FCC Radio Test Report

FCC ID: PPD-AR5B195

This report concerns (check one) : ☐ **Original Grant** ■ **Class II Change**

Issued Date	: Dec. 14, 2010
Project No.	: 1011C203
Equipment	: 802.11n-BT COMBO CARD
Model Name	: AR5B195
Applicant	: Atheros Communications, Inc.
Address	: 1700 Technology Dr San Jose California 95110, United States
Manufacturer	: Atheros Communications, Inc.
Address	: 1700 Technology Dr San Jose California 95110, United States

Tested by:
Neutron Engineering Inc. EMC Laboratory
Date of Receipt: Nov. 19, 2010
Date of Test:
Nov. 19, 2010 ~ Dec. 13, 2010

Testing Engineer : (Ivan Cao)

Technical Manager : (Leo Hung)

Authorized Signatory : (Steven Lu)

Neutron Engineering Inc.

No.3,Jinshagang 1st Road, ShiXia, Dalang Town, Dong Guan, China.
TEL : (0769) 8318-3000 FAX : (0769) 8319-6000

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 **CHINA**, 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: 802.11n-BT COMBO CARD
Brand Name: ATHEROS
Model Name: AR5B195
Applicant: Atheros Communications, Inc.
Date of Test: Nov. 19, 2010 ~ Dec. 13, 2010
Test Item: ENGINEERING SAMPLE
Standards: FCC Part15, Subpart C(15.247) / ANSI 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-1-1011C203) 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).
Test result included in this report is only for the Bluetooth approval part of the product.

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 (15.247) , Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.247(d)	Antenna conducted Spurious Emission	PASS	
15.247 (a)(1)	Hopping Channel Separation	N/A	NOTE (4)
15.247 (b)(1)	Peak Output Power	PASS	
15.247(d) 15.209	Radiated Spurious Emission	PASS	
15.247 (a)(1)(iii)	Number of Hopping Frequency	N/A	NOTE (4)
15.247 (a)(1)(iii)	Dwell Time	N/A	NOTE (4)
15.205	Restricted Bands	PASS	
15.203	Antenna Requirement	PASS	
1.1307 1.1310 2.1091 2.1093	RF Exposure Compliance	PASS	NOTE (2)

NOTE:

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

(2) The EUT is considered as a portable device because the antenna distance to end user is less than 20cm. Per KDB 447498, the average output power of the Bluetooth is less than the power threshold= 60/f(GHz), so it does not subject to stand-alone SAR evaluation.

Based on above, this device is demonstrated to comply with FCC CFR 47 §1.1310 and 2.1093.

(3) This report is prepared for FCC class II permissive change. The differences compared with original report are adding antenna and the platform. Therefore, test item for radiated emission test was performed for this addendum.

(4) Test item for radiated emission test was performed for this addendum. Other testing data refer to original report.

2.1 TEST FACILITY

The test facilities used to collect the test data in this report is **DG-C03/CB03** at the location of No.3,Jinshagang 1st Road, ShiXia, Dalang Town, Dong Guan, China.523792
Neutron's test firm number is 319330

2.2 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

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
DG-C03	CISPR	150 KHz ~ 30MHz	1.94	

B. Radiated Measurement :

Test Site	Method	Measurement Frequency Range	Ant. H / V	U，(dB)	NOTE
DG-CB03	CISPR	30MHz ~ 200MHz	V	3.82	
		30MHz ~ 200MHz	H	3.60	
		200MHz ~ 1,000MHz	V	3.86	
		200MHz ~ 1,000MHz	H	3.94	

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

<table>
<tr><td>Equipment</td><td>802.11n-BT COMBO CARD</td></tr>
<tr><td>Brand Name</td><td>ATHEROS</td></tr>
<tr><td>Model Name</td><td>AR5B195</td></tr>
<tr><td>OEM Brand/Model Name</td><td>N/A</td></tr>
<tr><td>Model Difference</td><td>N/A</td></tr>
<tr><td>Product Description</td><td>The EUT is a 802.11n-BT COMBO CARD.
<table>
<tr><td>Operation Frequency:</td><td>2402~2480 MHz</td></tr>
<tr><td>Modulation Type:</td><td rowspan="2">GFSK(1Mbps)
π/4-DQPSK(2Mbps)
8-DPSK(3Mbps)</td></tr>
<tr><td>Bit Rate of Transmitter</td></tr>
<tr><td>Number of Channel</td><td>79 CH</td></tr>
<tr><td>Antenna Designation:</td><td>Please see Note 3.</td></tr>
<tr><td>Antenna Gain(Peak)</td><td>Please see Note 3.</td></tr>
<tr><td>Output Power:</td><td>0.63 dBm (1Mbps)
1.22 dBm (3Mbps)</td></tr>
</table>
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</td></tr>
<tr><td>Power Source</td><td>#1 DC Voltage supplied from AC/DC adapter.
Model/Brand: BA01-J/ DARFON
#2 DC Voltage supplied from Li-ion polymer Battery.
Model: A102-2S5000-S1C1
#3 DC Voltage supplied from Li-ion polymer Battery.
Model: GP-S20-6462B4-0100</td></tr>
<tr><td>Power Rating</td><td>#1 I/P AC 100-240V ~1A 50-60Hz O/P DC 19V 2.1A
40W MAX
#2 DC 7.4V 5000mAh / 37Wh
#3 DC 7.4V 4800mAh</td></tr>
<tr><td>Connecting I/O Port(s)</td><td>Please refer to the User's Manual</td></tr>
<tr><td>Products Covered</td><td>N/A</td></tr>
</table>

Note:

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

2.

Channel List					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
00	2402	27	2429	54	2456
01	2403	28	2430	55	2457
02	2404	29	2431	56	2458
03	2405	30	2432	57	2459
04	2406	31	2433	58	2460
05	2407	32	2434	59	2461
06	2408	33	2435	60	2462
07	2409	34	2436	61	2463
08	2410	35	2437	62	2464
09	2411	36	2438	63	2465
10	2412	37	2439	64	2466
11	2413	38	2440	65	2467
12	2414	39	2441	66	2468
13	2415	40	2442	67	2469
14	2416	41	2443	68	2470
15	2417	42	2444	69	2471
16	2418	43	2445	70	2472
17	2419	44	2446	71	2473
18	2420	45	2447	72	2474
19	2421	46	2448	73	2475
20	2422	47	2449	74	2476
21	2423	48	2450	75	2477
22	2424	49	2451	76	2478
23	2425	50	2452	77	2479
24	2426	51	2453	78	2480
25	2427	52	2454		
26	2428	53	2455		

3.

Table for Filed Antenna (EUT have two function ANT)

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
WLAN	VSO	A102	PIFA	U.FL	3.20
BT	VSO	A102	PIFA	U.FL	-1.20

4 The EUT were operated with following platform:

Equipment	ElitePad A10
Brand Name	ECS; i‐Buddie; olio
Model Name	A102;A102 series;A10XXX;A10PT3 (The X means 0-9,A-Z,a-z,or "-" or blank or any characteristic for marketing

This report is prepared for FCC class II permissive change. The differences compared with original report are adding antenna and the platform. Therefore, test item for radiated emission test was performed for this addendum.

4. Keyparts

	Vendor	Model
CPU Manufacturer	Intel	Atom N450 1.66GHz
LED Panel Manufacturer	CPT	CLAA101NB03A
	HSD	HSD101PFW3-A
	AUO	B101AW06 V1
Touch Panel Manufacturer	LIYITEC	MTD-101F-10
	EELY	IT010S.2748
SSD Manufacturer	Asint	SSDSLA016G-M2
	SanDisk	SDSA3AD-016G
		SDSA4AH-016G
Memory	DDRII	1GB、2GB
Battery Manufacturer	ATL	GP-S20-6462B4-0100
	SMP	A102-2S5000-S1C1
Adapter Manufacturer	Darfon	BA01-J
WebCam	Fangtec	FS5113C1-D2-2M0
WLAN+BT Combo	AzureWave	AW-NB037H

Mode	CPU	Panel	Touch Panel	SSD	Memory	Battery	Adapter	WebCam	WLAN+BT Combo
1	Intel Atom N450 1.66GHz	CPT CLAA101NB03A	LIYITEC MTD-101F-10	SanDisk SDSA3AD-016G	DDRII 2GB	ATL GP-S20-6462B4-0100 4800mAh	Darfon BA01-J	Fangtec FS5113C1-D2-2M0	AzureWave AW-NB037H
2	Intel Atom N450 1.66GHz	HSD HSD101PFW3-A	LIYITEC MTD-101F-10	Asint SSDSLA016G-M2	DDRII 1GB	ATL GP-S20-6462B4-0100 4800mAh	Darfon BA01-J	Fangtec FS5113C1-D2-2M0	AzureWave AW-NB037H
3	Intel Atom N450 1.66GHz	AUO B101AW06 V1	EELY IT010S.2748	SanDisk SDSA4AH-016G	DDRII 2GB	SMP A102-2S5000-S1C1 5000mAh	Darfon BA01-J	Fangtec FS5113C1-D2-2M0	AzureWave AW-NB037H

All modes have been evaluated. Mode 3 is found to be the worse case, so mode 3 test data recording in test report.

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 Mode	Description
Mode 1	Bluetooth Link
Mode 2	TX **NOTE (1)/(2)**

The EUT system operated these modes were found to be the worst case during the pre-scanning test as Following:

For Conducted Emission	
Final Test Mode	Description
Mode 1	Bluetooth Link

For Radiated Emission	
Final Test Mode	Description
Mode 2	TX **NOTE (1)/(2)**

Note:

(1) The measurements are performed at the highest, middle, lowest available channels.
(2) The EUT is considered a portable unit; it was pre-tested on the positioned of each 3 axis. The worst case was found positioned on X-plane. Therefore only the test data of this X-plane was used for radiated emission measurement test.

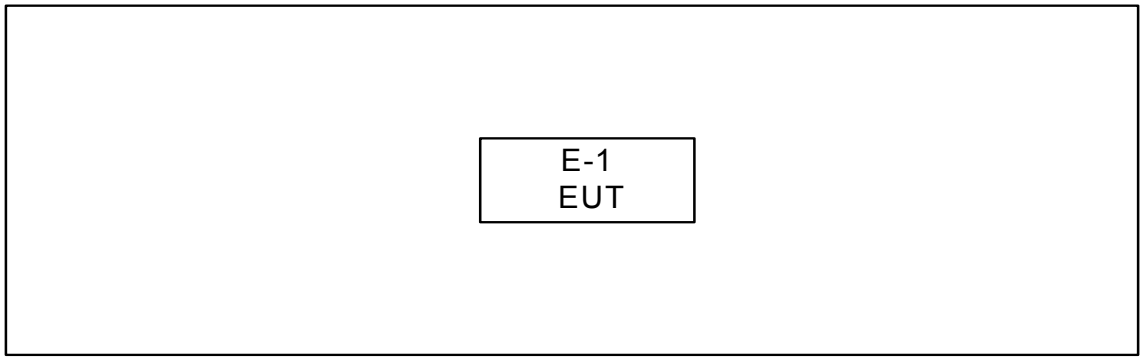
3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of FHSS

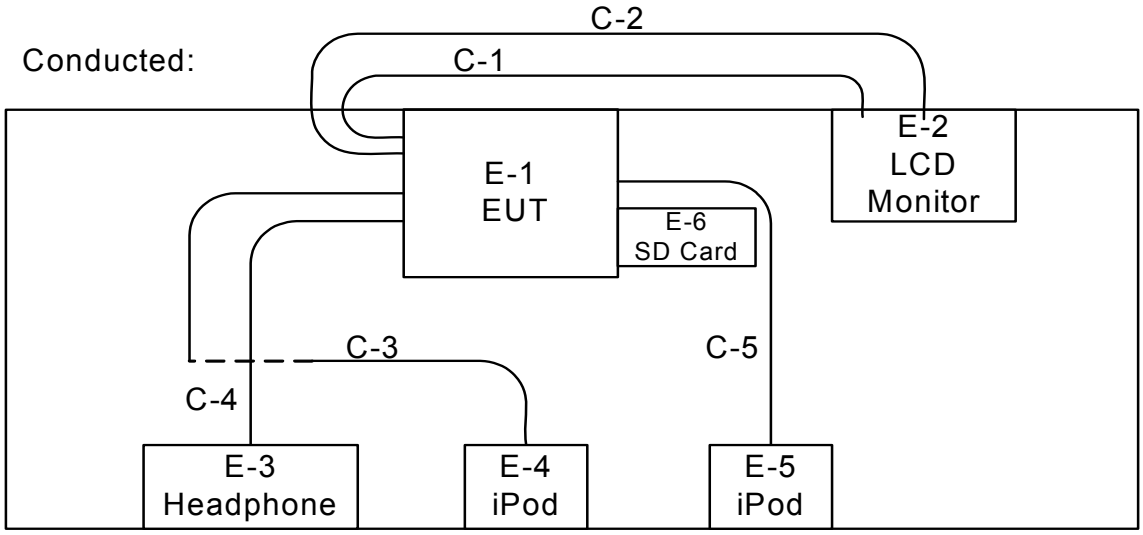
Test software Version	Test program: BtUSBTool		
Frequency	2402 MHz	2441 MHz	2480 MHz
Parameters-1Mbps	0	0	0
Parameters-3Mbps	0	0	0

3.4 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Radiated:



Conducted:



C-1 D-Sub Cable
C-2 HDMI Cable
C-3 USB Cable
C-4 Audio Cable
C-5 USB Cable

3.5 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	802.11n-BT COMBO CARD	ATHEROS	AR5B195	PPD-AR5B195	N/A	EUT
E-2	LCD monitor	DELL	U2410f	DOC	CN-082WXD-72870-06L-071L	
E-3	Headphone	Philips	SHM1500	DOC	N/A	
E-4	iPod nano(8G)	Apple	A1320	DOC	YM945ZGJ72A	
E-5	iPod nano(8G)	Apple	A1320	DOC	5U9464ZY72A	
E-6	SD Card	Hagiwara	HPC-SD64T	DOC	0326TA5355H	

Item	Shielded Type	Ferrite Core	Length	Note
C-1	YES	YES	1.8M	
C-2	NO	NO	1.8M	
C-3	YES	NO	1.0M	
C-4	NO	NO	1.8M	
C-5	YES	NO	1.0M	

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 Limits (Frequency Range 150KHz-30MHz)

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

0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	73.00	60.00	56.00	46.00	FCC
5.0 -30.0	73.00	60.00	60.00	50.00	FCC

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 AND SETTING

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	LISN	EMCO	3816/2	00052765	May.26.2011
2	LISN	Rolf Heine	NNB-2-16Z	99044	May.26.2011
3	50Ω Terminator	SHX	TF2-3G-A	08122901	May.26.2011
4	Transient Limiter	Agilent	11947A	3107A03668	May.26.2011
5	Test Cable	N/A	C-06_C03	N/A	Nov.15.2011
6	EMI TEST RECEIVER	R&S	ESCS30	8333641017	May.26.2011

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

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

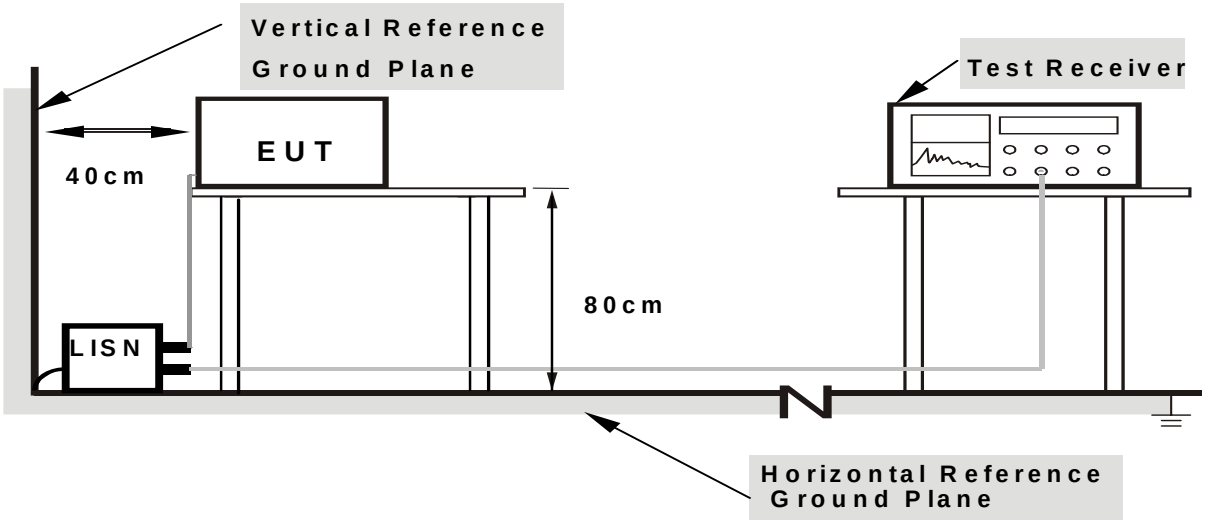
4.1.3 TEST PROCEDURE

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



Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

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.
The EUT was programmed to be in continuously transmitting/ receiving mode.

4.1.7 TEST RESULTS

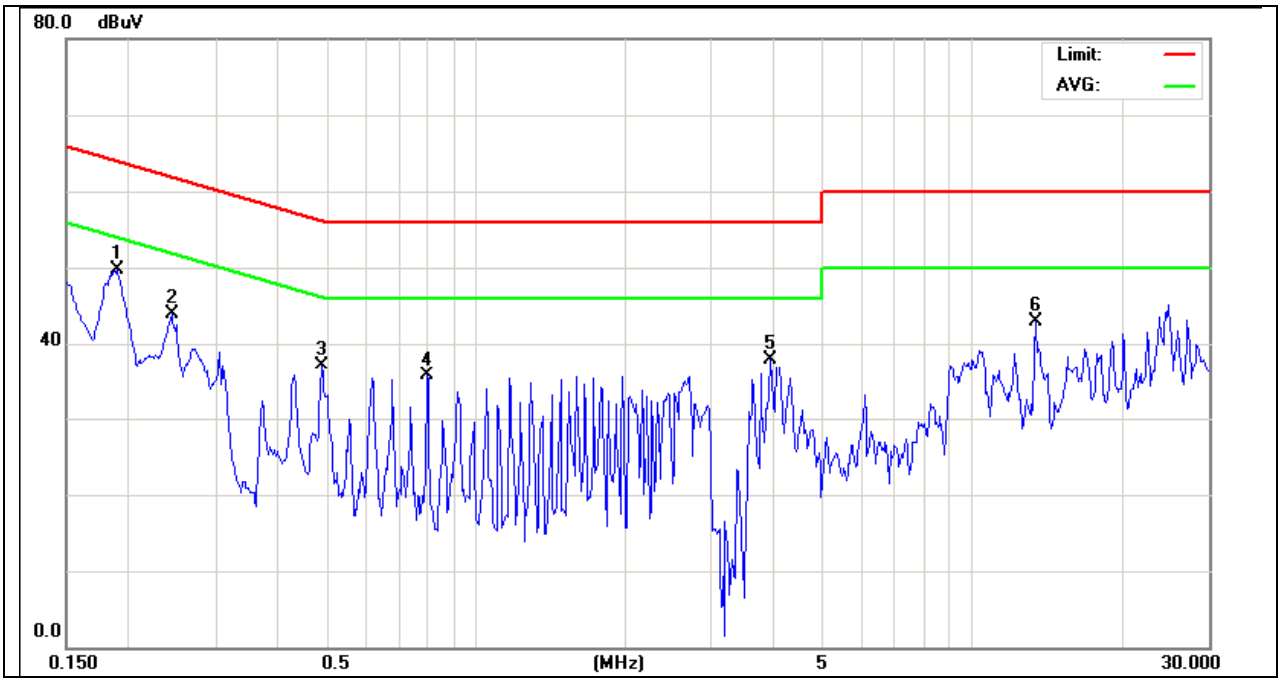
EUT：	802.11n-BT COMBO CARD	Model Name ：	AR5B195
Temperature：	23 ℃	Relative Humidity：	51 %
Pressure：	1010hPa	Test Power ：	AC 120V/60Hz
Test Mode ：	Bluetooth Link		

Freq. (MHz)	Terminal L/N	Measured(dBuV)		Limits(dBuV)		Margin (dB)	Note
		QP-Mode	AV-Mode	QP-Mode	AV-Mode		
0.19	Line	49.62	*	64.06	54.06	-14.44	(QP)
0.24	Line	43.88	*	61.95	51.95	-18.07	(QP)
0.49	Line	37.03	*	56.19	46.19	-19.16	(QP)
0.80	Line	35.68	*	56.00	46.00	-20.32	(QP)
3.92	Line	37.96	*	56.00	46.00	-18.04	(QP)
13.41	Line	42.83	*	60.00	50.00	-17.17	(QP)

