FCC&IC Radio Test Report

FCC ID: VW3FAST2704N
IC: 9140A-FAST2704N

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

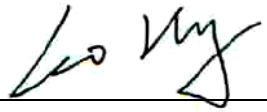
Issued Date	:	Nov. 08, 2013
Project No.	:	1310C148
Equipment	:	Wireless ADSL router
Model Name	:	F@ST 2704N
P/N	:	253526962
S/N	:	Prototype
Applicant for FCC	:	SAGEMCOM SAS
Address for FCC	:	250 Route de l'Empereur - 92848 RUEIL MALMAISON CEDEX- FRANCE
Applicant for IC	:	Sagemcom Canada Inc.
Address for IC	:	5252 de Maisonneuve West Boulevard, Suite MONTREAL, QUEBEC H4A 3S5 Canada

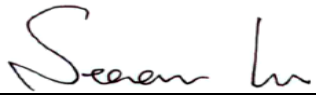
Tested by: Neutron Engineering Inc. EMC Laboratory

Date of Receipt: Oct. 23, 2013

Date of Test: Oct. 23, 2013~ Nov. 07, 2013

Testing Engineer :  (David Mao)

Technical Manager :  (Leo Hung)

Authorized Signatory :  (Steven Lu)

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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.

Table of Contents Page

Table of Contents Page

REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
NEI-FICP-1-1310C148	Original Issue.	Nov. 08, 2013
-	-	-

1. CERTIFICATION

Equipment	:	Wireless ADSL router
Brand Name	:	Sagemcom
Model Name	:	F@ST 2704N
P/N	:	253526962
S/N	:	Prototype
Applicant for FCC	:	SAGEMCOM SAS
Applicant for IC	:	Sagemcom Canada Inc.
Manufacturer for FCC	:	SAGEMCOM SAS
Address for FCC	:	250 Route de l'Empereur - 92848 RUEIL MALMAISON CEDEX- FRANCE
Manufacturer for IC	:	Sagemcom Canada Inc.
Address for IC	:	5252 de Maisonneuve West Boulevard, Suite MONTREAL, QUEBEC H4A 3S5 Canada
Date of Test	:	Oct. 23, 2013~ Nov. 07, 2013
Test Item	:	ENGINEERING SAMPLE
Standard(s)	:	FCC Part15, Subpart C(15.247) / ANSI C63.4-2009 Canada RSS-210:2010 RSS-GEN Issue 3, Dec 2010

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-FICP-1-1310C148) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of TAF according to the ISO-17025 quality assessment standard and technical standard(s).

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

Applied Standard(s): FCC Part15 (15.247) , Subpart C Canada RSS-210:2010; RSS-GEN Issue 3, Dec 2010				
Standard(s) Section		Test Item	Judgment	Remark
15.207	RSS-GEN 7.2.2	Conducted Emission	PASS	
15.247(d)	RSS-210 Annex 8 (A8.5)	Antenna conducted Spurious Emission	PASS	
15.247(a)(2)	RSS-210 Annex 8 (A8.2(a))	6dB Bandwidth	PASS	
15.247(b)(3)	RSS-210 Annex 8 (A8.4(4))	Peak Output Power	PASS	
15.247(e)	RSS-210 Annex 8 (A8.2(b))	Power Spectral Density	PASS	
15.203	-	Antenna Requirement	PASS	
15.209/15.205	RSS-210 Annex 8 (A8.5)	Transmitter Radiated Emissions	PASS	
-	RSS-Gen 7.2.3	Receiver Radiated Emissions	PASS	

NOTE:

(1)" N/A" denotes test is not applicable in this test report.

(2) The test follows FCC KDB Publication No. 558074 D01 DTS Meas Guidance v03r01 (Measurement Guidelines of DTS)

2.1 TEST FACILITY

The test facilities used to collect the test data in this report is **DG-C02/DG-CB03** at the location of No.3,Jinshagang 1st Road, ShiXia, Dalang Town, Dong Guan, China.523792
Neutron's test firm number for FCC: 319330
Neutron's test firm number for IC: 4428B-1

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-C02	CISPR	150 KHz ~ 30MHz	1.94	

B. Radiated Measurement :

Test Site	Method	Measurement Frequency Range	Ant. H / V	U，(dB)	NOTE
DG-CB03	CISPR	9KHz~30MHz	V	3.79	
		9KHz~30MHz	H	3.57	
		30MHz ~ 200MHz	V	3.82	
		30MHz ~ 200MHz	H	3.60	
		200MHz ~ 1,000MHz	V	3.86	
		200MHz ~ 1,000MHz	H	3.94	
		1GHz~18GHz	V	3.12	
		1GHz~18GHz	H	3.68	
		18GHz~40GHz	V	4.15	
		18GHz~40GHz	H	4.14	

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

<table>
<tr><td>Equipment</td><td>Wireless ADSL router</td></tr>
<tr><td>Brand Name</td><td>Sagemcom</td></tr>
<tr><td>Model Name</td><td>F@ST 2704N</td></tr>
<tr><td>P/N</td><td>253526962</td></tr>
<tr><td>S/N</td><td>Prototype</td></tr>
<tr><td>Model Difference</td><td>N/A</td></tr>
<tr><td>Product Description</td><td>
<table>
<tr><td>Operation Frequency</td><td>2412~2462 MHz</td></tr>
<tr><td>Modulation Technology</td><td>802.11b:DSSS
802.11g:OFDM
802.11n:OFDM</td></tr>
<tr><td>Bit Rate of Transmitter</td><td>802.11b: 11/5.5/2/1 Mbps
802.11g:
54/48/36/24/18/12/9/6 Mbps
802.11n up to 300 Mbps</td></tr>
<tr><td>Number Of Channel</td><td>11 CH, Please see note 2.(Page 9)</td></tr>
<tr><td>Antenna Designation</td><td rowspan="2">Please see note 3.(Page 9)</td></tr>
<tr><td>Antenna Gain(Peak)</td></tr>
<tr><td>Output Power (Max.)</td><td>802.11b: 17.22 dBm
802.11g: 14.37 dBm
802.11n(20MHz): 14.95 dBm</td></tr>
</table>
More details of EUT technical specification, please refer to the User's Manual.
</td></tr>
<tr><td>Power Source</td><td>DC voltage supplied from AC/DC adapter
Brand / Model: Sagemcom / S012NU1200100</td></tr>
<tr><td>Power Rating</td><td>I/P AC 100-240V~ 50/60Hz 500mA O/P DC 12.0V 1000mA</td></tr>
<tr><td>Connecting I/O Port(s)</td><td>One xDSL port(ADSL)
Four Ethernet ports
One USB masters
A 12V DC Power jack</td></tr>
</table>

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)

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

3. Table for Filed Antenna

Ant.	Manufacturer	Model Name	Antenna Type	Connector	Gain (dBi)	Note
1	Airgain	N2420M	Embedded	N/A	2.8	
2	N/A	N/A	PIFA	N/A	2.8	

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

4.

Operating Mode / TX Mode	1TX	2TX
802.11b	V (ANT 1 or ANT 2)	-
802.11g	V (ANT 1 or ANT 2)	-
802.11n(20MHz)	-	V (ANT 1 & ANT 2)

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	TX B MODE CHANNEL 01/06/11
Mode 2	TX G MODE CHANNEL 01/06/11
Mode 3	TX N-20MHZ MODE CHANNEL 01/06/11
Mode 4	WIFI

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

For Conducted Test	
Final Test Mode	Description
Mode 4	WIFI

For Radiated Test	
Final Test Mode	Description
Mode 1	TX B MODE CHANNEL 01/06/11
Mode 2	TX G MODE CHANNEL 01/06/11
Mode 3	TX N-20MHZ MODE CHANNEL 01/06/11

Note:

(1) The measurements are performed at the high, middle, low available channels.

(2) 802.11b mode: DBPSK (1Mbps)
802.11g mode: OFDM (6Mbps)
802.11n HT20 mode : BPSK (6.5Mbps)
For radiated emission tests, the highest output powers were set for final test.

(3) The EUT was pre-tested on positioned of each 3 axis. The worst cas was found positioned on X-plane. Therefore only the test data of this X-plane was used for radiated emission measurement test.

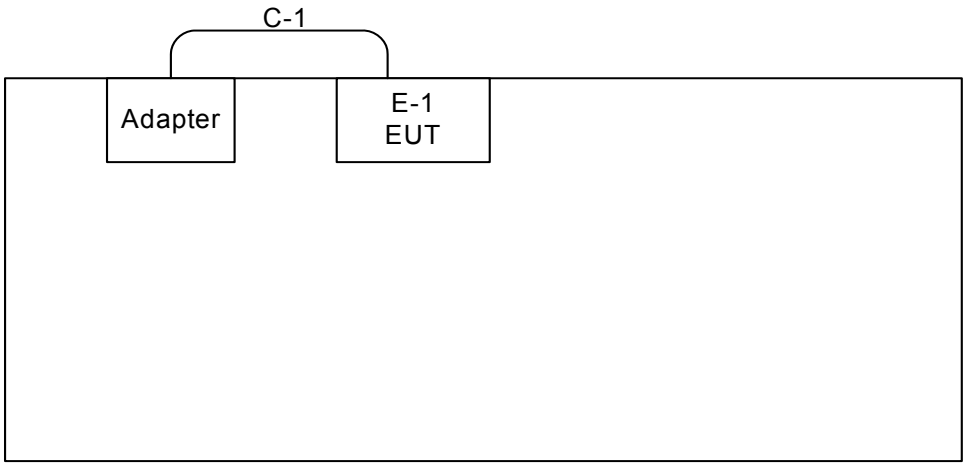
3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

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 WLAN

Test software version	MTOOLS		
Frequency	**2412 MHz**	**2437 MHz**	**2462 MHz**
IEEE 802.11b DSSS	49	49	49
IEEE 802.11g OFDM	20	20	21
IEEE 802.11n (20MHz)	20	20	20

