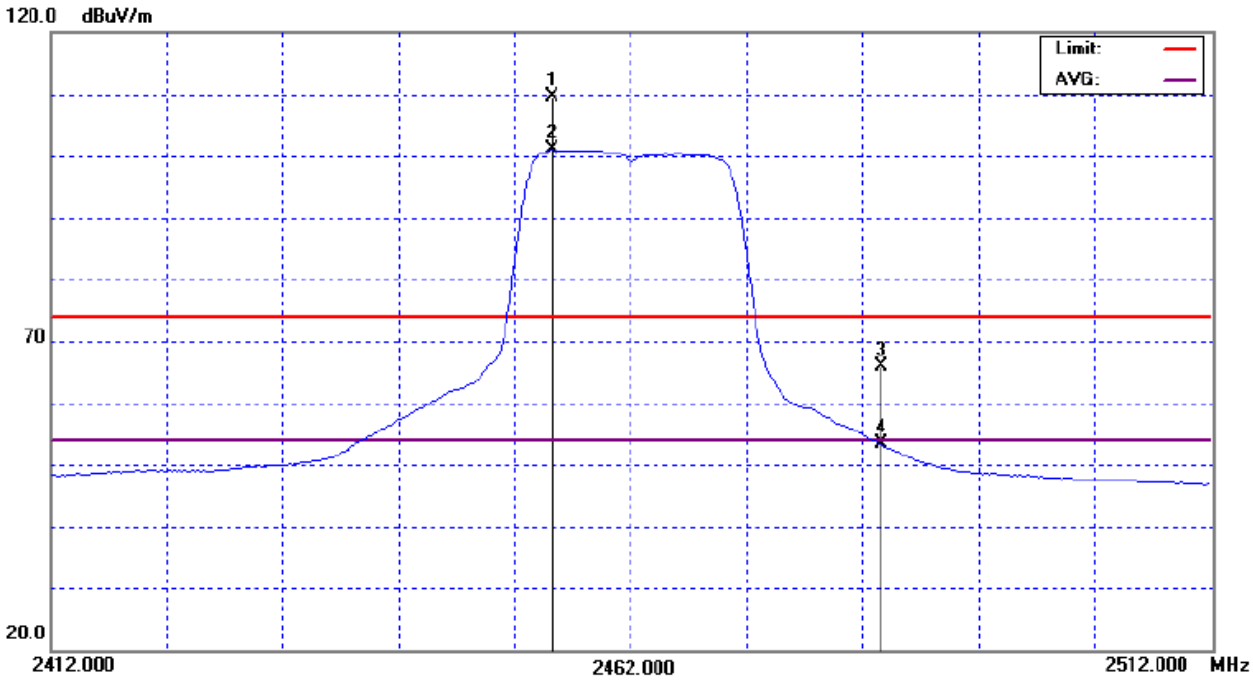
(2) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(3) EUT Orthogonal Axes：

"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

802.11n/20M (Ant 0 + Ant 1) (Restricted Bands Requirements, Horizontal)





EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17°C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode ：	802.11n/40M (Ant 0 + Ant 1) (Vertical)		
Note：	The emission of the carrier radiated field strength is measured for CH03/CH09 (Peak and AV) as following: 1. The transmitter was then configured with the worst case antenna and setup to transmit at the lowest channel (CH03). Then the field strength was measured at 2310-2390 MHz. 2. The transmitter was configured with the worst case antenna and setup to transmit at the highest channel (CH09). Then the field strength was measured at 2483.5-2500 MHz.		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2390.00	V	23.99	16.08	32.57	56.56	48.65	74.00	54.00	X
2483.50	V	26.42	16.81	33.10	59.52	49.91	74.00	54.00	X

Remark：

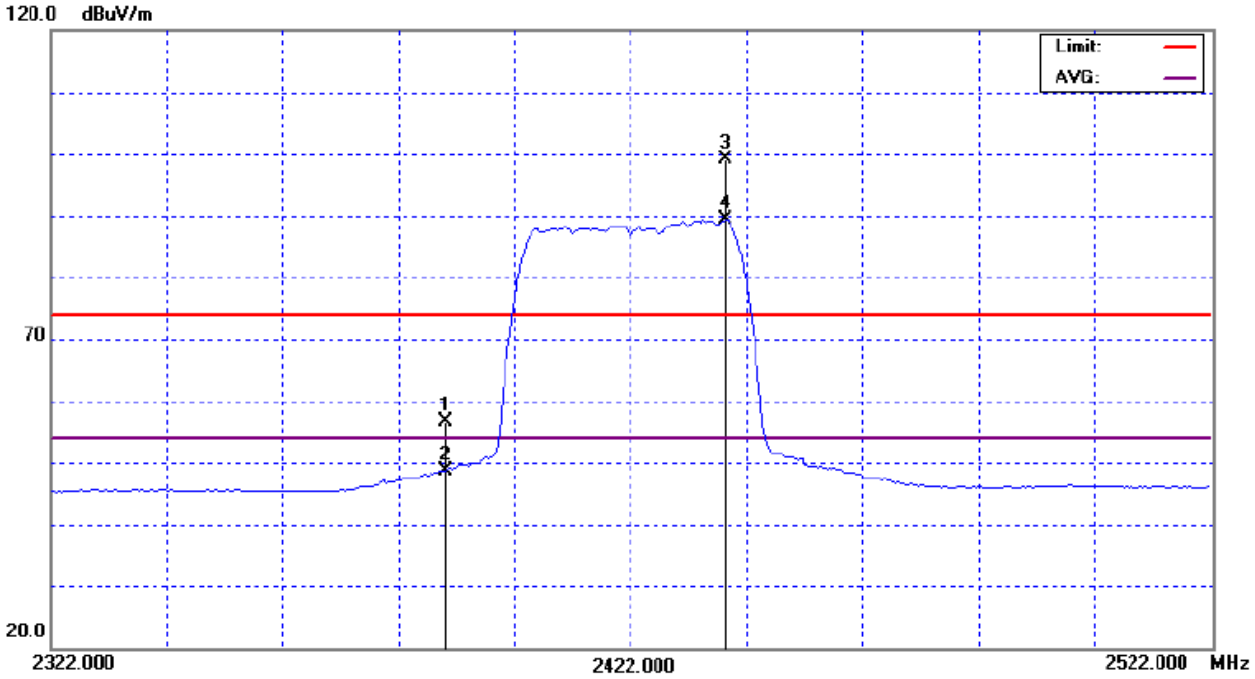
(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto

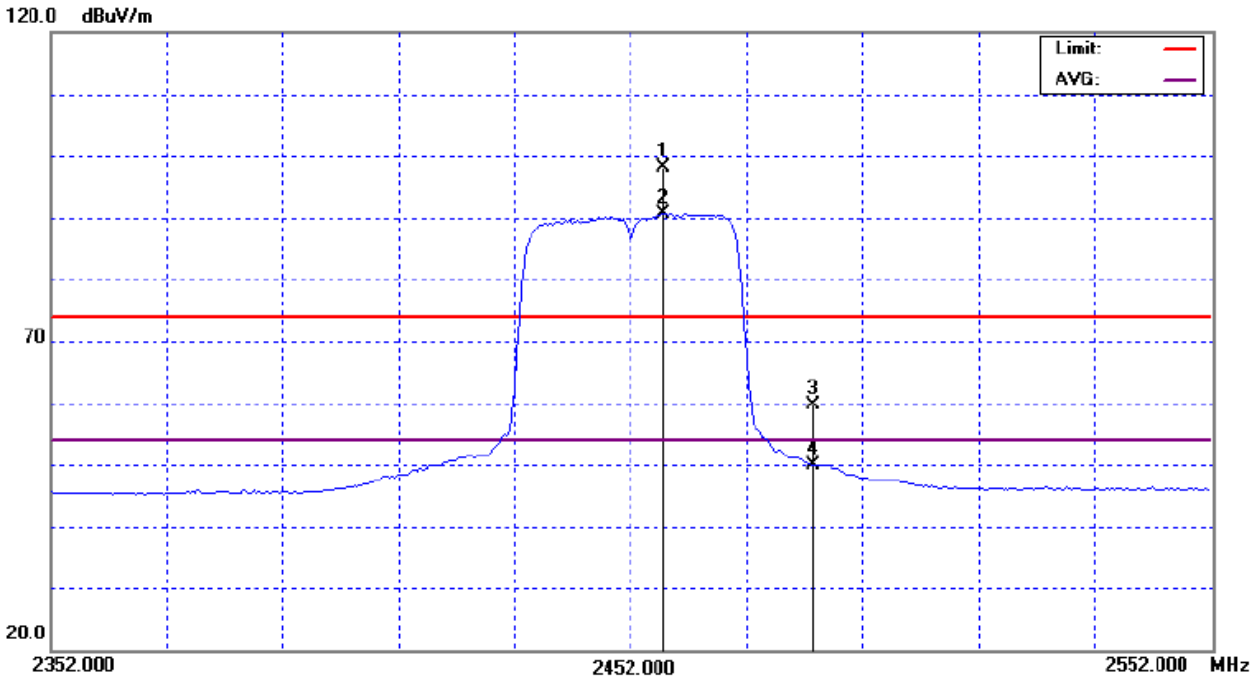
(2) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦

(3) EUT Orthogonal Axes：

"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

802.11n/40M (Ant 0 + Ant 1) (Restricted Bands Requirements, Vertical)





EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17°C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode ：	802.11n/40M(Ant 0 + Ant 1) (Horizontal)		
Note：	The emission of the carrier radiated field strength is measured for CH01/CH11 (Peak and AV) as following: 1. The transmitter was then configured with the worst case antenna and setup to transmit at the lowest channel (CH01). Then the field strength was measured at 2310-2390 MHz. 2. The transmitter was configured with the worst case antenna and setup to transmit at the highest channel (CH11). Then the field strength was measured at 2483.5-2500 MHz.		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2390.00	H	32.52	21.09	32.57	65.09	53.66	74.00	54.00	X
2483.50	H	32.30	20.53	33.10	65.40	53.63	74.00	54.00	X

Remark：

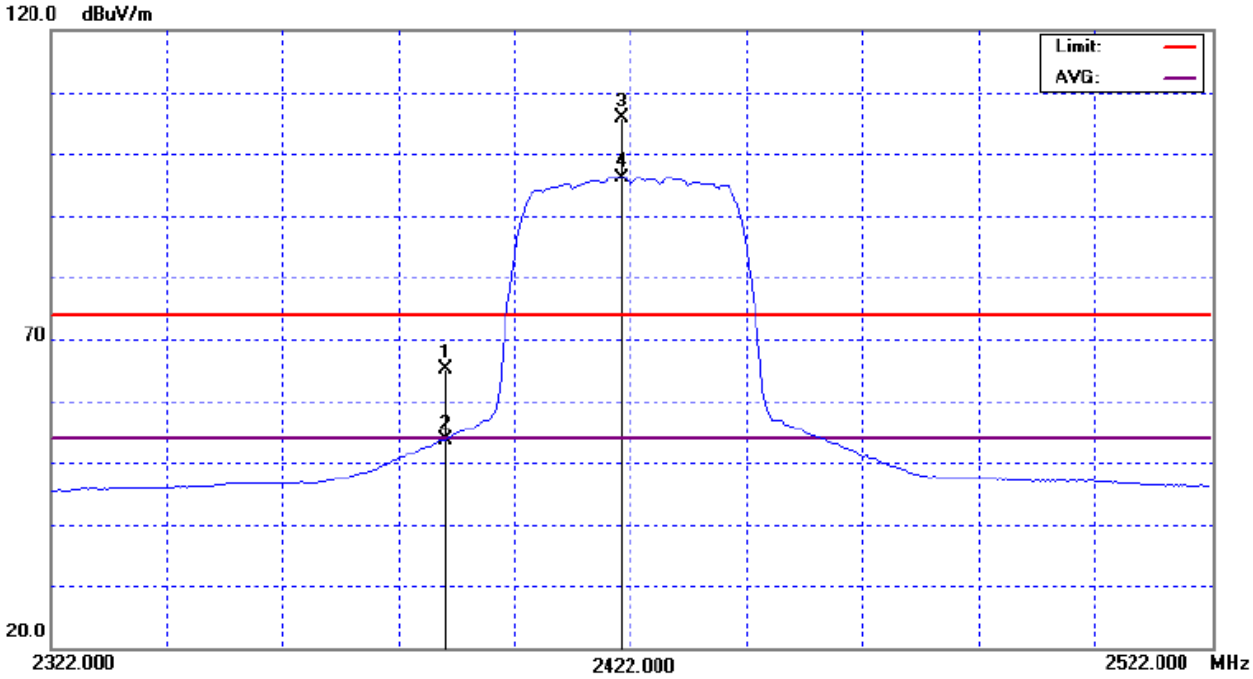
(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto

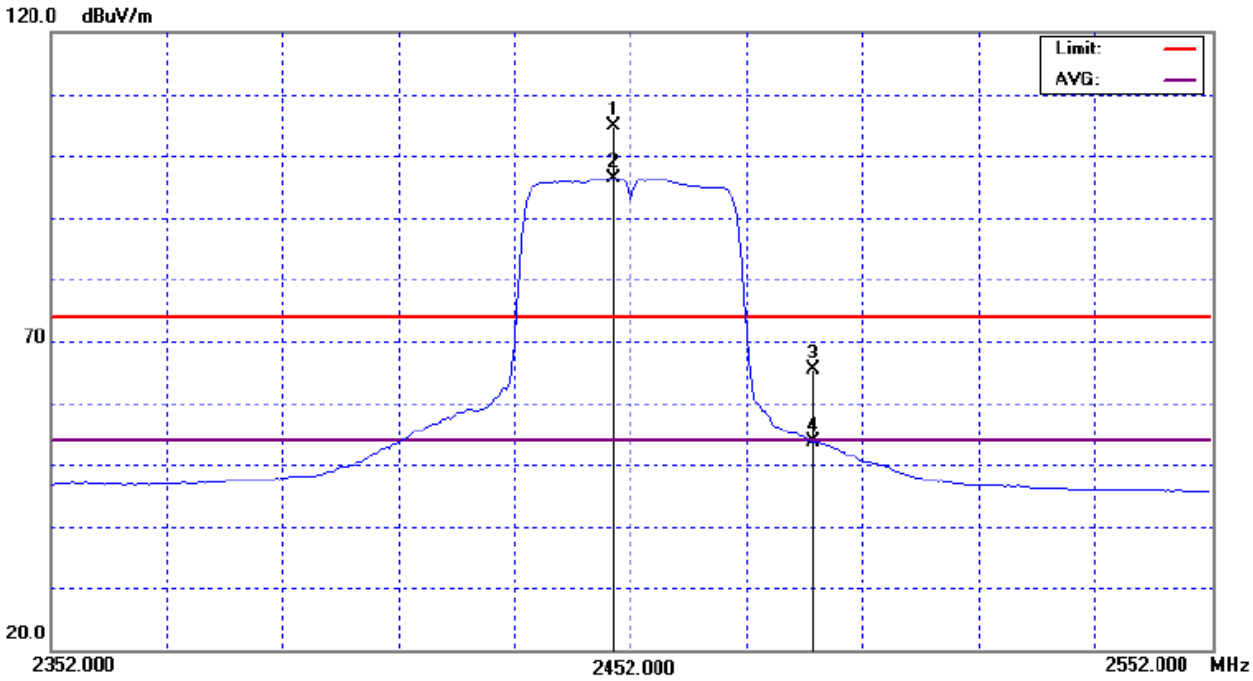
(2) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(3) EUT Orthogonal Axes：

"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

802.11n/40M (Ant 0 + Ant 1) (Restricted Bands Requirements, Horizontal)





5. BANDWITH TEST

5.1 APPLIED PROCEDURES / LIMIT

FCC Part15, Subpart C			
Test Item	Limit	Frequency Range (MHz)	Result
Bandwidth	>= 500KHz (6dB bandwidth)	2400-2483.5	PASS

5.1.1 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-30	100854	Apr. 14, 2009

Remark: ” N/A” denotes No Model Name , Serial No. or No Calibration specified.

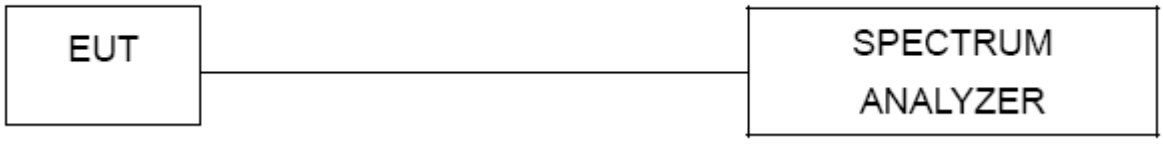
5.1.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
b. Spectrum Setting : RBW= 100KHz, VBW=100KHz, Sweep time = Auto.

5.1.3 DEVIATION FROM STANDARD

No deviation.

5.1.4 TEST SETUP



5.1.5 EUT OPERATION CONDITIONS

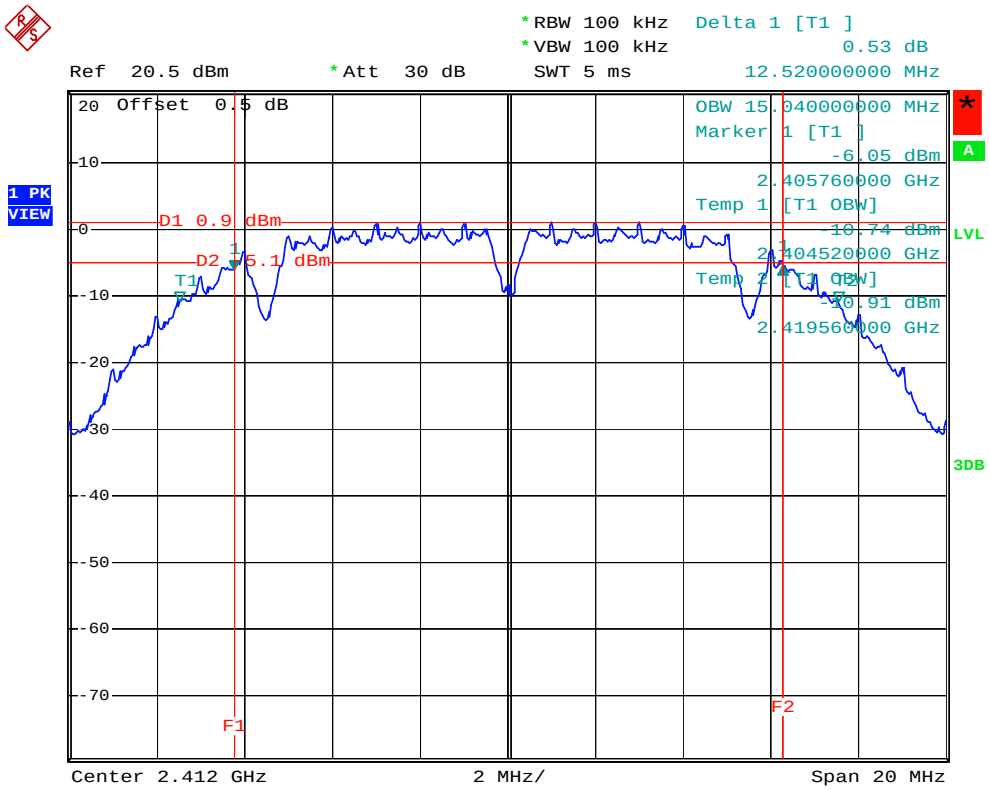
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