Remark

(1) 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。

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



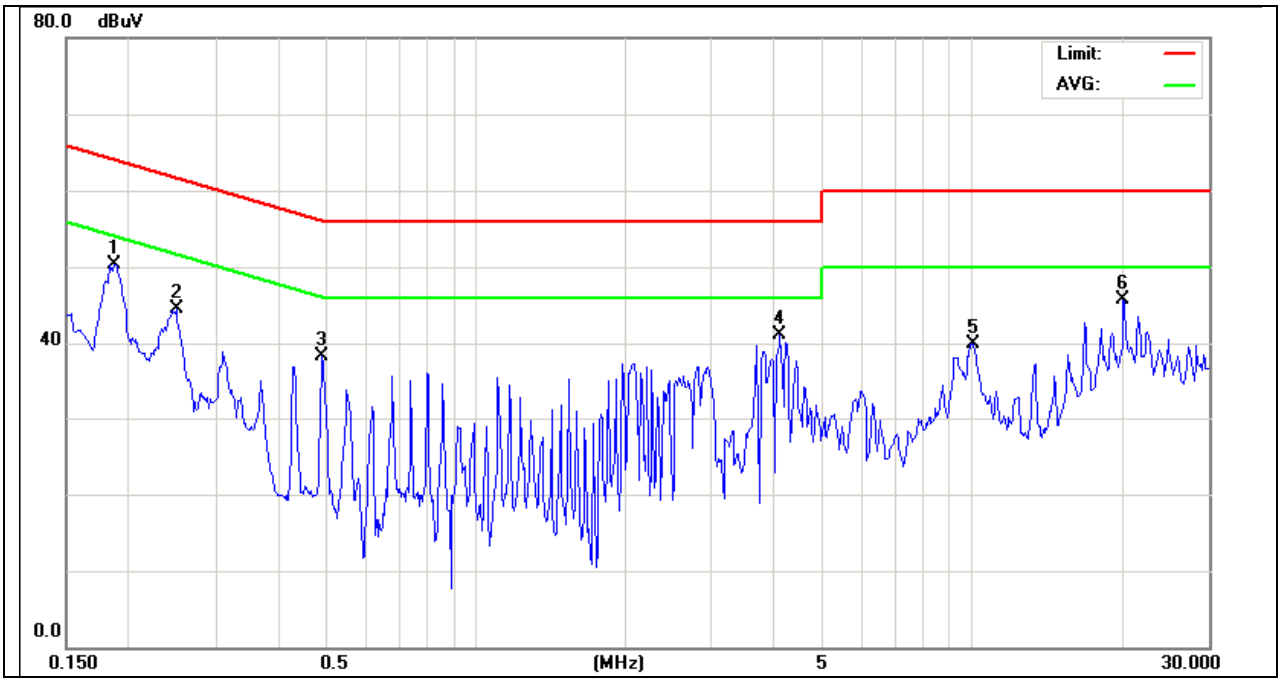
EUT：	802.11n-BT COMBO CARD	Model Name ：	AR5B195
Temperature：	23 ℃	Relative Humidity：	51 %
Pressure：	1010hPa	Test Power ：	AC 120V/60Hz
Test Mode ：	Bluetooth Link		

Freq. (MHz)	Terminal L/N	Measured(dBuV)		Limits(dBuV)		Margin (dB)	Note
		QP-Mode	AV-Mode	QP-Mode	AV-Mode		
0.19	Neutral	50.34	*	64.15	54.15	-13.81	(QP)
0.25	Neutral	44.42	*	61.78	51.78	-17.36	(QP)
0.49	Neutral	38.30	*	56.19	46.19	-17.89	(QP)
4.11	Neutral	41.06	*	56.00	46.00	-14.94	(QP)
10.07	Neutral	39.91	*	60.00	50.00	-20.09	(QP)
20.16	Neutral	45.80	*	60.00	50.00	-14.20	(QP)

Remark

(1) 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。

(2) 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 on 15.205(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)	(dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

Notes:

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

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

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

FREQUENCY RANGE OF RADIATED MEASUREMENT (For unintentional radiators)

Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz)	Range (MHz)
Below 1.705	30
1.705 – 108	1000
108 – 500	2000
500 – 1000	5000
Above 1000	5^{th} harmonic of the highest frequency or 40 GHz, whichever is lower

4.2.2 MEASUREMENT INSTRUMENTS LIST ANS SETTING

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	ETS	3115	00075789	May.12.2011
2	Amplifier	Agilent	8449B	3008A02274	May.26.2011
3	Spectrum	Agilent	E4408B	US39240143	Nov.15.2011
4	Test Cable	HUBER+SUHNER	CB03 High Fre	N/A	May.03.2011
5	Antenna	Schwarbeck	VULB9160	9160-3232	May.26.2011
6	Amplifier	HP	8447D	2944A09673	May.26.2011
7	Test Receiver	R&S	ESCI	100895	May.26.2011
8	Test Cable	N/A	C-01_CB03	N/A	Jul.05.2011
9	Controller	CT	SC100	N/A	N/A

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

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	1 MHz / 1 MHz for Peak, 1 MHz / 10Hz for Average

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

4.2.3 TEST PROCEDURE

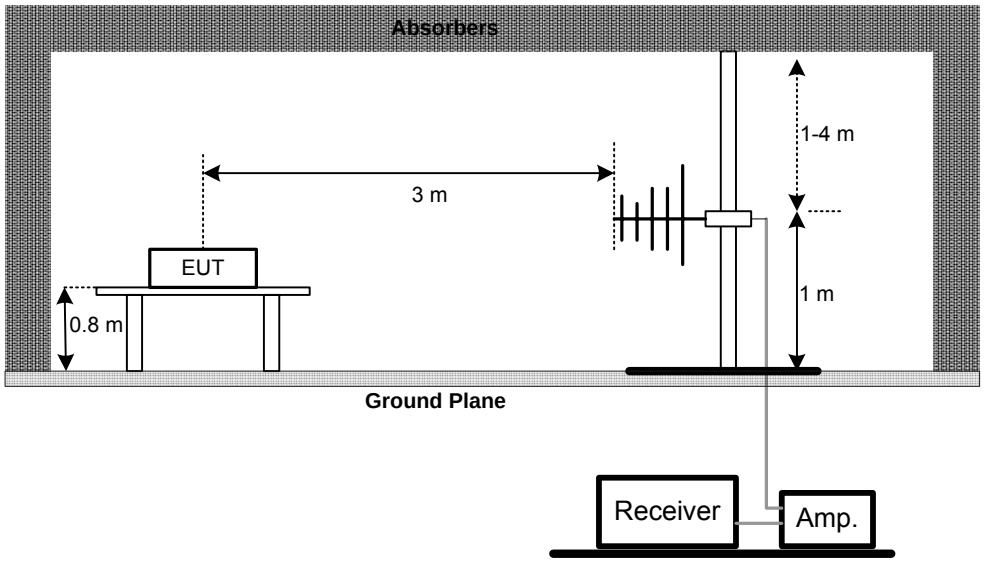
a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 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

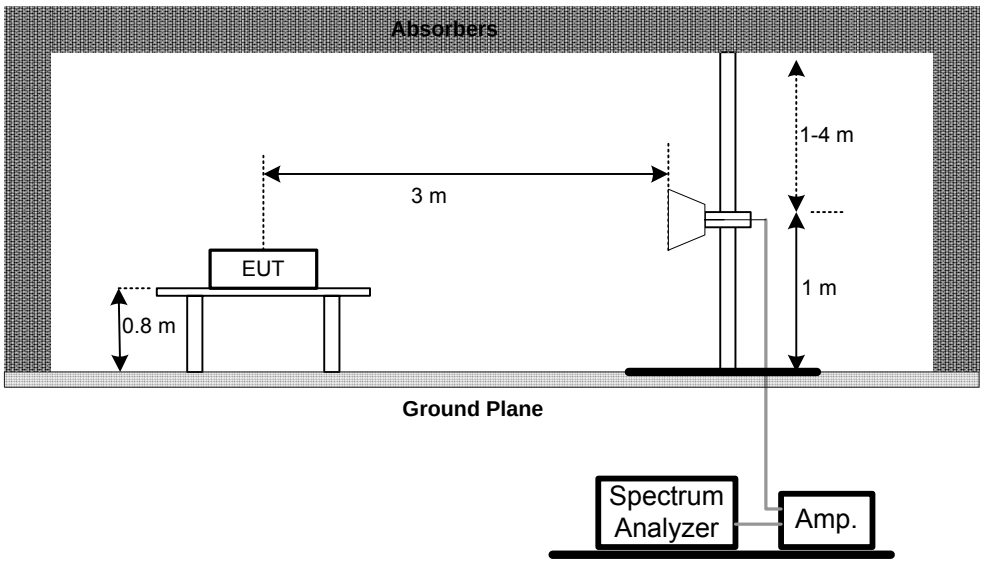
No deviation

4.2.5 TEST SETUP

(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



(B) Radiated Emission Test Set-Up Frequency Above 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 (BETWEEN30 – 1000 MHZ)

EUT：	802.11n-BT COMBO CARD	Model Name ：	AR5B195
Temperature：	23 ℃	Relative Humidity：	51 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX 2402MHz –CH00-1Mbps		

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
49.33	V	41.23	-17.26	23.97	40.00	- 16.03	
123.15	V	48.38	-18.23	30.15	43.50	- 13.35	
146.52	V	47.03	-17.62	29.41	43.50	- 14.09	
212.35	V	47.76	-16.21	31.55	43.50	- 11.95	
497.14	V	37.69	-7.40	30.29	46.00	- 15.71	
695.28	V	36.04	-3.19	32.85	46.00	- 13.15	

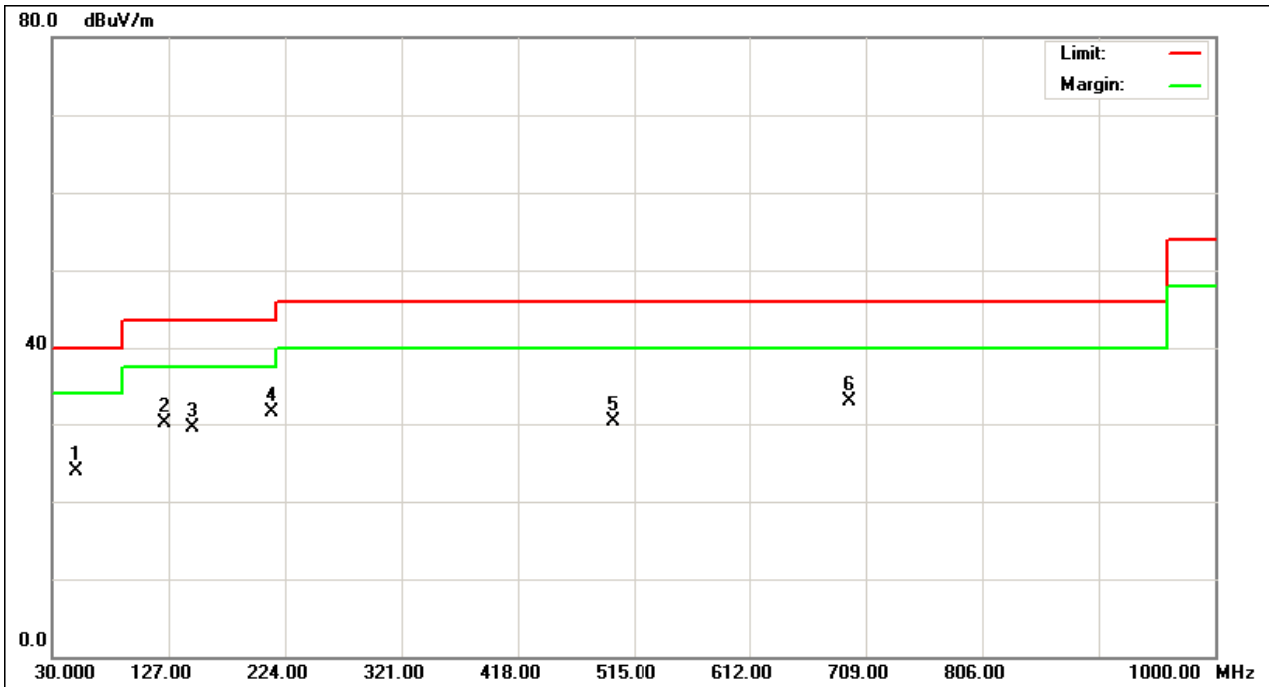
Remark：

(1) Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode or Peak Mode with Detector BW=120KHz；SPA setting in RBW=120KHz, VBW =120KHz, Swp. Time = 0.3 sec./MHz。

(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。

(4) If the peak scan value lower limit more than 20dB, then this signal data does not show in table。



EUT：	802.11n-BT COMBO CARD	Model Name ：	AR5B195
Temperature：	23 ℃	Relative Humidity：	51 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX 2402MHz –CH00-1Mbps		

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
65.11	H	47.74	-17.62	30.12	40.00	- 9.88	
128.65	H	47.09	-18.14	28.95	43.50	- 14.55	
181.24	H	48.51	-16.87	31.64	43.50	- 11.86	
216.32	H	50.19	-16.03	34.16	46.00	- 11.84	
293.66	H	44.93	-12.06	32.87	46.00	- 13.13	
496.14	H	38.37	-7.42	30.95	46.00	- 15.05	

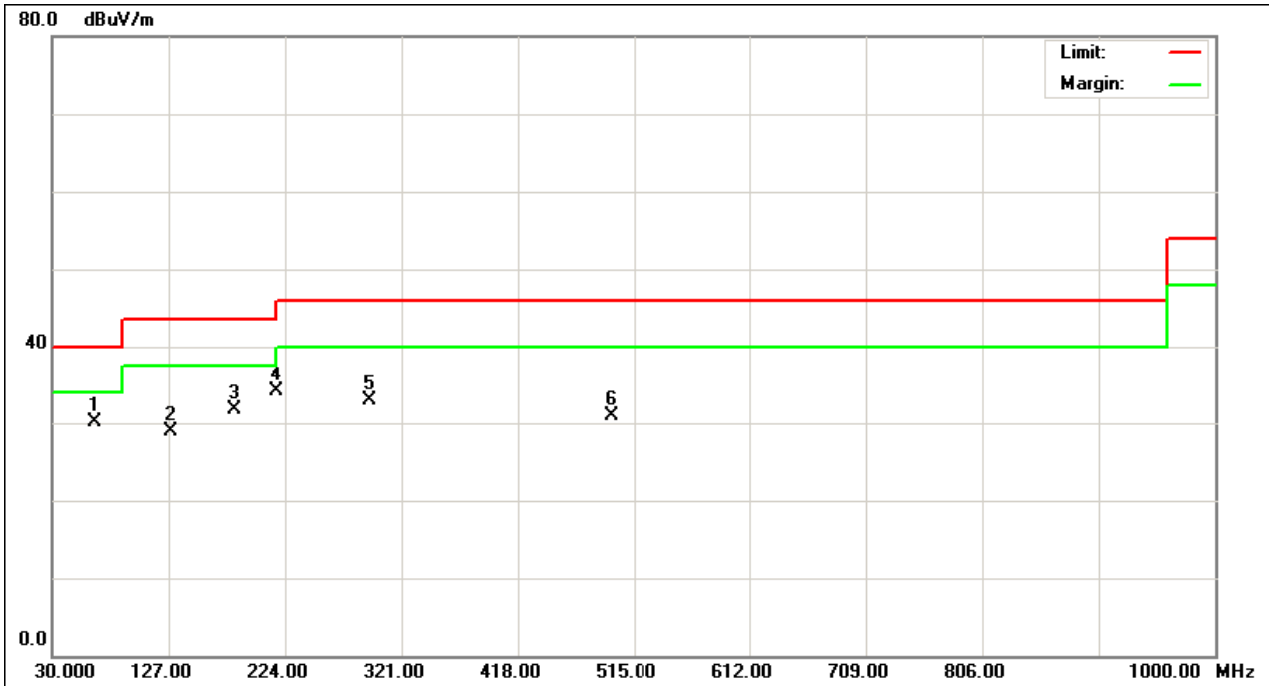
Remark：

(1) Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode or Peak Mode with Detector BW=120KHz；SPA setting in RBW=120KHz, VBW =120KHz, Swp. Time = 0.3 sec./MHz。

(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。

(4) If the peak scan value lower limit more than 20dB, then this signal data does not show in table。



4.2.8 TEST RESULTS (ABOVE 1000 MHZ)

EUT：	802.11n-BT COMBO CARD	Model Name ：	AR5B195
Temperature：	23 ℃	Relative Humidity：	58 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX 2402MHz – CH 00-1Mbps		

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	20.99	10.73	31.54	52.53	42.27	74.00	54.00	X/E
2402.00	**V**	**64.03**	**26.78**	**31.56**	**95.59**	**58.34**			**X/F**
4803.96	V	49.47	40.18	5.94	55.41	46.12	74.00	54.00	X/H

Remark：

(1) 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。

(2) 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.)

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

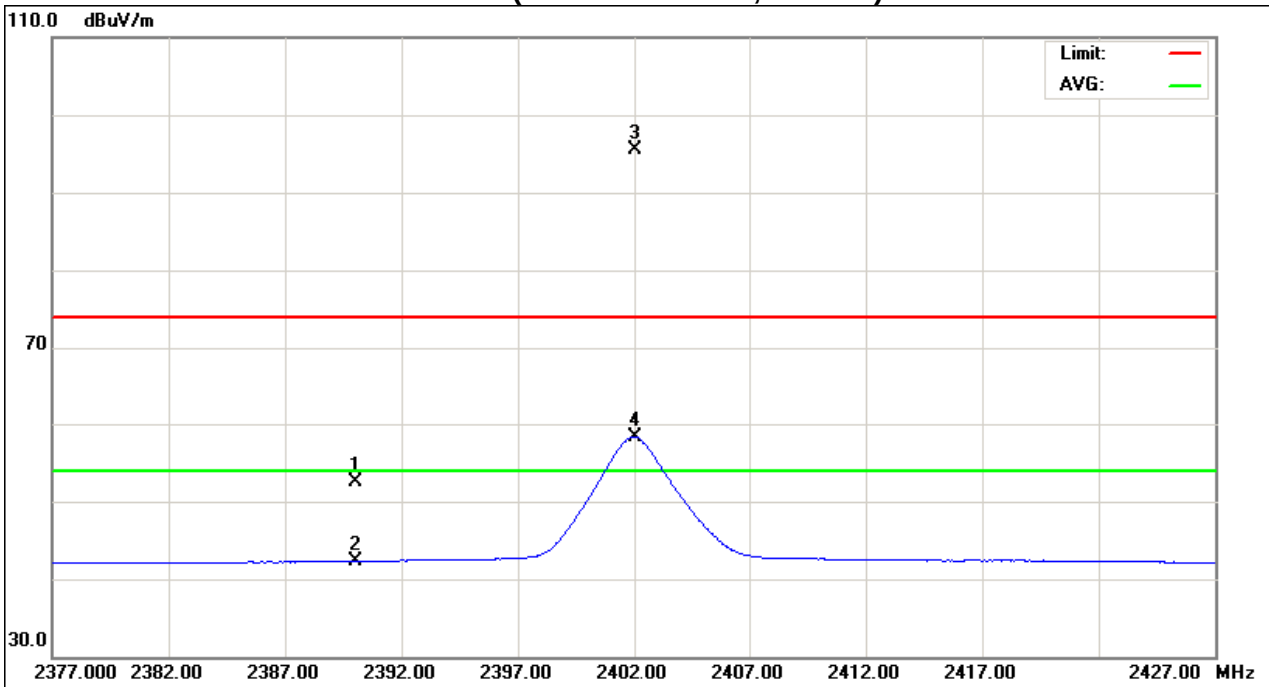
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

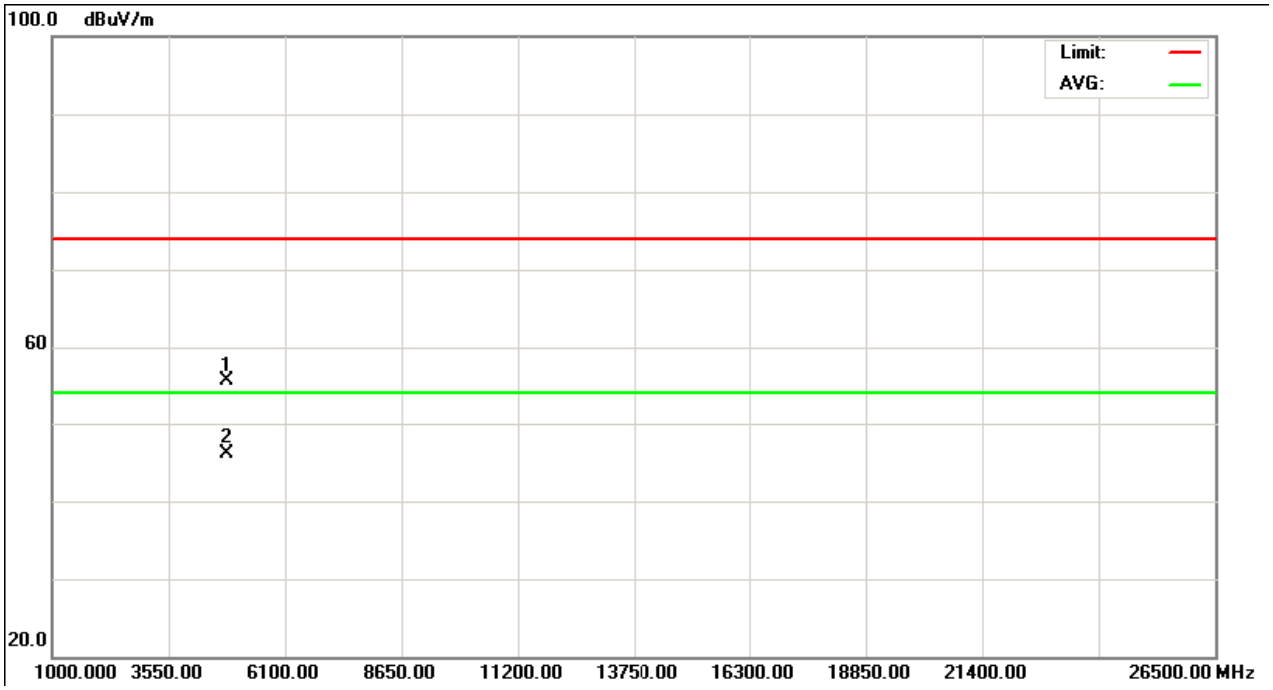
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

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

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

TX CH00(Above 1000 MHz, Vertical)





EUT：	802.11n-BT COMBO CARD	Model Name ：	AR5B195
Temperature：	23 ℃	Relative Humidity：	58 %
Pressure：	1010hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX 2402MHz – CH 00-1Mbps		

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	22.69	10.73	31.54	54.23	42.27	74.00	54.00	X/E
2402.00	**H**	**63.92**	**26.72**	**31.56**	**95.48**	**58.28**			**X/F**
4803.98	H	46.24	38.41	5.94	52.18	44.35	74.00	54.00	X/H

Remark：

(1) 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。

(2) 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.)