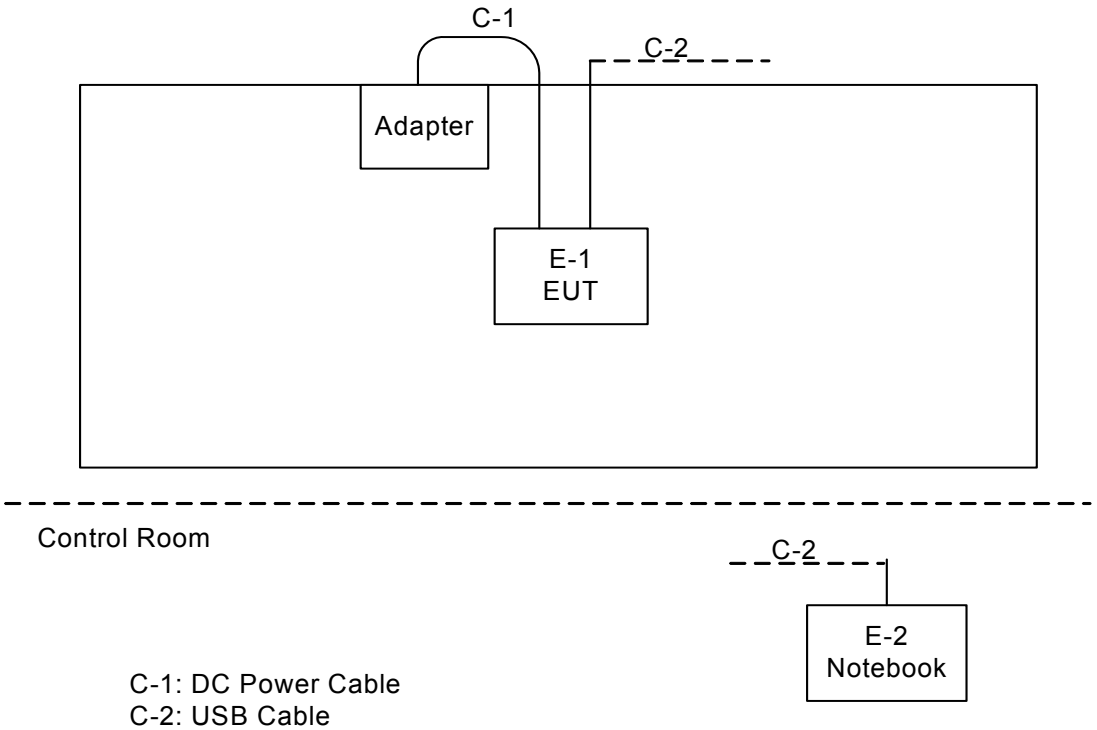
3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Conducted TX Mode:



C-1: DC Power Cable

Radiated TX Mode:



C-1: DC Power Cable
C-2: 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/IC	Series No.	Note
E-1	Wireless ADSL router	Sagemcom	F@ST 2704N	VW3FAST2704N / 9140A-FAST2704N	N/A	EUT
E-2	notebook	hp	hstnn-169c-3	DOC	CNU02203XG	

Item	Shielded Type	Ferrite Core	Length	Note
C-1	NO	NO	2m	DC Power Cable
C-2	NO	NO	15m	RJ45 Cable

Note:

(1) For detachable type I/O cable should be specified the length in m 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	Apr. 25, 2014
2	LISN	R&S	ENV216	100087	Nov.16, 2013
3	Test Cable	N/A	C_17	N/A	Mar.15, 2014
4	EMI TEST RECEIVER	R&S	ESCS30	826547/022	Apr. 25, 2014
5	50Ω Terminator	SHX	TF2-3G-A	08122902	Apr. 25, 2014

Remark: “N/A” denotes no model name, serial no. or calibration specified.
All calibration period of equipment list is one year.

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

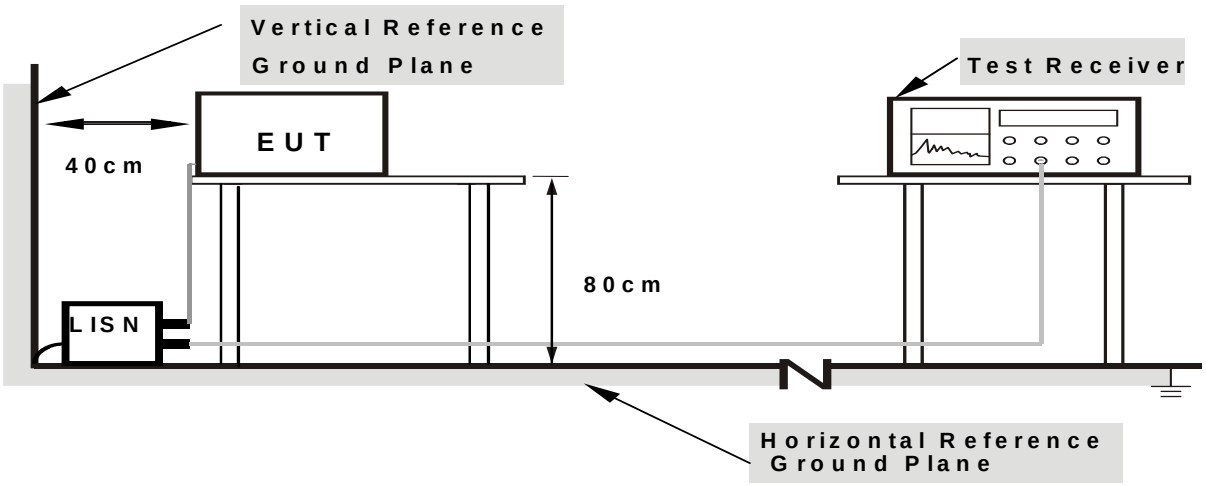
4.1.3 TEST PROCEDURE

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 function. This operating condition was tested and used to collect the included data.
The EUT was programmed to be in continuously transmitting mode.

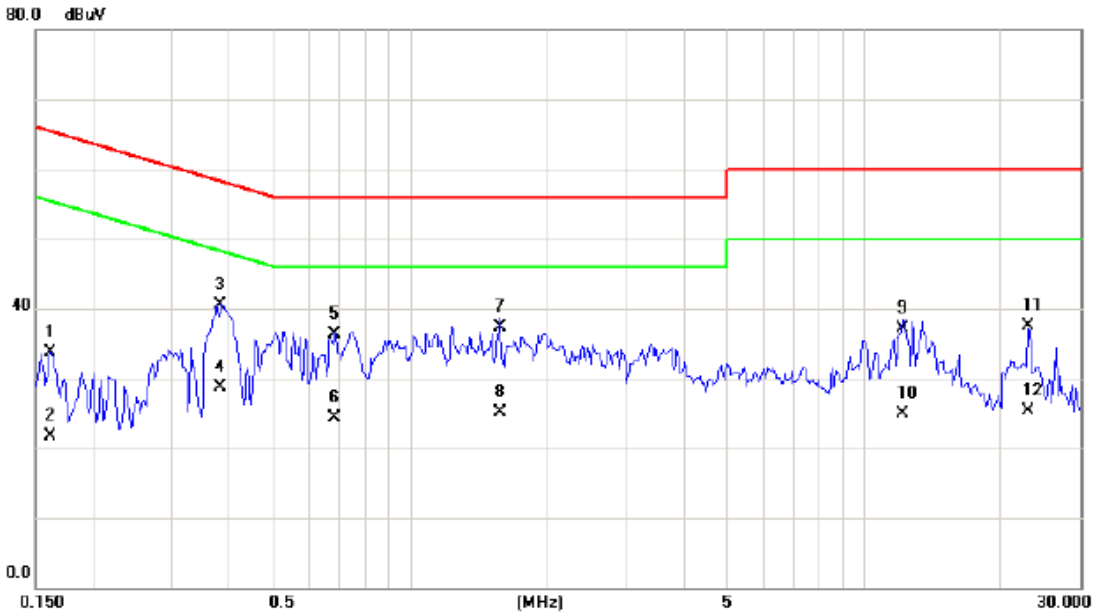
4.1.7 TEST RESULTS

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.

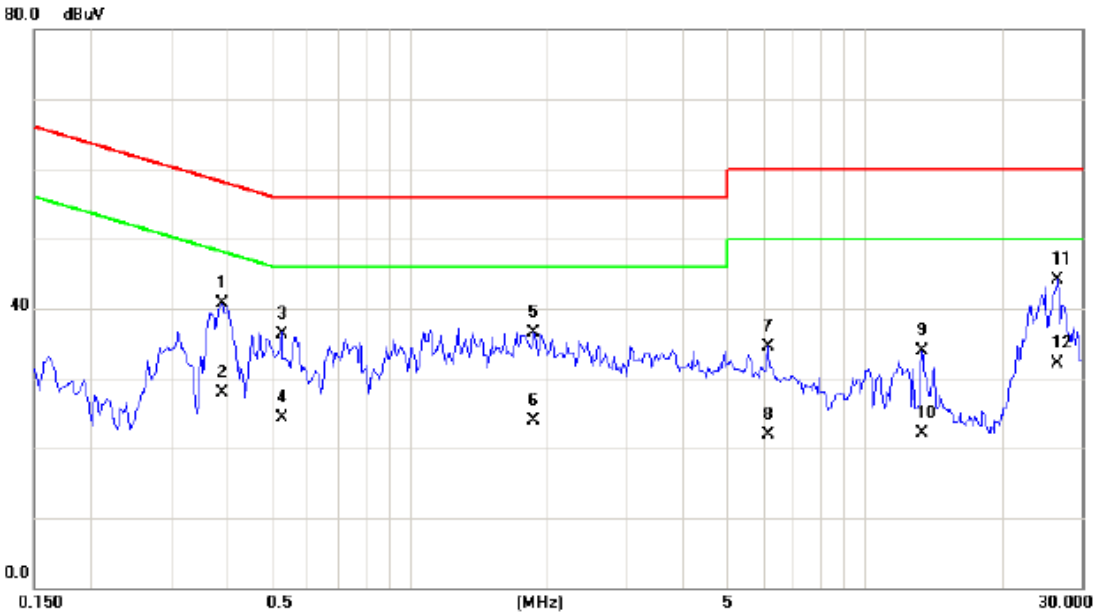
(2) Measuring frequency range from 150KHz to 30MHz.

EUT:	Wireless ADSL router	Model Name:	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	55 %
Test Power:	AC 120V/60Hz	Phase:	Line
Test Mode :	WIFI		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1615	23.98	9.78	33.76	65.39	-31.63	QP	
2		0.1615	11.88	9.78	21.66	55.39	-33.73	AVG	
3	*	0.3830	30.85	9.72	40.57	58.21	-17.64	QP	
4		0.3830	18.96	9.72	28.68	48.21	-19.53	AVG	
5		0.6824	26.69	9.70	36.39	56.00	-19.61	QP	
6		0.6825	14.58	9.70	24.28	46.00	-21.72	AVG	
7		1.5766	27.69	9.70	37.39	56.00	-18.61	QP	
8		1.5766	15.36	9.70	25.06	46.00	-20.94	AVG	
9		12.1882	27.26	9.83	37.09	60.00	-22.91	QP	
10		12.1882	15.14	9.83	24.97	50.00	-25.03	AVG	
11		23.0181	27.68	9.89	37.57	60.00	-22.43	QP	
12		23.0181	15.34	9.89	25.23	50.00	-24.77	AVG	

EUT:	Wireless ADSL router	Model Name:	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	55 %
Test Power:	AC 120V/60Hz	Phase:	Neutral
Test Mode :	WIFI		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.3870	30.98	9.71	40.69	58.13	-17.44	QP	
2		0.3870	18.25	9.71	27.96	48.13	-20.17	AVG	
3		0.5237	26.56	9.69	36.25	56.00	-19.75	QP	
4		0.5237	14.68	9.69	24.37	46.00	-21.63	AVG	
5		1.8780	26.88	9.67	36.55	56.00	-19.45	QP	
6		1.8780	14.15	9.67	23.82	46.00	-22.18	AVG	
7		6.1208	24.69	9.79	34.48	60.00	-25.52	QP	
8		6.1208	12.15	9.79	21.94	50.00	-28.06	AVG	
9		13.3370	24.01	9.84	33.85	60.00	-26.15	QP	
10		13.3370	12.18	9.84	22.02	50.00	-27.98	AVG	
11	*	26.5580	34.15	9.95	44.10	60.00	-15.90	QP	
12		26.5580	22.09	9.95	32.04	50.00	-17.96	AVG	

4.2 RADIATED EMISSION MEASUREMENT

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

20dB in any 100 KHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a) & RSS-210 section 2.2& Annex 8 (A8.5), then the 15.209(a)& RSS-Gen limit in the table below has to be followed.