5.1.6 TEST RESULTS

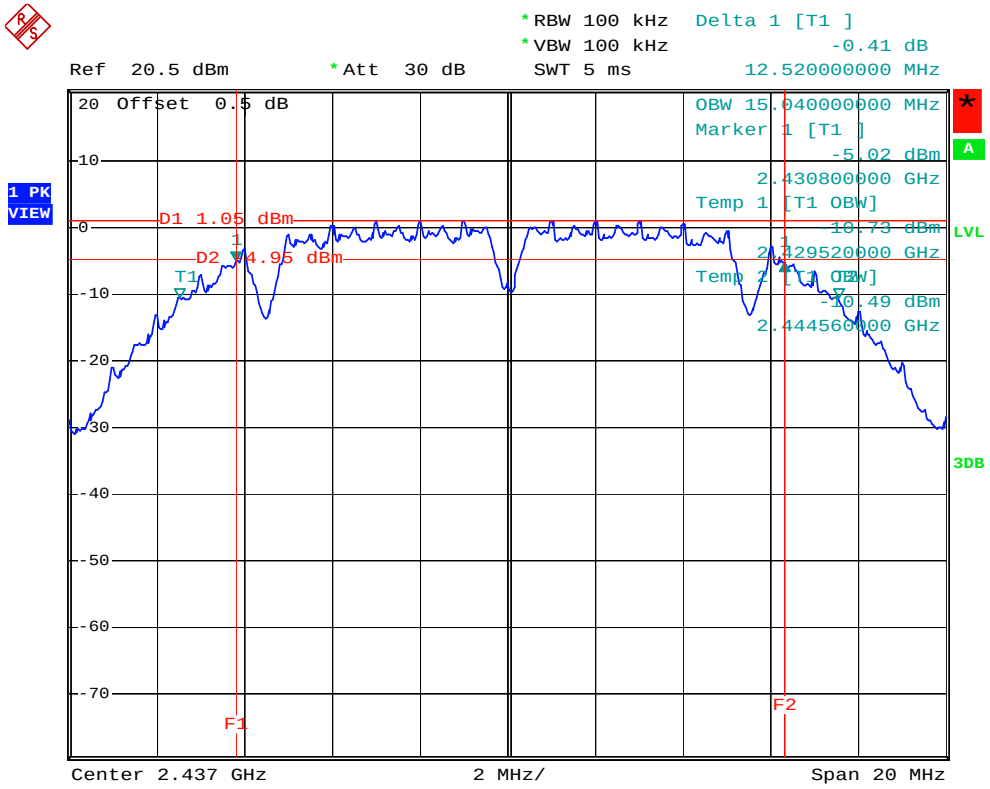
EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17 ℃	Relative Humidity：	89 %
Test Voltage：	AC 120V/60Hz		
Test Mode ：	802.11b/CH01, CH06, CH11		

Test Channel	Frequency (MHz)	Bandwidth (MHz)	LIMIT (MHz)
CH01	2412	12.52	>=500KHz
CH06	2437	12.52	>=500KHz
CH11	2462	12.52	>=500KHz

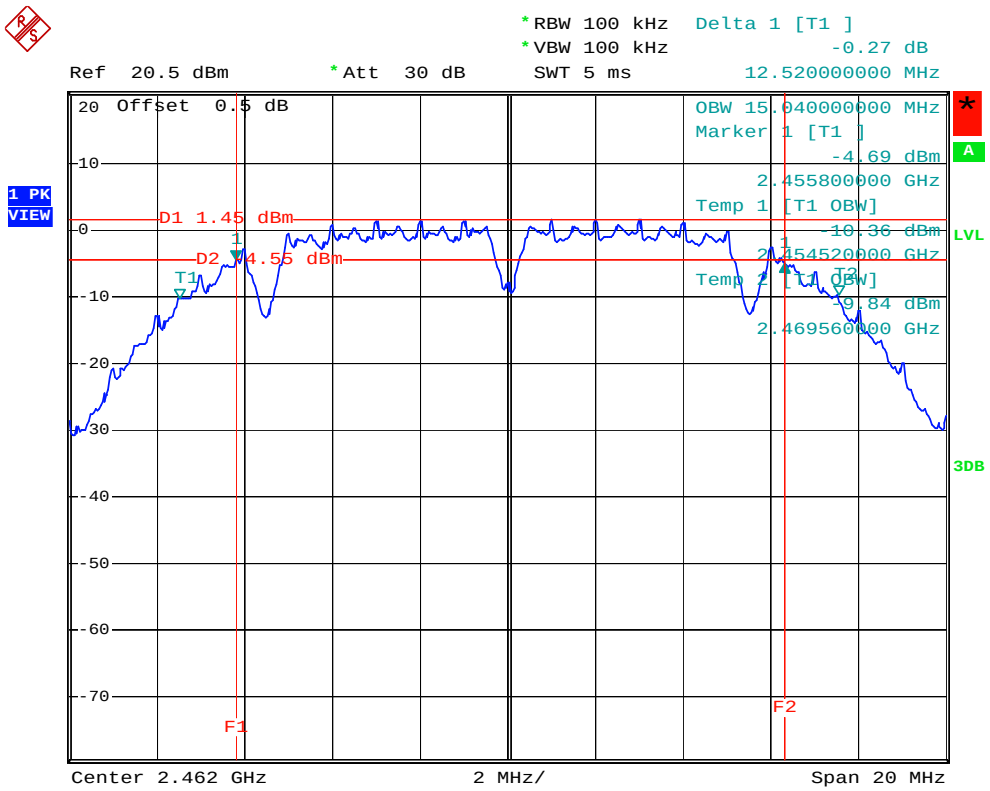
CH01



CH06


*RBW 100 kHz
*VBW 100 kHz
Delta 1 [T1]
-0.41 dB
Ref 20.5 dBm
*Att 30 dB
SWT 5 ms
12.520000000 MHz
20 Offset 0.5 dB
OBW 15.040000000 MHz
Marker 1 [T1]
-5.02 dBm
2.430800000 GHz
Temp 1 [T1 OBW]
-10.73 dBm
2.429520000 GHz
Temp 2 [T1 OBW]
-10.49 dBm
2.444560000 GHz
D1 1.05 dBm
D2 -4.95 dBm
1 PK VIEW
LVL
3DB
F1
F2
Center 2.437 GHz
2 MHz/
Span 20 MHz

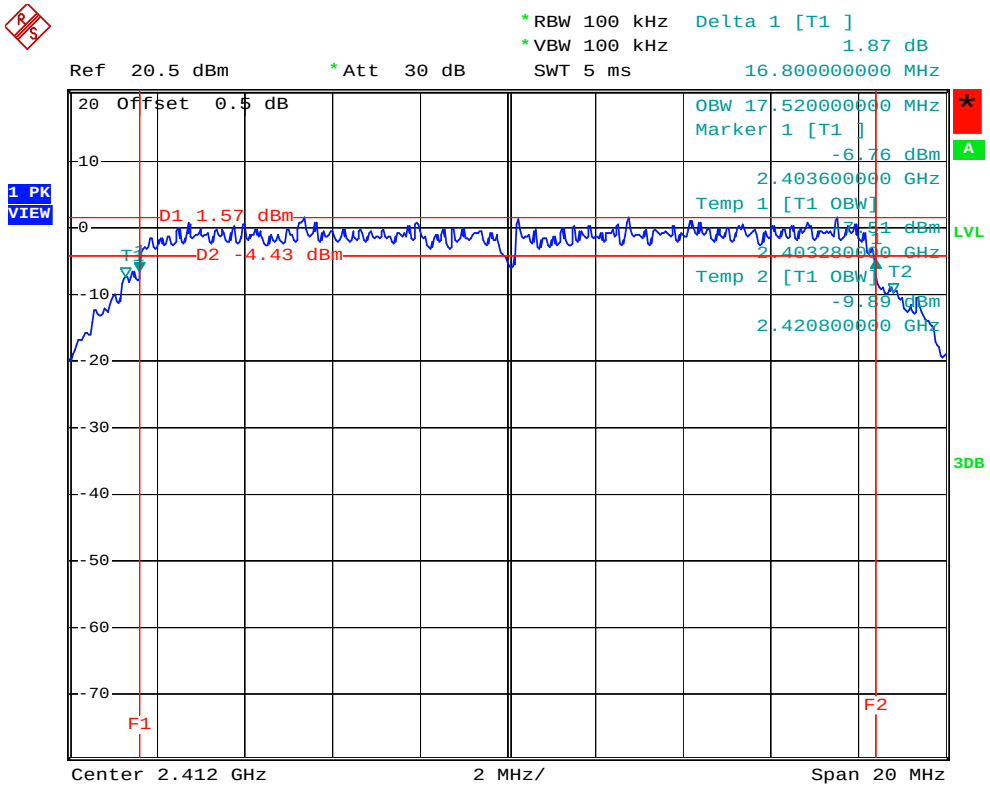
CH11


*RBW 100 kHz
*VBW 100 kHz
Delta 1 [T1]
-0.27 dB
Ref 20.5 dBm
*Att 30 dB
SWT 5 ms
12.520000000 MHz
20 Offset 0.5 dB
OBW 15.040000000 MHz
Marker 1 [T1]
-4.69 dBm
2.455800000 GHz
Temp 1 [T1 OBW]
-10.36 dBm
2.454520000 GHz
Temp 2 [T1 OBW]
-9.84 dBm
2.469560000 GHz
D1 1.45 dBm
D2 -4.55 dBm
1 PK VIEW
LVL
3DB
F1
F2
Center 2.462 GHz
2 MHz/
Span 20 MHz

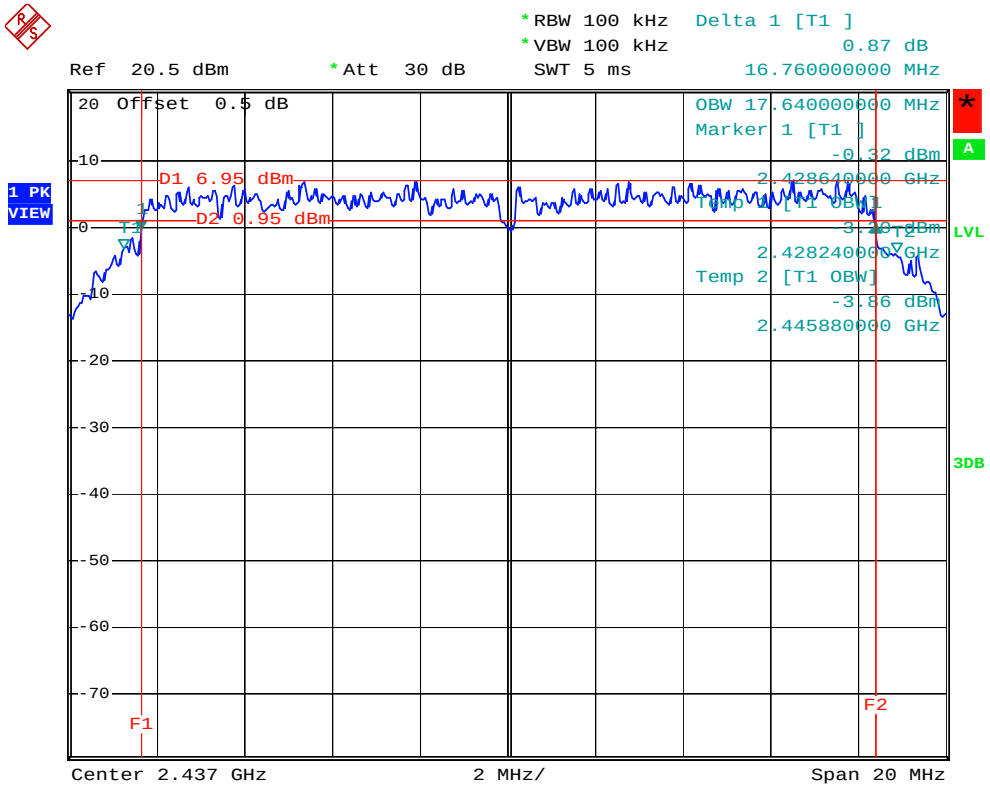
EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17 ℃	Relative Humidity：	89 %
Test Voltage：	AC 120V/60Hz		
Test Mode ：	802.11g/CH01, CH06, CH11		

Test Channel	Frequency (MHz)	Bandwidth (MHz)	LIMIT (MHz)
CH01	2412	16.80	>=500KHz
CH06	2437	16.76	>=500KHz
CH11	2462	16.60	>=500KHz

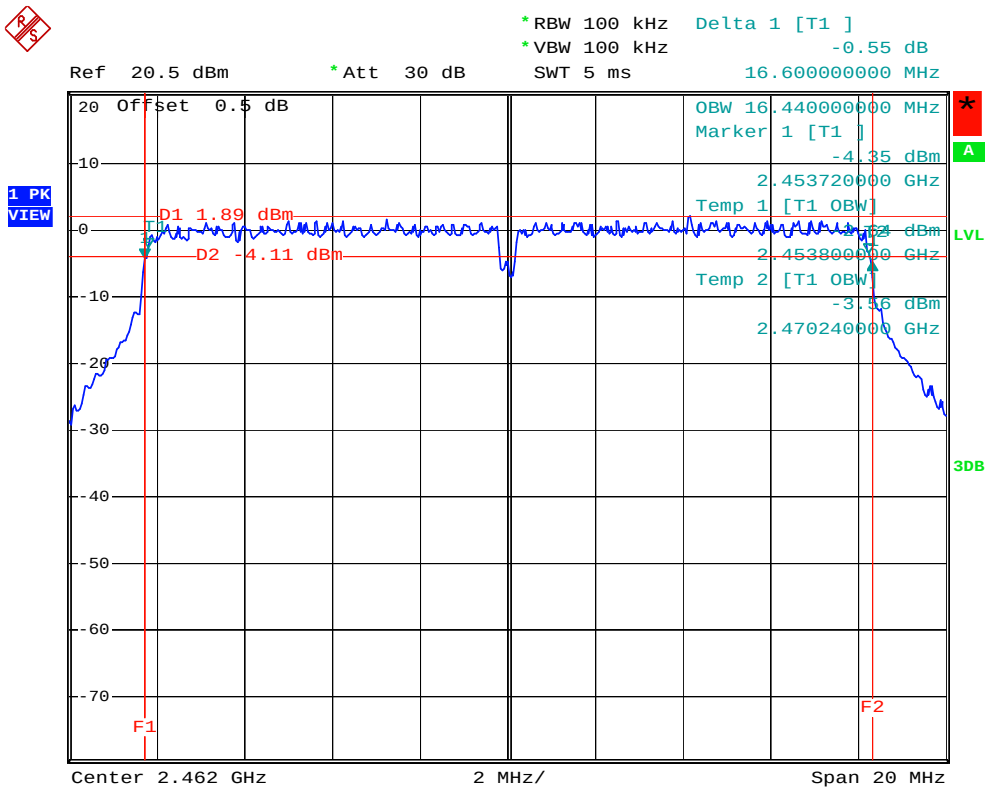
CH01



CH06


RBW 100 kHz
VBW 100 kHz
SWT 5 ms
Delta 1 [T1]
0.87 dB
16.760000000 MHz
Ref 20.5 dBm
Att 30 dB
Offset 0.5 dB
OBW 17.640000000 MHz
Marker 1 [T1]
-0.32 dBm
2.428640000 GHz
Temp 1 [T1 OBW]
-3.10 dBm
2.428240000 GHz
Temp 2 [T1 OBW]
-3.86 dBm
2.445880000 GHz
D1 6.95 dBm
D2 0.95 dBm
1 PK VIEW
A
LVL
3DB
F1
F2
Center 2.437 GHz
2 MHz/
Span 20 MHz

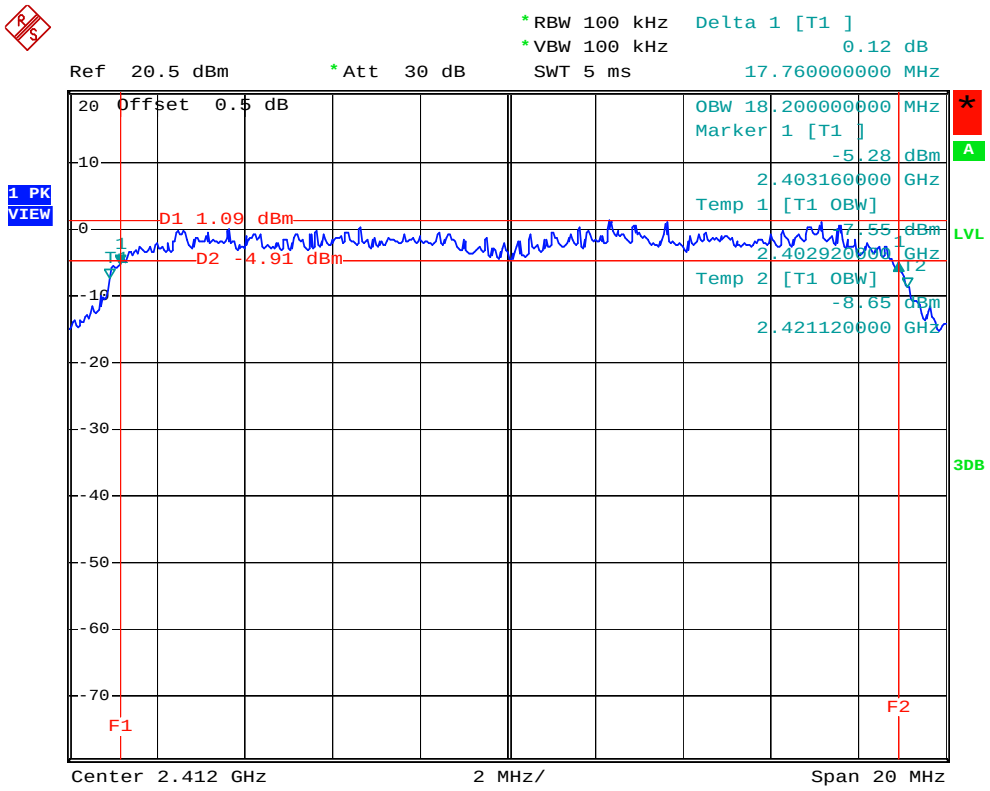
CH11


RBW 100 kHz
VBW 100 kHz
SWT 5 ms
Delta 1 [T1]
-0.55 dB
16.600000000 MHz
Ref 20.5 dBm
Att 30 dB
Offset 0.5 dB
OBW 16.440000000 MHz
Marker 1 [T1]
-4.35 dBm
2.453720000 GHz
Temp 1 [T1 OBW]
2.453800000 GHz
Temp 2 [T1 OBW]
2.470240000 GHz
D1 1.89 dBm
D2 -4.11 dBm
1 PK VIEW
A
LVL
3DB
F1
F2
Center 2.462 GHz
2 MHz/
Span 20 MHz

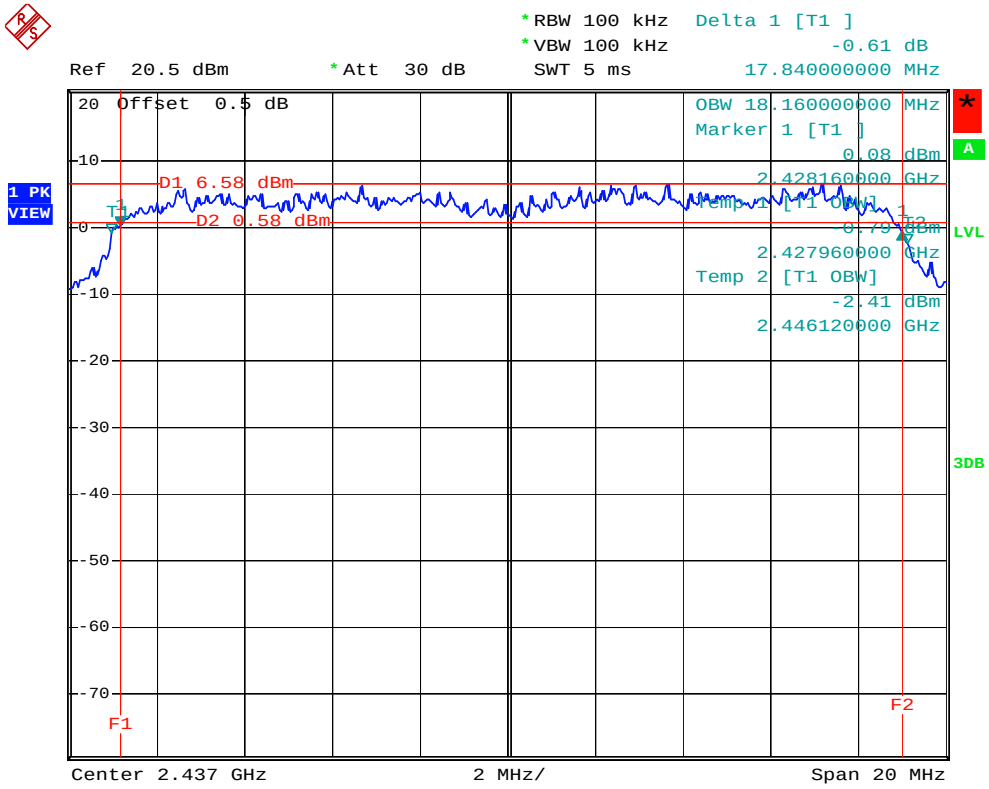
EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17 ℃	Relative Humidity：	89 %
Test Voltage：	AC 120V/60Hz		
Test Mode ：	802.11n/20M/CH01, CH06, CH11 (Ant. 0)		