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

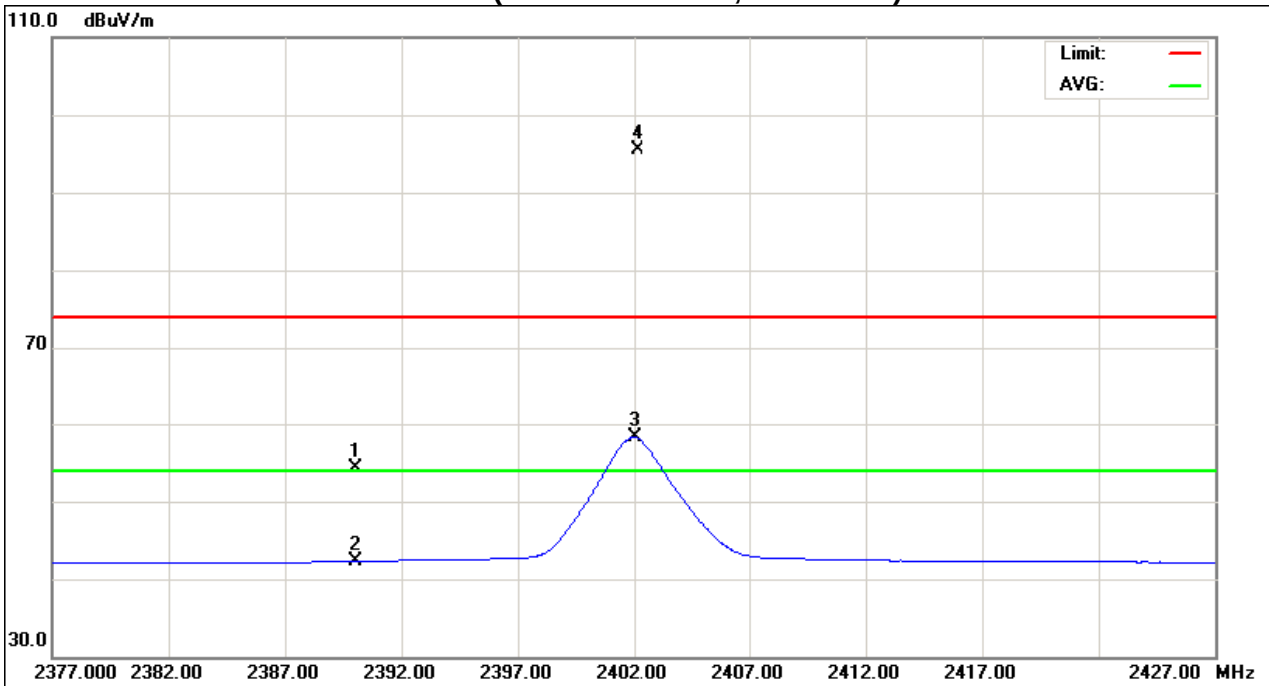
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

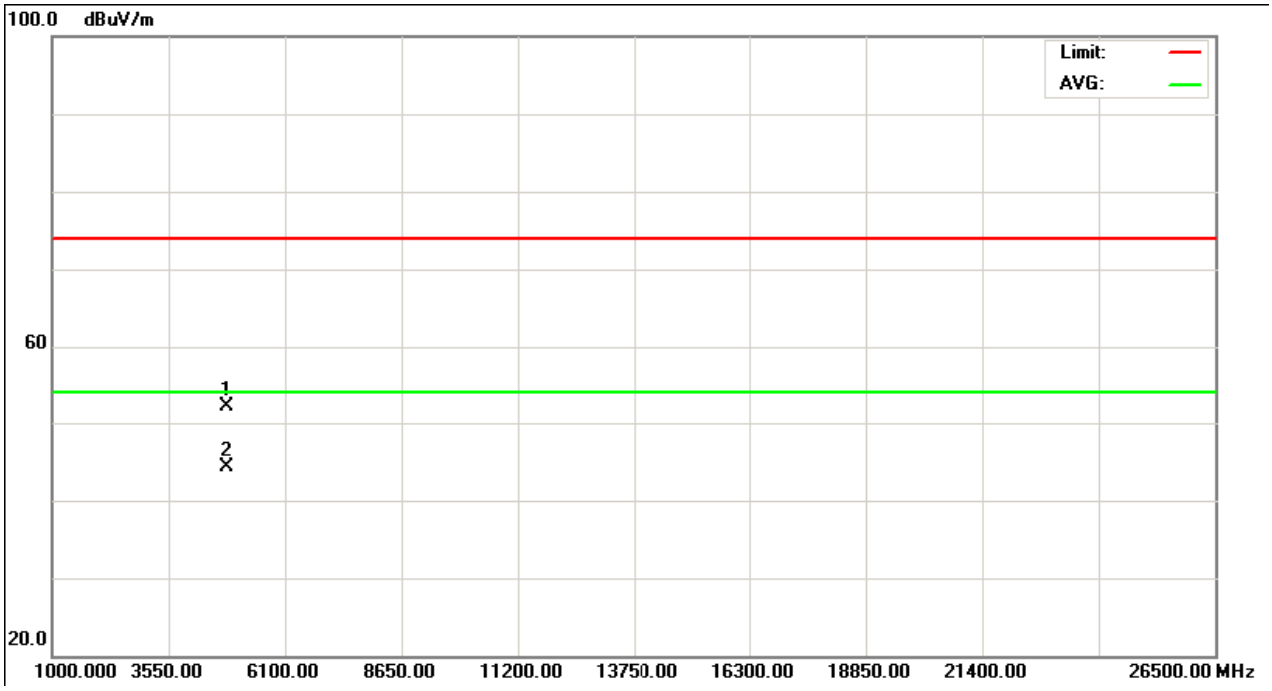
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

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

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

TX CH00(Above 1000 MHz, Horizontal)





EUT：	802.11n-BT COMBO CARD	Model Name ：	AR5B195
Temperature：	23 ℃	Relative Humidity：	58 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX 2441MHz –CH39-1Mbps		

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)	
2441.00	**V**	**66.15**	**27.45**	**31.63**	**97.78**	**59.08**			**X/F**
4882.16	V	51.77	41.16	6.17	57.94	47.33	74.00	54.00	X/H

Remark：

(1) 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。

(2) 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.)

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

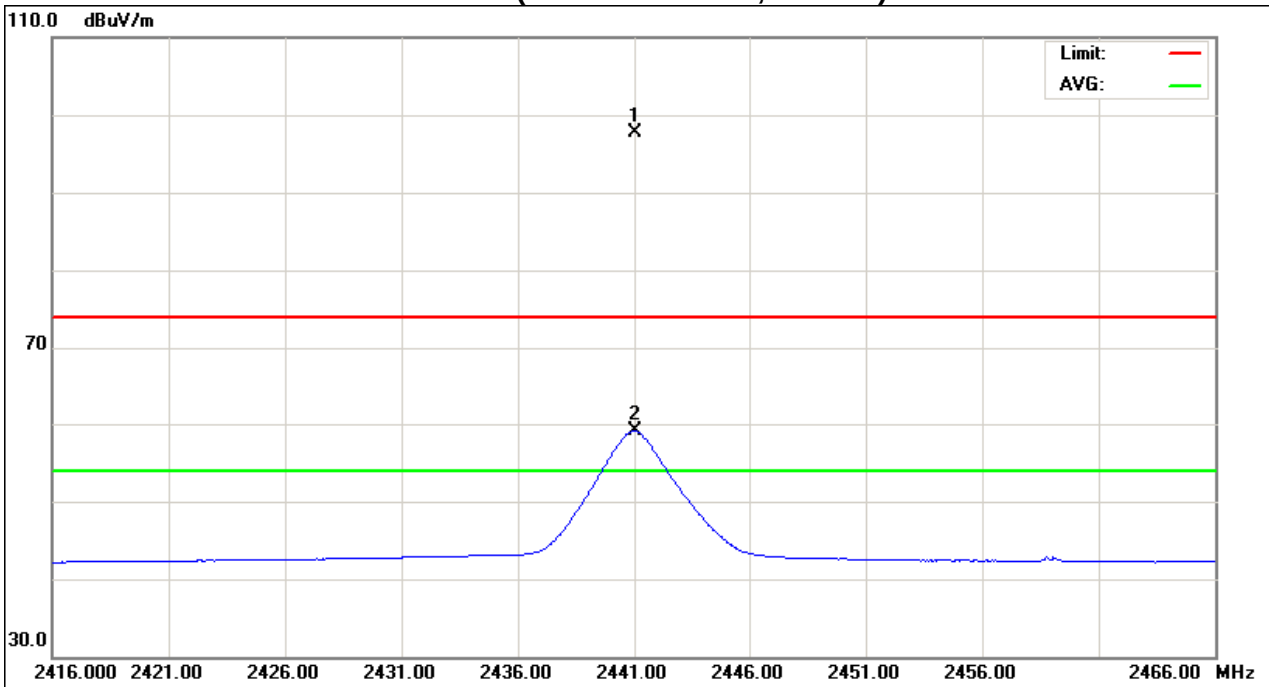
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

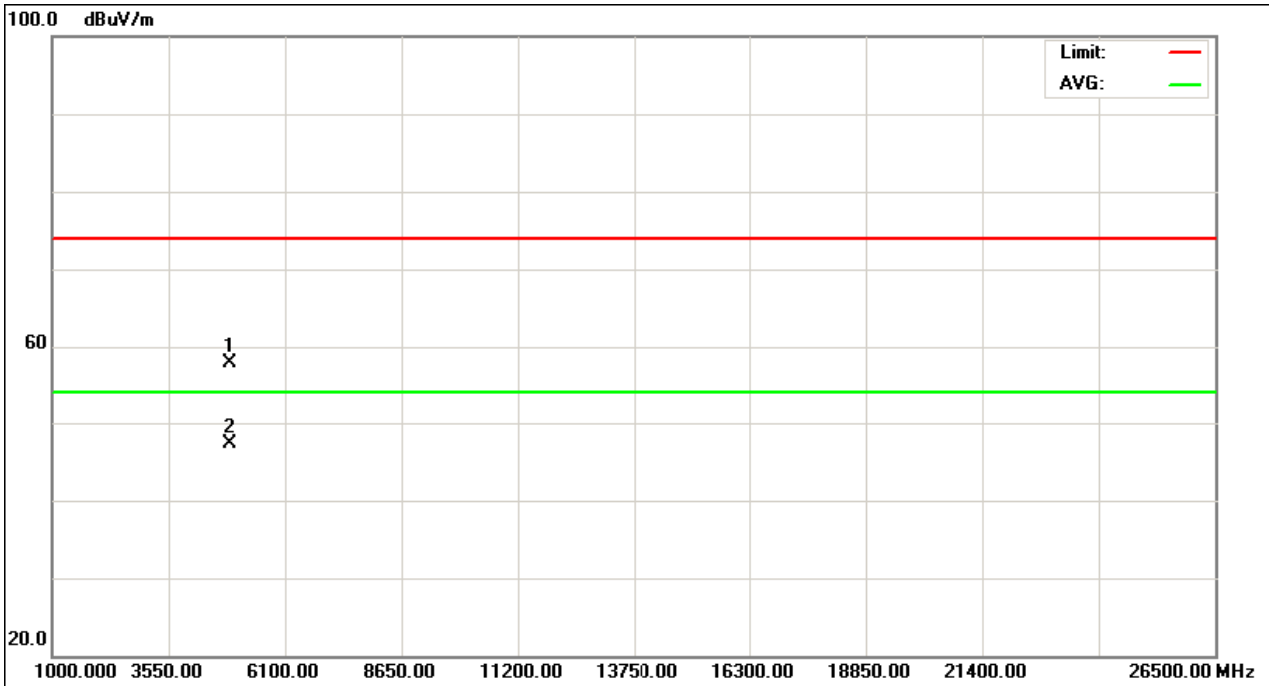
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

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

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

TX CH39 (Above 1000 MHz, Vertical)





EUT：	802.11n-BT COMBO CARD	Model Name ：	AR5B195
Temperature：	23 ℃	Relative Humidity：	58 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX 2441MHz –CH39-1Mbps		

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)	
2440.85	**H**	**64.89**	**27.04**	**31.62**	**96.51**	**58.66**			**X/F**
4882.13	H	49.79	40.08	6.17	55.96	46.25	74.00	54.00	X/H

Remark：

(1) 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。

(2) 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.)

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

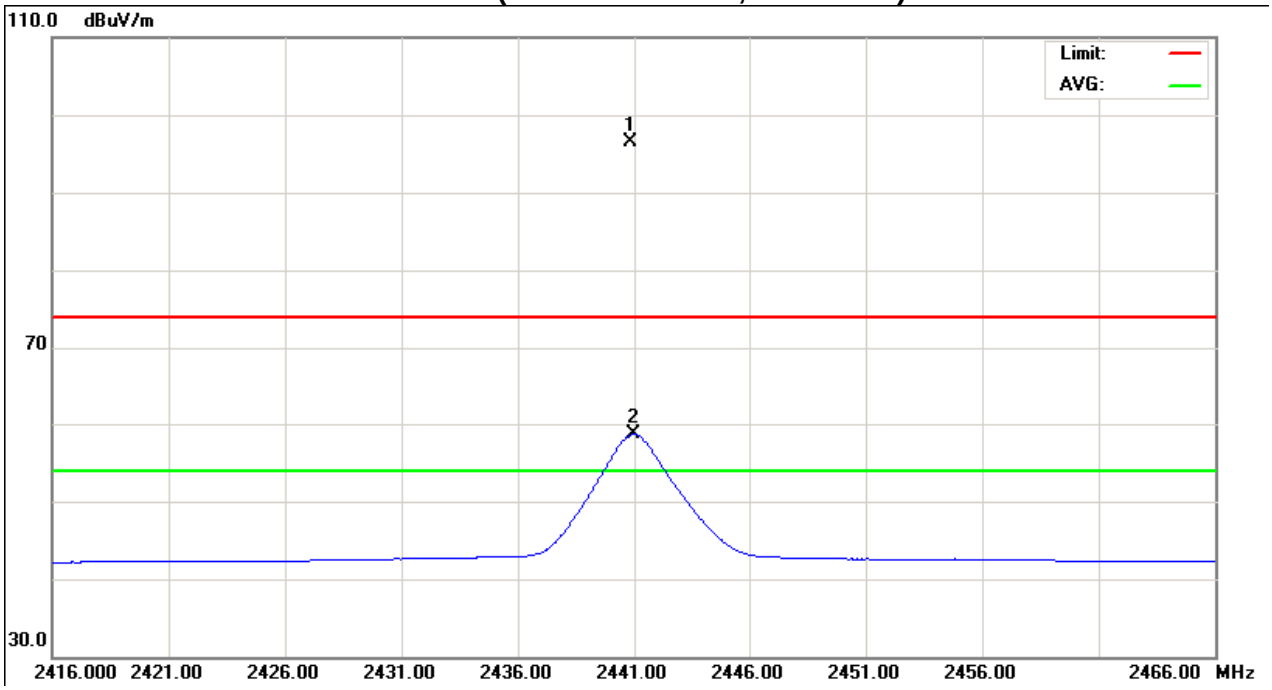
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

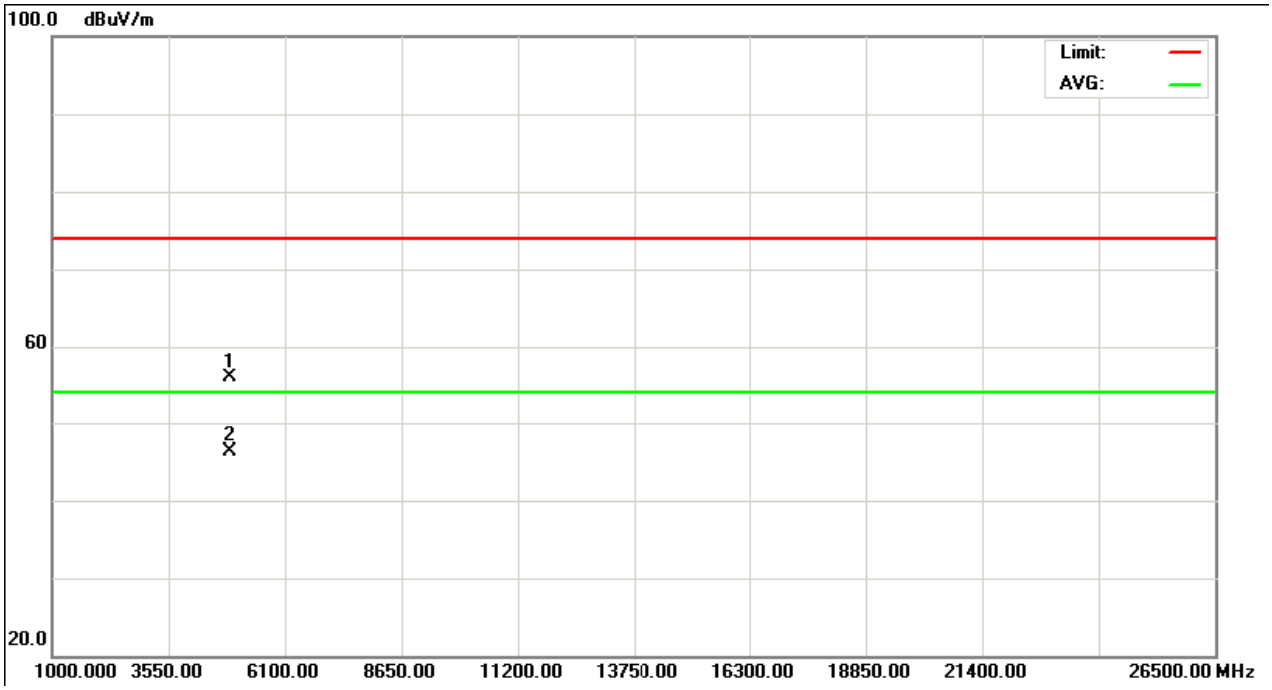
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

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

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

TX CH39 (Above 1000 MHz, Horizontal)





EUT：	802.11n-BT COMBO CARD	Model Name ：	AR5B195
Temperature：	23 ℃	Relative Humidity：	58 %
Pressure：	1010hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX 2480MHz –CH78-1Mbps		

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)	
2480.00	**V**	**63.28**	**26.57**	**31.69**	**94.97**	**58.26**			**X/F**
2483.50	V	36.21	13.80	31.70	67.91	45.50	74.00	54.00	X/E
4960.25	V	45.72	37.13	6.39	52.11	43.52	74.00	54.00	X/H

Remark：

(1) 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。

(2) 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.)