Frequency (MHz)	Field Strength (microvolts/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
960~1000	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

Frequency (MHz)	(dBuV/m) (at 3 meters)	
	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).

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

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9KHz~90KHz for PK/AVG detector
Start ~ Stop Frequency	90KHz~110KHz for QP detector
Start ~ Stop Frequency	110KHz~490KHz for PK/AVG detector
Start ~ Stop Frequency	490KHz~30MHz for QP detector
Start ~ Stop Frequency	30MHz~1000MHz for QP detector

4.2.2 MEASUREMENT INSTRUMENTS LIST ANS SETTING

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	Schwarbeck	VULB9160	9160-3232	Apr. 25, 2014
2	Amplifier	HP	8447D	2944A09673	Apr. 25, 2014
3	Test Receiver	R&S	ESCI	100382	Apr. 25, 2014
4	Test Cable	N/A	C-01_CB03	N/A	Jul. 02, 2014
5	Antenna	ETS	3115	00075789	Apr. 25, 2014
6	Amplifier	Agilent	8449B	3008A02274	Apr. 25, 2014
7	Spectrum	Agilent	E4408B	US39240143	Nov. 16, 2013
8	Test Cable	HUBER+SUHNER	C-45	N/A	Apr. 30, 2014
9	Controller	CT	SC100	N/A	N/A
10	Horn Antenna	EMCO	3115	9605-4803	Apr. 25, 2014
11	Active Loop Antenna	R&S	HFH2-Z2	830749/020	Apr. 25, 2014
12	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Oct. 22, 2014

Remark: ”N/A” denotes no model name, serial no. or calibration specified.
All calibration period of equipment list is one year.

4.2.3 TEST PROCEDURE

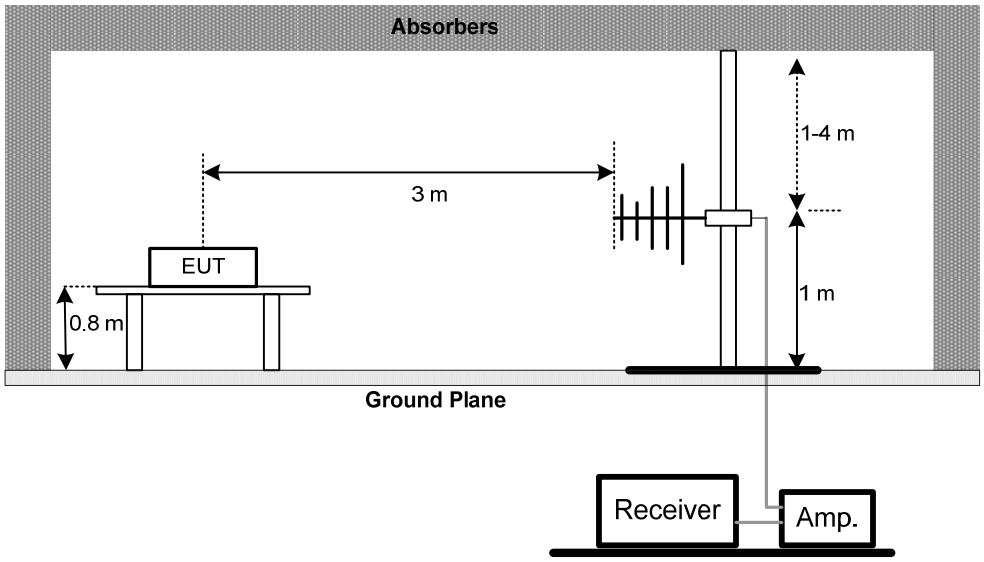
a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
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

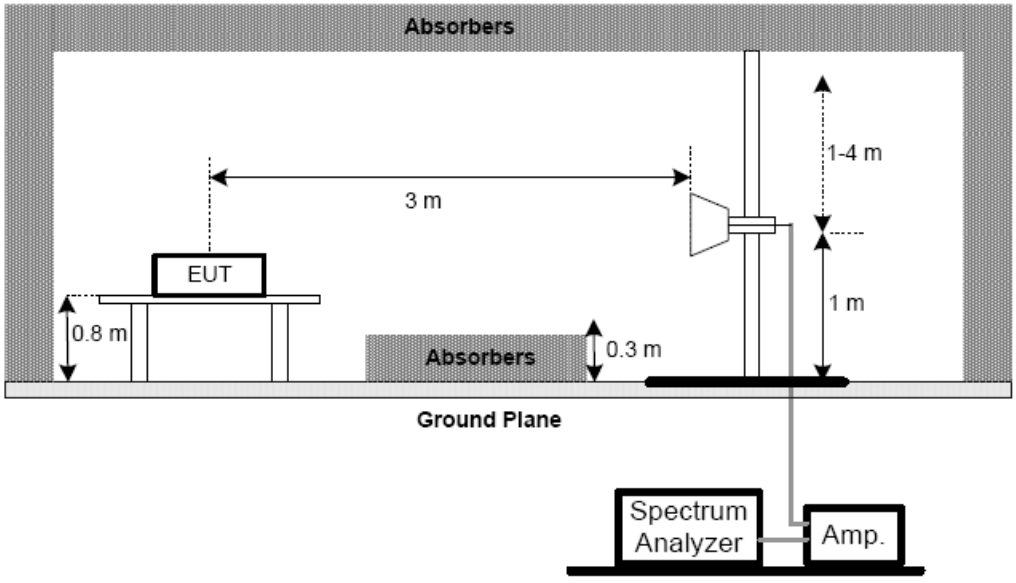
No deviation

4.2.5 TEST SETUP

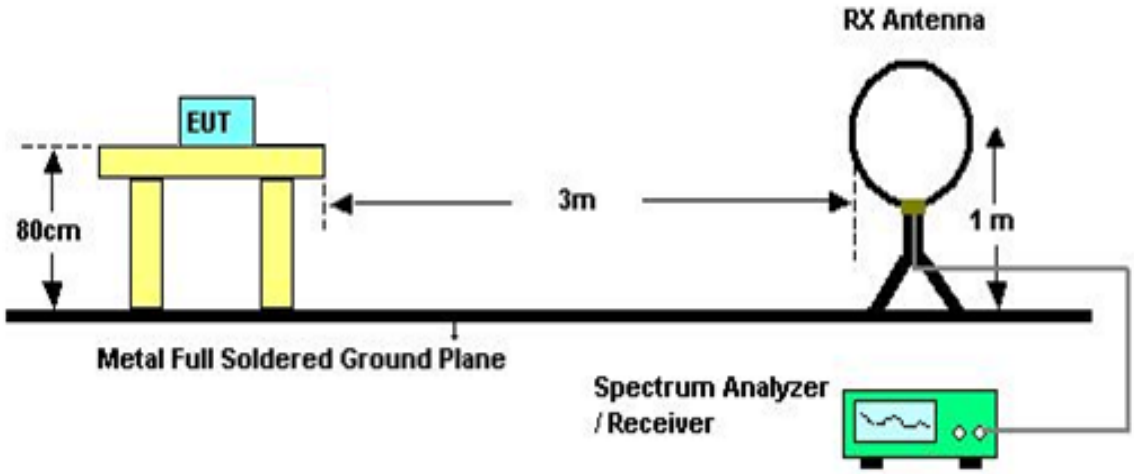
(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



(B) Radiated Emission Test Set-Up Frequency Above 1 GHz



(C) For radiated emissions below 30MHz



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 (9K~ 30MHZ)

EUT：	Wireless ADSL router	Model Name :	F@ST 2704N
Temperature：	25 ℃	Relative Humidity:	54 %
Pressure：	1009 hPa	Test Power ：	AC 120V/60Hz
Test Mode ：	TX Mode 2412MHz		

Freq. (MHz)	Ant. 0°/90°	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
0.0095	0°	25.32	24.30	49.62	128.05	-78.43	AV
0.0095	0°	29.78	24.30	54.08	148.05	-93.97	PK
0.0254	0°	21.36	23.96	45.32	119.50	-74.18	AV
0.0254	0°	24.31	23.96	48.27	139.50	-91.23	PK
0.0385	0°	21.37	23.13	44.50	115.89	-71.39	AV
0.0385	0°	24.05	23.13	47.18	135.89	-88.71	PK
0.0665	0°	18.89	22.07	40.96	111.15	-70.19	AV
0.0665	0°	23.47	22.07	45.54	131.15	-85.61	PK
0.2659	0°	20.66	20.36	41.02	99.11	-58.09	AVG
0.2659	0°	22.86	20.36	43.22	119.11	-75.89	PK
1.4837	0°	27.38	19.55	46.93	64.18	-17.25	QP

Freq. (MHz)	Ant. 0°/90°	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
0.0097	90°	19.03	24.30	43.33	127.91	-84.58	AVG
0.0097	90°	20.97	24.30	45.27	147.91	-102.64	PK
0.0224	90°	15.13	24.15	39.28	120.60	-81.32	AVG
0.0224	90°	17.24	24.15	41.39	140.60	-99.21	PK
0.0466	90°	18.31	22.61	40.92	114.23	-73.31	AVG
0.0466	90°	21.51	22.61	44.12	134.23	-90.11	PK
0.0776	90°	21.26	21.85	43.11	109.81	-66.70	AVG
0.0776	90°	22.98	21.85	44.83	129.81	-84.98	PK
0.3753	90°	21.06	20.10	41.16	96.12	-54.96	AVG
0.3753	90°	24.26	20.10	44.36	116.12	-71.76	PK
1.6963	90°	25.32	19.53	44.85	63.01	-18.16	QP

Remark:

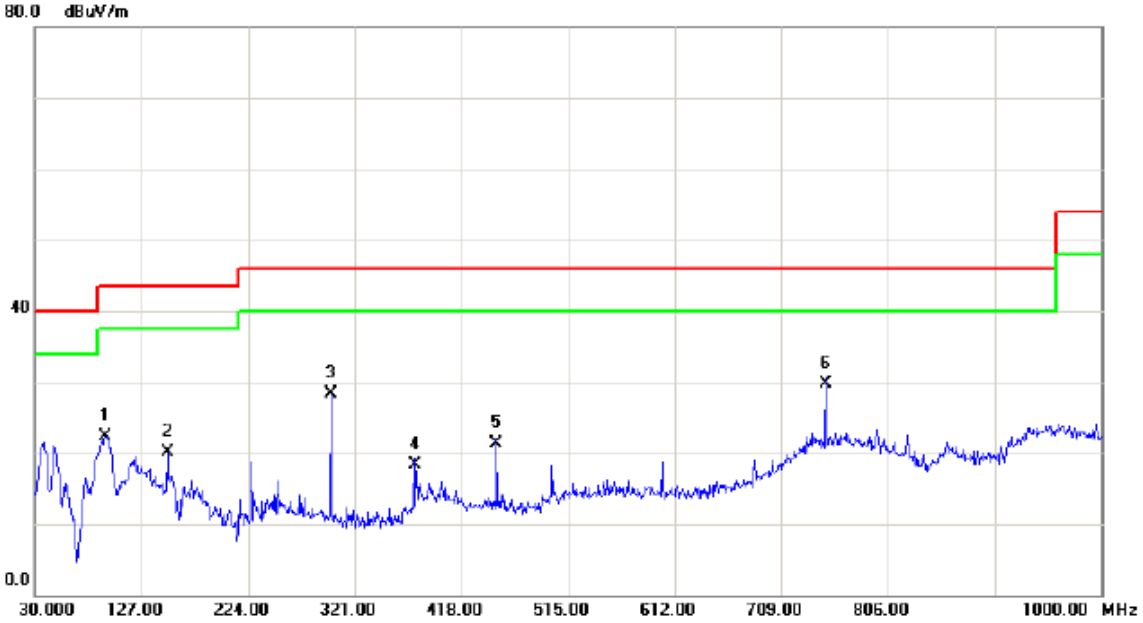
(1) The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
(2) Distance extrapolation factor = 40 log (specific distance / test distance) (dB);
(3) Limit line = specific limits (dBuV) + distance extrapolation factor.