Test Channel	Frequency (MHz)	Bandwidth (MHz)	LIMIT (MHz)
CH01	2412	17.76	>=500KHz
CH06	2437	17.84	>=500KHz
CH11	2462	17.92	>=500KHz

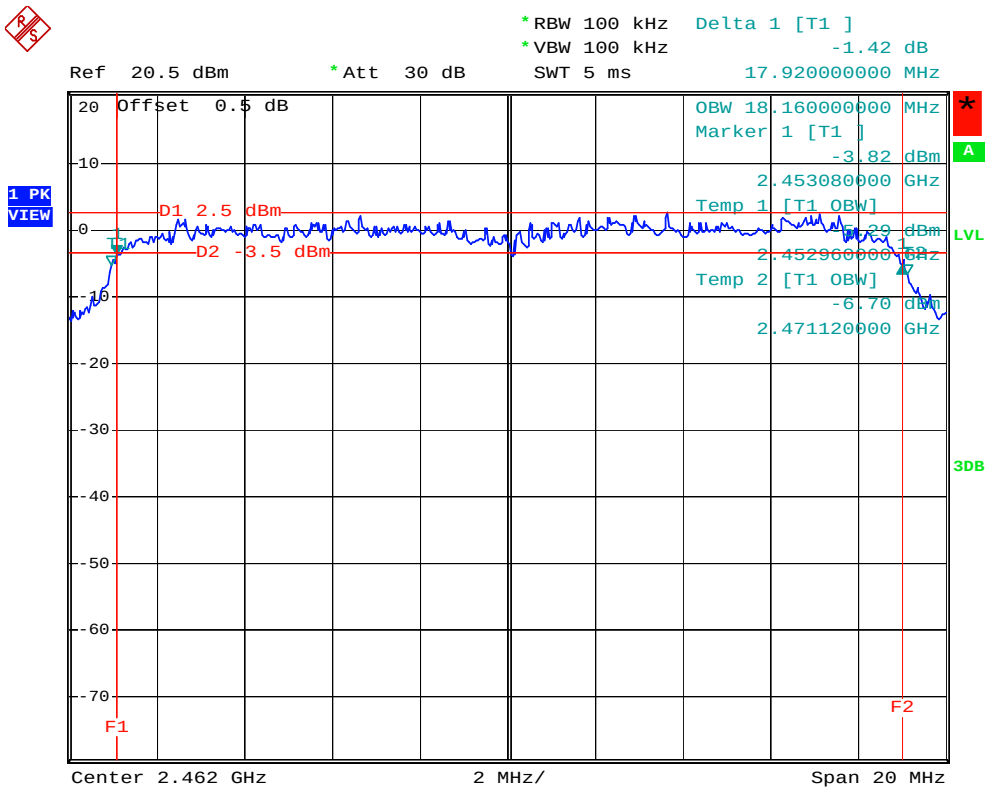
CH01



CH06


*RBW 100 kHz
*VBW 100 kHz
Ref 20.5 dBm
*Att 30 dB
SWT 5 ms
Delta 1 [T1]
-0.61 dB
17.840000000 MHz
20 Offset 0.5 dB
OBW 18.160000000 MHz
Marker 1 [T1]
0.08 dBm
2.428160000 GHz
Temp 1 [T1 OBW]
-0.79 dBm
2.427960000 GHz
Temp 2 [T1 OBW]
-2.41 dBm
2.446120000 GHz
D1 6.58 dBm
D2 0.58 dBm
1 PK VIEW
A
LVL
3DB
F1
F2
Center 2.437 GHz
2 MHz/
Span 20 MHz

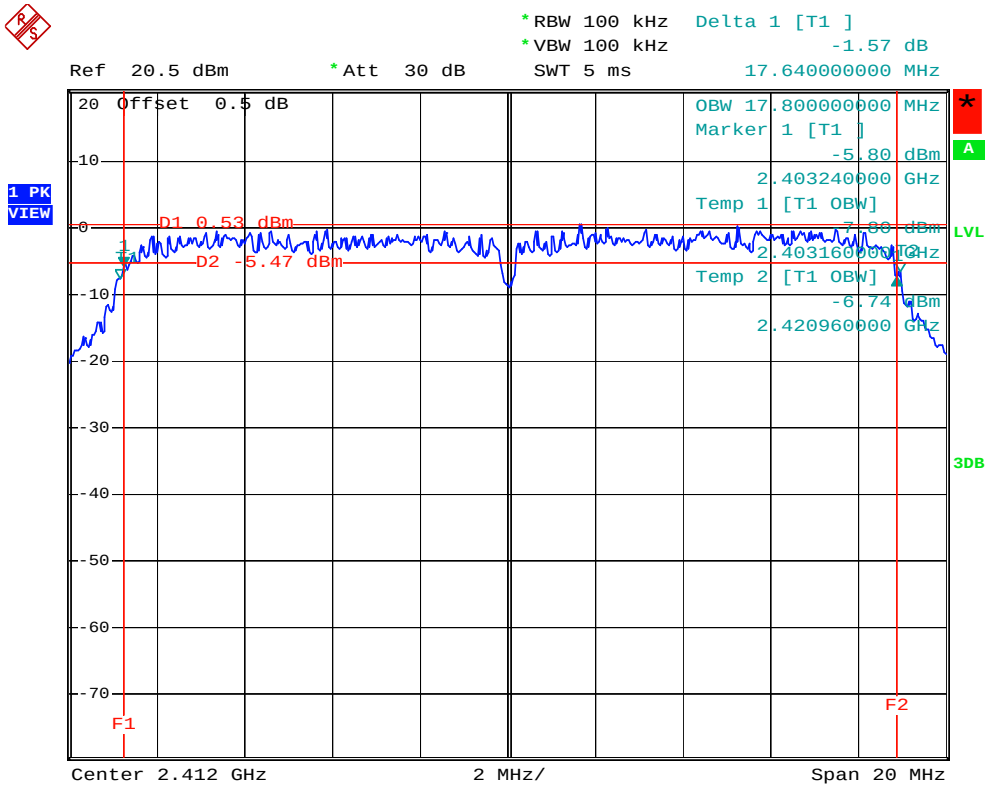
CH11


*RBW 100 kHz
*VBW 100 kHz
Ref 20.5 dBm
*Att 30 dB
SWT 5 ms
Delta 1 [T1]
-1.42 dB
17.920000000 MHz
20 Offset 0.5 dB
OBW 18.160000000 MHz
Marker 1 [T1]
-3.82 dBm
2.453080000 GHz
Temp 1 [T1 OBW]
-5.29 dBm
2.452960000 GHz
Temp 2 [T1 OBW]
-6.70 dBm
2.471120000 GHz
D1 2.5 dBm
D2 -3.5 dBm
1 PK VIEW
A
LVL
3DB
F1
F2
Center 2.462 GHz
2 MHz/
Span 20 MHz

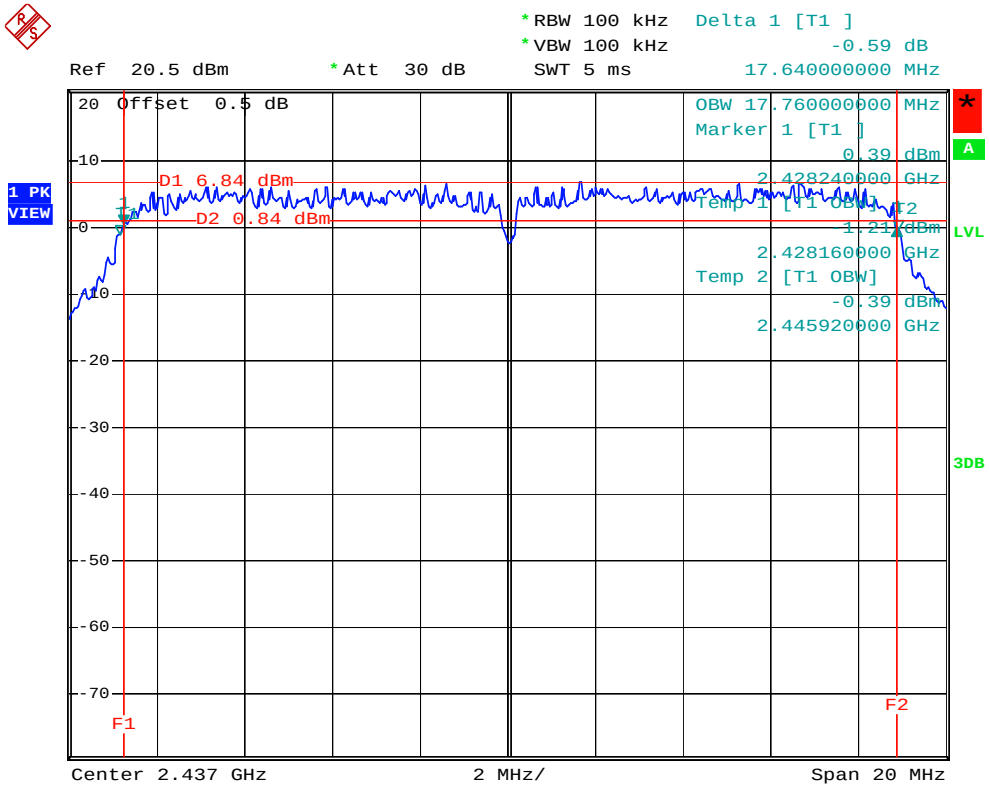
EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17 ℃	Relative Humidity：	89 %
Test Voltage：	AC 120V/60Hz		
Test Mode ：	802.11n/20M/CH01, CH06, CH11 (Ant. 1)		

Test Channel	Frequency (MHz)	Bandwidth (MHz)	LIMIT (MHz)
CH01	2412	17.64	>=500KHz
CH06	2437	17.64	>=500KHz
CH11	2462	17.64	>=500KHz

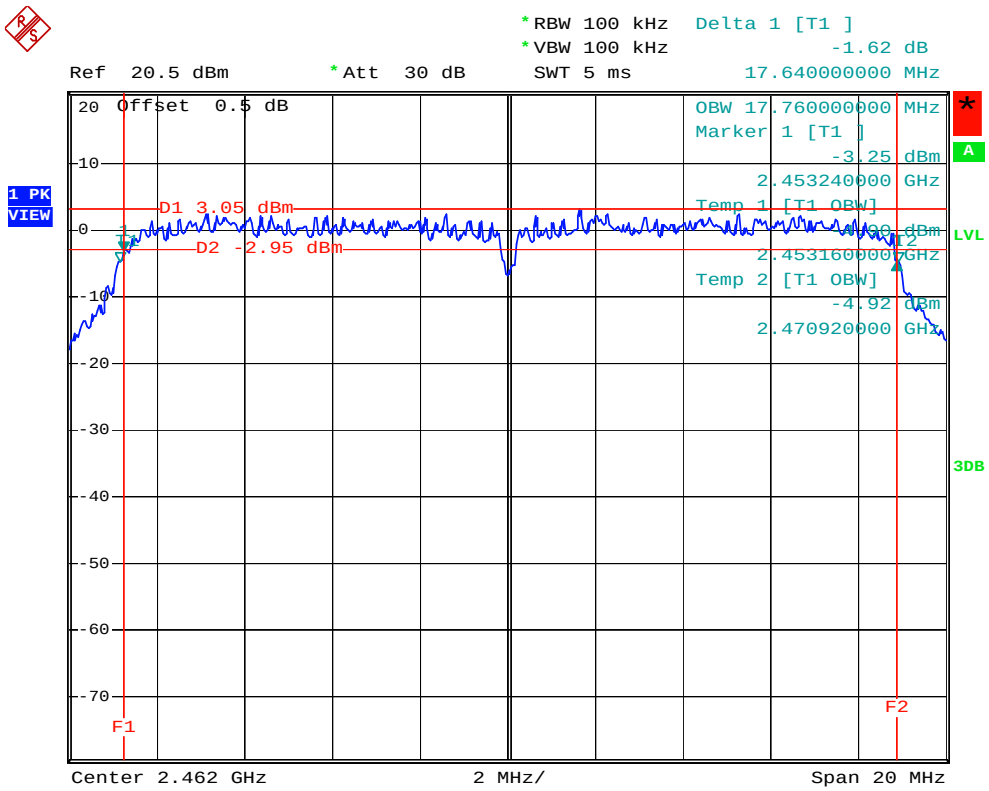
CH01



CH06


*RBW 100 kHz
*VBW 100 kHz
Ref 20.5 dBm
*Att 30 dB
SWT 5 ms
Delta 1 [T1]
-0.59 dB
17.640000000 MHz
20 Offset 0.5 dB
OBW 17.760000000 MHz
Marker 1 [T1]
0.39 dBm
2.428240000 GHz
Temp 1 [T1 OBW]
-1.21 dBm
2.428160000 GHz
Temp 2 [T1 OBW]
-0.39 dBm
2.445920000 GHz
D1 6.84 dBm
D2 0.84 dBm
1 PK VIEW
A
LVL
3DB
F1
F2
Center 2.437 GHz
2 MHz/
Span 20 MHz

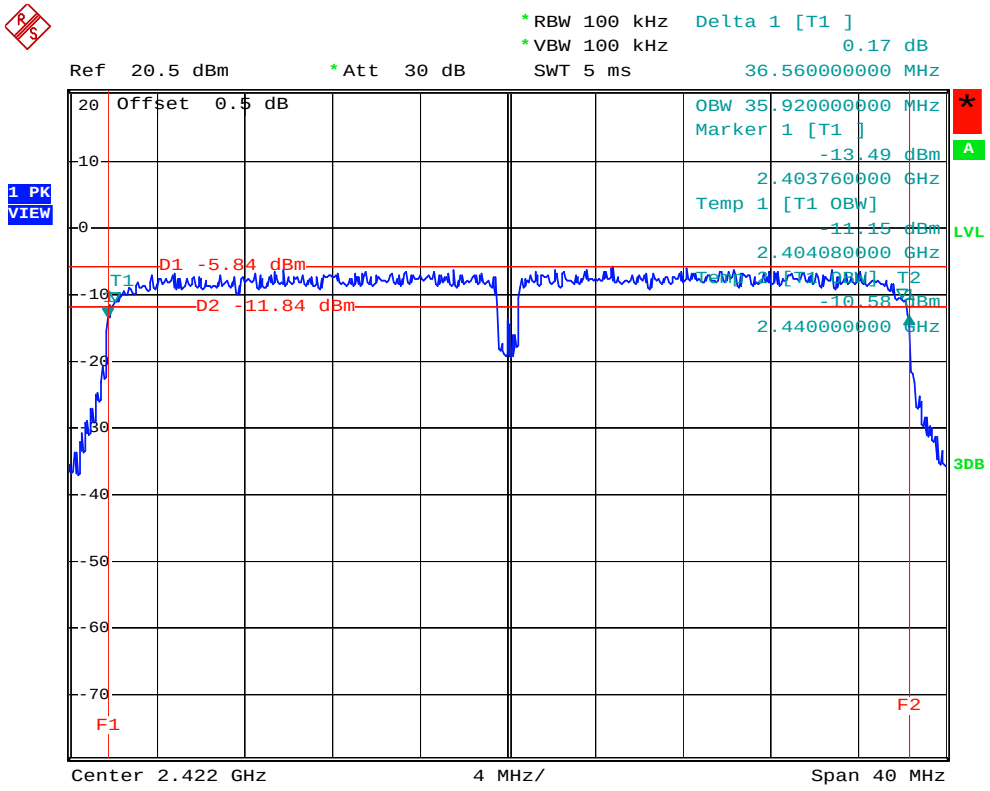
CH11


*RBW 100 kHz
*VBW 100 kHz
Ref 20.5 dBm
*Att 30 dB
SWT 5 ms
Delta 1 [T1]
-1.62 dB
17.640000000 MHz
20 Offset 0.5 dB
OBW 17.760000000 MHz
Marker 1 [T1]
-3.25 dBm
2.453240000 GHz
Temp 1 [T1 OBW]
-4.00 dBm
2.453160000 GHz
Temp 2 [T1 OBW]
-4.92 dBm
2.470920000 GHz
D1 3.05 dBm
D2 -2.95 dBm
1 PK VIEW
A
LVL
3DB
F1
F2
Center 2.462 GHz
2 MHz/
Span 20 MHz

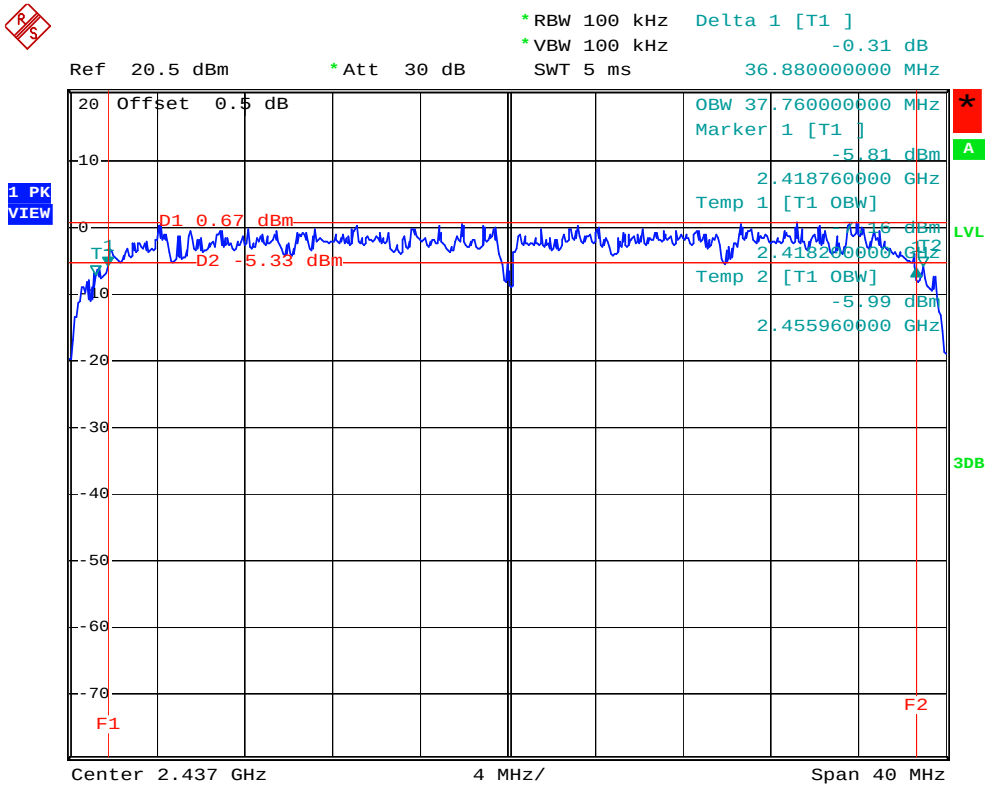
EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17 ℃	Relative Humidity：	89 %
Test Voltage：	AC 120V/60Hz		
Test Mode ：	802.11n/40M/CH03, CH06, CH09 (Ant. 0)		

Test Channel	Frequency (MHz)	Bandwidth (MHz)	LIMIT (MHz)
CH03	2422	36.56	>=500KHz
CH06	2437	36.88	>=500KHz
CH09	2452	36.56	>=500KHz