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

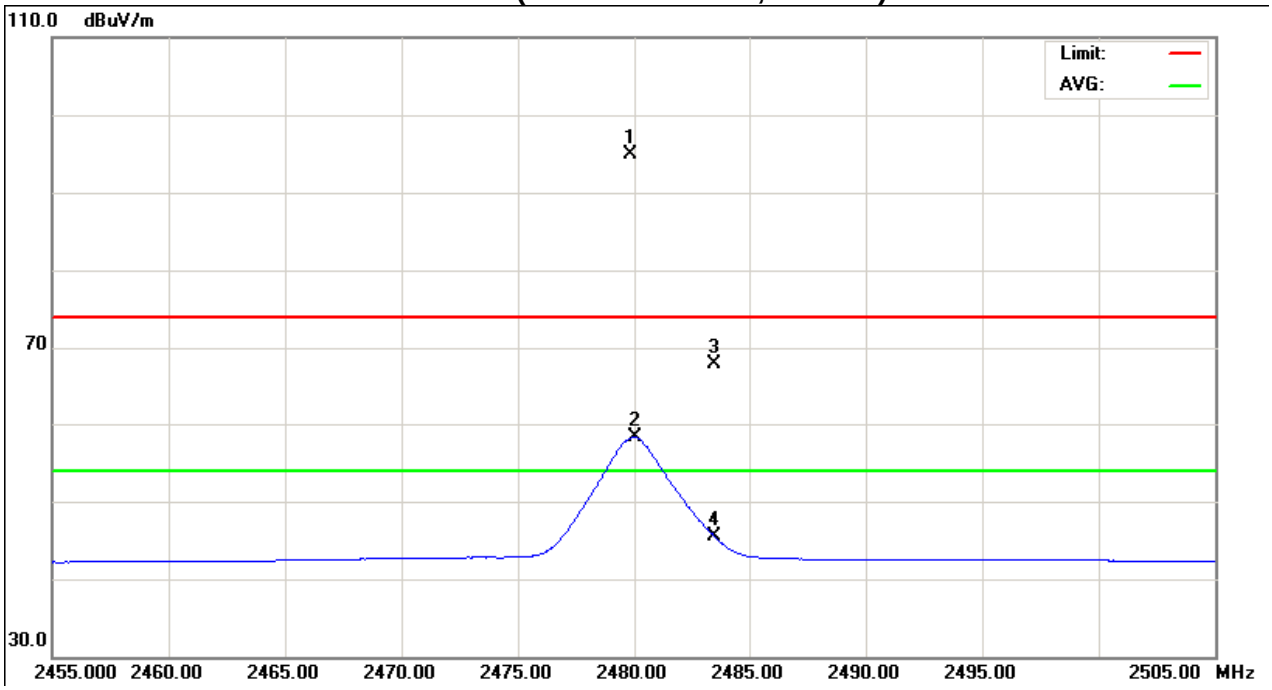
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

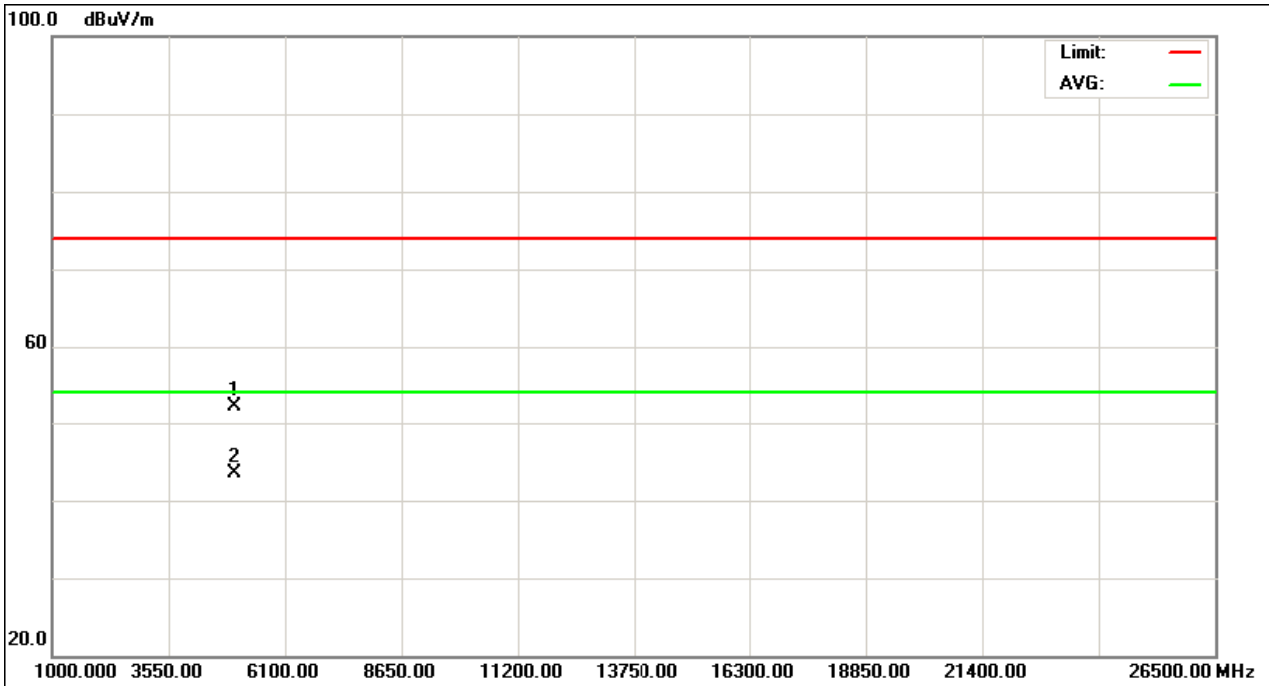
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

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

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

TX CH78 (Above 1000 MHz, Vertical)





EUT：	802.11n-BT COMBO CARD	Model Name ：	AR5B195
Temperature：	23 ℃	Relative Humidity：	58 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX 2480MHz –CH78-1Mbps		

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)	
2480.00	**H**	**64.35**	**26.90**	**31.69**	**96.04**	**58.59**			**X/F**
2483.50	H	37.35	14.07	31.70	69.05	45.77	74.00	54.00	X/E
4960.20	H	47.68	38.92	6.40	54.08	45.32	74.00	54.00	X/H

Remark：

(1) 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。

(2) 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.)

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

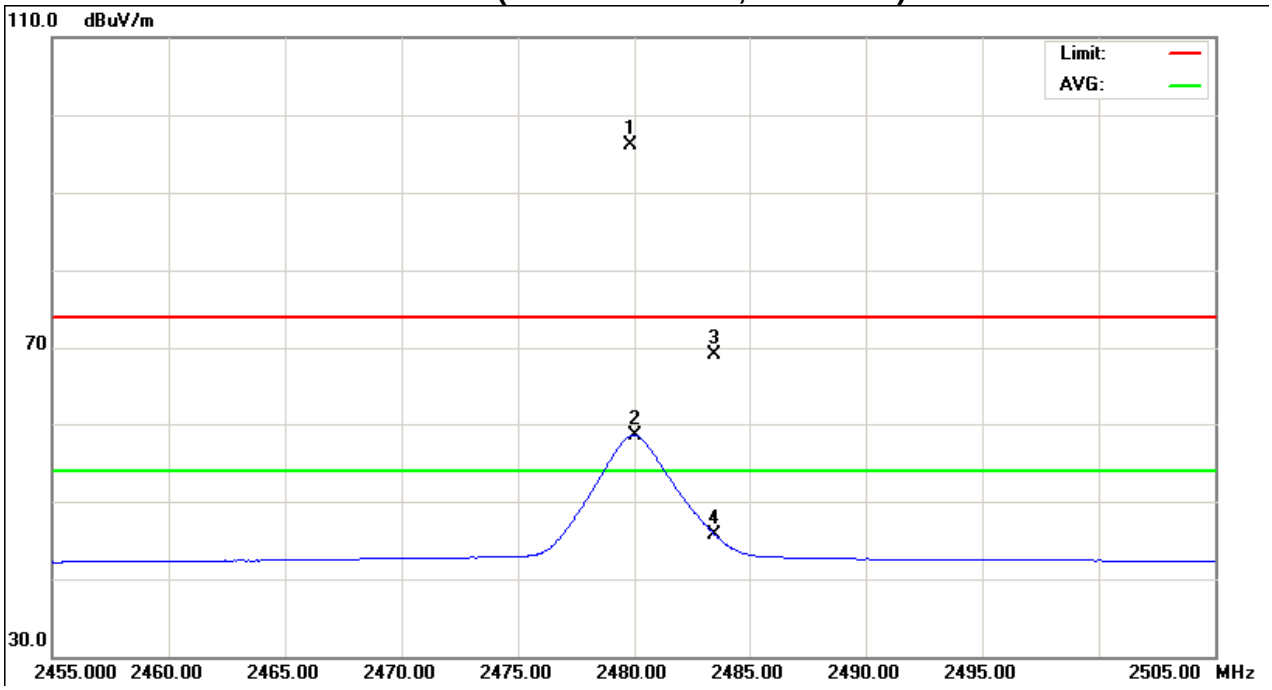
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

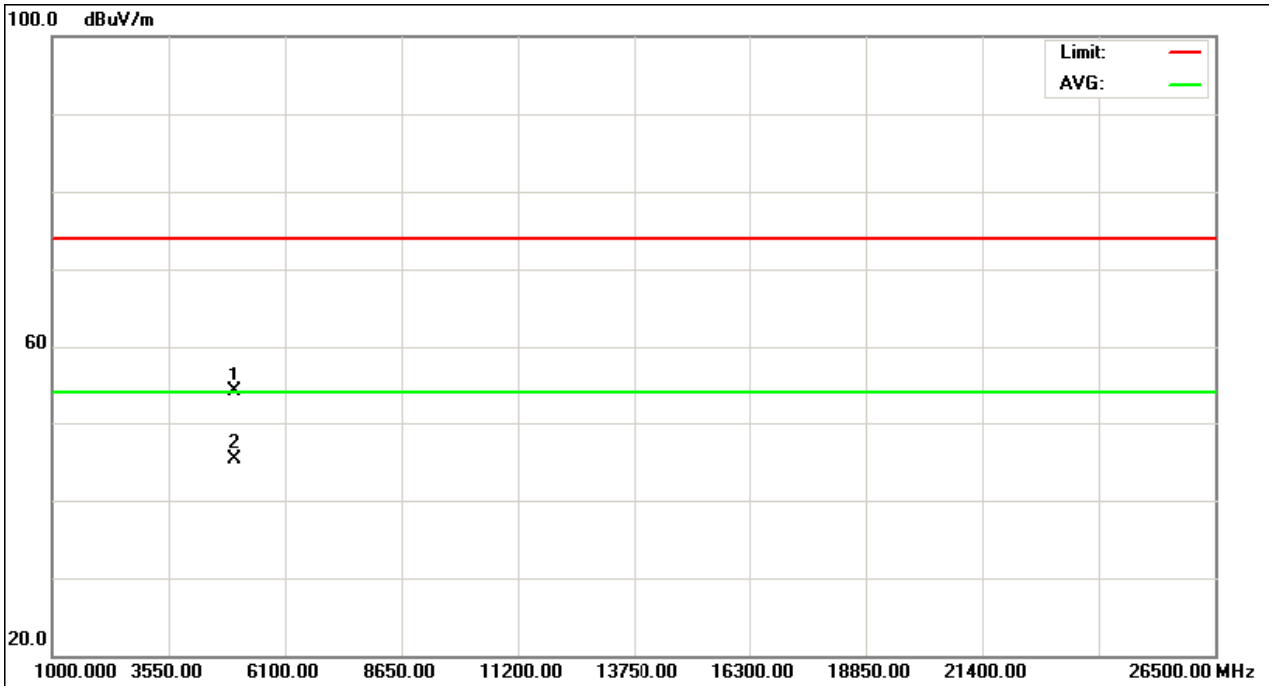
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

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

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

TX CH78 (Above 1000 MHz, Horizontal)





EUT：	802.11n-BT COMBO CARD	Model Name ：	AR5B195
Temperature：	23 ℃	Relative Humidity：	58 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX 2402MHz – CH 00-3Mbps		

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	22.51	10.69	31.54	54.05	42.23	74.00	54.00	X/E
2402.00	**V**	**64.23**	**26.50**	**31.56**	**95.79**	**58.06**			**X/F**
4803.85	V	48.91	39.80	5.94	54.85	45.74	74.00	54.00	X/H

Remark：

(1) 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。

(2) 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.)

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

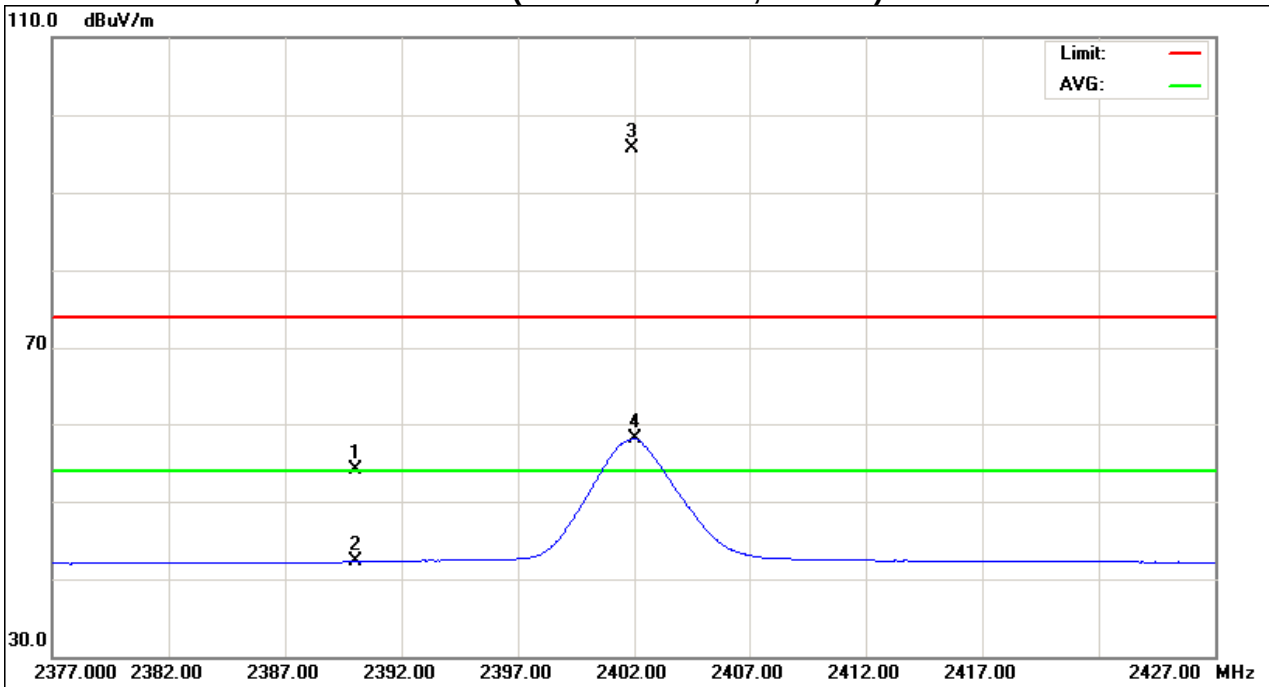
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

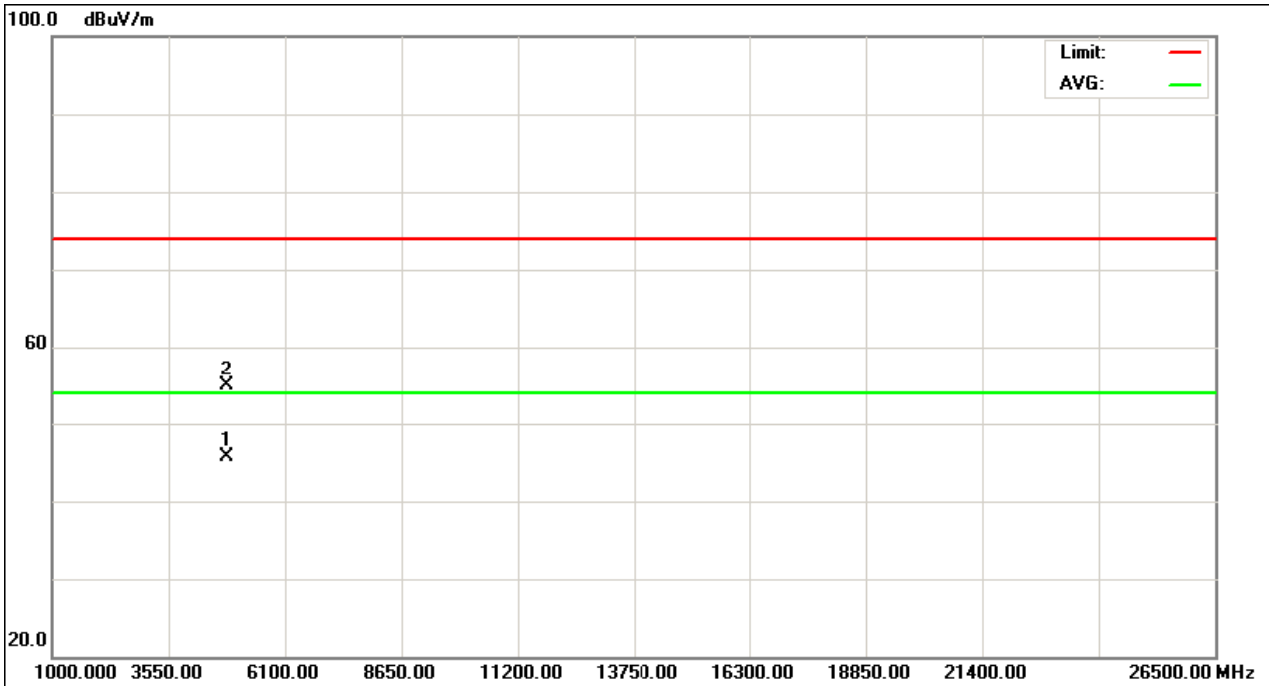
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

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

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

TX CH00(Above 1000 MHz, Vertical)





EUT：	802.11n-BT COMBO CARD	Model Name ：	AR5B195
Temperature：	23 ℃	Relative Humidity：	58 %
Pressure：	1010hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX 2402MHz – CH 00-3Mbps		

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	22.26	10.69	31.54	53.80	42.23	74.00	54.00	X/E
2402.05	**H**	**63.74**	**26.23**	**31.56**	**95.30**	**57.79**			**X/F**
4803.95	H	47.27	36.41	5.94	53.21	42.35	74.00	54.00	X/H

Remark：

(1) 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。

(2) 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.)