4.2.8 TEST RESULTS (BETWEEN 30 – 1000 MHZ)

Remark:

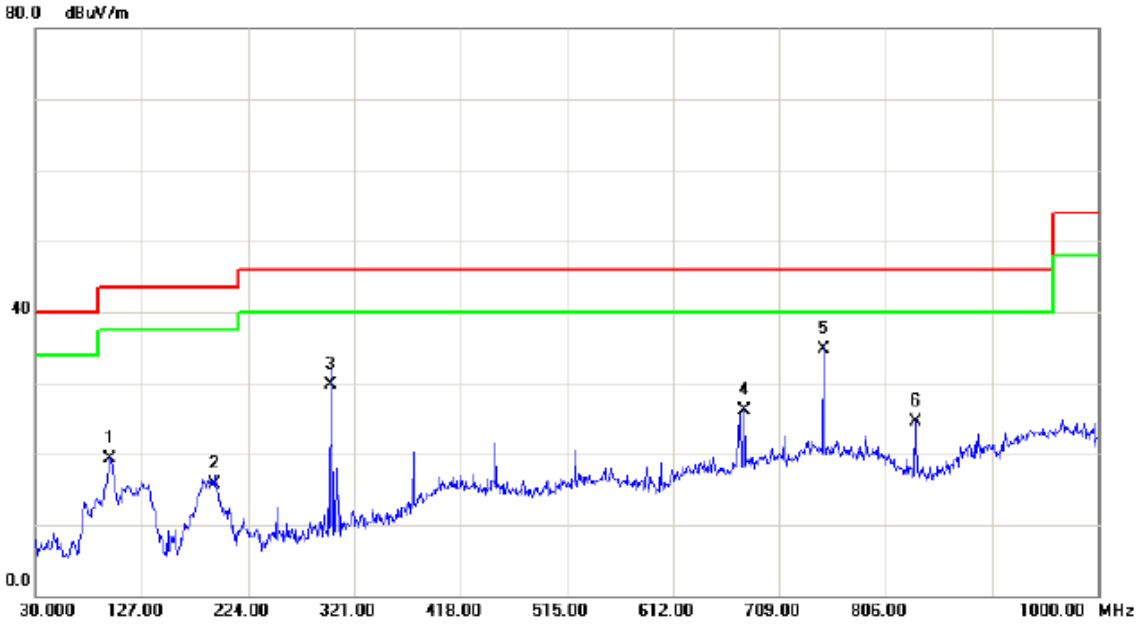
(1) Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode or Peak Mode with Detector BW=120KHz ; SPA setting in RBW=120KHz, VBW =120KHz, Swp. Time = 0.3 sec./MHz.
(2) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading 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:	Wireless ADSL router	Model Name:	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	54 %
Test Voltage:	AC 120V/60Hz	Polarization:	Vertical
Test Mode:	TX B MODE CHANNEL 01		



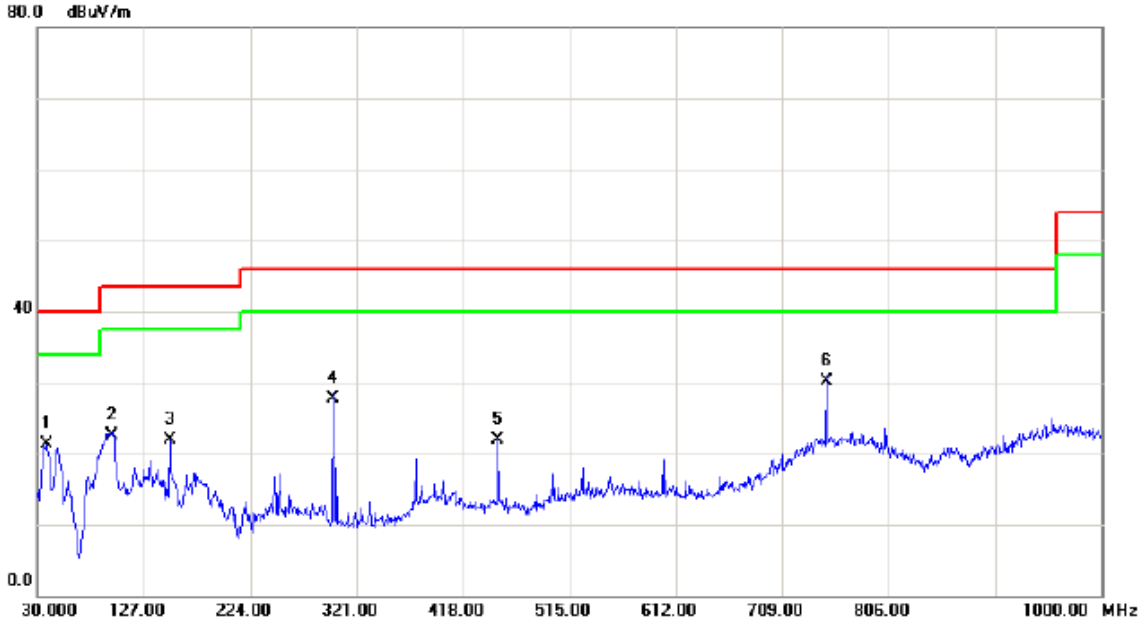
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		94.0200	48.76	-26.39	22.37	43.50	-21.13	QP	
2		150.2800	39.42	-19.25	20.17	43.50	-23.33	QP	
3		299.6600	45.47	-17.22	28.25	46.00	-17.75	QP	
4		375.3200	33.56	-15.34	18.22	46.00	-27.78	QP	
5		450.0100	36.98	-15.74	21.24	46.00	-24.76	QP	
6	*	749.7400	36.79	-7.16	29.63	46.00	-16.37	QP	

EUT:	Wireless ADSL router	Model Name:	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	54 %
Test Voltage:	AC 120V/60Hz	Polarization:	Horizontal
Test Mode:	TX B MODE CHANNEL 01		



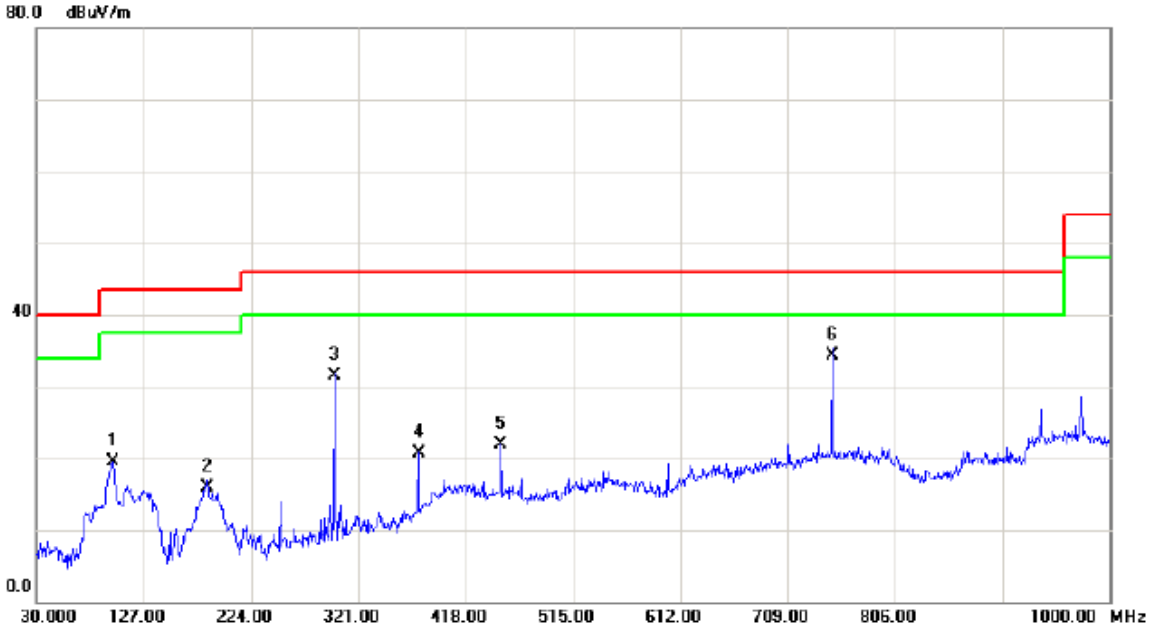
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		97.9000	44.96	-25.75	19.21	43.50	-24.29	QP	
2		192.9600	36.78	-21.13	15.65	43.50	-27.85	QP	
3		299.6600	49.18	-19.45	29.73	46.00	-16.27	QP	
4		676.9900	36.14	-10.13	26.01	46.00	-19.99	QP	
5	*	749.7400	42.93	-8.32	34.61	46.00	-11.39	QP	
6		833.1600	35.96	-11.42	24.54	46.00	-21.46	QP	

EUT:	Wireless ADSL router	Model Name:	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	54 %
Test Voltage:	AC 120V/60Hz	Polarization:	Vertical
Test Mode:	TX B MODE CHANNEL 06		