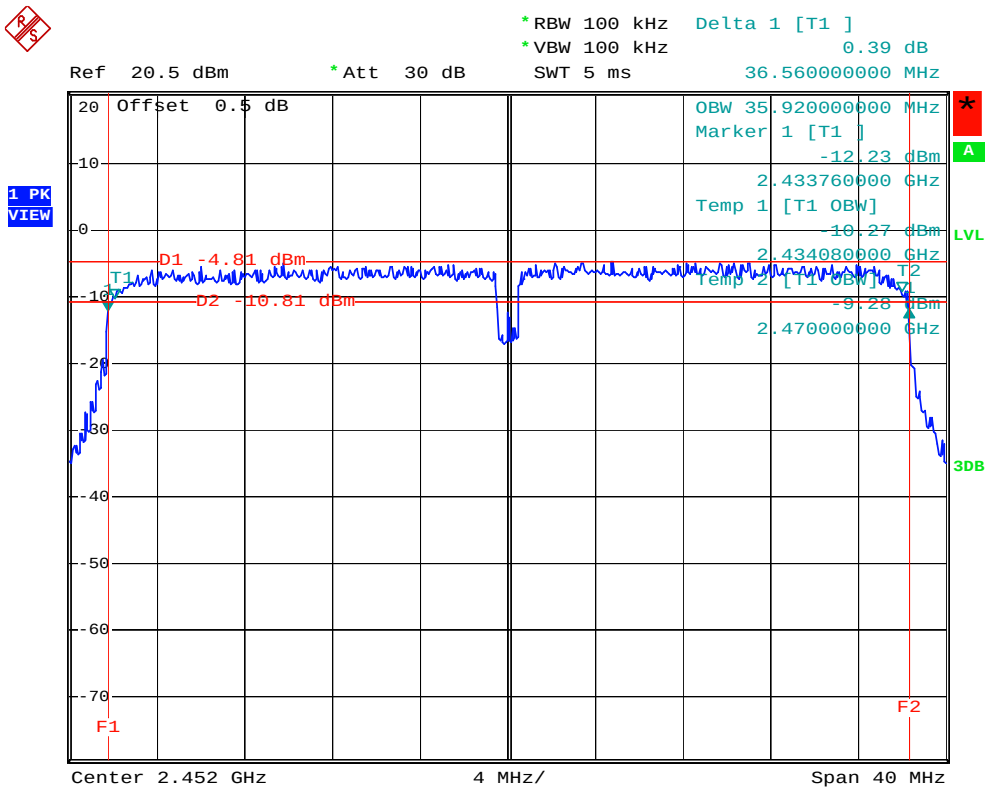
CH03



CH06


*RBW 100 kHz
*VBW 100 kHz
Ref 20.5 dBm
*Att 30 dB
SWT 5 ms
Delta 1 [T1]
-0.31 dB
36.880000000 MHz
Offset 0.5 dB
OBW 37.760000000 MHz
Marker 1 [T1]
-5.81 dBm
2.418760000 GHz
Temp 1 [T1 OBW]
-6.16 dBm
2.418200000 GHz
Temp 2 [T1 OBW]
-5.99 dBm
2.455960000 GHz
D1 0.67 dBm
D2 -5.33 dBm
1 PK VIEW
LVL
3DB
F1
F2
Center 2.437 GHz
4 MHz/
Span 40 MHz

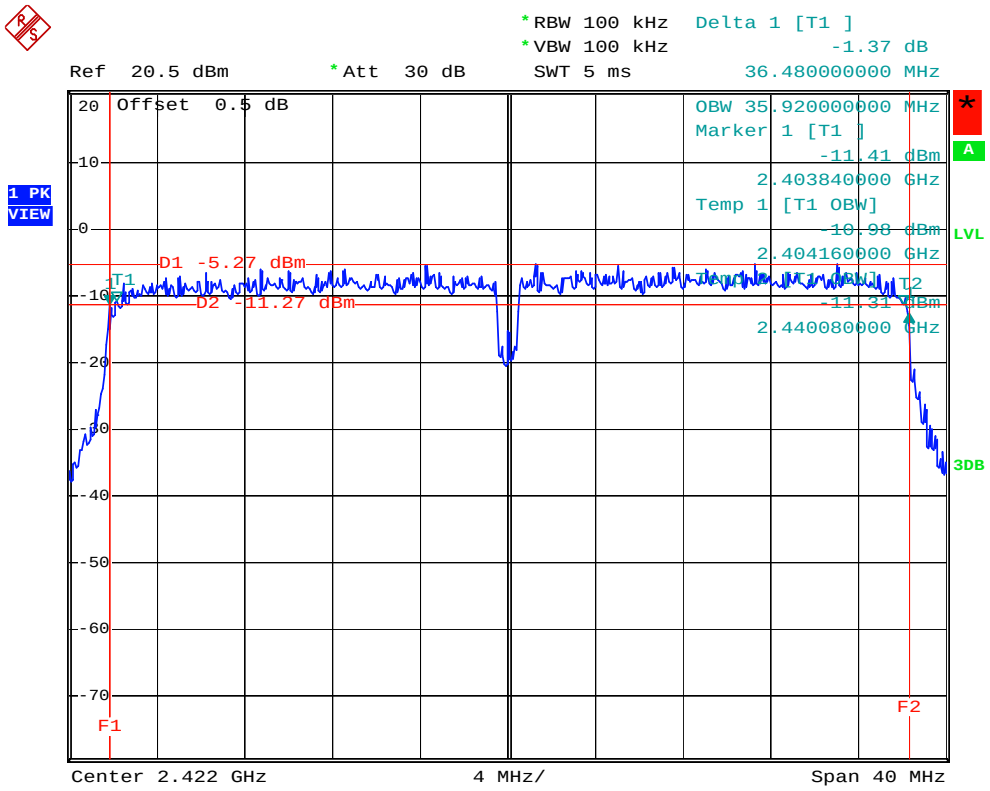
CH09


*RBW 100 kHz
*VBW 100 kHz
Ref 20.5 dBm
*Att 30 dB
SWT 5 ms
Delta 1 [T1]
0.39 dB
36.560000000 MHz
Offset 0.5 dB
OBW 35.920000000 MHz
Marker 1 [T1]
-12.23 dBm
2.433760000 GHz
Temp 1 [T1 OBW]
-10.27 dBm
2.434080000 GHz
Temp 2 [T1 OBW]
-9.28 dBm
2.470000000 GHz
D1 -4.81 dBm
D2 -10.81 dBm
1 PK VIEW
LVL
3DB
F1
F2
Center 2.452 GHz
4 MHz/
Span 40 MHz

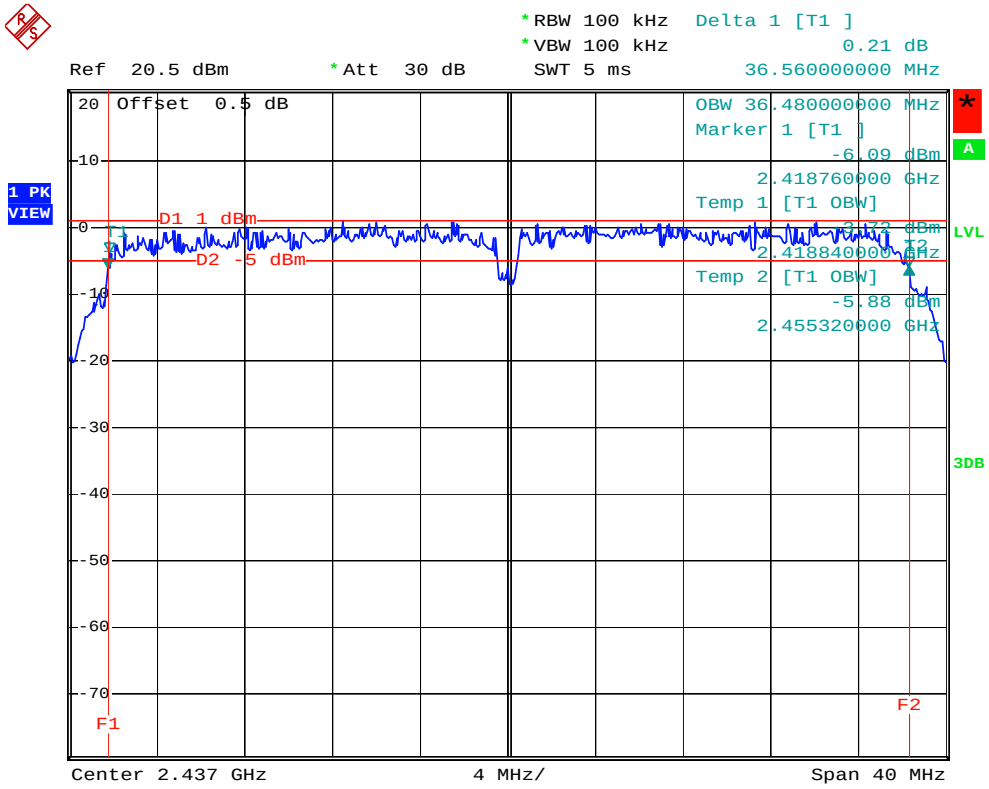
EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17 ℃	Relative Humidity：	89 %
Test Voltage：	AC 120V/60Hz		
Test Mode ：	802.11n/40M/CH03, CH06, CH09 (Ant. 1)		

Test Channel	Frequency (MHz)	Bandwidth (MHz)	LIMIT (MHz)
CH03	2422	36.48	>=500KHz
CH06	2437	36.56	>=500KHz
CH09	2452	36.48	>=500KHz

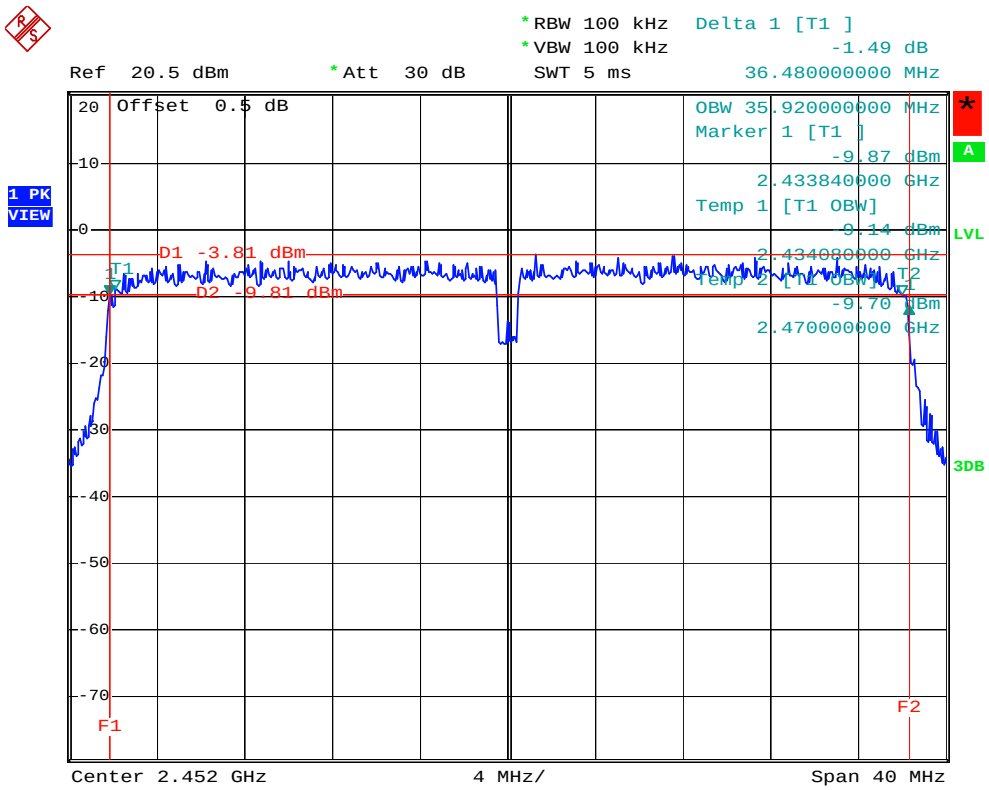
CH03



CH06


*RBW 100 kHz
*VBW 100 kHz
Ref 20.5 dBm
*Att 30 dB
SWT 5 ms
Delta 1 [T1]
0.21 dB
36.560000000 MHz
20 Offset 0.5 dB
OBW 36.480000000 MHz
Marker 1 [T1]
-6.09 dBm
2.418760000 GHz
Temp 1 [T1 OBW]
-2.72 dBm
2.418840000 GHz
Temp 2 [T1 OBW]
-5.88 dBm
2.455320000 GHz
D1 1 dBm
D2 -5 dBm
1 PK VIEW
LVL
3DB
F1
F2
Center 2.437 GHz
4 MHz/
Span 40 MHz

CH09


*RBW 100 kHz
*VBW 100 kHz
Ref 20.5 dBm
*Att 30 dB
SWT 5 ms
Delta 1 [T1]
-1.49 dB
36.480000000 MHz
20 Offset 0.5 dB
OBW 35.920000000 MHz
Marker 1 [T1]
-9.87 dBm
2.433840000 GHz
Temp 1 [T1 OBW]
-9.14 dBm
2.434080000 GHz
Temp 2 [T1 OBW]
-9.70 dBm
2.470000000 GHz
D1 -3.81 dBm
D2 -9.81 dBm
1 PK VIEW
LVL
3DB
F1
F2
Center 2.452 GHz
4 MHz/
Span 40 MHz

6. PEAK OUTPUT POWER TEST

6.1 APPLIED PROCEDURES / LIMIT

FCC Part15, Subpart C			
Test Item	Limit	Frequency Range (MHz)	Result
Peak Output Power	1 watt or 30dBm	2400-2483.5	PASS

6.1.1 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Power Meter	Anritsu	ML2487A	6K00004714	Feb. 12, 2009
2	Power Meter Sensor	Anritsu	MA2491A	34138	Feb. 12, 2009

Remark: ” N/A” denotes No Model Name , Serial No. or No Calibration specified.

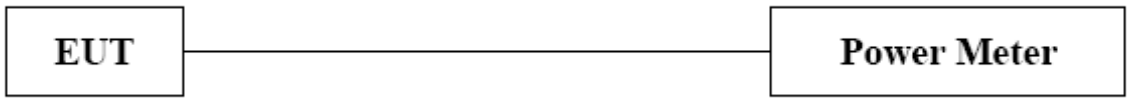
6.1.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
b. Spectrum Setting : RBW= 1MHz, VBW= 1MHz, Sweep time = Auto.

6.1.3 DEVIATION FROM STANDARD

No deviation.

6.1.4 TEST SETUP



6.1.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

6.1.6 TEST RESULTS

EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17 ℃	Relative Humidity：	89 %
Test Voltage：	AC 120V/60Hz		
Test Mode ：	802.11b/CH01, CH06, CH11		

Test Channel	Frequency (MHz)	Peak Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH01	2412	16.56	30	1
CH06	2437	16.72	30	1
CH11	2462	17.02	30	1

EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17 ℃	Relative Humidity：	89 %
Test Voltage：	AC 120V/60Hz		
Test Mode ：	802.11g/CH01, CH06, CH11		

Test Channel	Frequency (MHz)	Peak Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH01	2412	23.91	30	1
CH06	2437	26.25	30	1
CH11	2462	25.35	30	1

EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17 ℃	Relative Humidity：	89 %
Test Voltage：	AC 120V/60Hz		
Test Mode ：	802.11n/20M/CH01, CH06, CH11		

Ant. 0					
Test Channel	Frequency (MHz)	Peak Output Power (dBm)	(W)	LIMIT (dBm)	LIMIT (W)
CH01	2412	22.21	0.1663	29.42	0.8750
CH06	2437	25.90	0.3890	29.42	0.8750
CH11	2462	24.37	0.2735	29.42	0.8750

Ant. 1					
Test Channel	Frequency (MHz)	Peak Output Power (dBm)	(W)	LIMIT (dBm)	LIMIT (W)
CH01	2412	22.30	0.1698	29.42	0.8750
CH06	2437	26.02	0.3999	29.42	0.8750
CH11	2462	23.91	0.2460	29.42	0.8750

Total (Ant. 0 + Ant. 1)					
Test Channel	Frequency (MHz)	Peak Output Power (dBm)	(W)	LIMIT (dBm)	LIMIT (W)
CH01	2412	25.27	0.3362	29.42	0.8750
CH06	2437	28.97	0.7890	29.42	0.8750
CH11	2462	27.16	0.5196	29.42	0.8750

Remark：

(1) **The MIMO test requirement, RF conducted output power shall measure each transmitter chain by using channel power method.**
And after obtain each individual transmitter chain power, then sum the output power by using the following formula:
((dBm/Chain 1)/10^Log) + ((dBm/Chain 2)/10^log) + ((dBm/ChainN)/10^log) = Combined peak output power in mW.

(2) **Antenna Gain=3.29dBi.**

EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17 ℃	Relative Humidity：	89 %
Test Voltage：	AC 120V/60Hz		
Test Mode ：	802.11n/40M/CH03, CH06, CH09		

Ant. 0					
Test Channel	Frequency (MHz)	Peak Output Power (dBm)	(W)	LIMIT (dBm)	LIMIT (W)
CH03	2422	20.36	0.1086	29.42	0.8750
CH06	2437	24.42	0.2767	29.42	0.8750
CH09	2452	21.62	0.1452	29.42	0.8750

Ant. 1					
Test Channel	Frequency (MHz)	Peak Output Power (dBm)	(W)	LIMIT (dBm)	LIMIT (W)
CH03	2422	20.22	0.1052	29.42	0.8750
CH06	2437	24.61	0.2891	29.42	0.8750
CH09	2452	21.60	0.1445	29.42	0.8750

Total (Ant. 0 + Ant. 1)					
Test Channel	Frequency (MHz)	Peak Output Power (dBm)	(W)	LIMIT (dBm)	LIMIT (W)
CH03	2422	23.30	0.2138	29.42	0.8750
CH06	2437	27.53	0.5658	29.42	0.8750
CH09	2452	24.62	0.2898	29.42	0.8750

Remark：

(1) **The MIMO test requirement, RF conducted output power shall measure each transmitter chain by using channel power method.**
And after obtain each individual transmitter chain power, then sum the output power by using the following formula:
((dBm/Chain 1)/10^Log) + ((dBm/Chain 2)/10^log) + ((dBm/ChainN)/10^log) = Combined peak output power in mW.

(2) **Antenna Gain=3.29dBi.**

7. ANTENNA CONDUCTED SPURIOUS EMISSION

7.1 APPLIED PROCEDURES / LIMIT

FCC Part15, Subpart C			
Test Item	Limit	Frequency Range (MHz)	Result
Antenna conducted Spurious Emission	20dB less than the peak value of fundamental frequency	30-25000	PASS

7.1.1 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-30	100854	Apr. 14, 2009

Remark: ” N/A” denotes No Model Name , Serial No. or No Calibration specified.

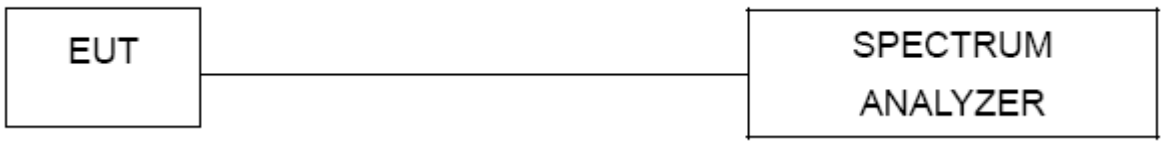
7.1.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
b. Spectrum Setting : RBW= 100KHz, VBW=100KHz, Sweep time = Auto.

7.1.3 DEVIATION FROM STANDARD

No deviation.