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

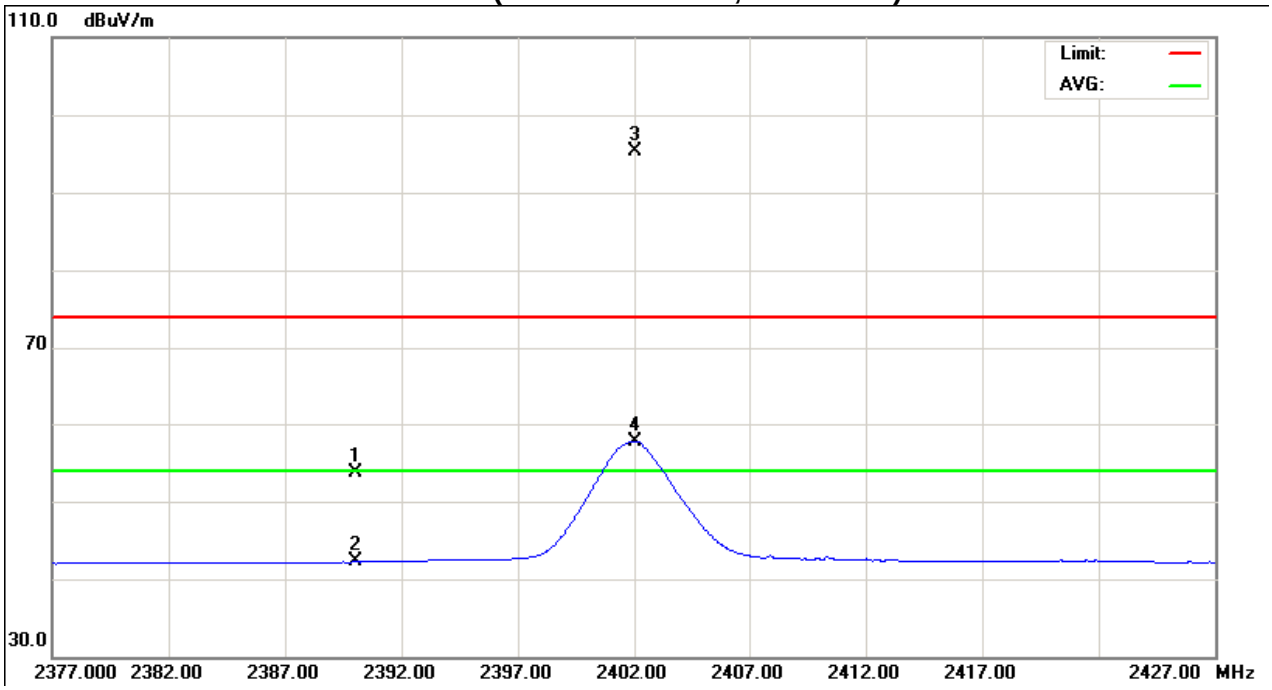
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

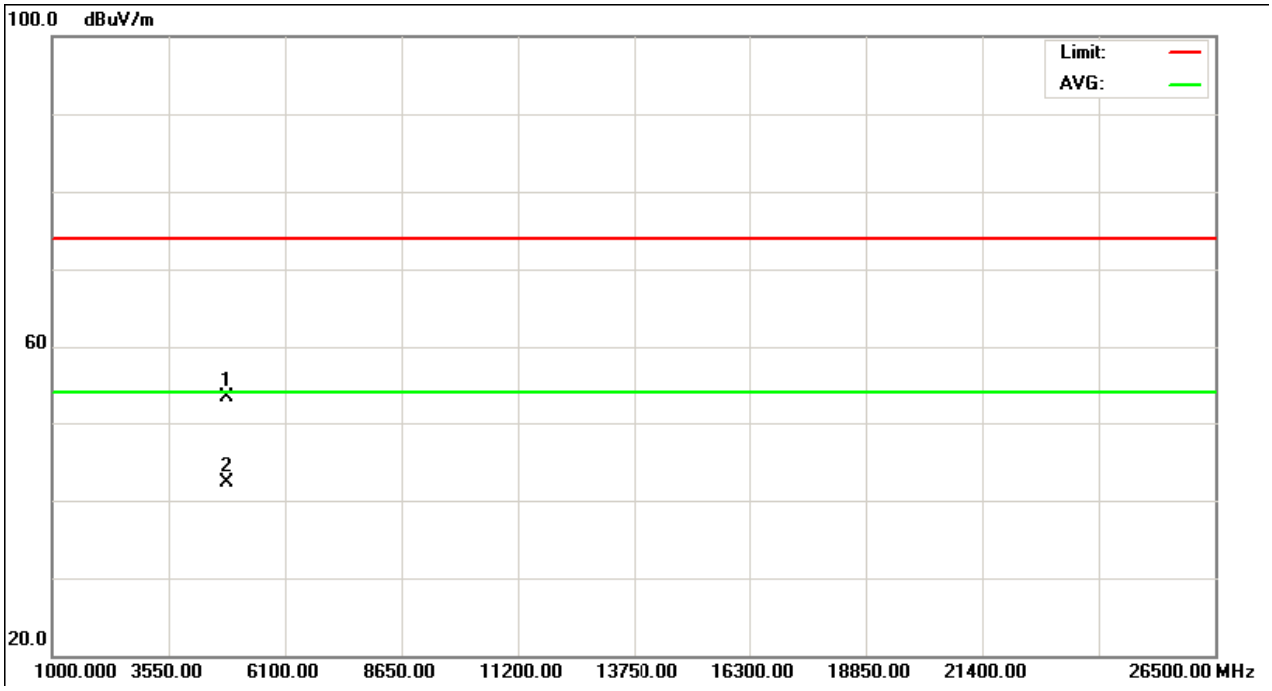
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

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

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

TX CH00(Above 1000 MHz, Horizontal)





EUT：	802.11n-BT COMBO CARD	Model Name ：	AR5B195
Temperature：	23 ℃	Relative Humidity：	58 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX 2441MHz –CH39-3Mbps		

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)	
2441.00	**V**	**66.65**	**27.16**	**31.62**	**98.27**	**58.79**			**X/F**
4882.07	V	50.11	40.58	6.17	56.28	46.75	74.00	54.00	X/H

Remark：

(1) 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。

(2) 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.)

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

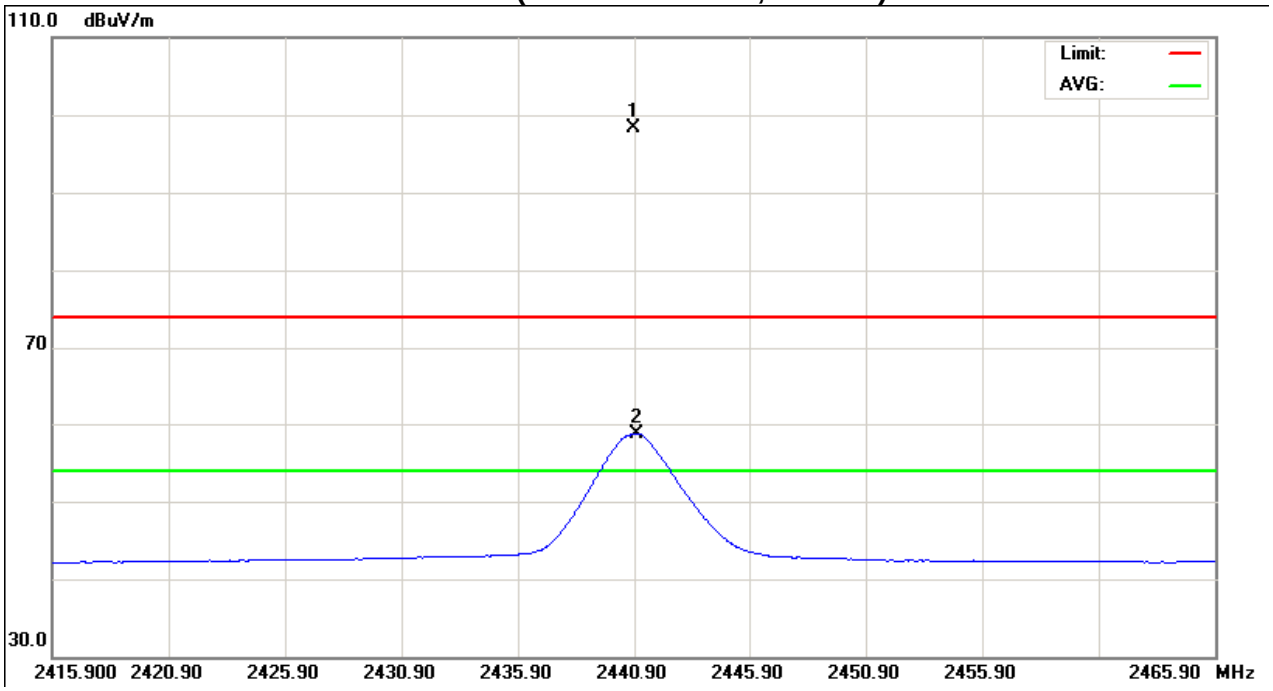
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

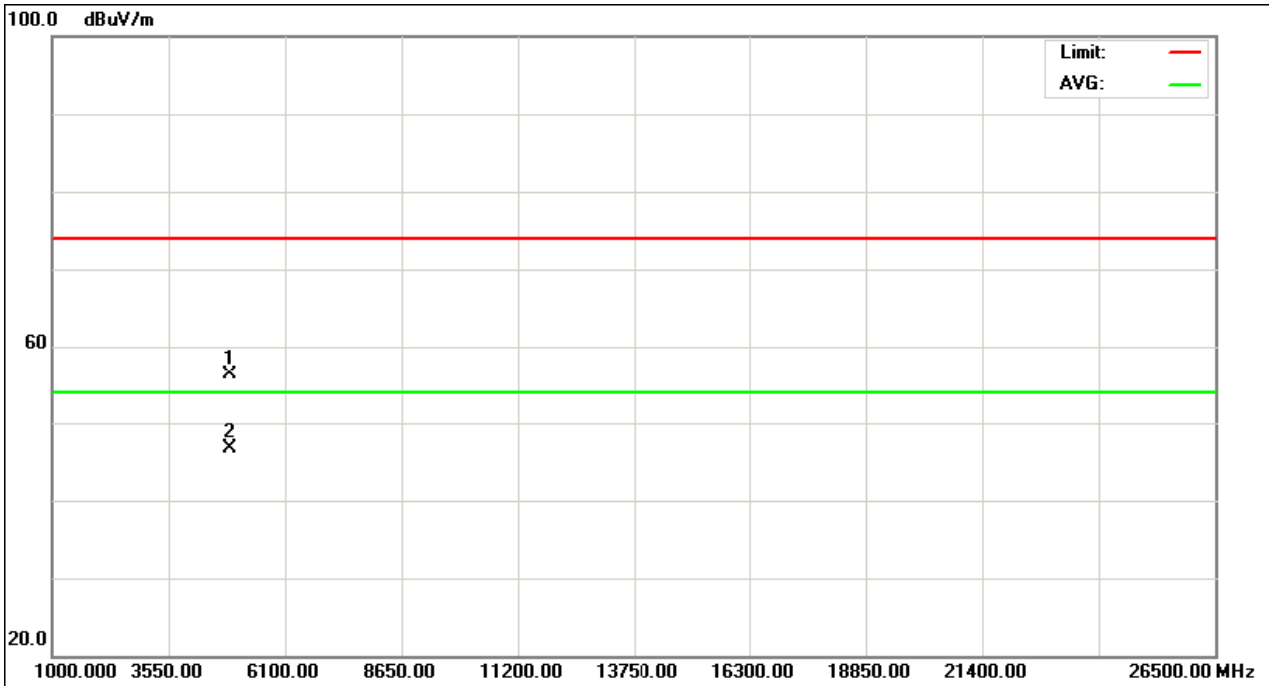
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

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

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

TX CH39 (Above 1000 MHz, Vertical)





EUT：	802.11n-BT COMBO CARD	Model Name ：	AR5B195
Temperature：	23 ℃	Relative Humidity：	58 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX 2441MHz –CH39-3Mbps		

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)	
2440.90	**H**	**64.78**	**26.55**	**31.62**	**96.40**	**58.18**			**X/F**
4882.11	H	49.06	39.65	6.17	55.23	45.82	74.00	54.00	X/H

Remark：

(1) 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。

(2) 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.)

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

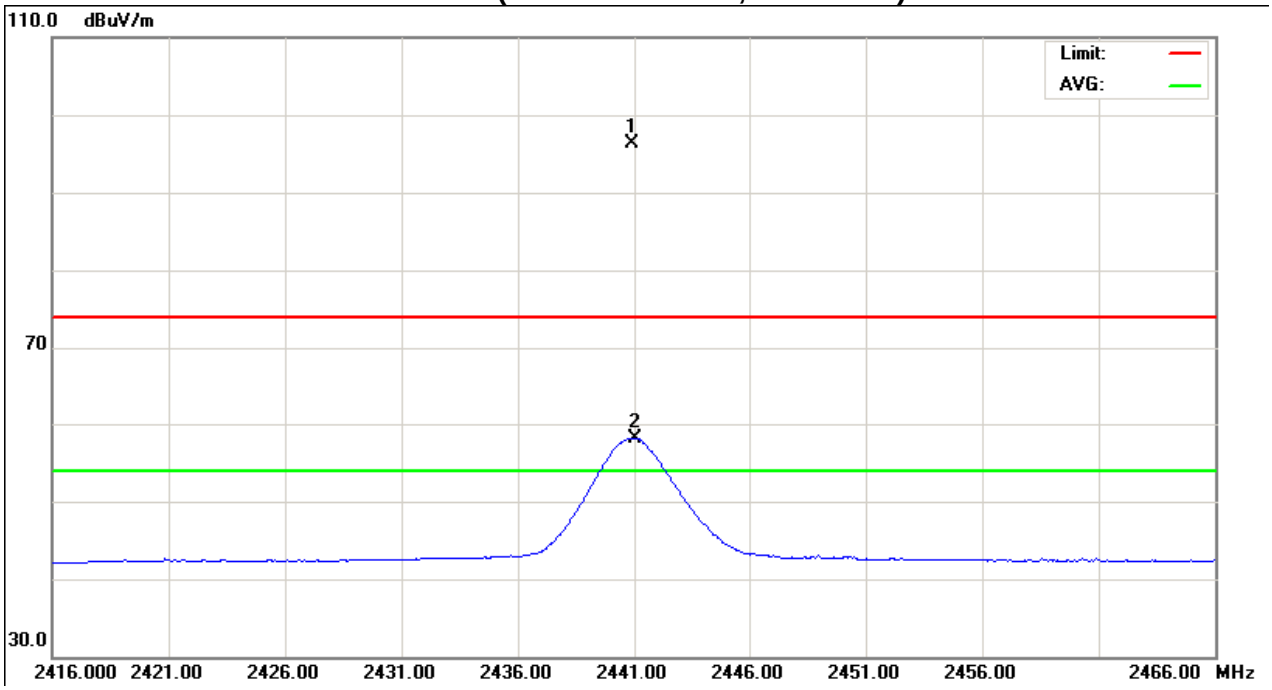
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

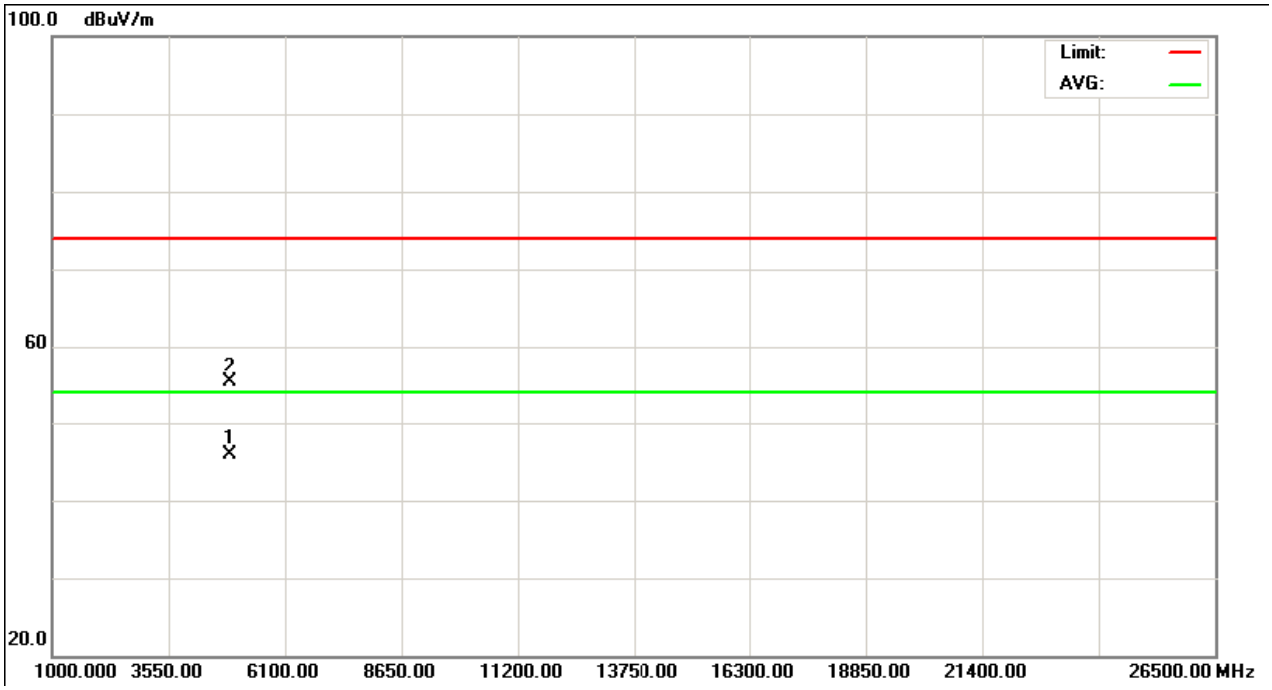
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

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

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

TX CH39 (Above 1000 MHz, Horizontal)





EUT：	802.11n-BT COMBO CARD	Model Name ：	AR5B195
Temperature：	23 ℃	Relative Humidity：	58 %
Pressure：	1010hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX 2480MHz –CH78-3Mbps		

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)	
2480.00	**V**	**63.40**	**26.15**	**31.69**	**95.09**	**57.84**			**X/F**
2483.50	V	36.54	13.58	31.70	68.24	45.28	74.00	54.00	X/E
4960.17	V	46.23	36.69	6.40	52.63	43.09	74.00	54.00	X/H

Remark：

(1) 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。

(2) 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.)

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

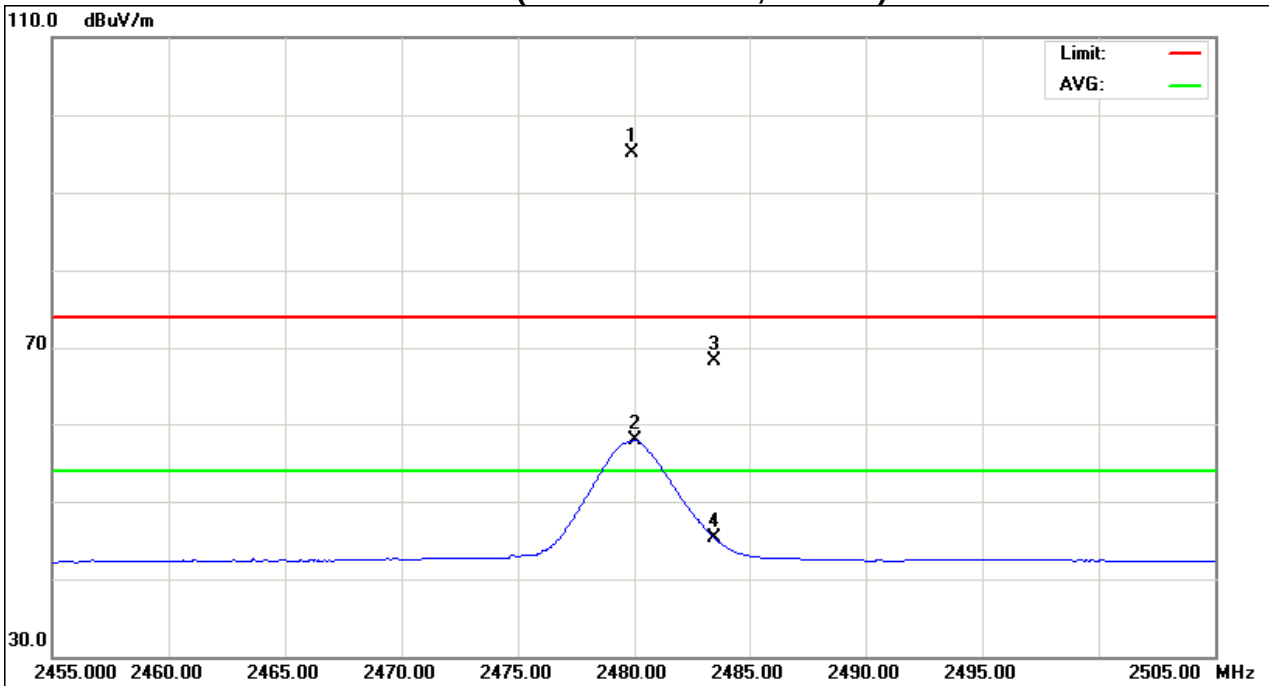
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

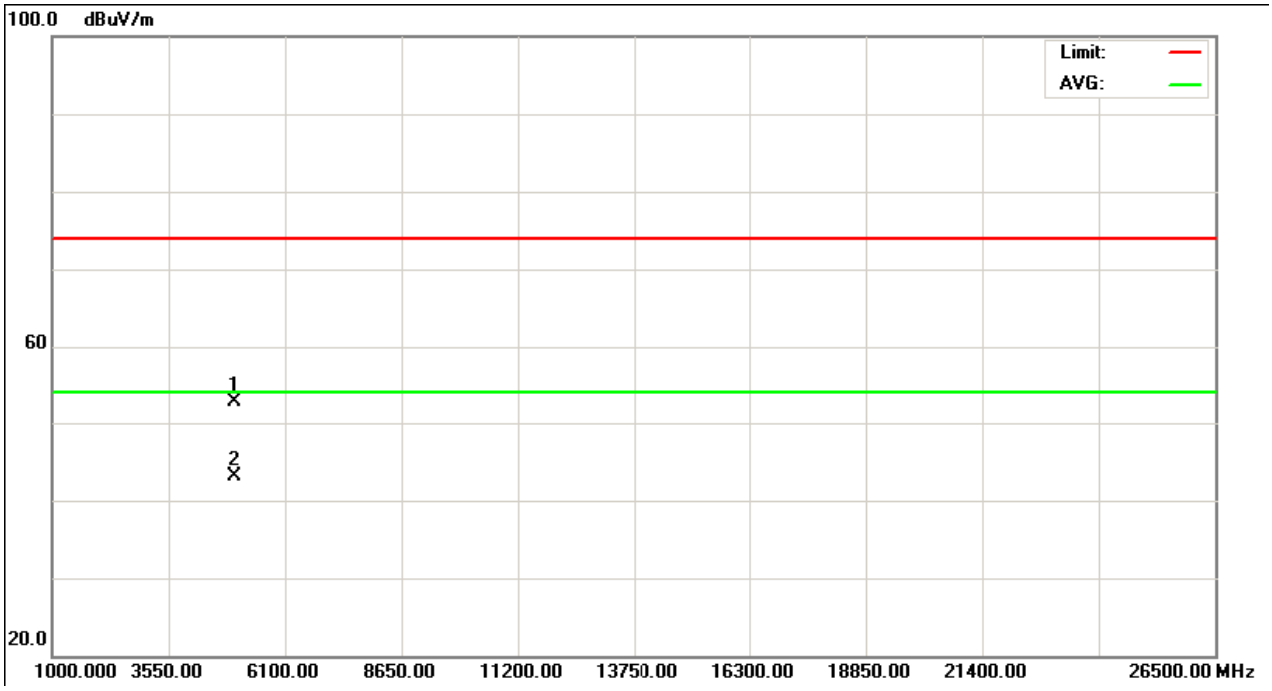
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

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

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

TX CH78 (Above 1000 MHz, Vertical)





EUT：	802.11n-BT COMBO CARD	Model Name ：	AR5B195
Temperature：	23 ℃	Relative Humidity：	58 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX 2480MHz –CH78-3Mbps		

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)	
2480.00	**H**	**64.84**	**26.54**	**31.69**	**96.53**	**58.23**			**X/F**
2483.50	H	39.15	13.96	31.70	70.85	45.66	74.00	54.00	X/E
4960.14	H	47.76	38.29	6.40	54.16	44.69	74.00	54.00	X/H

Remark：

(1) 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。

(2) 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.)