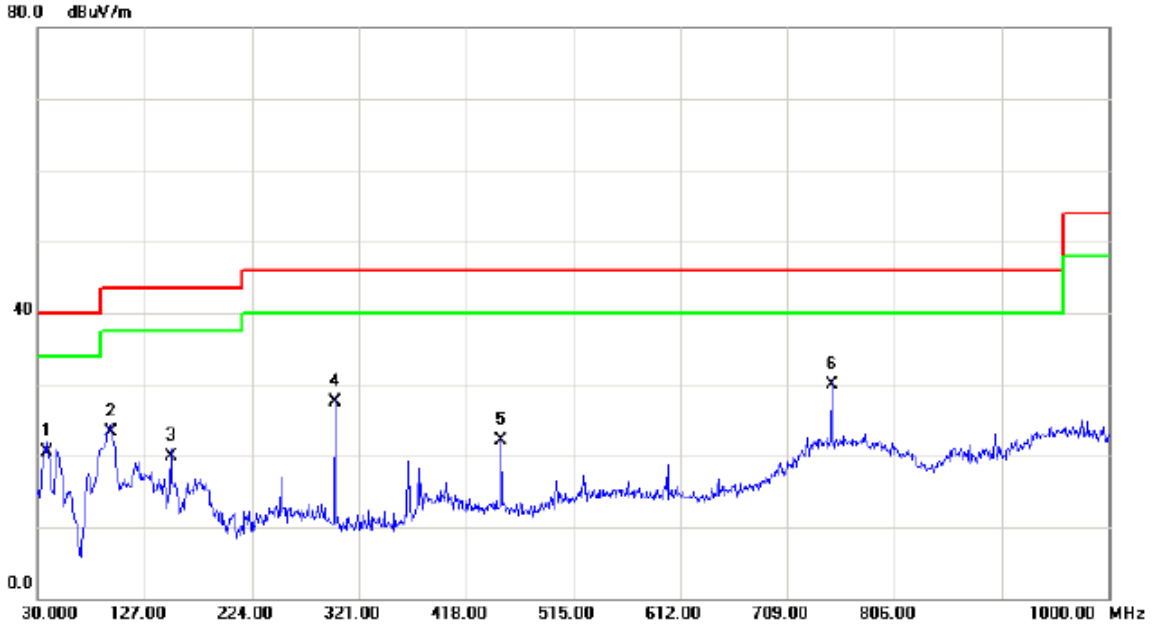
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		37.7600	42.99	-21.70	21.29	40.00	-18.71	QP	
2		97.9000	47.96	-25.46	22.50	43.50	-21.00	QP	
3		150.2800	41.11	-19.25	21.86	43.50	-21.64	QP	
4		299.6600	44.88	-17.22	27.66	46.00	-18.34	QP	
5		450.0100	37.56	-15.74	21.82	46.00	-24.18	QP	
6	*	749.7400	37.36	-7.16	30.20	46.00	-15.80	QP	

EUT:	Wireless ADSL router	Model Name:	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	54 %
Test Voltage:	AC 120V/60Hz	Polarization:	Horizontal
Test Mode:	TX B MODE CHANNEL 06		



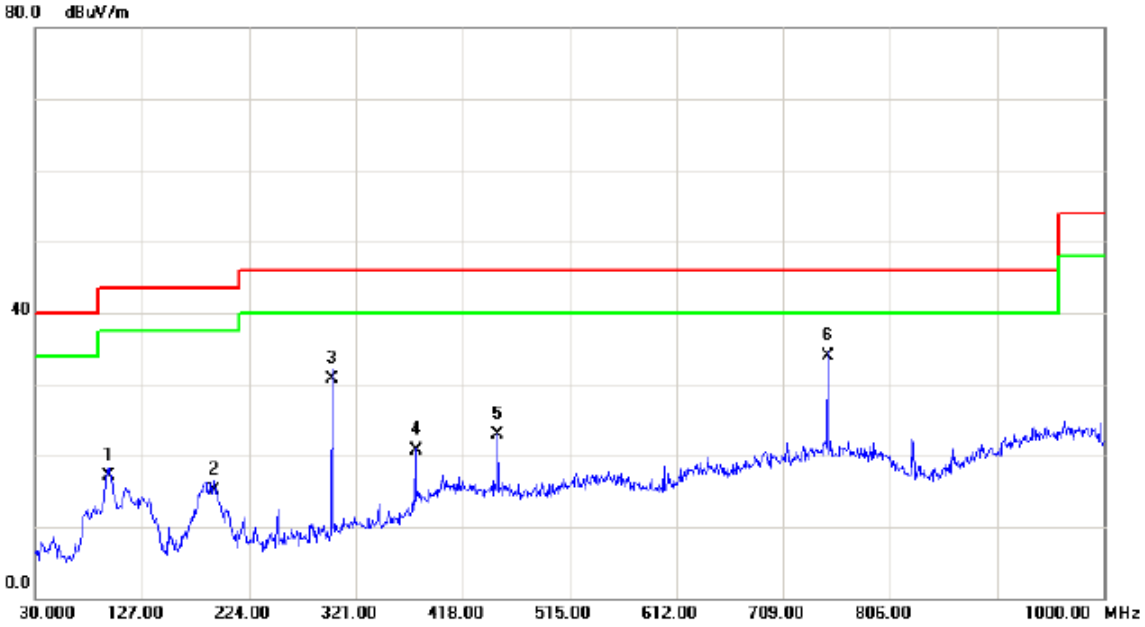
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		98.8700	44.97	-25.54	19.43	43.50	-24.07	QP	
2		184.2300	35.98	-20.07	15.91	43.50	-27.59	QP	
3		299.6600	50.98	-19.45	31.53	46.00	-14.47	QP	
4		375.3200	36.12	-15.35	20.77	46.00	-25.23	QP	
5		450.0100	35.12	-13.28	21.84	46.00	-24.16	QP	
6	*	749.7400	42.56	-8.32	34.24	46.00	-11.76	QP	

EUT:	Wireless ADSL router	Model Name:	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	54 %
Test Voltage:	AC 120V/60Hz	Polarization:	Vertical
Test Mode:	TX B MODE CHANNEL 11		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		37.7600	42.16	-21.70	20.46	40.00	-19.54	QP	
2		95.9600	49.18	-25.95	23.23	43.50	-20.27	QP	
3		150.2800	39.18	-19.25	19.93	43.50	-23.57	QP	
4		299.6600	44.69	-17.22	27.47	46.00	-18.53	QP	
5		450.0100	37.89	-15.74	22.15	46.00	-23.85	QP	
6	*	749.7400	36.99	-7.16	29.83	46.00	-16.17	QP	

EUT:	Wireless ADSL router	Model Name:	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	54 %
Test Voltage:	AC 120V/60Hz	Polarization:	Horizontal
Test Mode:	TX B MODE CHANNEL 11		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		96.9300	43.15	-25.96	17.19	43.50	-26.31	QP	
2		191.9900	36.15	-20.98	15.17	43.50	-28.33	QP	
3		299.6600	50.19	-19.45	30.74	46.00	-15.26	QP	
4		375.3200	35.98	-15.35	20.63	46.00	-25.37	QP	
5		450.0100	36.15	-13.28	22.87	46.00	-23.13	QP	
6	*	749.7400	42.19	-8.32	33.87	46.00	-12.13	QP	

4.2.9 TEST RESULTS (ABOVE 1000 MHZ)

EUT:	Wireless ADSL router	Model Name :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	51 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE 2412MHz		

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	23.68	13.68	34.09	57.77	47.77	74.00	54.00	X/E
2411.10	**V**	**62.53**	**60.13**	**34.16**	**96.69**	**94.29**			**X/F**
4823.95	V	38.95	29.36	6.43	45.38	35.79	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.

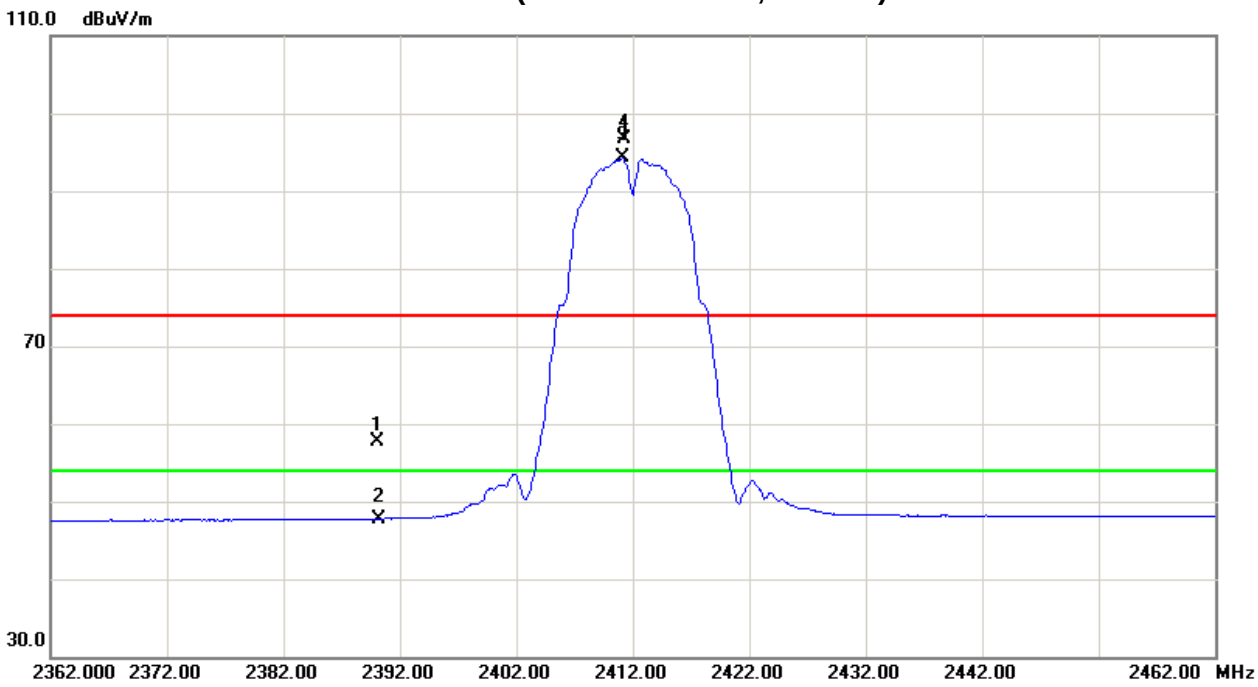
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

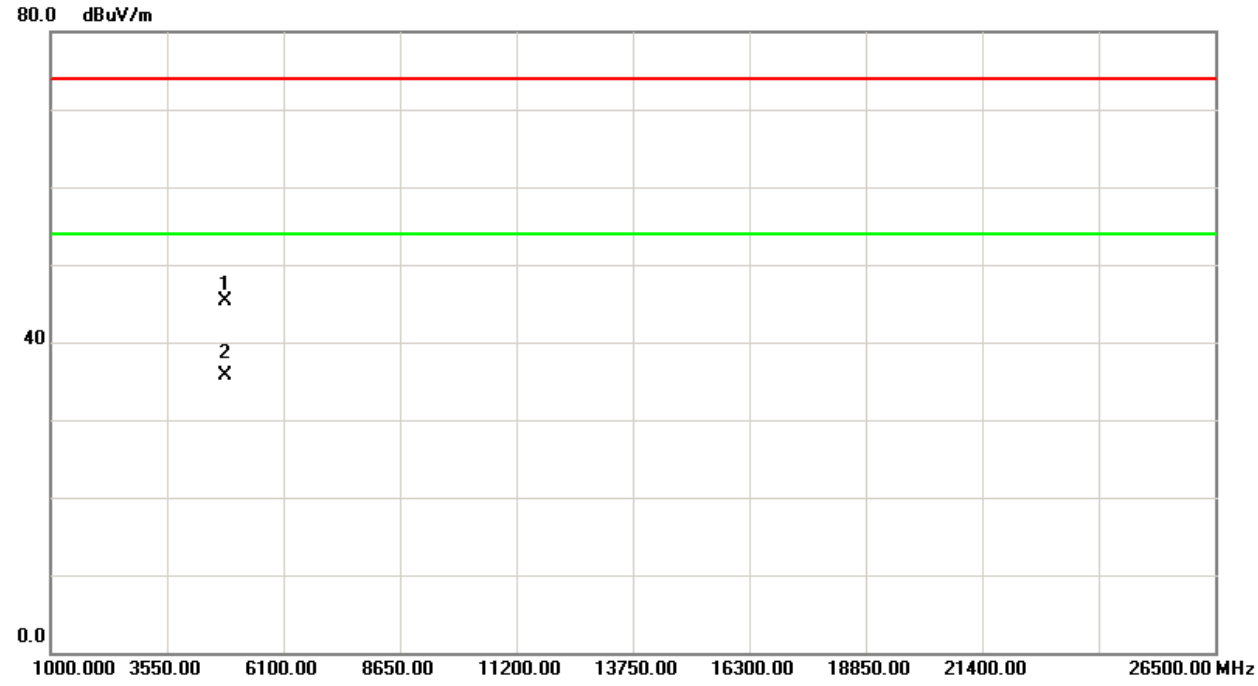
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(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 CH01 (Above 1000 MHz, Vertical)





EUT:	Wireless ADSL router	Model Name :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	51 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE 2412MHz		

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	25.18	15.53	34.09	59.27	49.62	74.00	54.00	X/E
2411.20	**H**	**74.38**	**72.07**	**34.16**	**108.54**	**106.23**			**X/F**
4823.95	H	37.29	27.51	6.43	43.72	33.94	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.