7.1.4 TEST SETUP



7.1.5 EUT OPERATION CONDITIONS

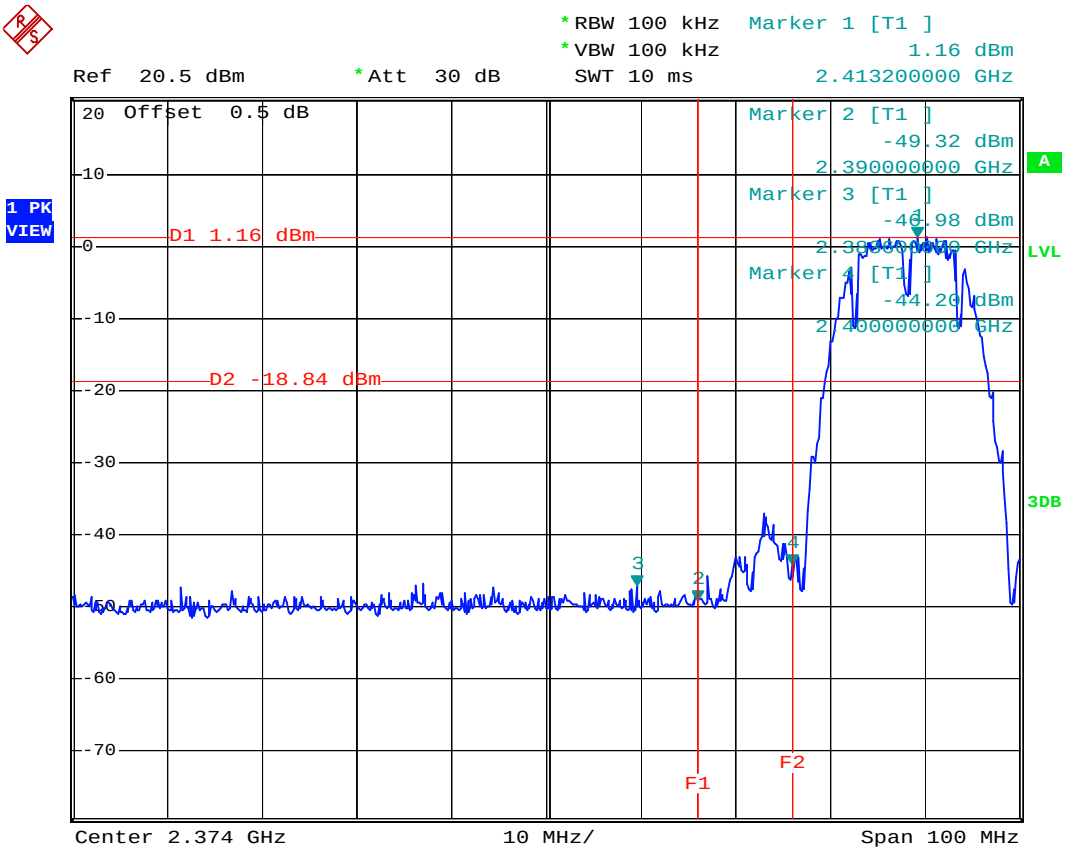
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

7.1.6 TEST RESULTS

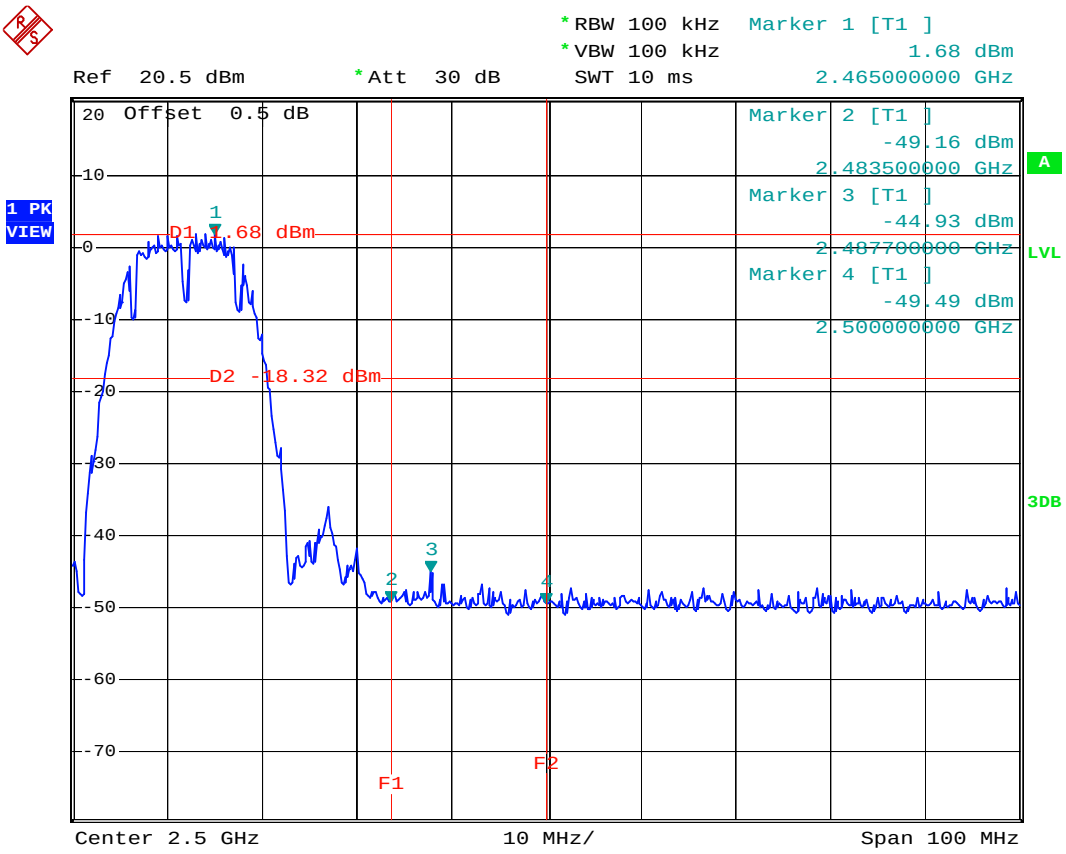
EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17 ℃	Relative Humidity：	89 %
Test Voltage：	AC 120V/60Hz		
Test Mode ：	802.11b/CH01, CH11		

Channel of Worst Data: CH1,CH11			
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
2388.6	-46.98	2487.7	-44.93
Result			
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest lever of the desired power.			

CH01



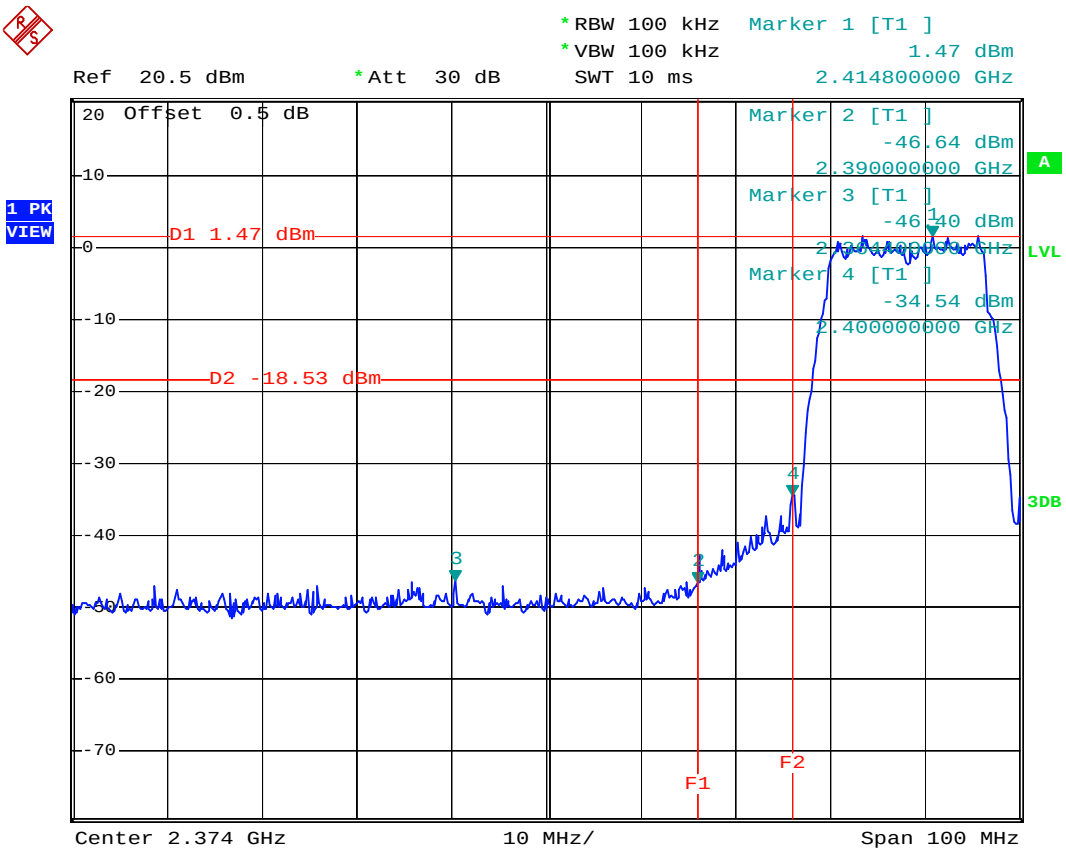
CH11


*RBW 100 kHz
*VBW 100 kHz
SWT 10 ms
Marker 1 [T1]
1.68 dBm
2.465000000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
Marker 2 [T1]
-49.16 dBm
2.483500000 GHz
Marker 3 [T1]
-44.93 dBm
2.487700000 GHz
Marker 4 [T1]
-49.49 dBm
2.500000000 GHz
1 PK
VIEW
A
LVL
3DB
D1 1.68 dBm
D2 -18.32 dBm
F1
F2
Center 2.5 GHz
10 MHz/
Span 100 MHz

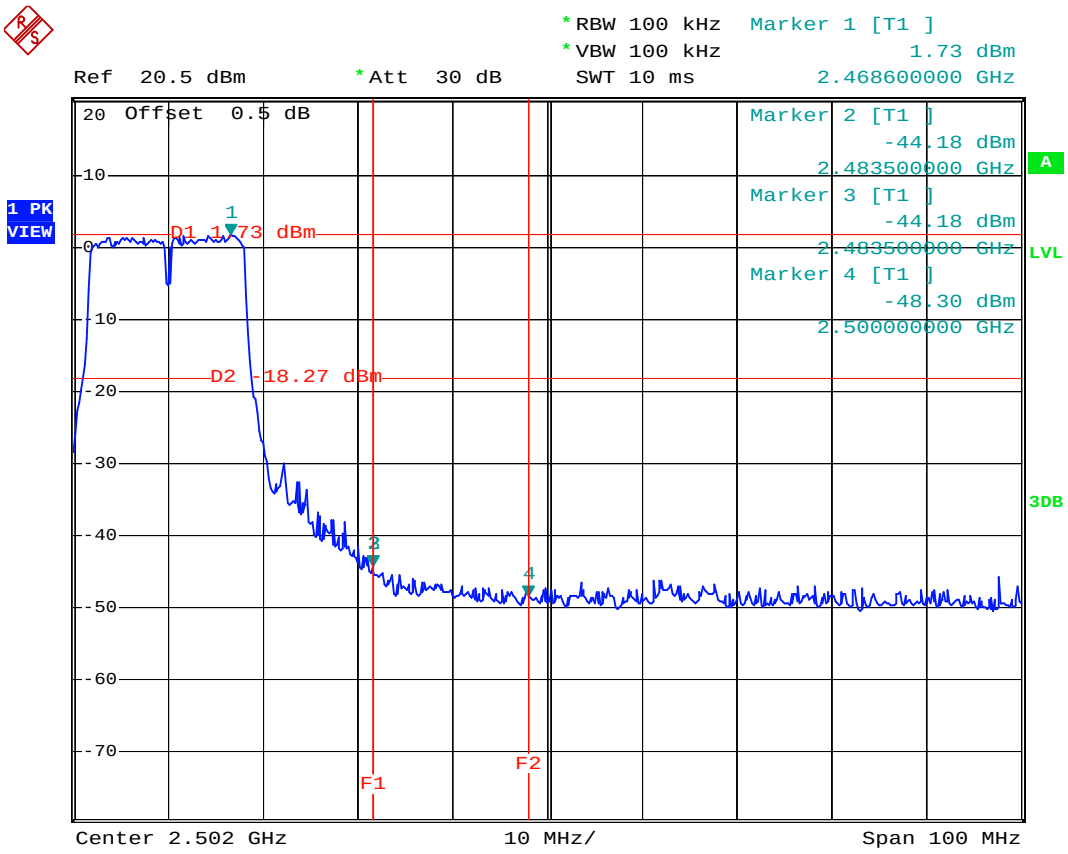
EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17 ℃	Relative Humidity：	89 %
Test Voltage：	AC 120V/60Hz		
Test Mode ：	802.11g/CH01, CH11		

Channel of Worst Data: CH1,CH11			
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
2364.4	-46.40	2483.5	-44.18
Result			
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest lever of the desired power.			

CH01



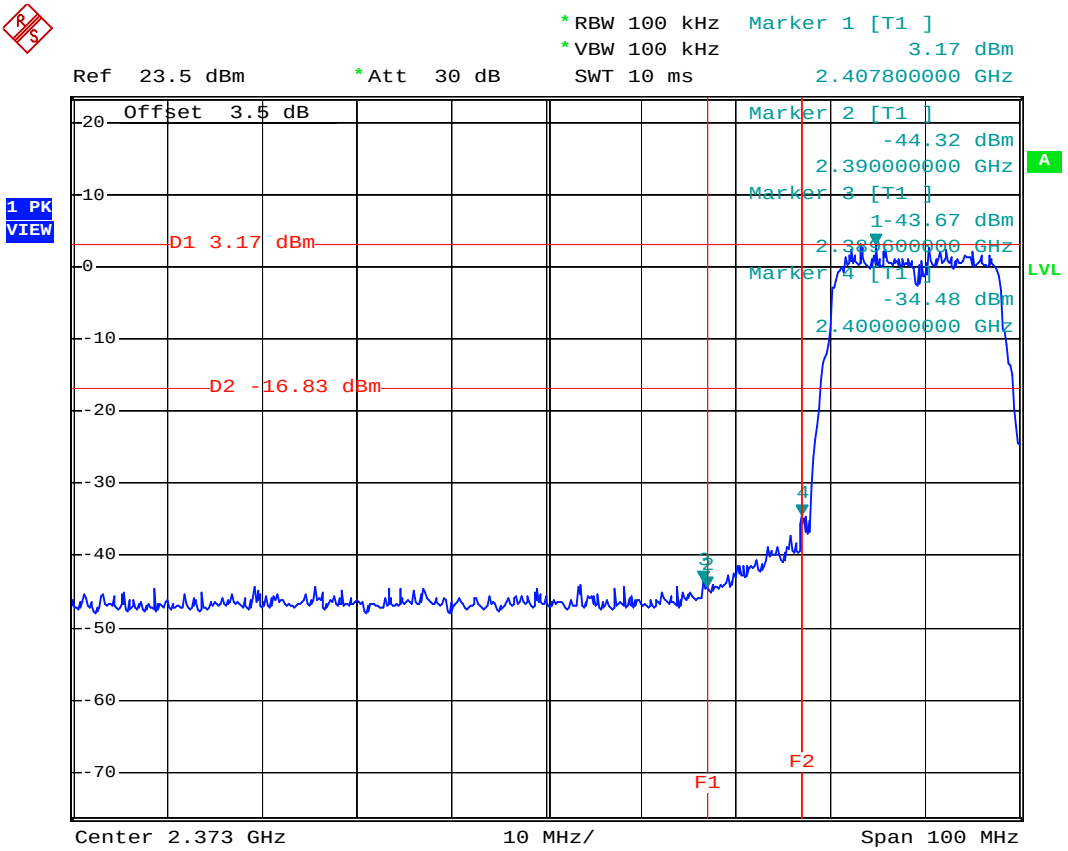
CH11


RBW 100 kHz
VBW 100 kHz
SWT 10 ms
Marker 1 [T1]
1.73 dBm
2.468600000 GHz
Ref 20.5 dBm
Att 30 dB
Offset 0.5 dB
Marker 2 [T1]
-44.18 dBm
2.483500000 GHz
Marker 3 [T1]
-44.18 dBm
2.483500000 GHz
Marker 4 [T1]
-48.30 dBm
2.500000000 GHz
1 PK
VIEW
A
LVL
3DB
D1 1.73 dBm
D2 -18.27 dBm
F1
F2
Center 2.502 GHz
10 MHz/
Span 100 MHz

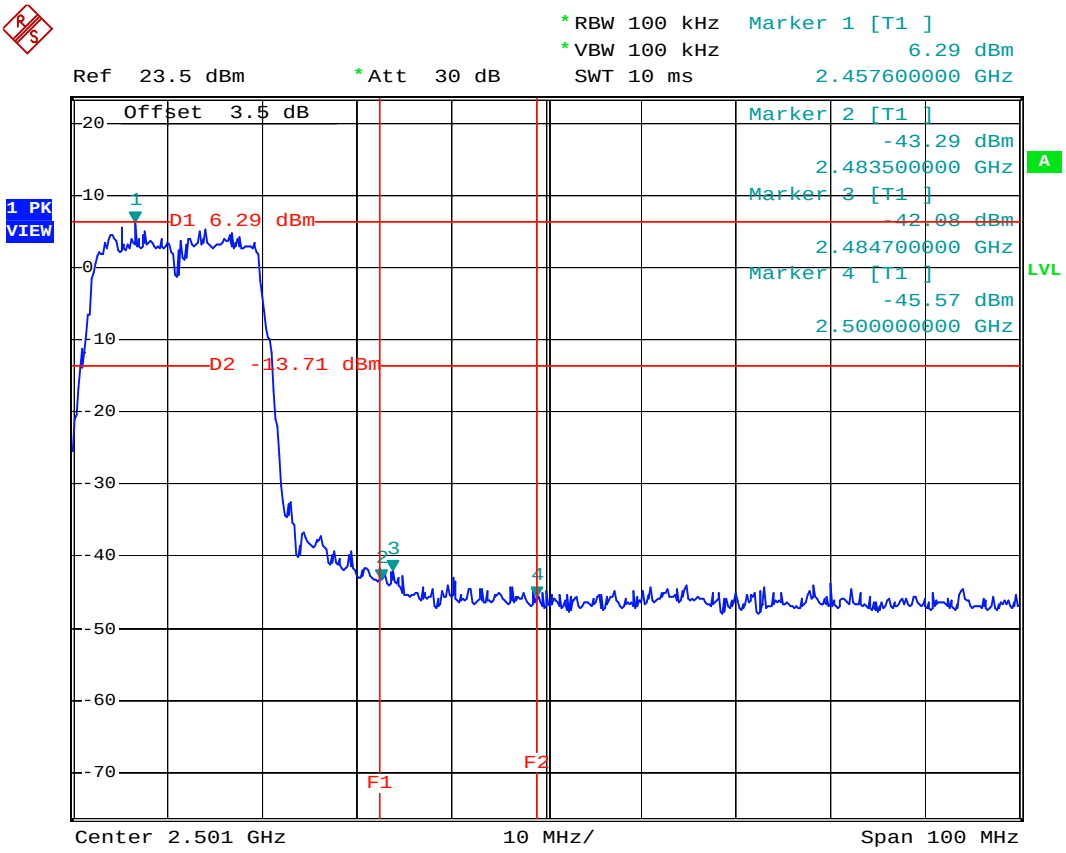
EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17 ℃	Relative Humidity：	89 %
Test Voltage：	AC 120V/60Hz		
Test Mode ：	802.11n/20M/CH01, CH11 (Ant 0 + Ant 1)		

Channel of Worst Data: CH1,CH11			
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
2389.6	-43.67	2484.7	-42.08
Result			
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest lever of the desired power.			