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

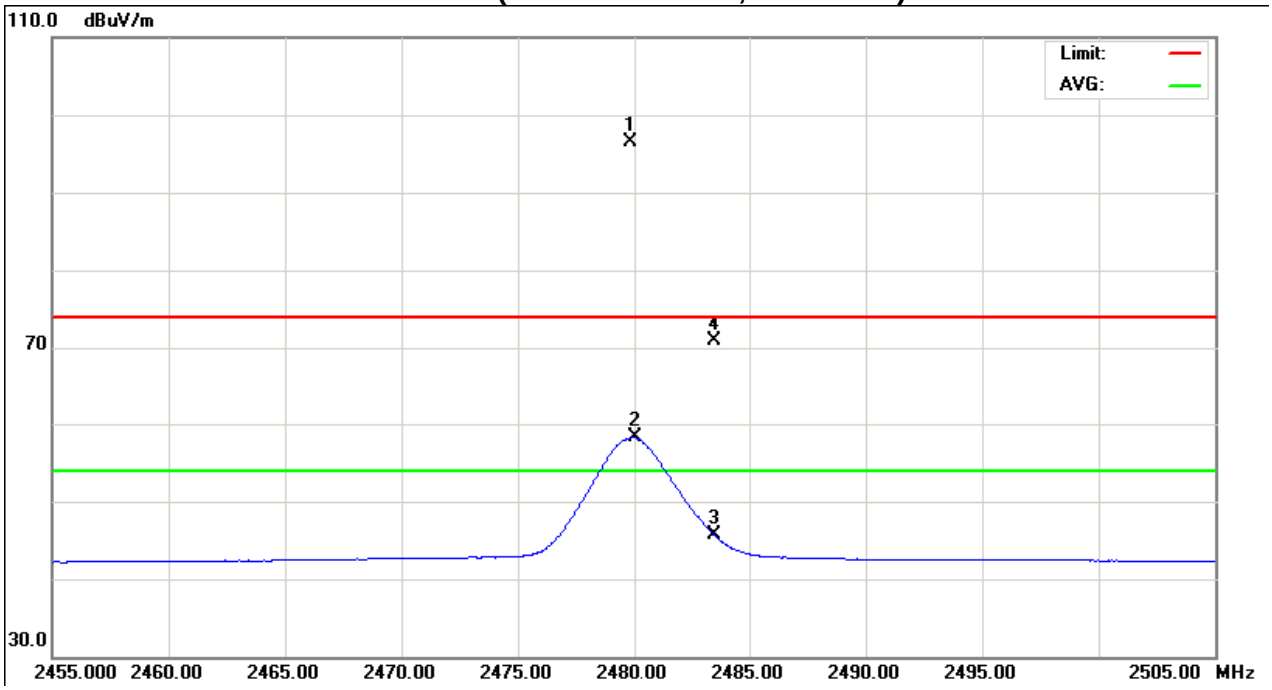
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

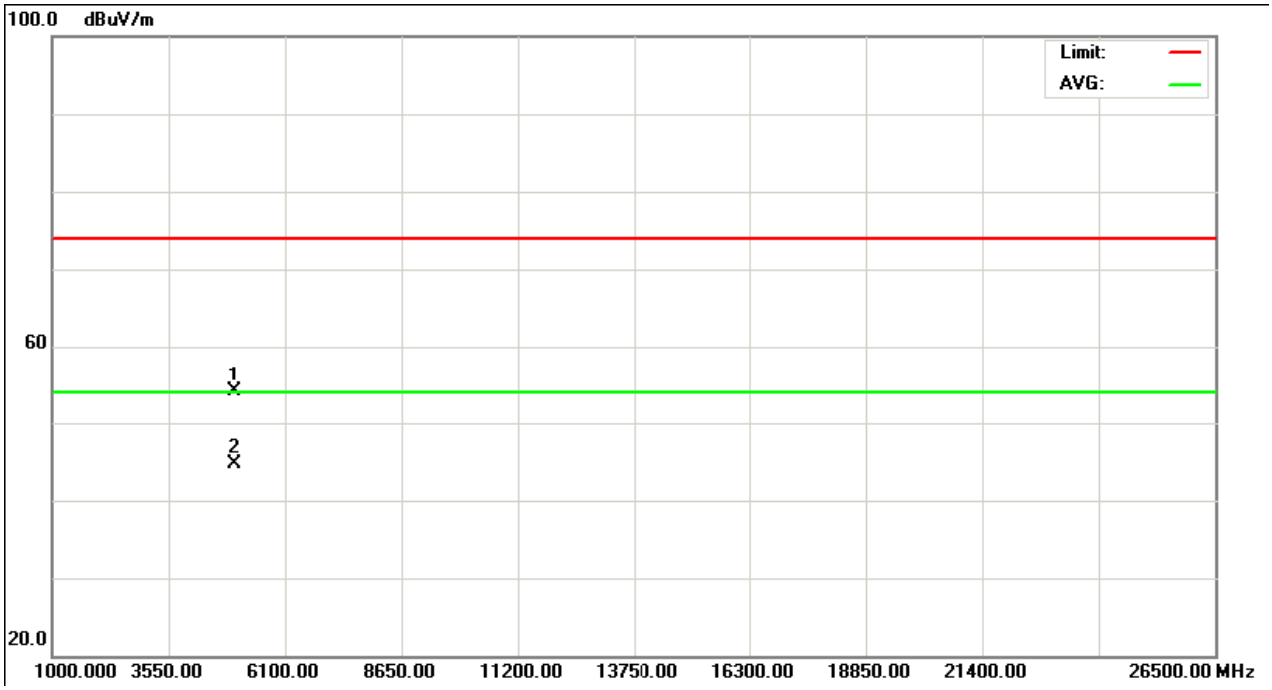
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

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

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

TX CH78 (Above 1000 MHz, Horizontal)





5. PEAK OUTPUT POWER TEST

5.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247 (b)(1)	Peak Output Power	0.125 watt or 21dBm	2400-2483.5	PASS

5.1.1 MEASUREMENT INSTRUMENTS LIST AND SETTING

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov.26.2011

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

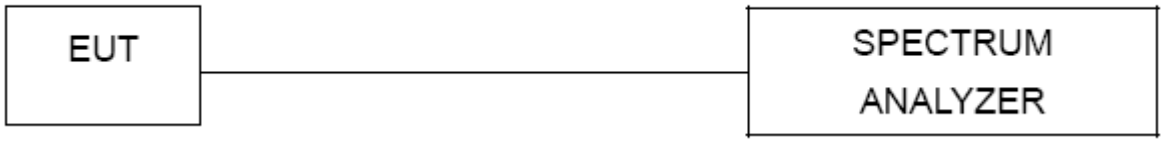
5.1.2 TEST PROCEDURE

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= 3MHz, VBW= 3MHz, Sweep time = Auto.

5.1.3 DEVIATION FROM STANDARD

No deviation.

5.1.4 TEST SETUP



5.1.5 EUT OPERATION CONDITIONS

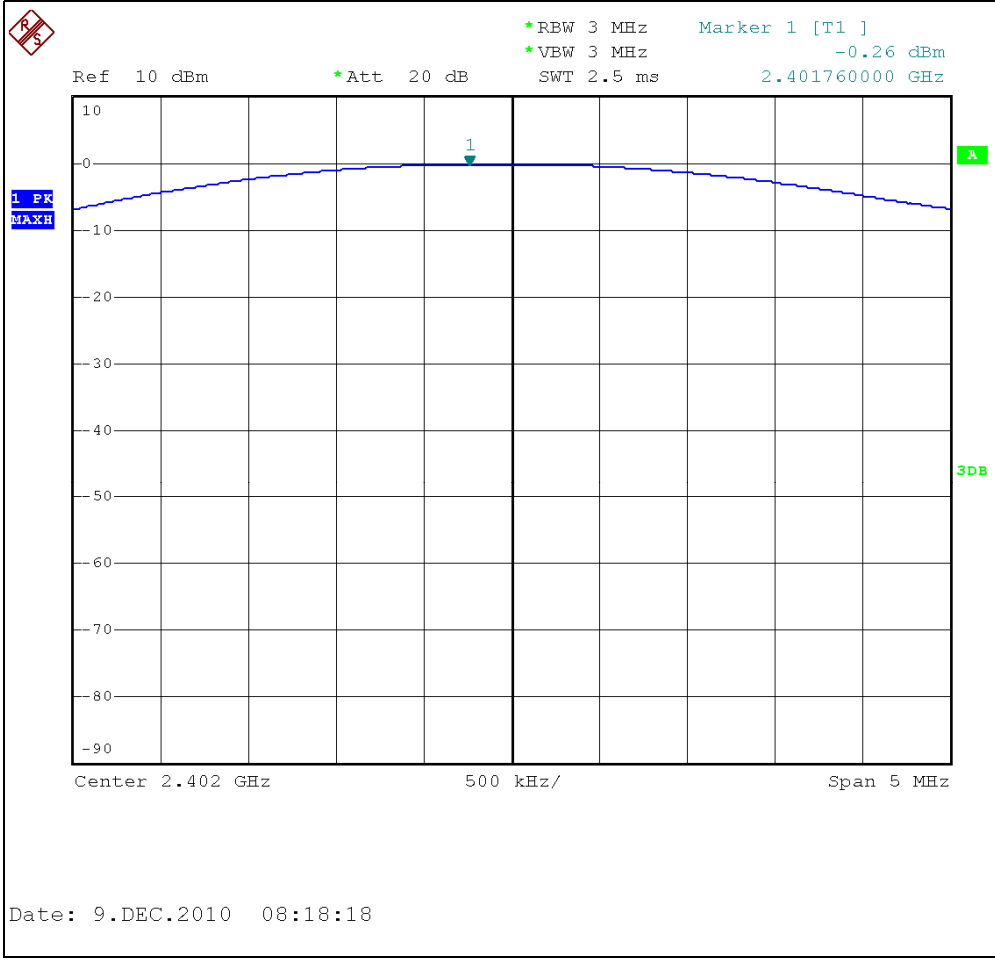
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

5.1.6 TEST RESULTS

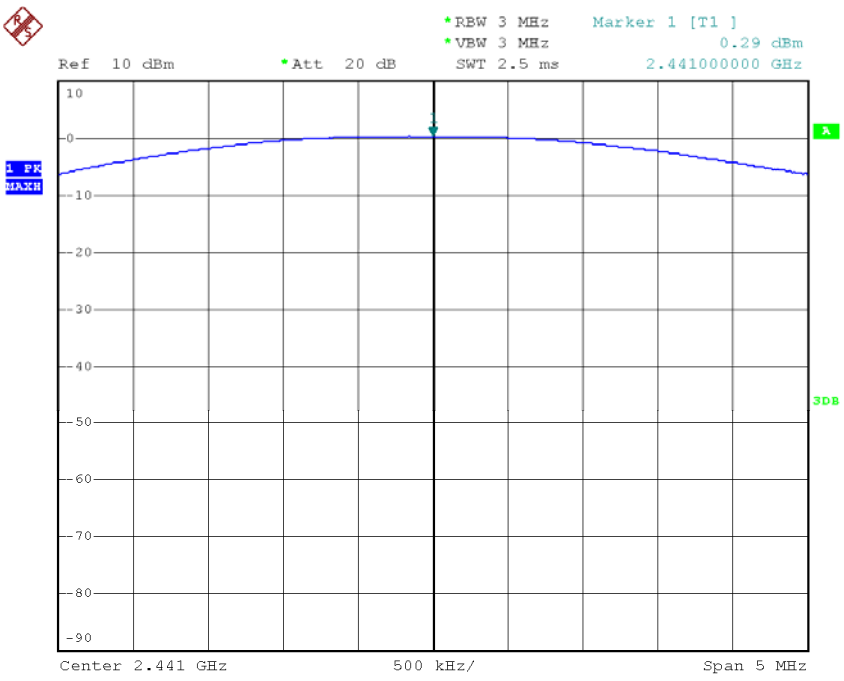
EUT：	802.11n-BT COMBO CARD	Model Name ：	AR5B195
Temperature：	23 ℃	Relative Humidity：	60 %
Pressure：	1012 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	CH00/ CH39 /CH78 -1Mbps		

Test Channel	Frequency (MHz)	Peak Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH00	2402	-0.26	21	0.125
CH39	2441	0.29	21	0.125
CH78	2480	0.63	21	0.125

CH00 -1Mbps

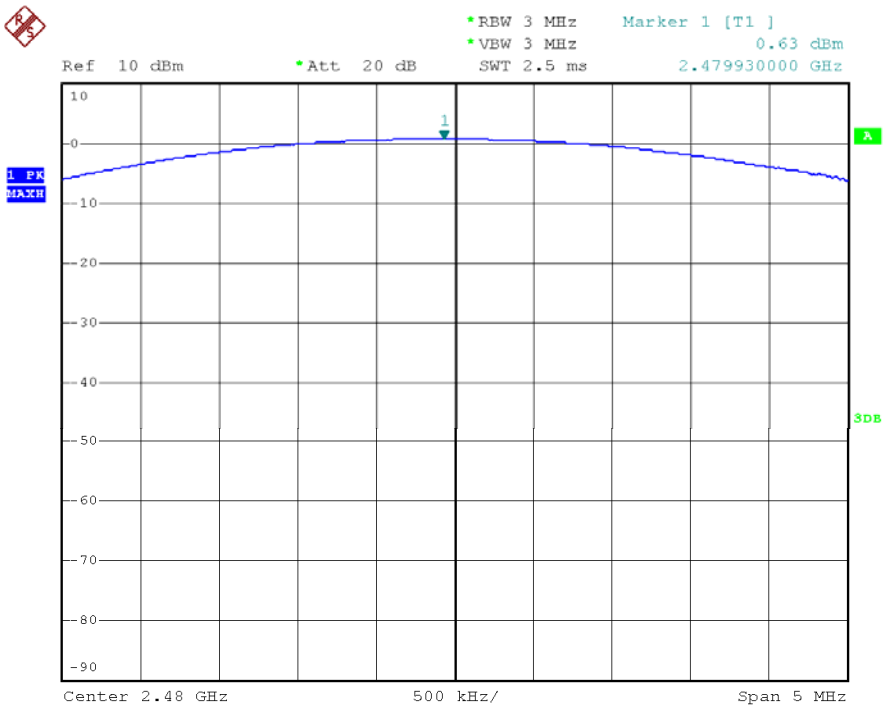


CH39 -1Mbps



Date: 9.DEC.2010 08:19:07

CH78 -1Mbps

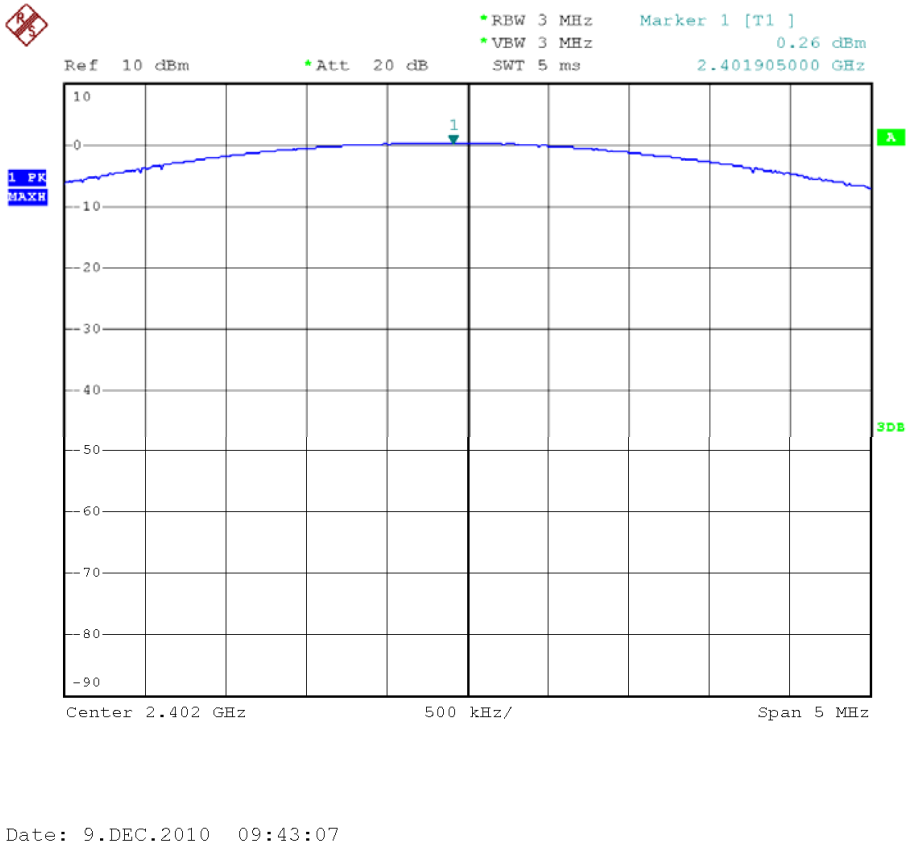


Date: 9.DEC.2010 08:19:28

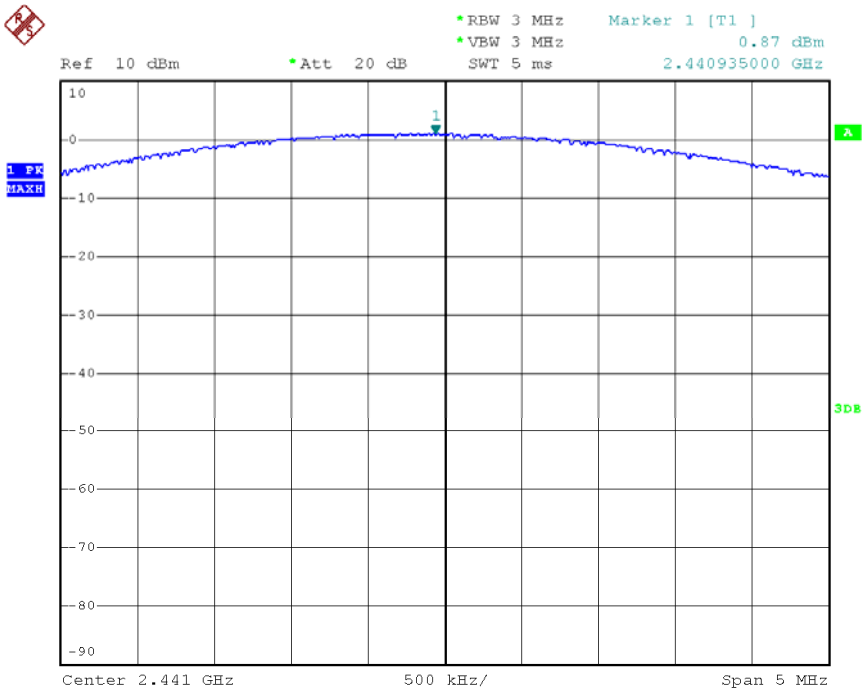
EUT：	802.11n-BT COMBO CARD	Model Name ：	AR5B195
Temperature：	23 ℃	Relative Humidity：	60 %
Pressure：	1012 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	CH00/ CH39 /CH78 -3Mbps		

Test Channel	Frequency (MHz)	Peak Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH00	2402	0.26	21	0.125
CH39	2441	0.87	21	0.125
CH78	2480	1.22	21	0.125

CH00 -3Mbps

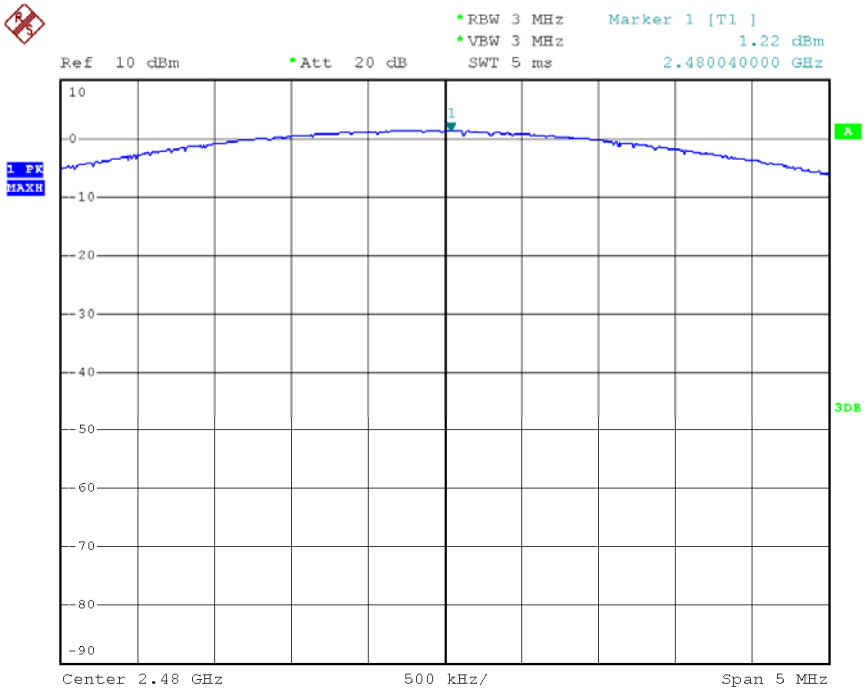


CH39 -3Mbps



Date: 9.DEC.2010 09:43:24

CH78 -3Mbps



Date: 9.DEC.2010 09:43:43

6. ANTENNA CONDUCTED SPURIOUS EMISSION

6.1 APPLIED PROCEDURES / LIMIT

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(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

6.1.1 MEASUREMENT INSTRUMENTS LIST AND SETTING

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov.26.2011

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

The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	100 MHz
RB / VB (emission in restricted band)	1MHz / 1MHz for Peak, 1 MHz / 10Hz for Average
RB / VB (other emission)	100 KHz /100 KHz for Peak

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= 100KHz, VBW=100KHz, Sweep time = Auto.