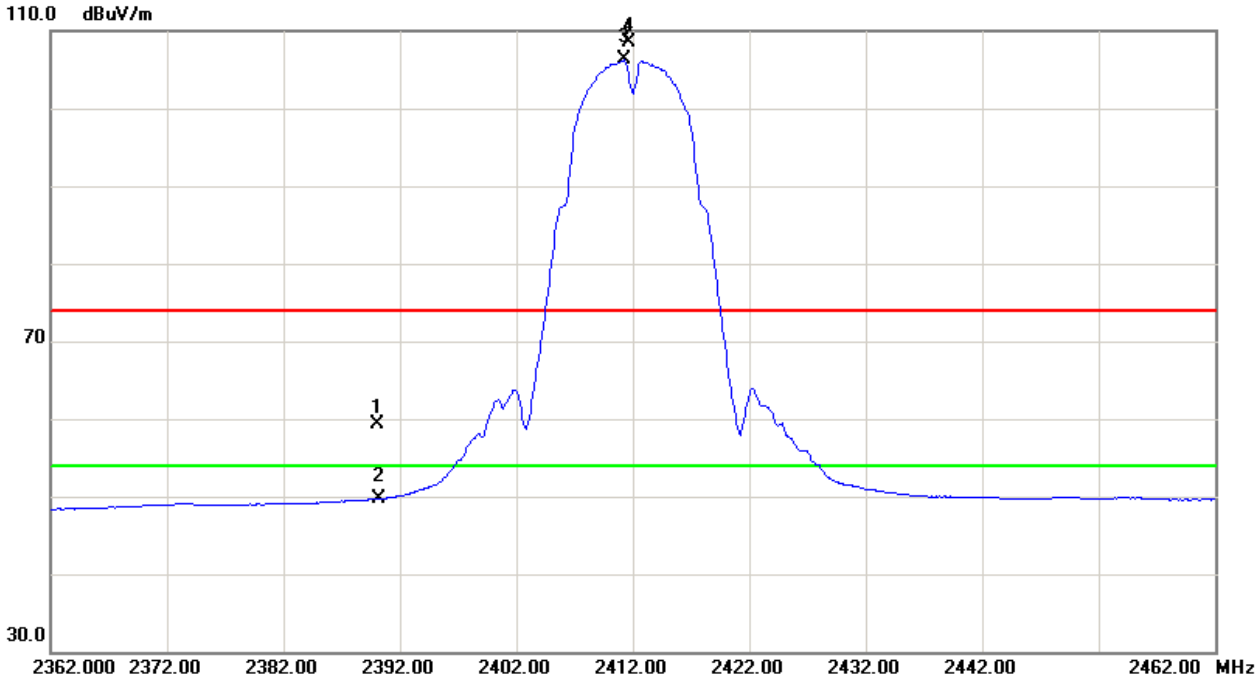
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

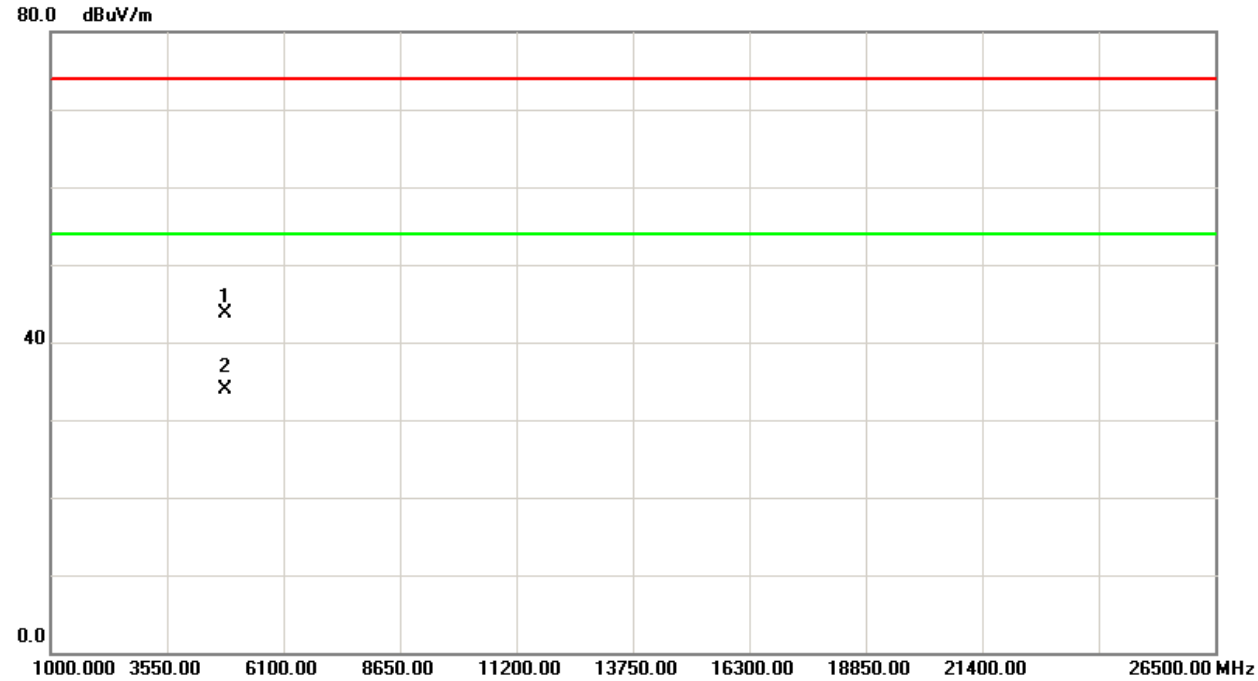
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(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 CH01 (Above 1000 MHz, Horizontal)





EUT:	Wireless ADSL router	Model Name :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	51 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE 2437MHz		

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)	
2436.20	**V**	**62.08**	**59.76**	**34.23**	**96.31**	**93.99**			**X/F**
4873.95	V	37.98	30.27	6.58	44.56	36.85	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.

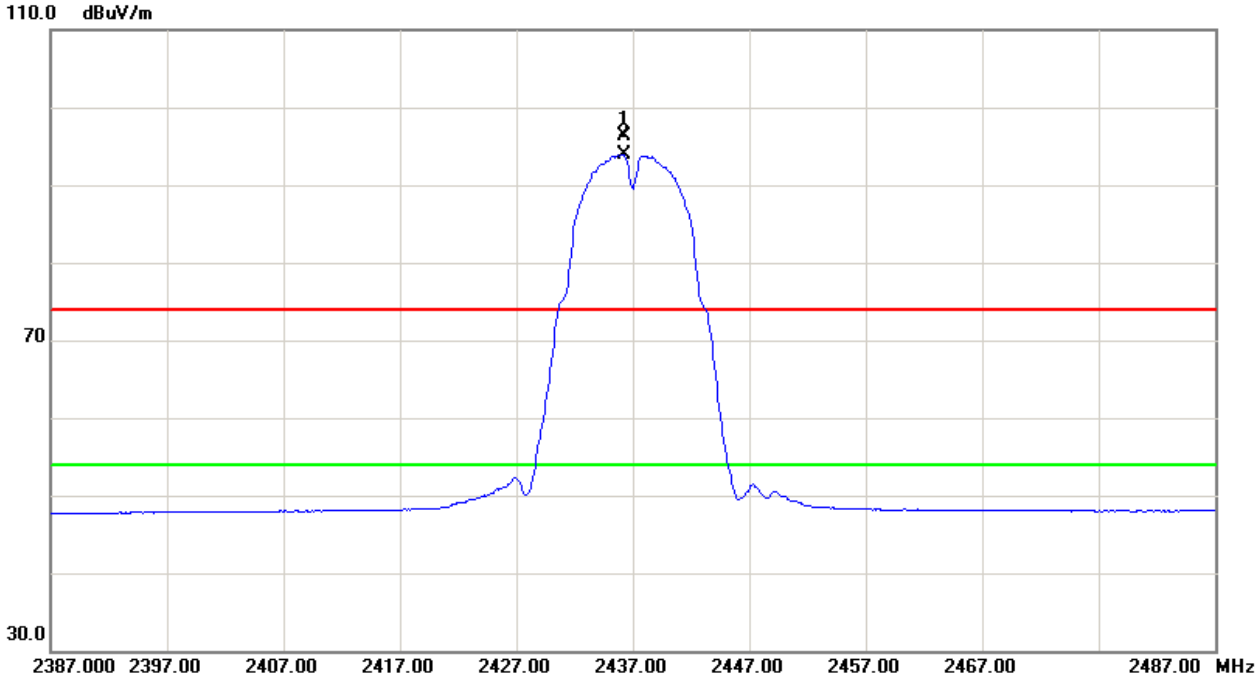
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