CH01(Ant 0 + Ant 1)



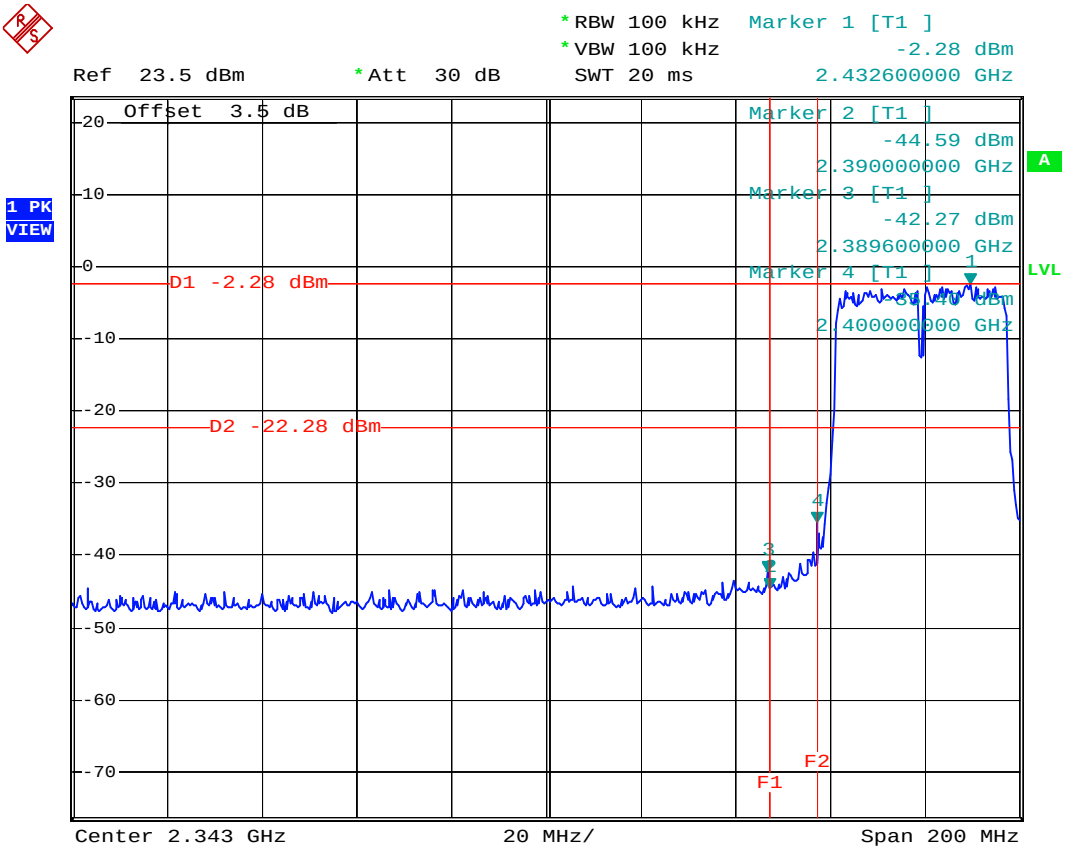
CH11(Ant 0 + Ant 1)



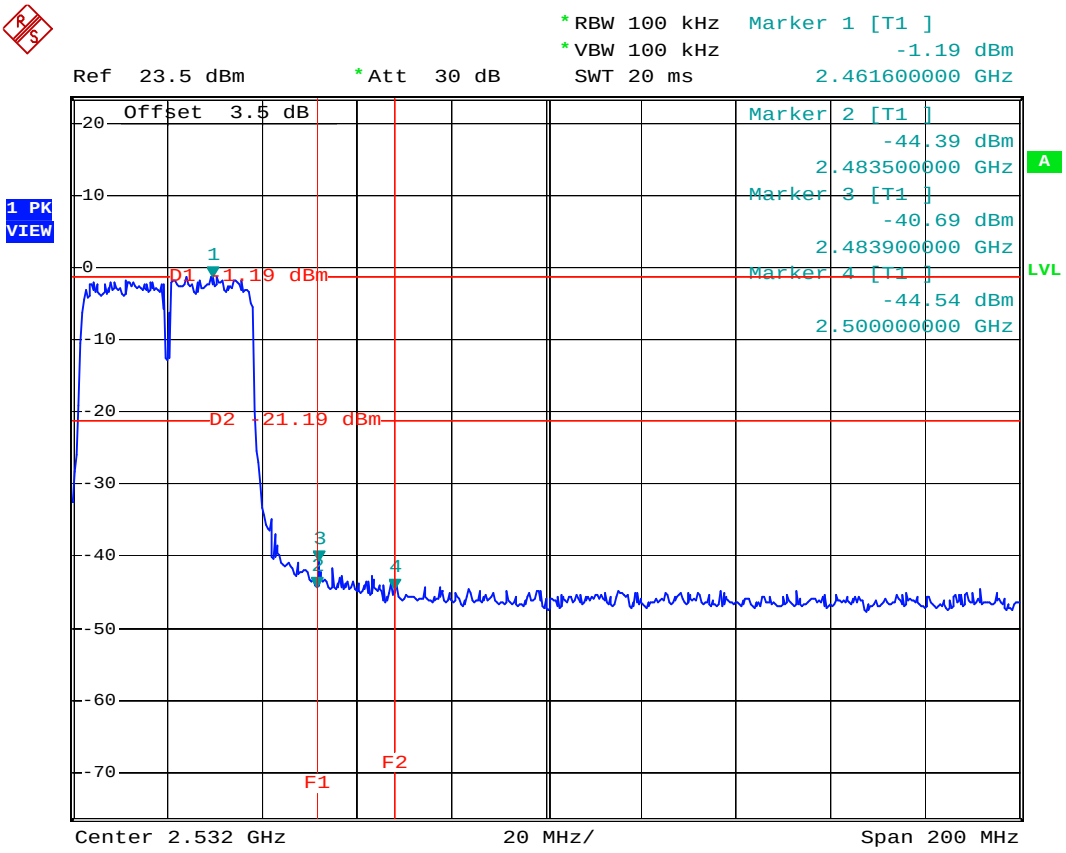
EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17 ℃	Relative Humidity：	89 %
Test Voltage：	AC 120V/60Hz		
Test Mode ：	802.11n/40M/CH03, CH09 (Ant 0 + Ant 1)		

Channel of Worst Data: CH1,CH11			
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
2389.6	-42.27	2483.9	-40.69
Result			
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest lever of the desired power.			

CH03 (Ant 0 + Ant 1)



CH09 (Ant 0 + Ant 1)



8. POWER SPECTRAL DENSITY TEST

8.1 APPLIED PROCEDURES / LIMIT

FCC Part15, Subpart C			
Test Item	Limit	Frequency Range (MHz)	Result
Power Spectral Density	8 dBm (in any 3KHz)	2400-2483.5	PASS

8.1.1 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-30	100854	Apr. 14, 2009

Remark: ” N/A” denotes No Model Name, Serial No. or No Calibration specified.

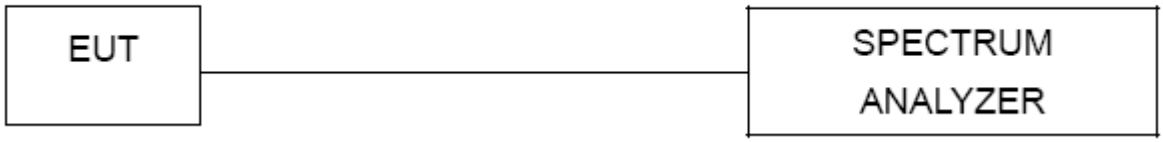
8.1.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
b. Spectrum Setting : RBW=3KHz, VBW=30KHz, Sweep time = 500s.

8.1.3 DEVIATION FROM STANDARD

No deviation.

8.1.4 TEST SETUP



8.1.5 EUT OPERATION CONDITIONS

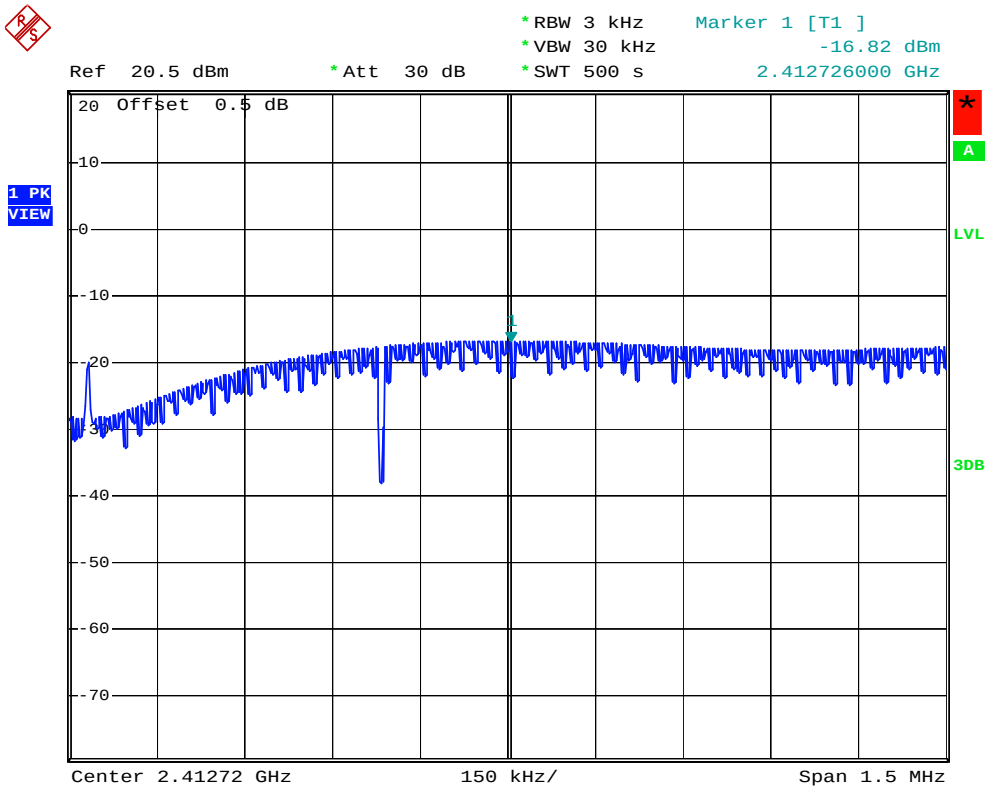
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

8.1.6 TEST RESULTS

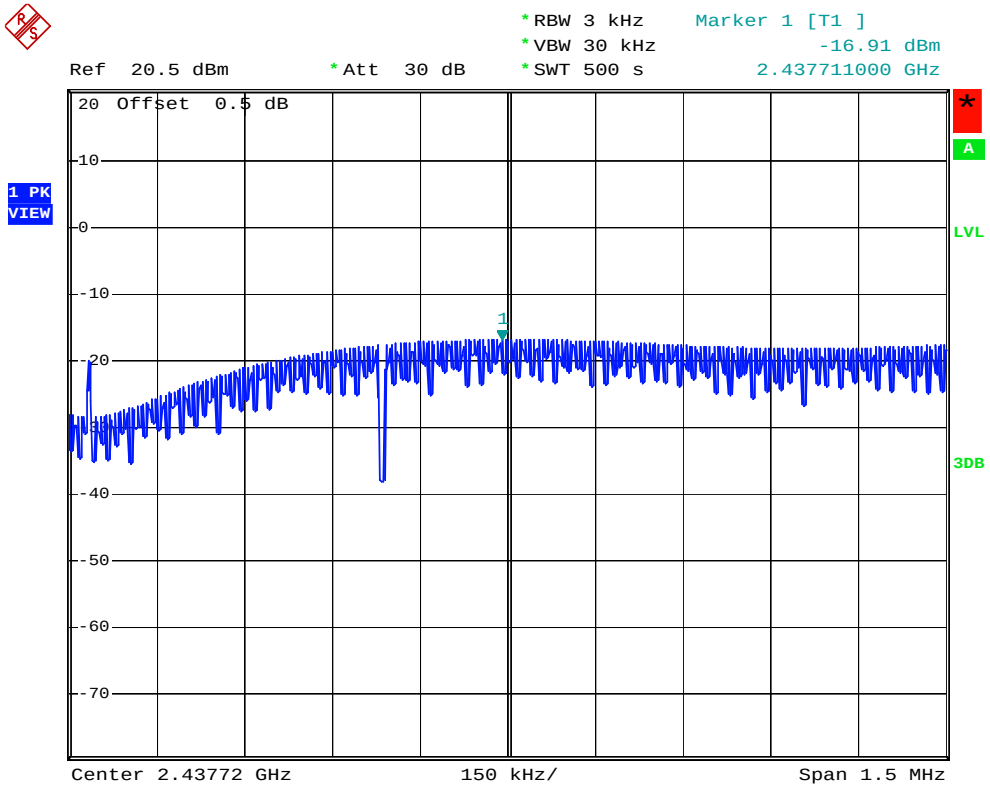
EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17 ℃	Relative Humidity：	89 %
Test Voltage：	AC 120V/60Hz		
Test Mode ：	802.11b/CH01, CH06, CH11		

Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH01	2412	-16.82	8
CH06	2437	-16.91	8
CH11	2462	-16.26	8

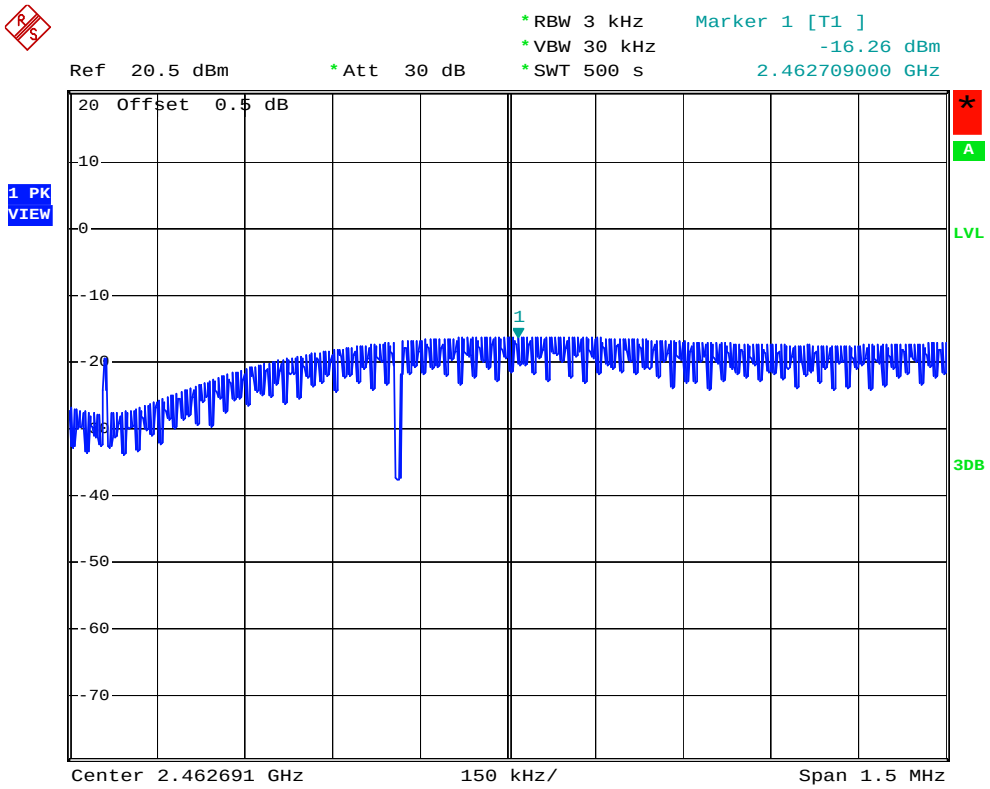
CH01



CH06


*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-16.91 dBm
2.437711000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
1 PK VIEW
A
LVL
3DB
Center 2.43772 GHz
150 kHz/
Span 1.5 MHz

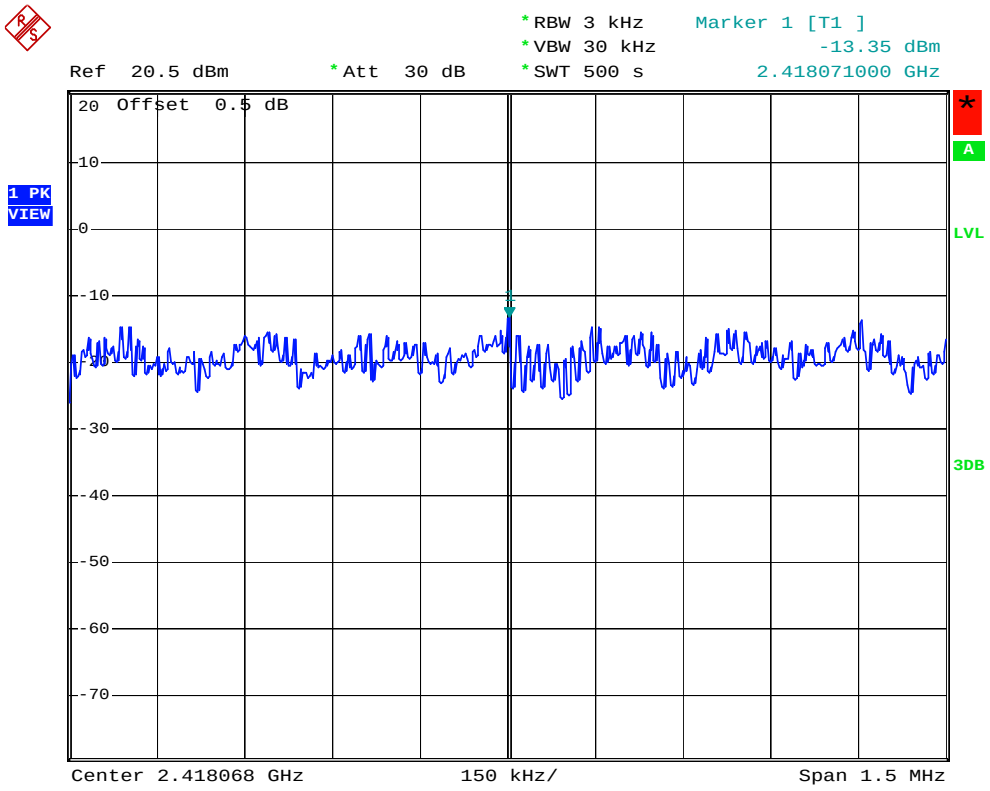
CH11


*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-16.26 dBm
2.462709000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
1 PK VIEW
A
LVL
3DB
Center 2.462691 GHz
150 kHz/
Span 1.5 MHz

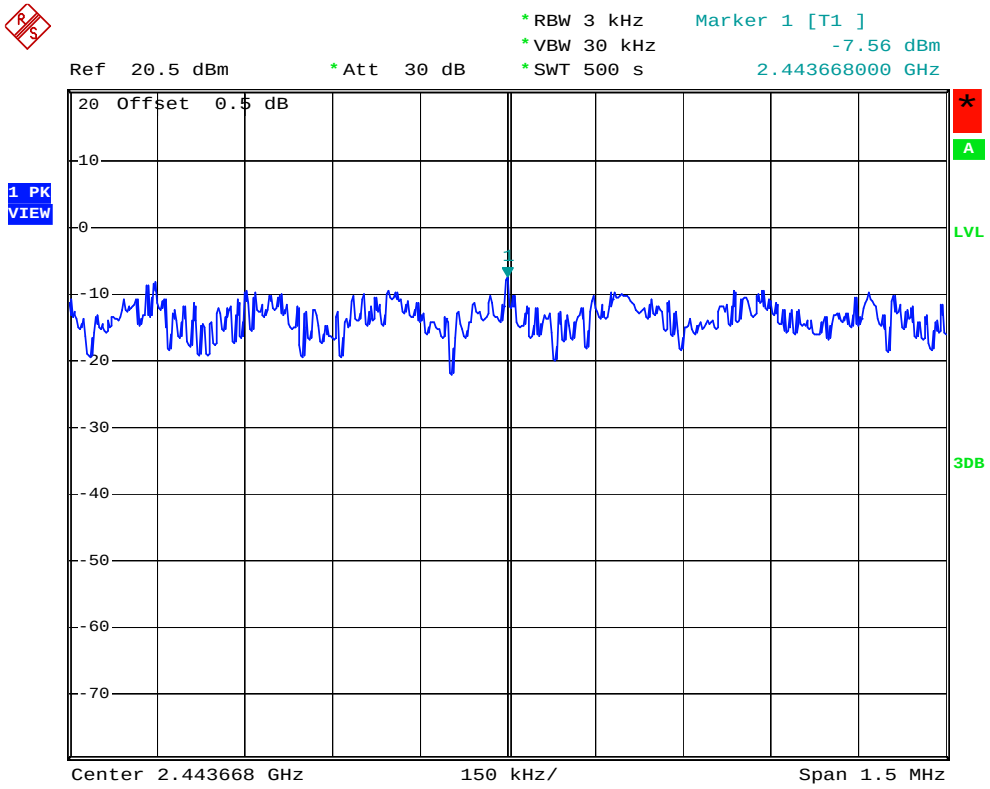
EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17 ℃	Relative Humidity：	89 %
Test Voltage：	AC 120V/60Hz		
Test Mode ：	802.11g/CH01, CH06, CH11		

Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH01	2412	-13.35	8
CH06	2437	-7.56	8
CH11	2462	-12.59	8