6.1.3 DEVIATION FROM STANDARD

No deviation.

6.1.4 TEST SETUP

6.1.5 EUT OPERATION CONDITIONS

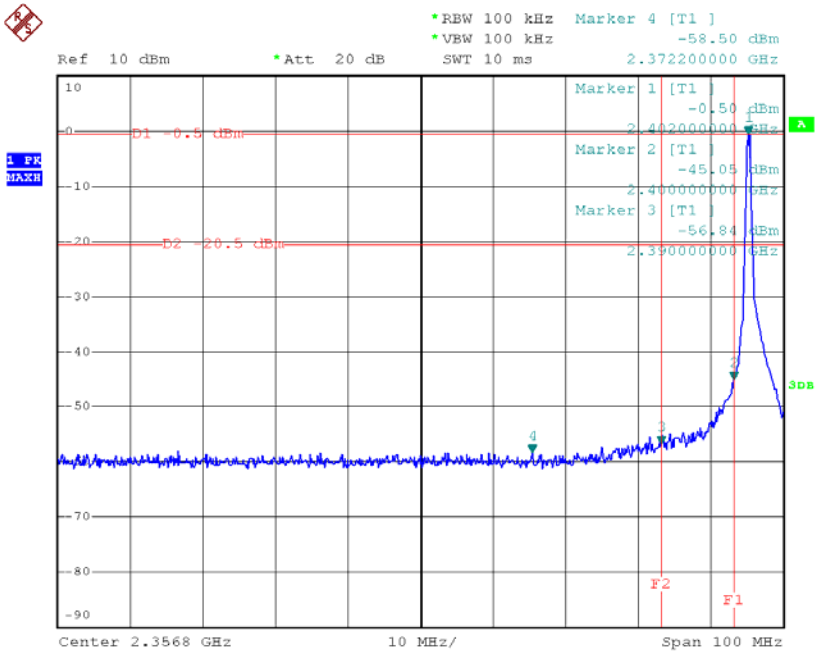
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

6.1.6 TEST RESULTS

EUT：	802.11n-BT COMBO CARD	Model Name ：	AR5B195
Temperature：	23 ℃	Relative Humidity：	60 %
Pressure：	1012 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	CH00 / CH39 / CH78-1Mbps & Hopping on mode		

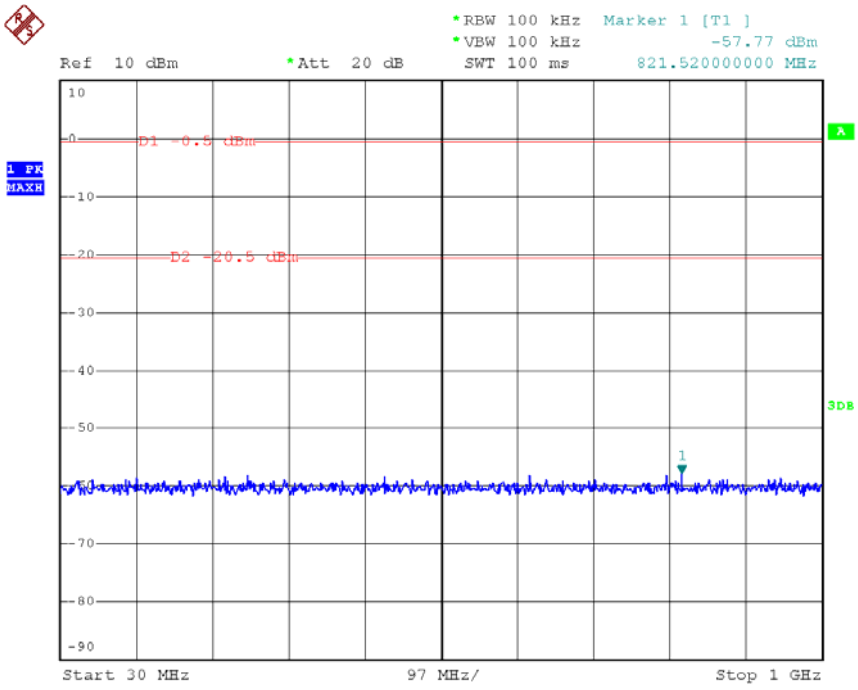
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
2390.00	-56.84	2483.50	-45.82
Result			
In any 100kHz bandwidth outside the frequency 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.			

CH00 (Lower) -1Mbps



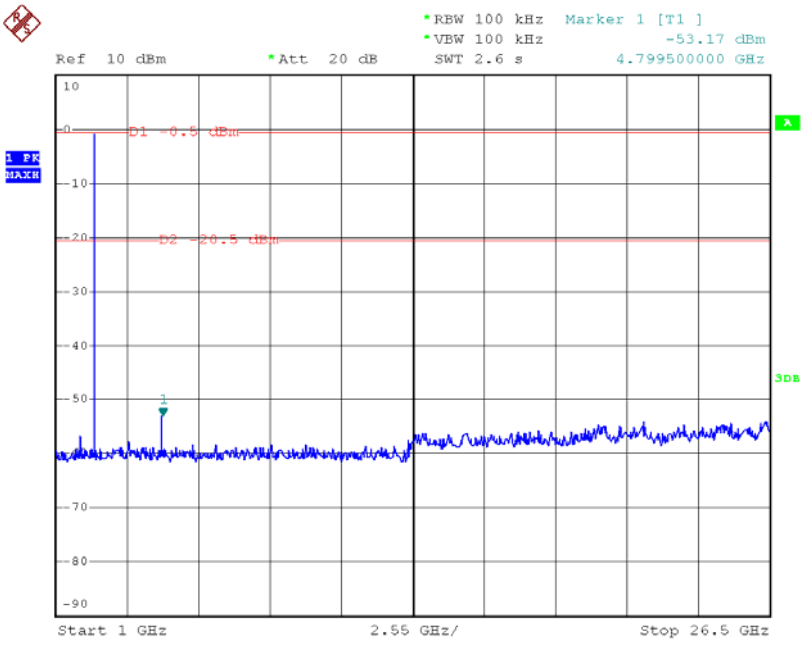
Date: 9.DEC.2010 09:09:55

CH00 (30MHz~1GHz)



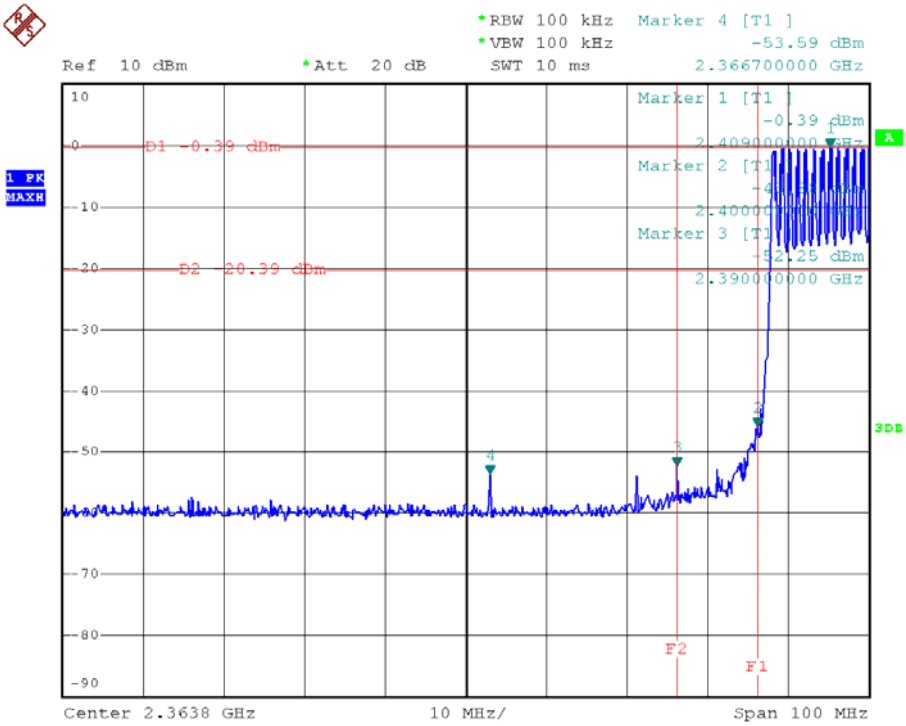
Date: 9.DEC.2010 09:32:11

CH00(1GHz～10th Harmonic)



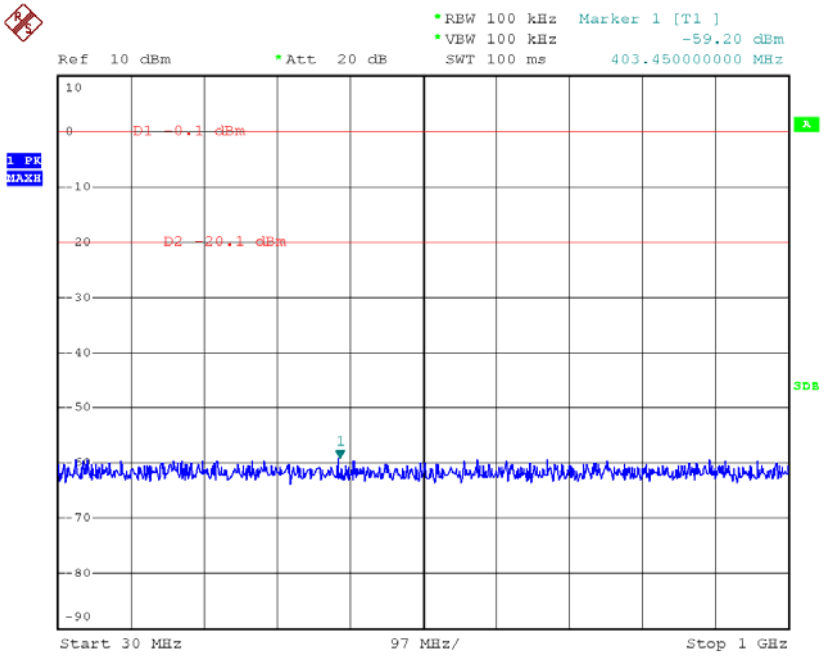
Date: 9.DEC.2010 09:32:36

Hopping on mode -lower



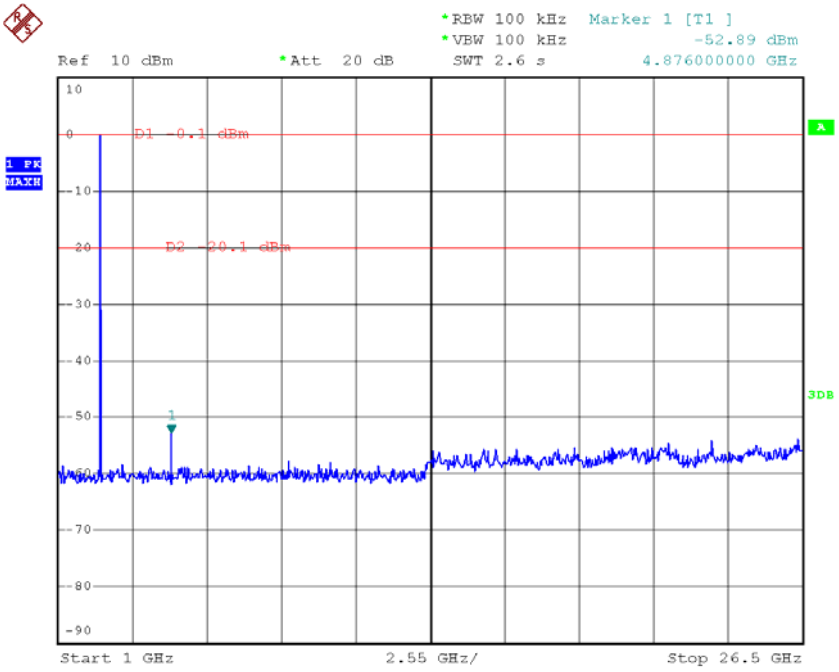
Date: 9.DEC.2010 09:22:04

CH39 (30MHz~1GHz)



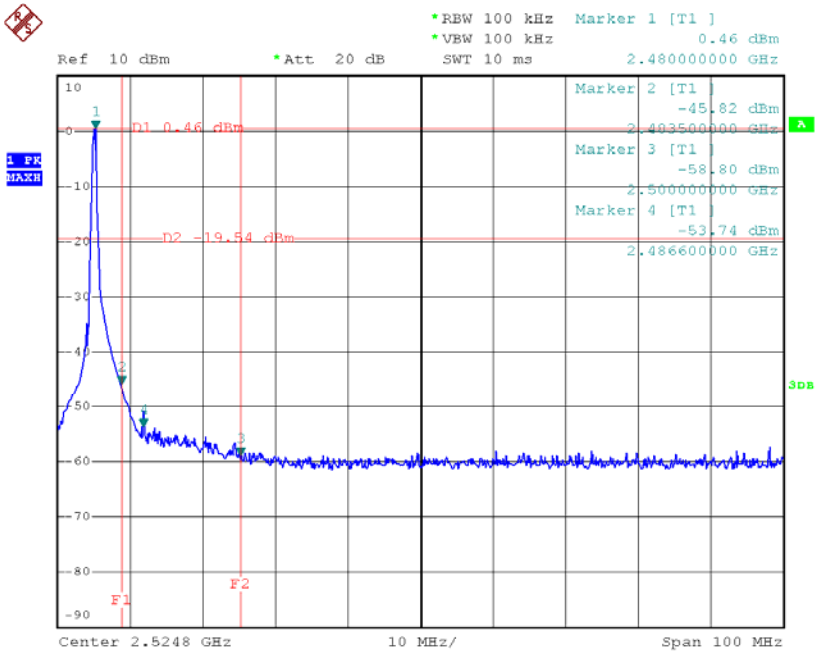
Date: 9.DEC.2010 09:35:11

CH39(1GHz～10th Harmonic)



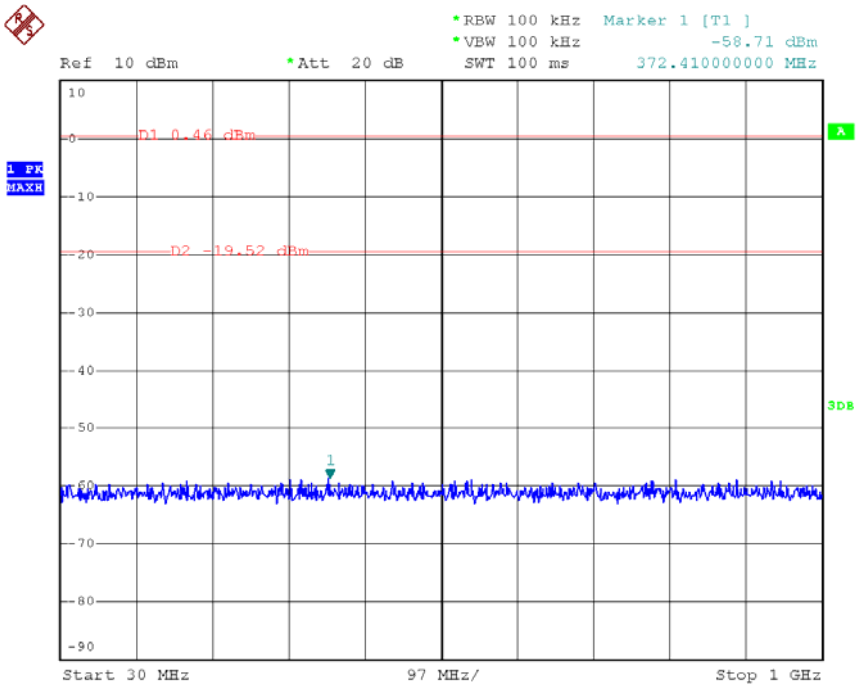
Date: 9.DEC.2010 09:35:43

CH 78 (Upper) -1Mbps



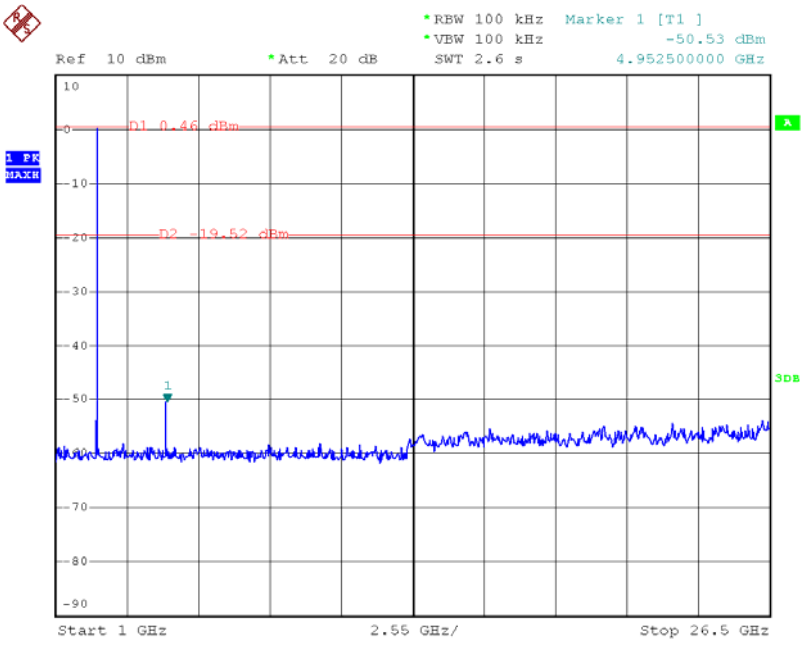
Date: 9.DEC.2010 09:12:14

CH78 (30MHz~1GHz)



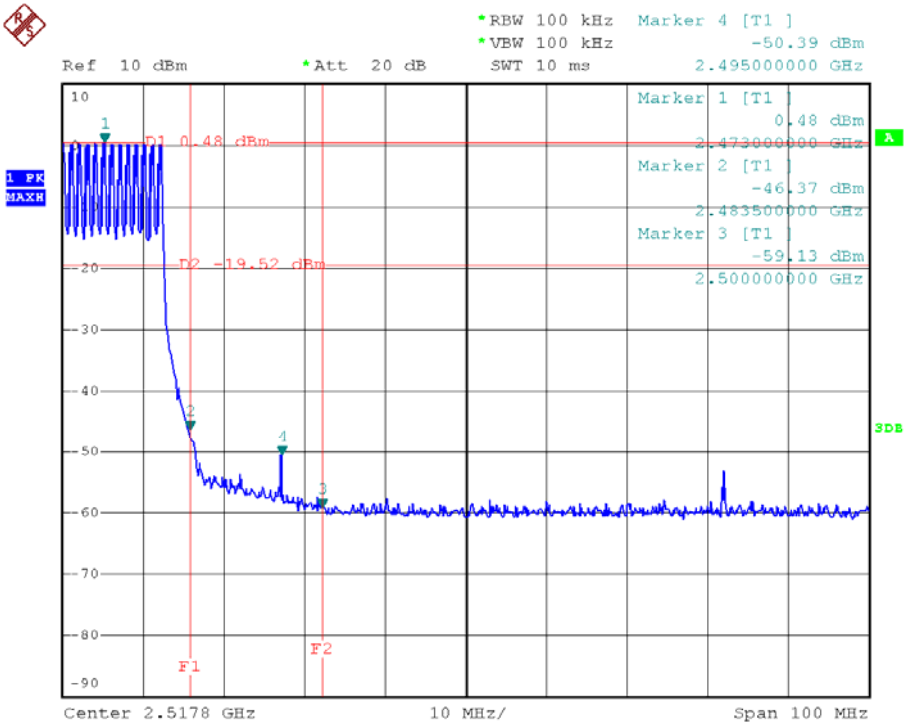
Date: 9.DEC.2010 09:34:04

CH78(1GHz～10th Harmonic)