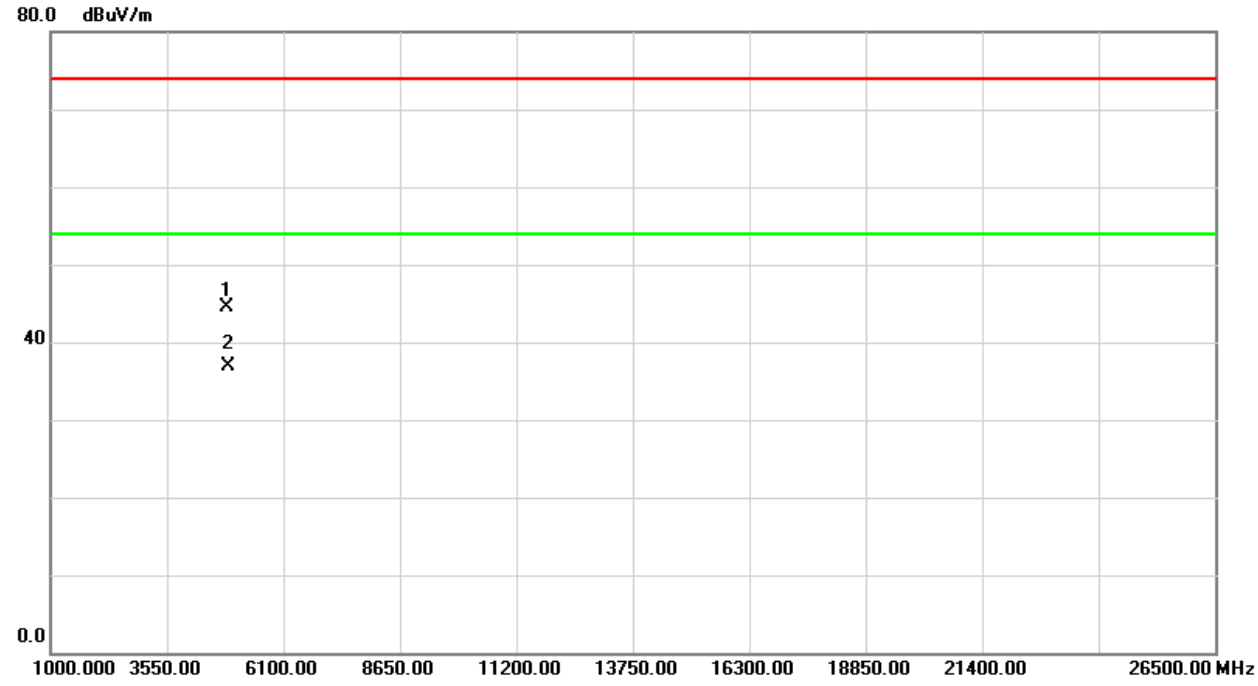
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(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 CH06 (Above 1000 MHz, Vertical)





EUT:	Wireless ADSL router	Model Name :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	51 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE 2437MHz		

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)	
2436.20	**H**	**74.27**	**71.81**	**34.23**	**108.50**	**106.04**			**X/F**
4873.93	H	36.11	27.70	6.58	42.69	34.28	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.

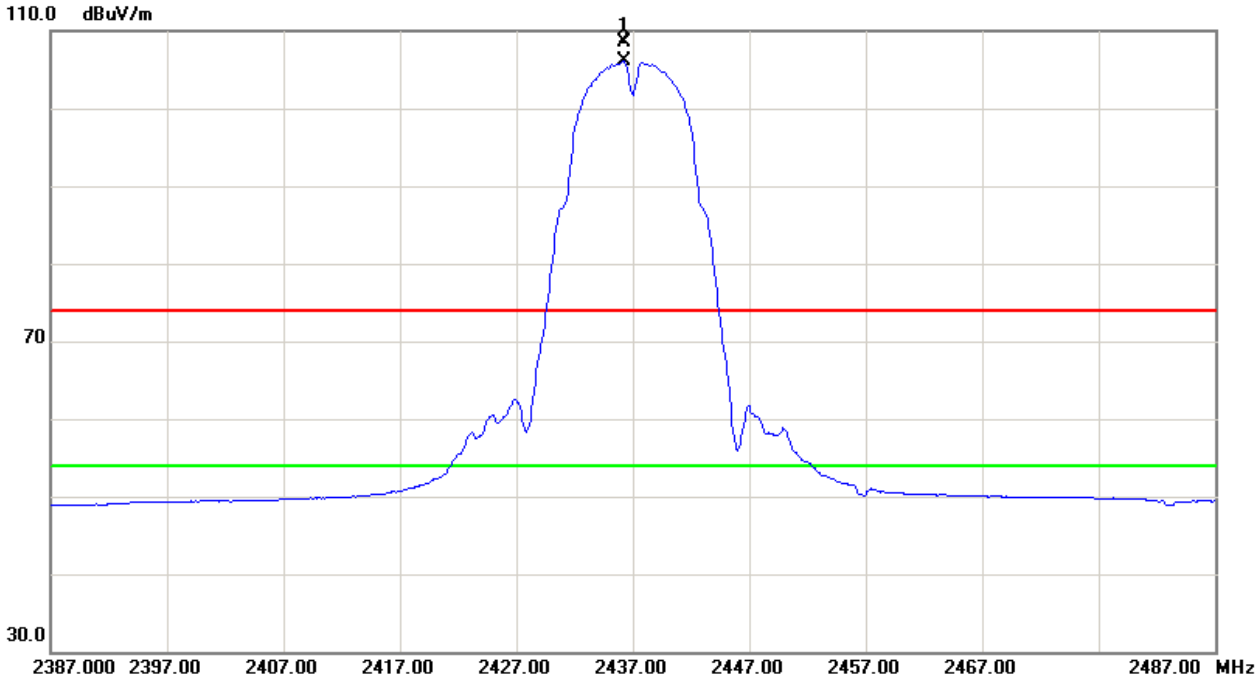
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

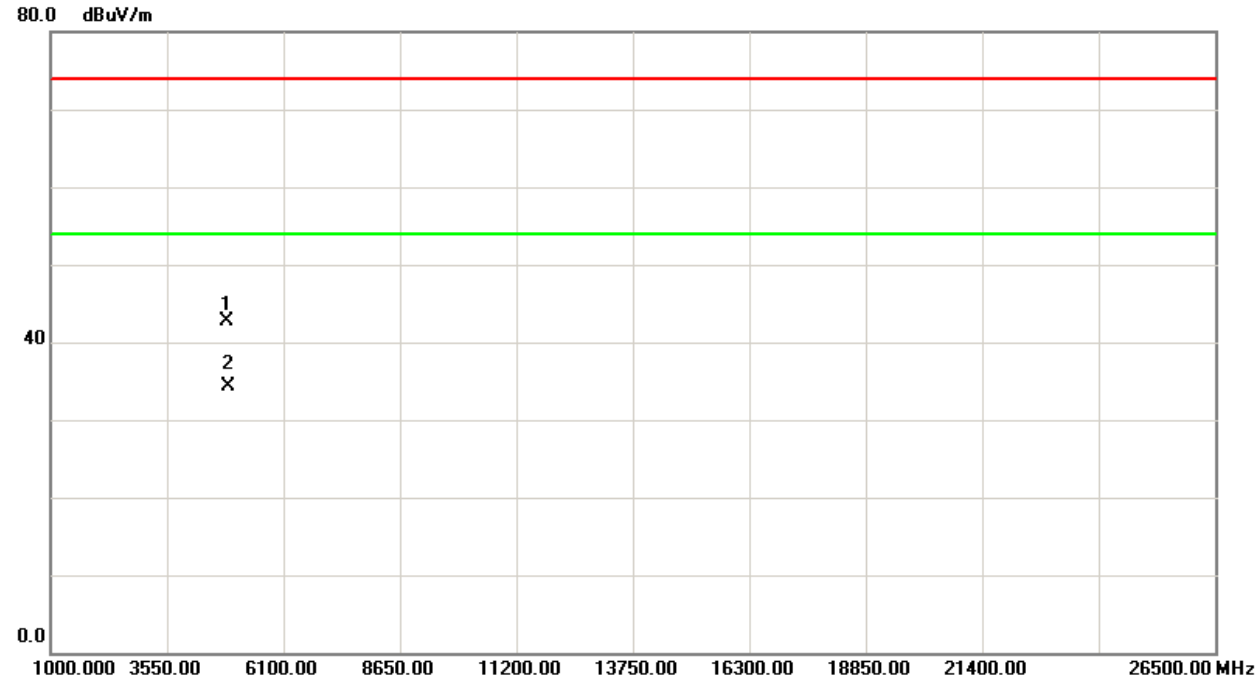
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(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 CH06 (Above 1000 MHz, Horizontal)





EUT:	Wireless ADSL router	Model Name :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	51 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE 2462MHz		

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)	
2461.20	**V**	**61.28**	**58.95**	**34.31**	**95.59**	**93.26**			**X/F**
2483.50	V	23.26	13.72	34.37	57.63	48.09	74.00	54.00	X/E
4923.93	V	35.06	28.66	6.72	41.78	35.38	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.

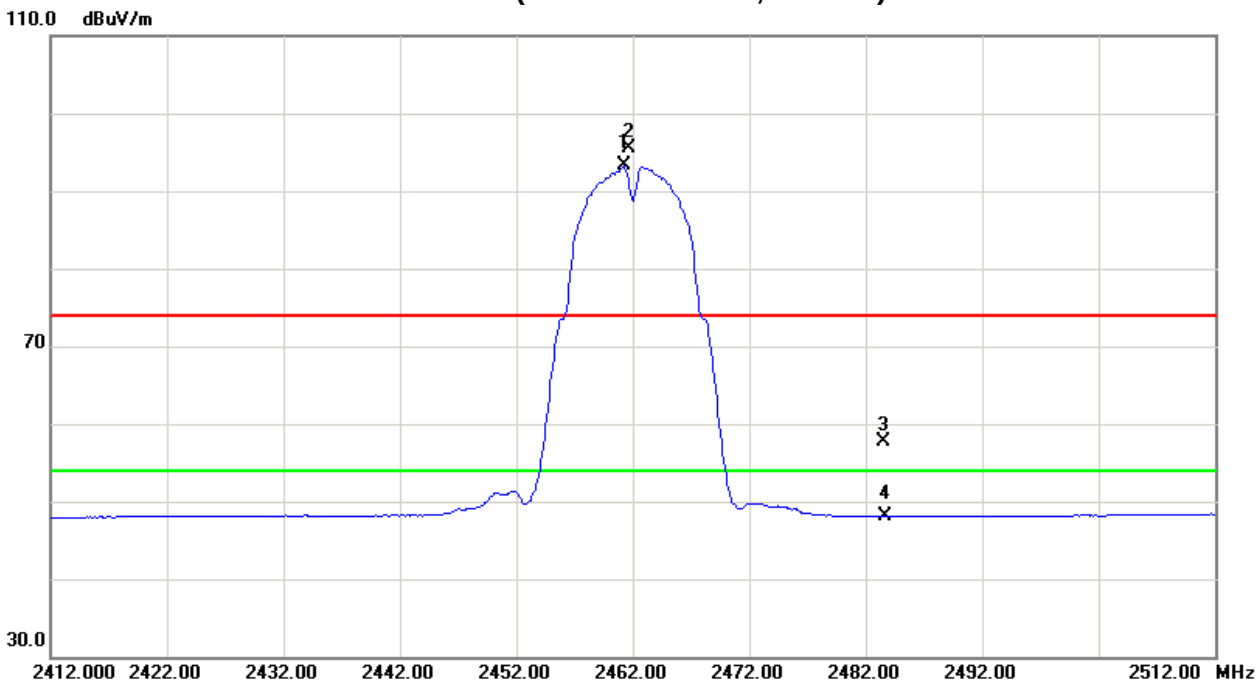
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