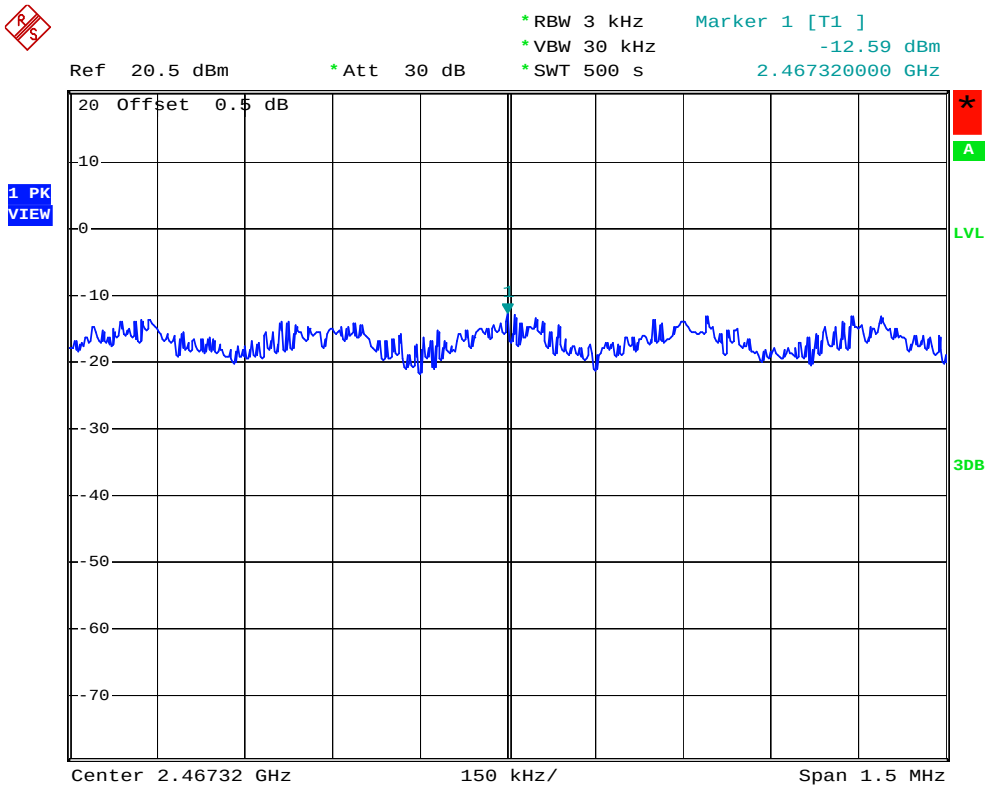
CH01



CH06


*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-7.56 dBm
2.443668000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
1 PK VIEW
A
LVL
3DB
Center 2.443668 GHz
150 kHz/
Span 1.5 MHz

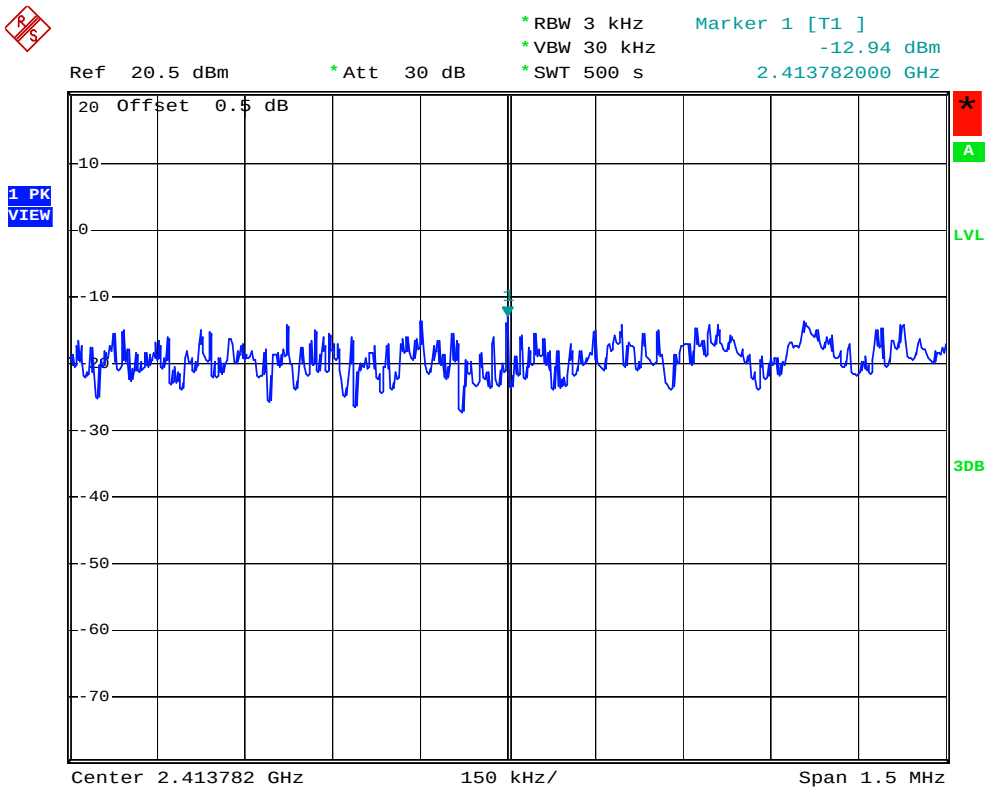
CH11


*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-12.59 dBm
2.467320000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
1 PK VIEW
A
LVL
3DB
Center 2.46732 GHz
150 kHz/
Span 1.5 MHz

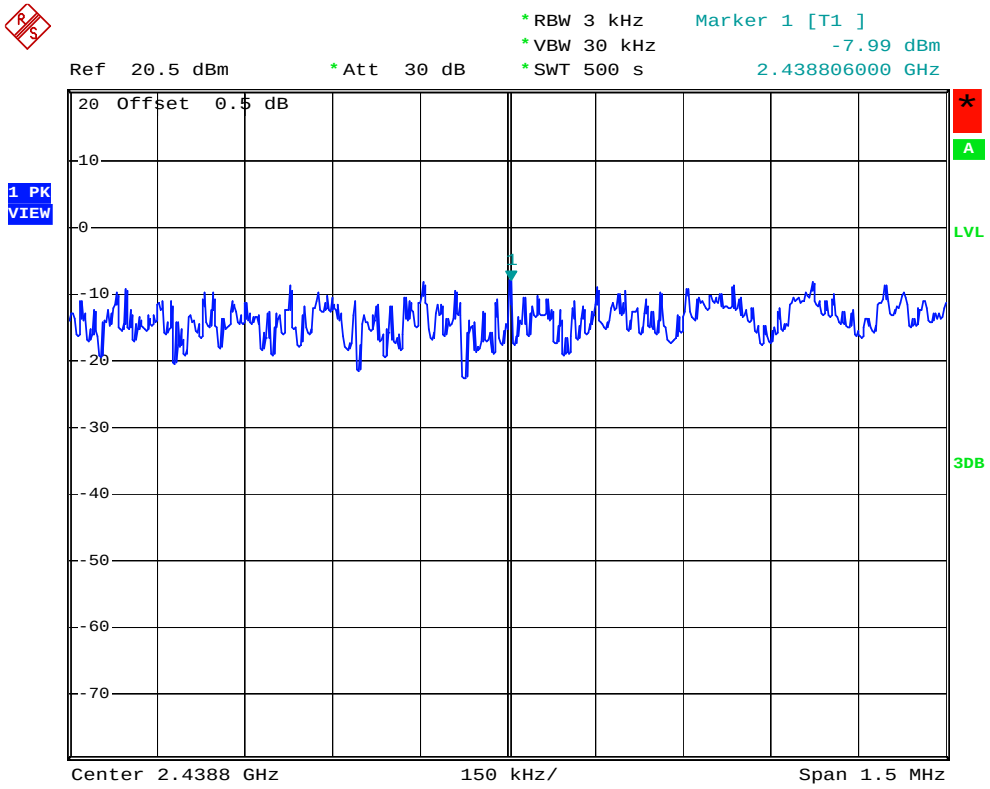
EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17 ℃	Relative Humidity：	89 %
Test Voltage：	AC 120V/60Hz		
Test Mode ：	802.11n/20M/CH01, CH06, CH11(Ant. 0)		

Test Channel	Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	LIMIT (dBm)
CH01	2412	-12.94	0.05	8
CH06	2437	-7.99	0.16	8
CH11	2462	-11.52	0.07	8

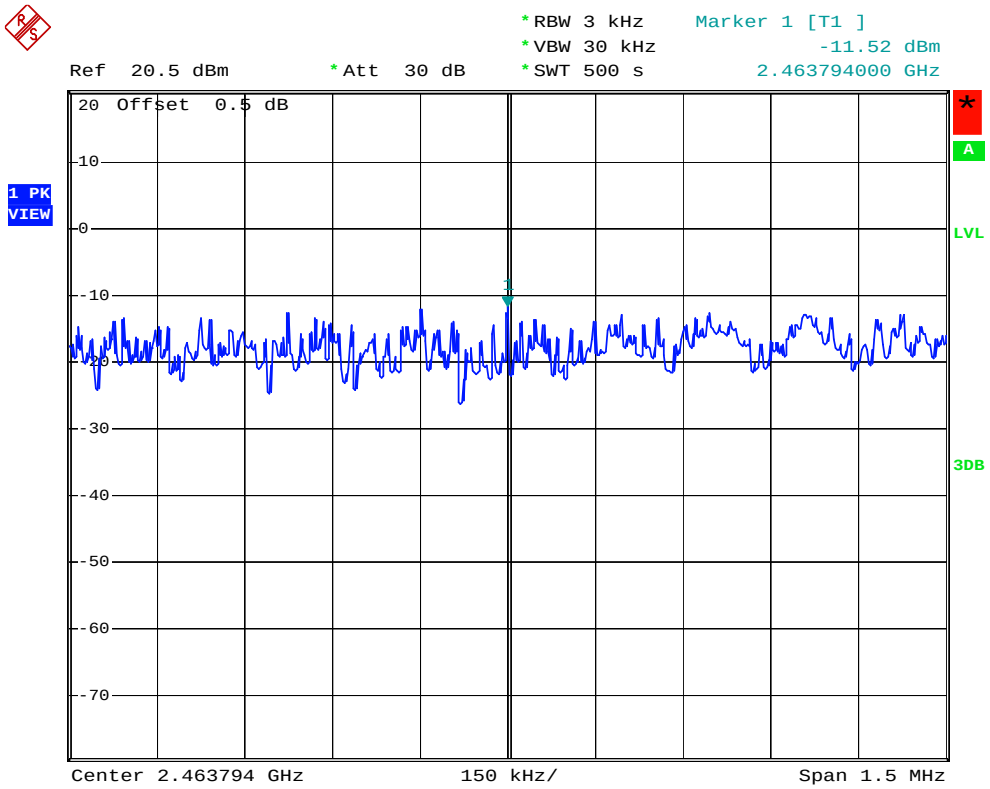
CH01



CH06


*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-7.99 dBm
2.438806000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
1 PK VIEW
A
LVL
3DB
Center 2.4388 GHz
150 kHz/
Span 1.5 MHz

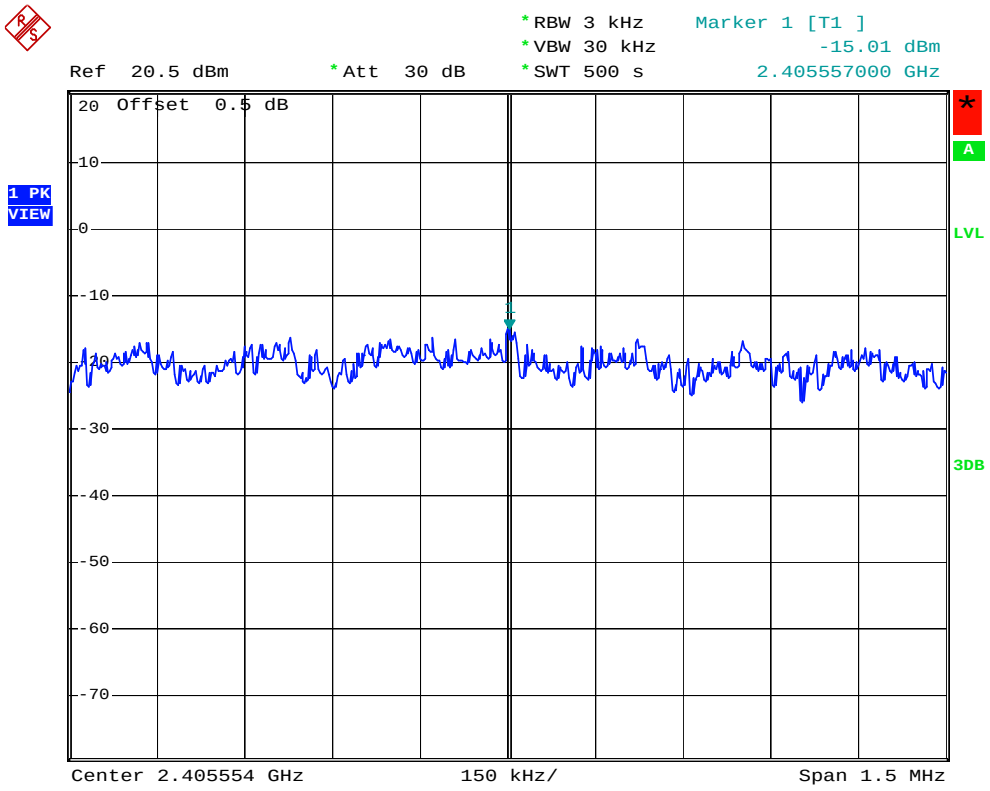
CH11


*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-11.52 dBm
2.463794000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
1 PK VIEW
A
LVL
3DB
Center 2.463794 GHz
150 kHz/
Span 1.5 MHz

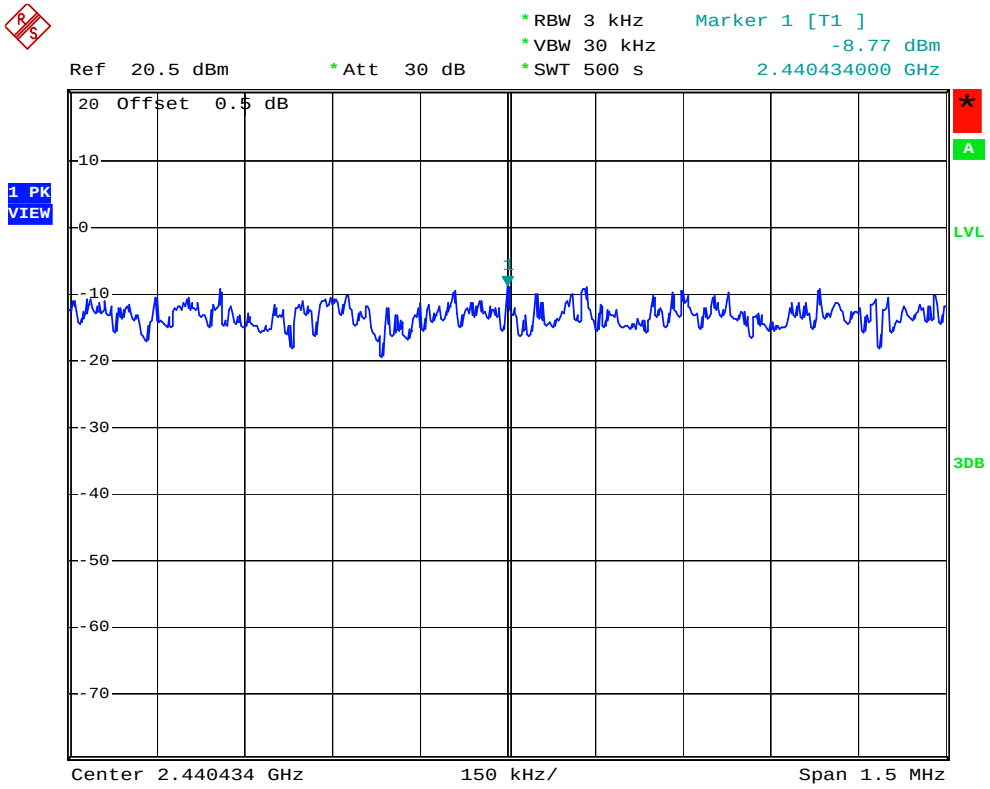
EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17 ℃	Relative Humidity：	89 %
Test Voltage：	AC 120V/60Hz		
Test Mode ：	802.11n/20M/CH01, CH06, CH11(Ant. 1)		

Test Channel	Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	LIMIT (dBm)
CH01	2412	-15.01	0.03	8
CH06	2437	-8.77	0.13	8
CH11	2462	-12.47	0.06	8

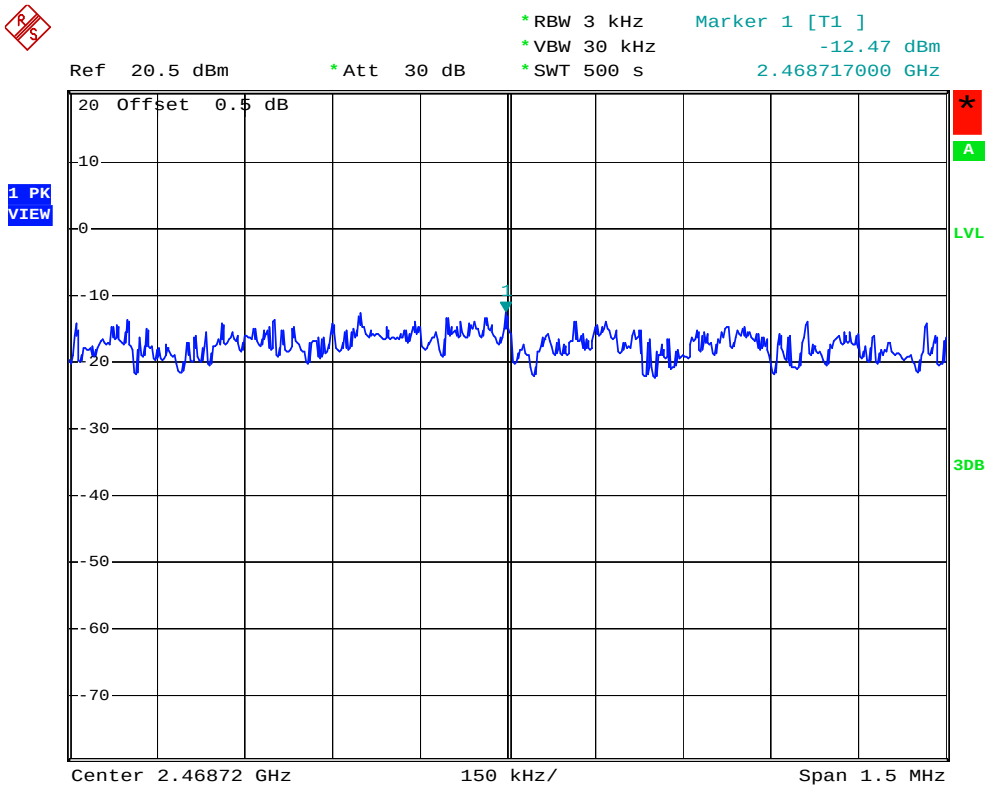
CH01



CH06


*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-8.77 dBm
2.440434000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
1 PK VIEW
A
LVL
3DB
Center 2.440434 GHz
150 kHz/
Span 1.5 MHz

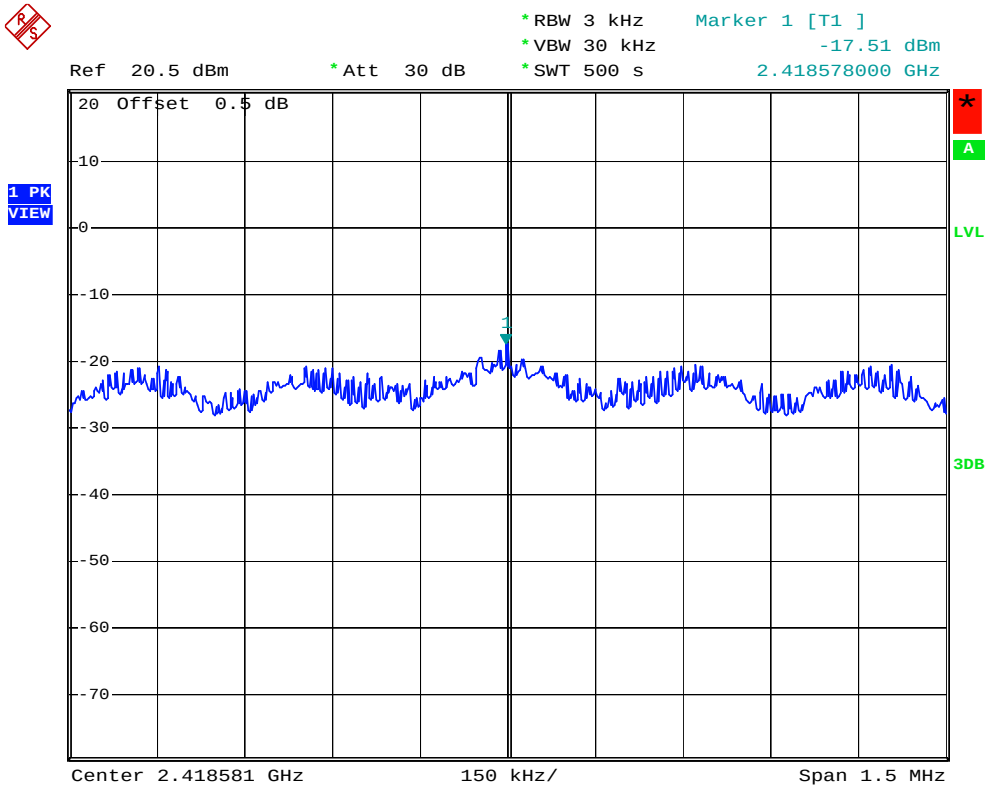
CH11


*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-12.47 dBm
2.468717000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
1 PK VIEW
A
LVL
3DB
Center 2.46872 GHz
150 kHz/
Span 1.5 MHz