Date: 9.DEC.2010 09:33:27

Hopping on mode -upper)

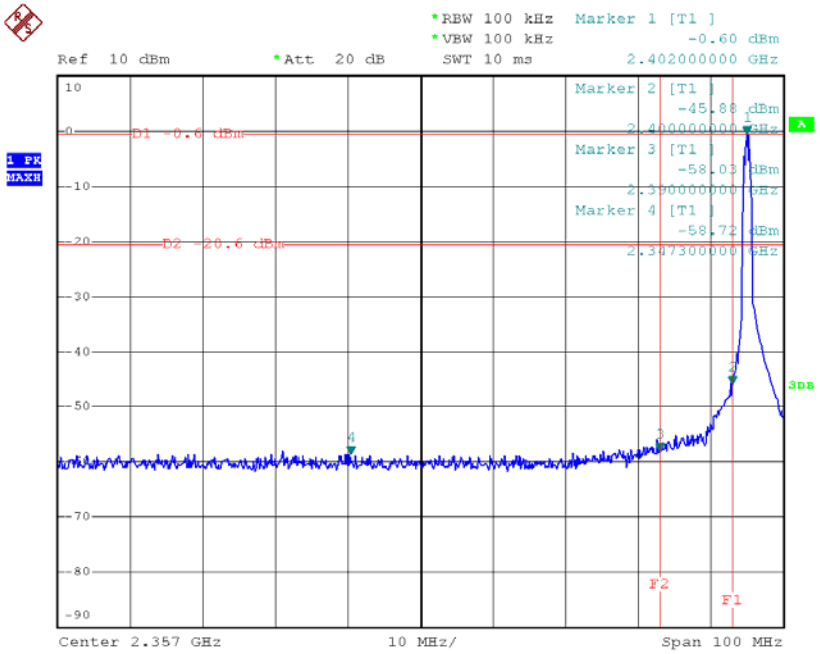


Date: 9.DEC.2010 09:17:58

EUT：	802.11n-BT COMBO CARD	Model Name ：	AR5B195
Temperature：	23 ℃	Relative Humidity：	60 %
Pressure：	1012 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	CH00 / CH39 / CH78-3Mbps & Hopping on mode		

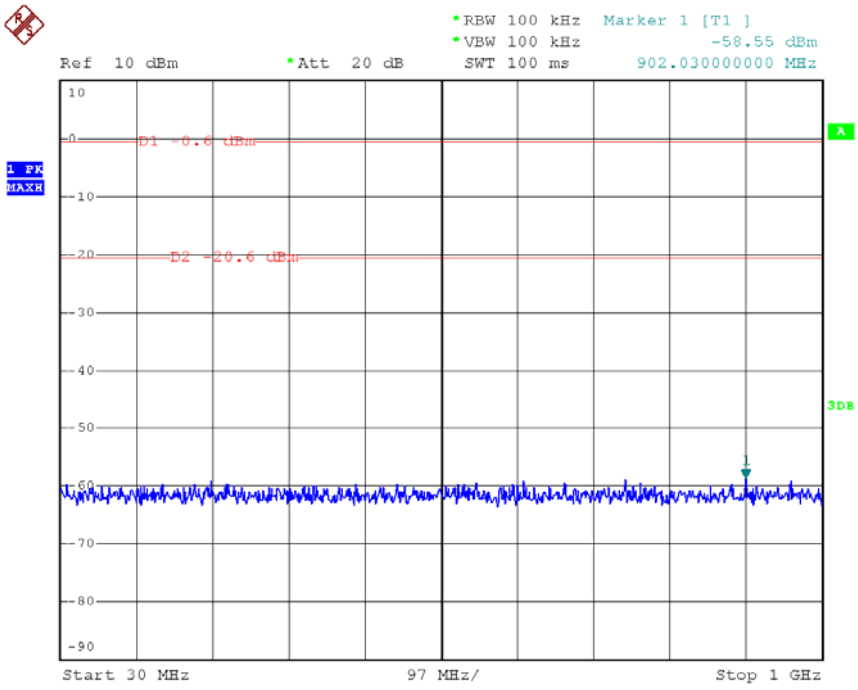
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
2390.00	-58.03	2483.50	-45.62
Result			
In any 100kHz bandwidth outside the frequency 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.			

CH00 (Lower) -3Mbps



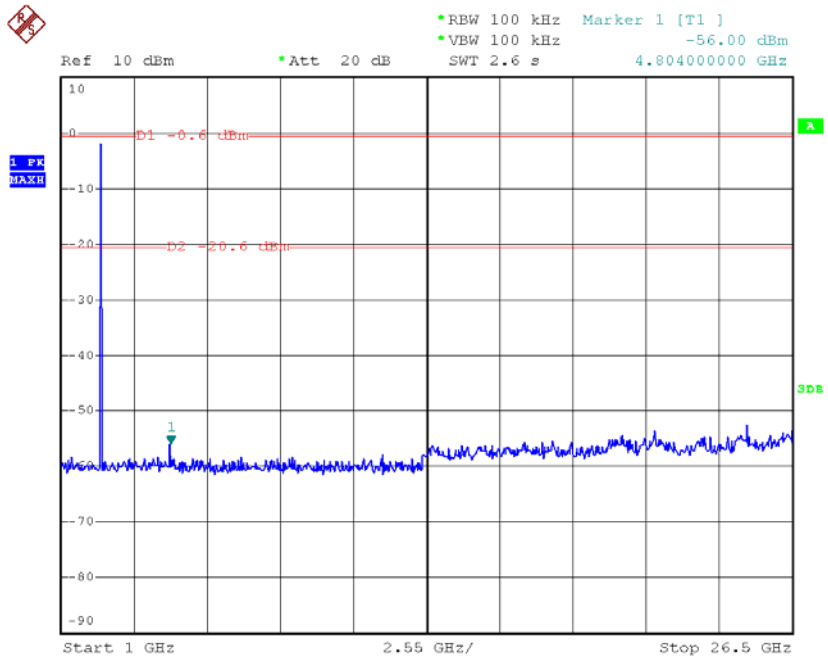
Date: 9.DEC.2010 09:50:15

CH00 (30MHz~1GHz)



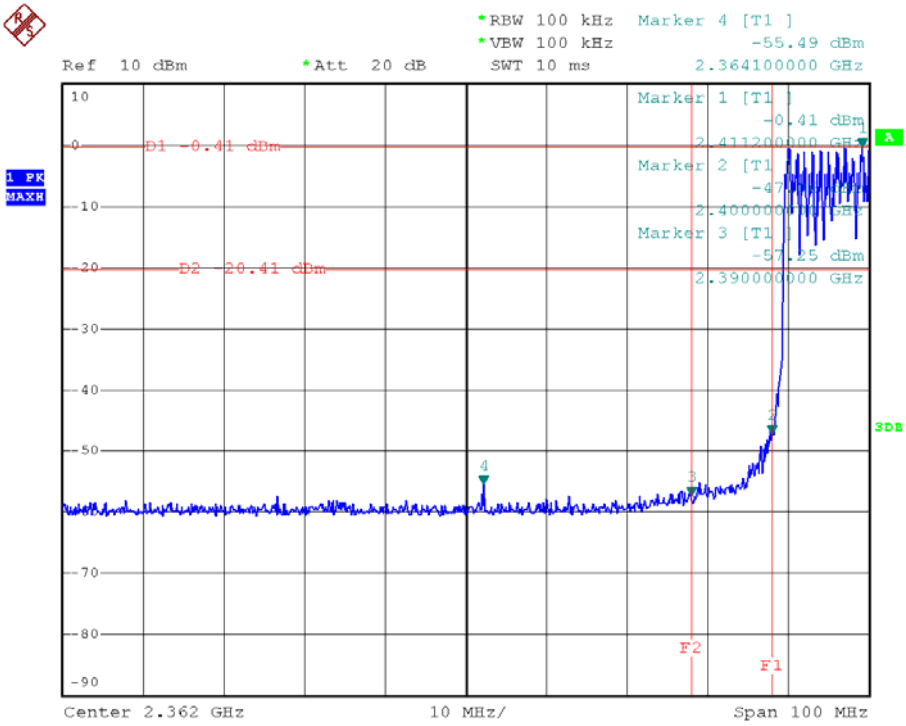
Date: 9.DEC.2010 09:50:38

CH00(1GHz～10th Harmonic)



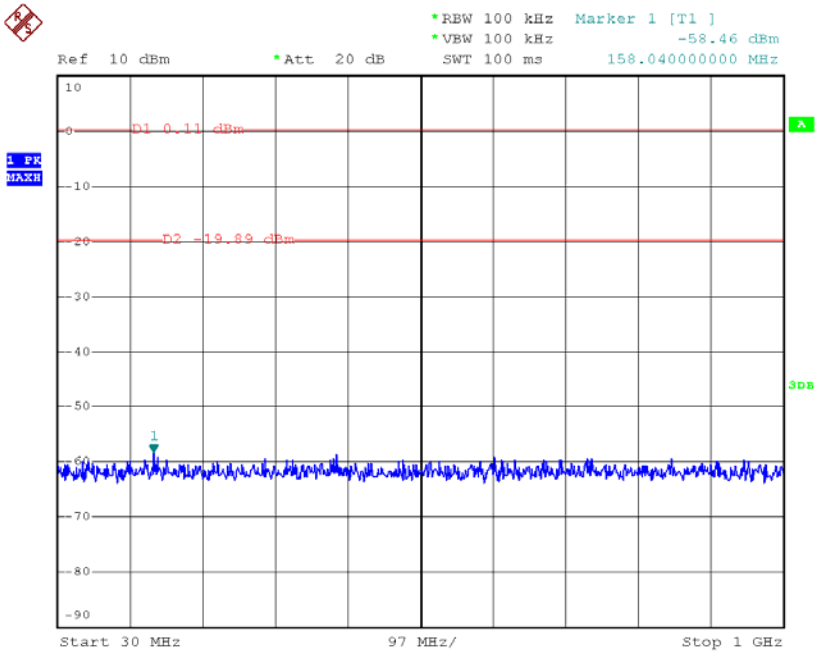
Date: 9.DEC.2010 09:51:12

Hopping on mode -lower



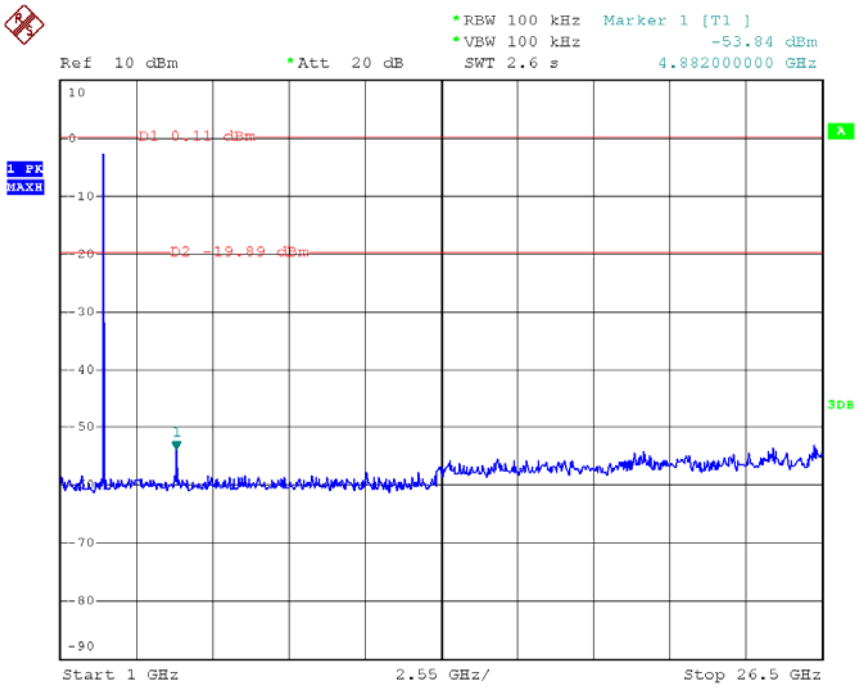
Date: 9.DEC.2010 10:19:46

CH39 (30MHz~1GHz)



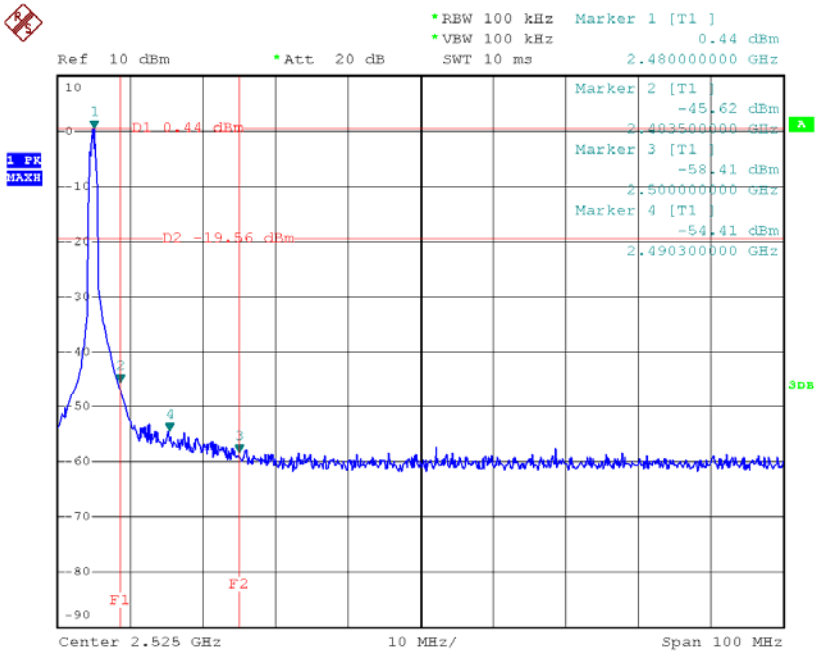
Date: 9.DEC.2010 09:56:11

CH39(1GHz～10th Harmonic)



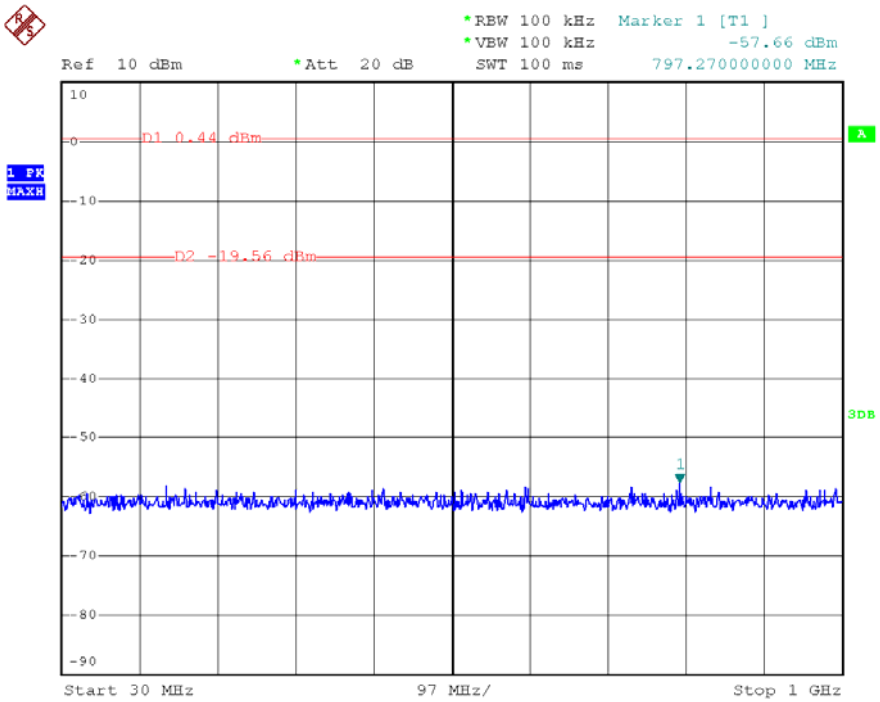
Date: 9.DEC.2010 09:56:00

CH 78 (Upper) -3Mbps



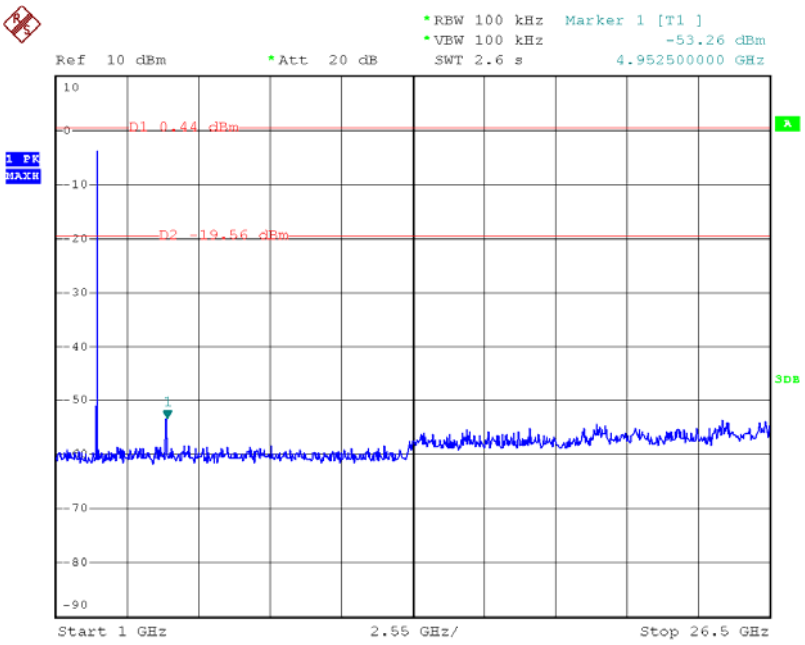
Date: 9.DEC.2010 09:52:39

CH78 (30MHz~1GHz)



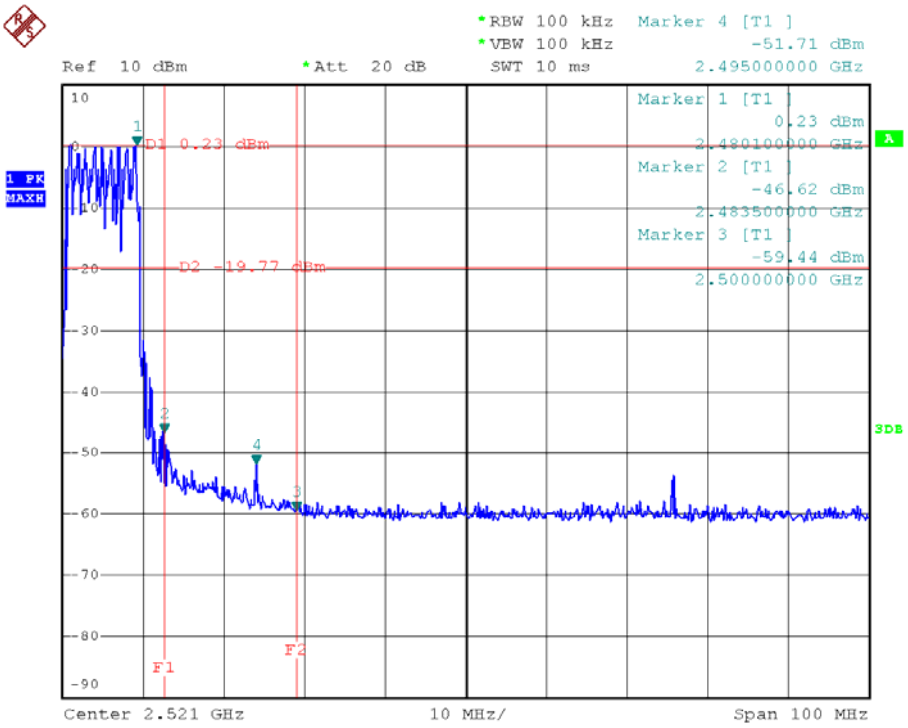
Date: 9.DEC.2010 09:53:06

CH78(1GHz～10th Harmonic)



Date: 9.DEC.2010 09:53:30

Hopping on mode-upper



Date: 9.DEC.2010 10:22:00