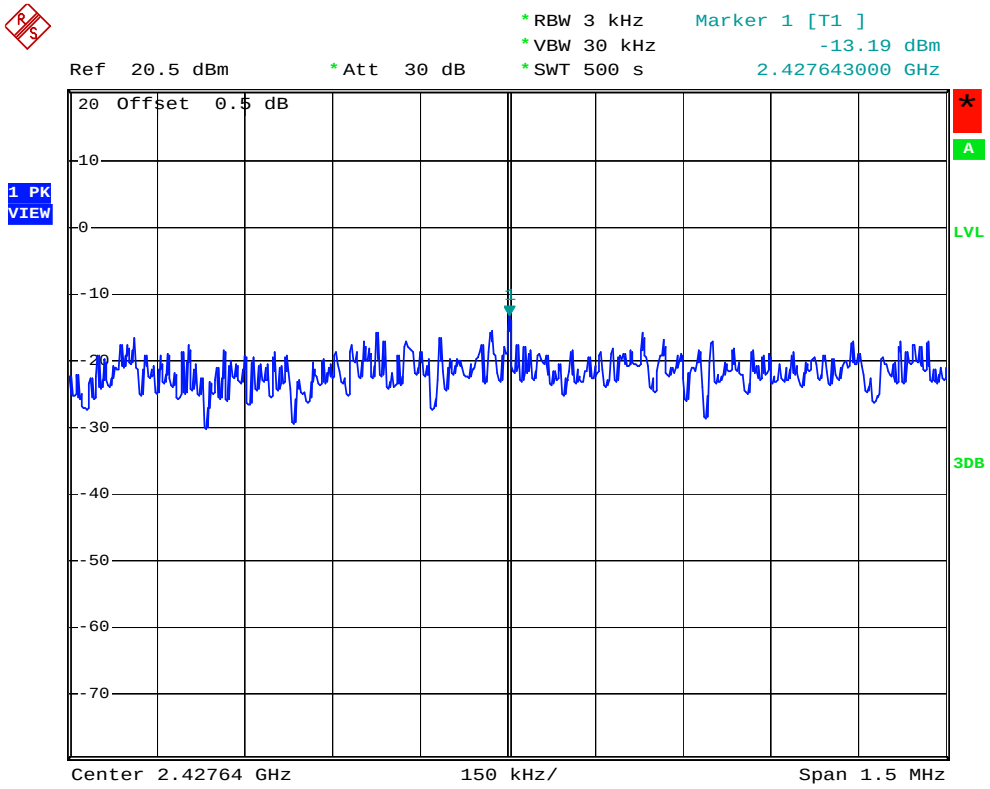
EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17 ℃	Relative Humidity：	89 %
Test Voltage：	AC 120V/60Hz		
Test Mode ：	802.11n/40M/CH03, CH06, CH09(Ant. 0)		

Test Channel	Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	LIMIT (dBm)
CH01	2412	-17.51	0.02	8
CH06	2437	-13.19	0.05	8
CH11	2462	-17.20	0.02	8

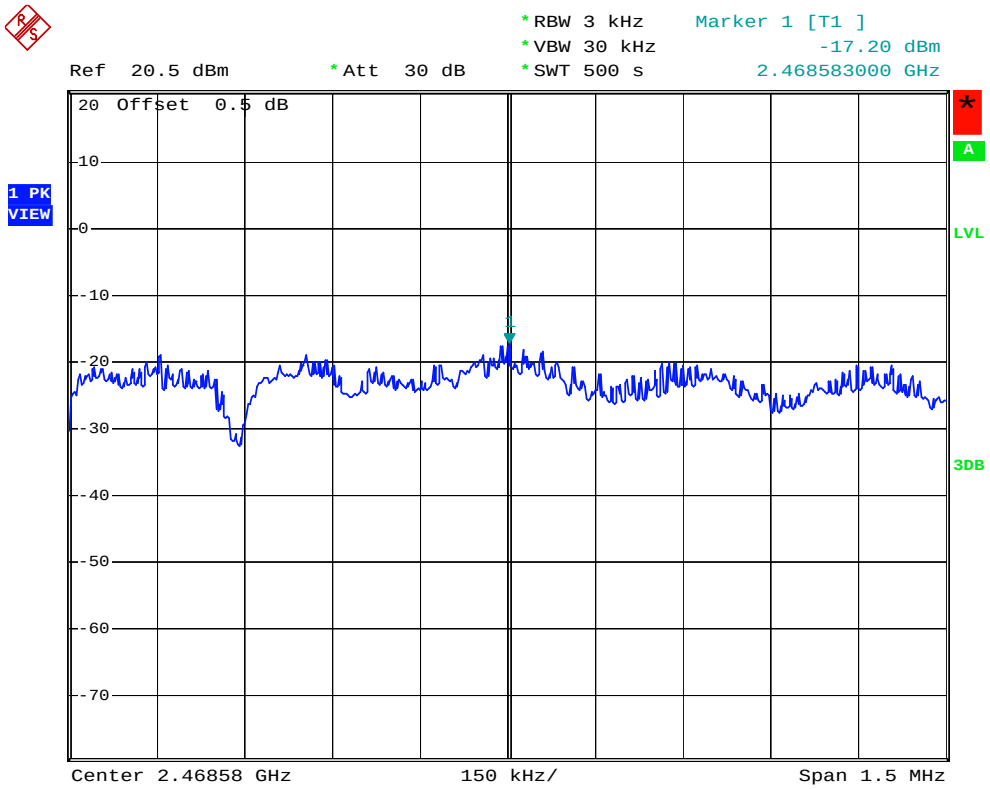
CH03



CH06


*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-13.19 dBm
2.427643000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
1 PK VIEW
A
LVL
3DB
Center 2.42764 GHz
150 kHz/
Span 1.5 MHz

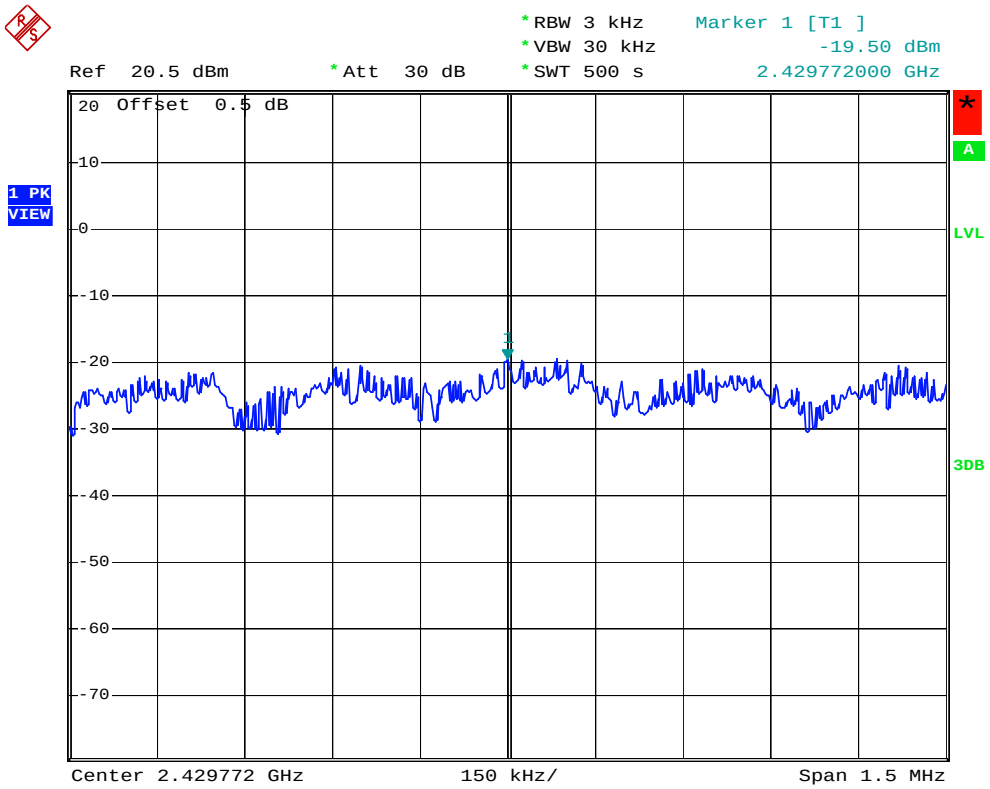
CH09


*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-17.20 dBm
2.468583000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
1 PK VIEW
A
LVL
3DB
Center 2.46858 GHz
150 kHz/
Span 1.5 MHz

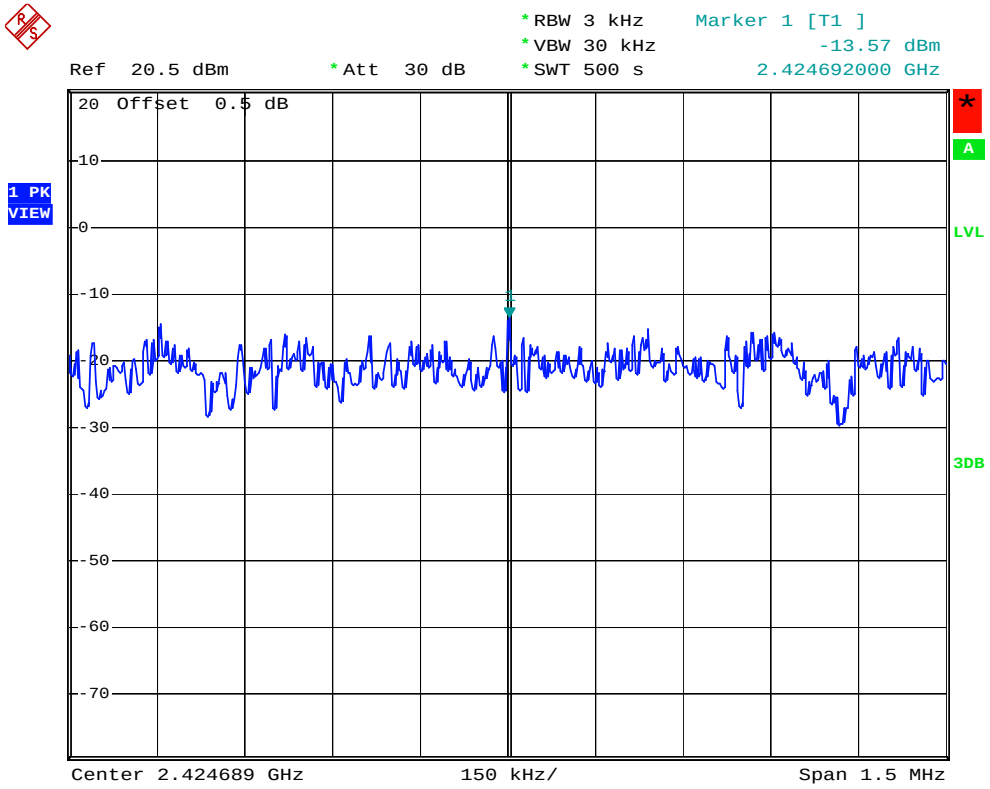
EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17 ℃	Relative Humidity：	89 %
Test Voltage：	AC 120V/60Hz		
Test Mode ：	802.11n/40M/CH03, CH06, CH09(Ant. 1)		

Test Channel	Frequency (MHz)	Power Density (dBm/3kHz)	Power Density (mW/3kHz)	LIMIT (dBm)
CH01	2412	-19.50	0.01	8
CH06	2437	-13.57	0.04	8
CH11	2462	-17.53	0.02	8

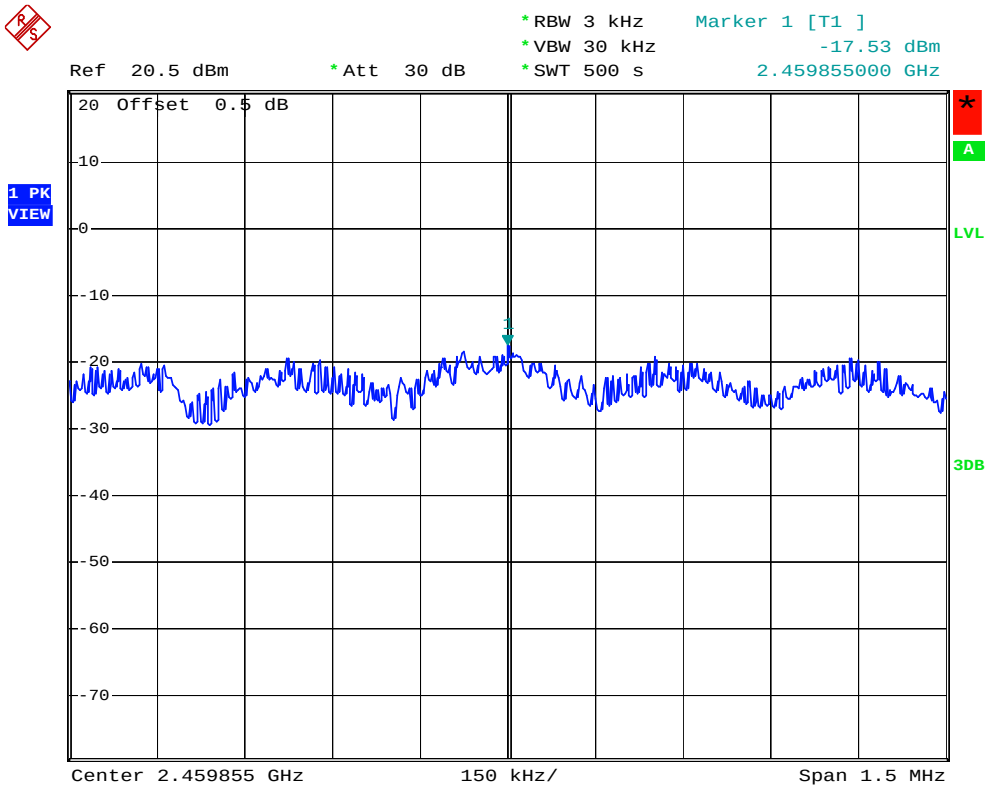
CH03



CH06


*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-13.57 dBm
2.424692000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
1 PK VIEW
A
LVL
3DB
Center 2.424689 GHz
150 kHz/
Span 1.5 MHz

CH09


*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-17.53 dBm
2.459855000 GHz
Ref 20.5 dBm
*Att 30 dB
20 Offset 0.5 dB
1 PK VIEW
A
LVL
3DB
Center 2.459855 GHz
150 kHz/
Span 1.5 MHz

9. RF EXPOSURE TEST

9.1 APPLIED PROCEDURES / LIMIT

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm^2)	Averaging Time $\|E\|^2$,$\|H\|^2$or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm^2)	Averaging Time $\|E\|^2$,$\|H\|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz ; *Plane-wave equivalent power density

9.1.1 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Power Meter	Anritsu	ML2487A	6K00004714	Feb. 12, 2009
2	Power Meter Sensor	Anritsu	MA2491A	34138	Feb. 12, 2009

Remark: ” N/A” denotes No Model Name , Serial No. or No Calibration specified.

9.1.2 MPE CALCULATION METHOD

E (V/m) $= \frac{\sqrt{30 \times P \times G}}{d}$ Power Density: *Pd* (W/m²) $= \frac{E^2}{377}$

E = Electric field (V/m)

P = Peak RF output power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

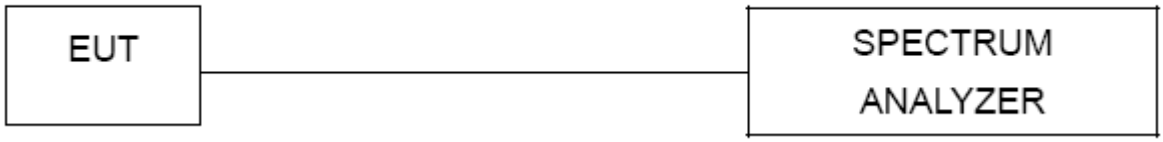
Pd $= \frac{30 \times P \times G}{377 \times d^2}$

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained

9.1.3 DEVIATION FROM STANDARD

No deviation.

9.1.4 TEST SETUP



9.1.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

9.1.6 TEST RESULTS

EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17 ℃	Relative Humidity：	89 %
Test Voltage：	AC 120V/60Hz		
Test Mode ：	802.11b		

Frequency (MHz)	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)
2412	3.29	2.1330	16.5600	45.2898	0.019229	1
2437	3.29	2.1330	16.7200	46.9894	0.019950	1
2462	3.29	2.1330	17.0200	50.3501	0.021377	1

EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17 ℃	Relative Humidity：	89 %
Test Voltage：	AC 120V/60Hz		
Test Mode ：	802.11g		

Frequency (MHz)	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)
2412	3.29	2.1330	23.9100	246.0368	0.104460	1
2437	3.29	2.1330	26.2500	421.6965	0.179040	1
2462	3.29	2.1330	25.3500	342.7678	0.145529	1

EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17 ℃	Relative Humidity：	89 %
Test Voltage：	AC 120V/60Hz		
Test Mode ：	802.11n HT20 Single TX Ant. 0		

Frequency (MHz)	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)
2412	3.29	2.1330	22.2100	166.3413	0.070624	1
2437	3.29	2.1330	25.9000	389.0451	0.165177	1
2462	3.29	2.1330	24.3700	273.5269	0.116132	1

EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17 ℃	Relative Humidity：	89 %
Test Voltage：	AC 120V/60Hz		
Test Mode ：	802.11n HT20 Single TX Ant. 1		

Frequency (MHz)	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)
2412	3.29	2.1330	22.3000	169.8244	0.072103	1
2437	3.29	2.1330	26.0200	399.9447	0.169805	1
2462	3.29	2.1330	23.9100	246.0368	0.104460	1

EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17 ℃	Relative Humidity：	89 %
Test Voltage：	AC 120V/60Hz		
Test Mode ：	802.11n HT20 Dual TX (Ant. 0 + Ant. 1)		

Frequency (MHz)	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)
2412	6.58	4.5499	25.2655	336.1656	0.304441	1
2437	6.58	4.5499	28.9707	788.9899	0.714532	1
2462	6.58	4.5499	27.1564	519.5636	0.470532	1

Remark：

(1) The MIMO test requirement, MPE shall measure by using the total sum power of each transmitter chain.

EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17 ℃	Relative Humidity：	89 %
Test Voltage：	AC 120V/60Hz		
Test Mode ：	802.11n HT40 Single TX Ant. 0		

Frequency (MHz)	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)
2412	3.29	2.1330	20.3600	108.6426	0.046126	1
2437	3.29	2.1330	24.4200	276.6942	0.117476	1
2462	3.29	2.1330	21.6200	145.2112	0.061652	1

EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17 ℃	Relative Humidity：	89 %
Test Voltage：	AC 120V/60Hz		
Test Mode ：	802.11n HT40 Single TX Ant. 1		

Frequency (MHz)	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)
2412	3.29	2.1330	20.2200	105.1962	0.044663	1
2437	3.29	2.1330	24.6100	289.0680	0.122730	1
2462	3.29	2.1330	21.6000	144.5440	0.061369	1

EUT：	Wireless 11n USB Adapter	Model Name ：	NU22
Temperature：	17 ℃	Relative Humidity：	89 %
Test Voltage：	AC 120V/60Hz		
Test Mode ：	802.11n HT40 Dual TX (Ant. 0 + Ant. 1)		

Frequency (MHz)	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)
2412	6.58	4.5499	23.3009	213.8387	0.193659	1
2437	6.58	4.5499	27.5263	565.7622	0.512371	1
2462	6.58	4.5499	24.6203	289.7551	0.262411	1

Remark：

(1) The MIMO test requirement, MPE shall measure by using the total sum power of each transmitter chain.