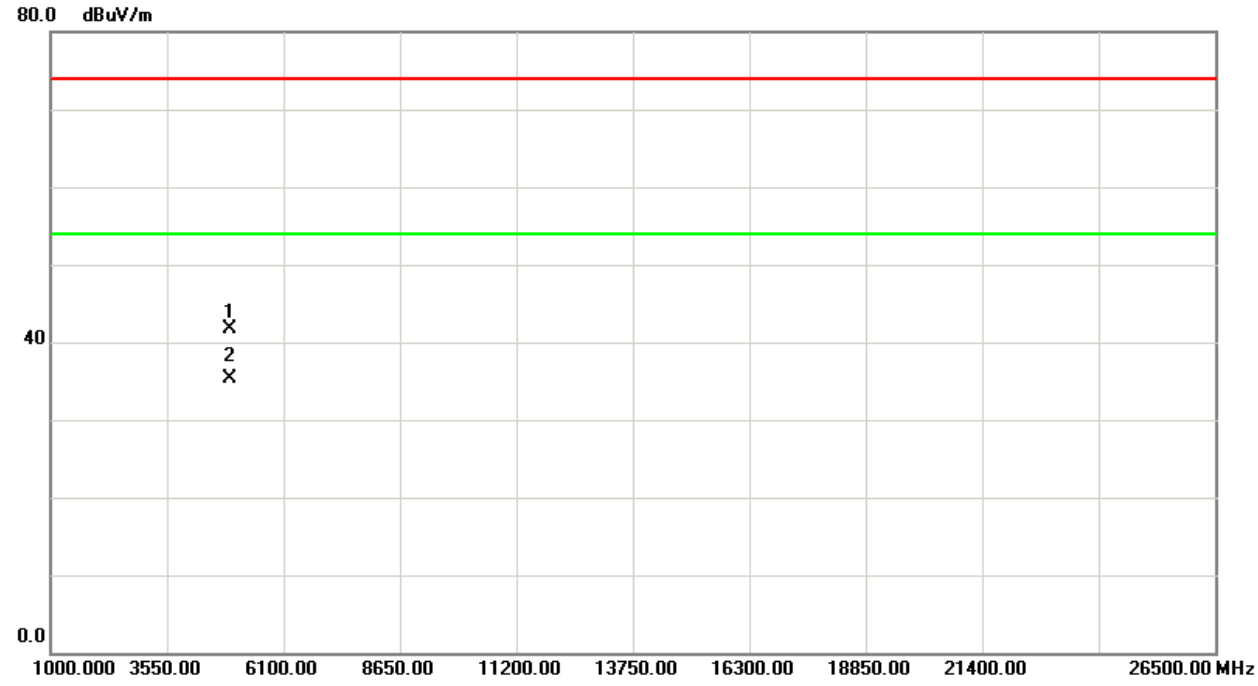
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(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 CH11 (Above 1000 MHz, Vertical)





EUT:	Wireless ADSL router	Model Name :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	51 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE 2462MHz		

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)	
2462.80	**H**	**74.11**	**71.86**	**34.31**	**108.42**	**106.17**			**X/F**
2483.50	H	24.63	15.75	34.37	59.00	50.12	74.00	54.00	X/E
4924.01	H	35.91	26.16	6.72	42.63	32.88	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.

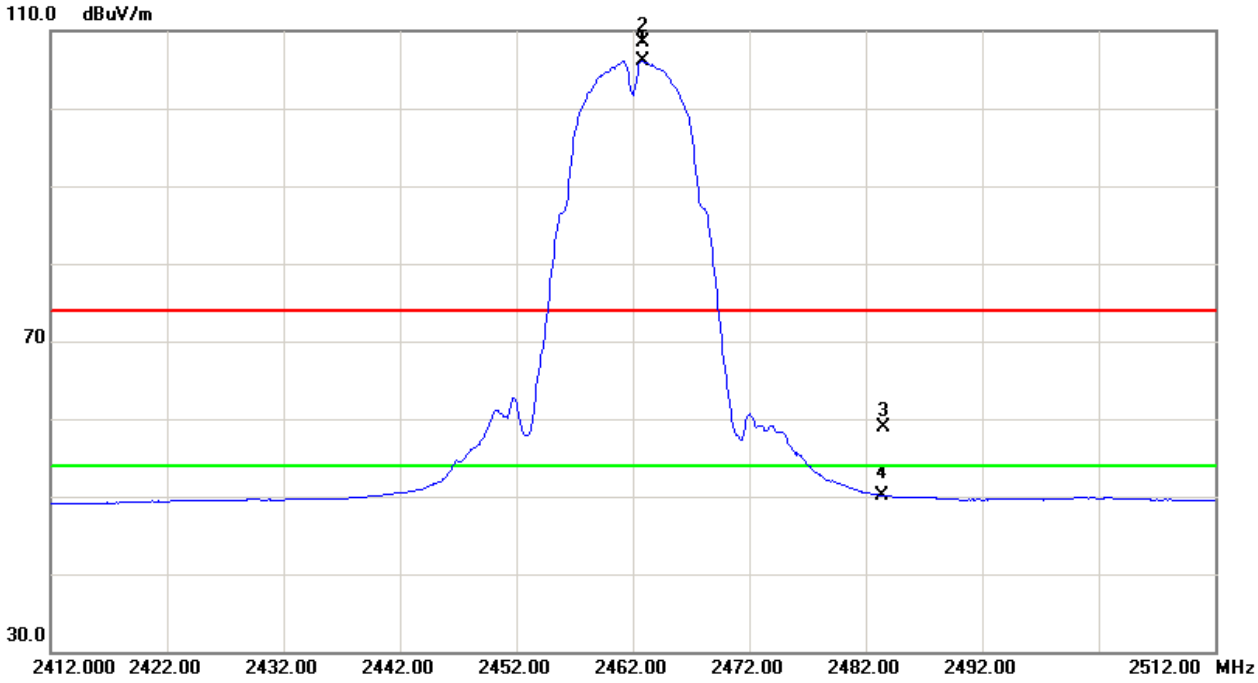
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

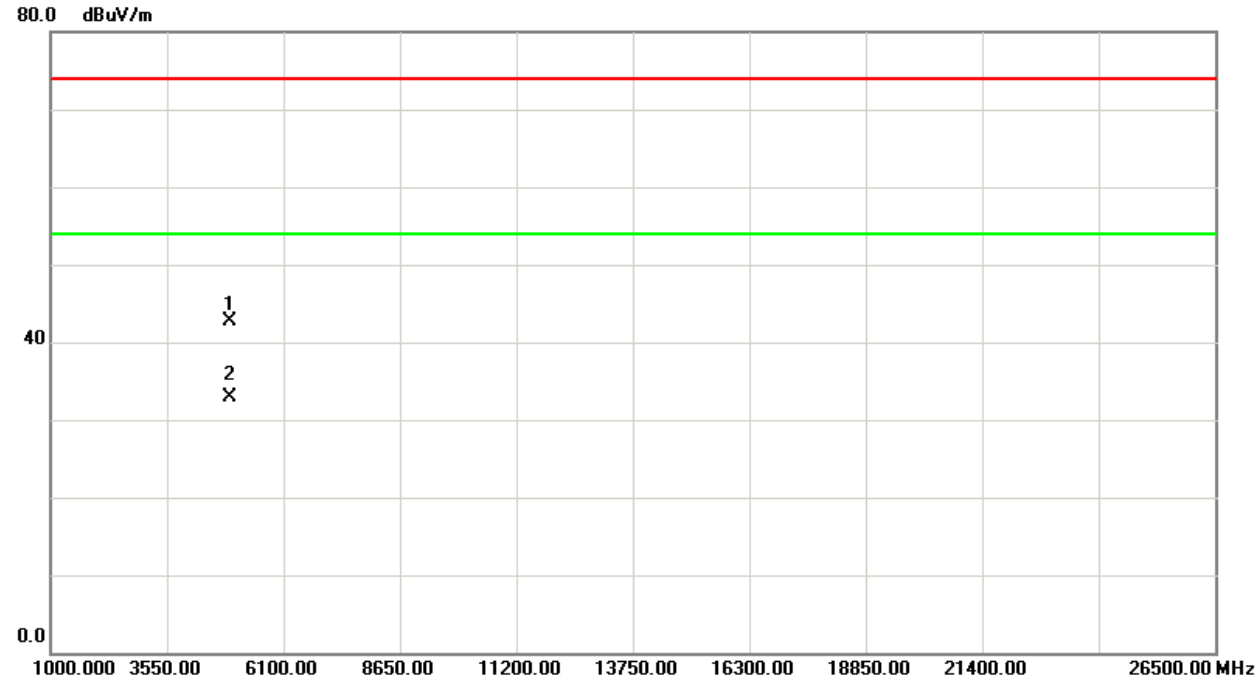
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(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 CH11 (Above 1000 MHz, Horizontal)





EUT:	Wireless ADSL router	Model Name :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	51 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX G MODE 2412MHz		

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	23.88	13.66	34.09	57.97	47.75	74.00	54.00	X/E
2412.80	**V**	**51.13**	**45.66**	**34.16**	**85.29**	**79.82**			**X/F**
4824.00	V	35.95	27.45	6.43	42.38	33.88	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.

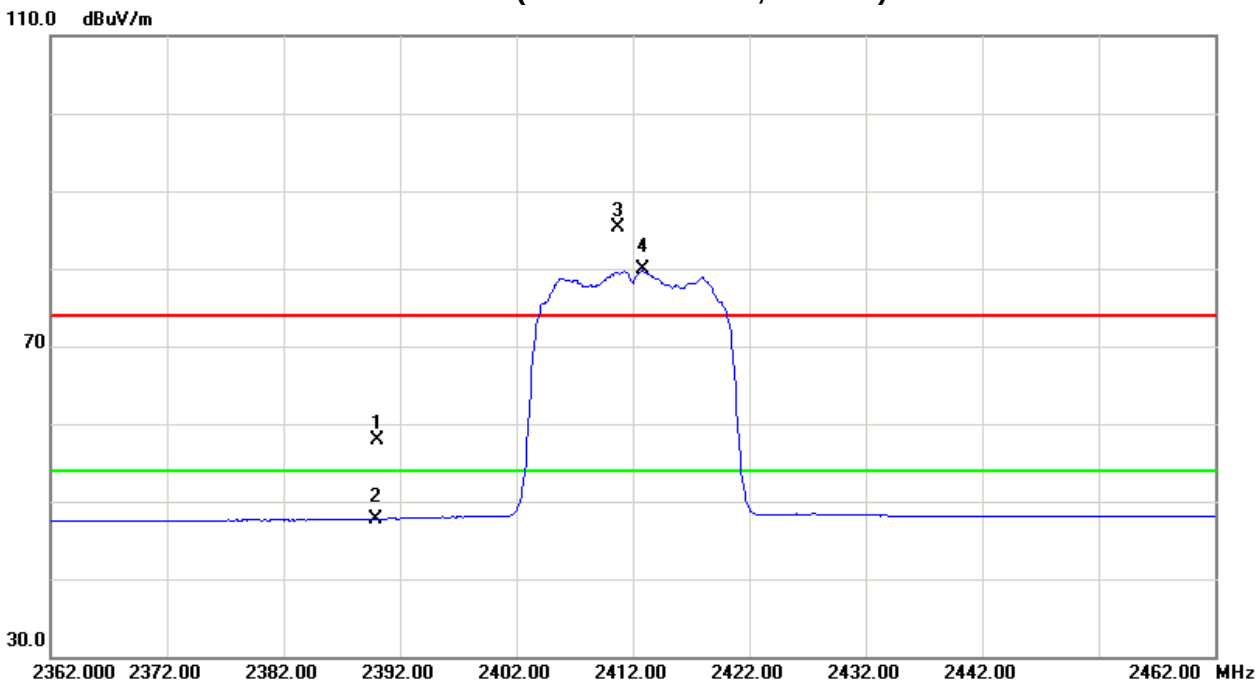
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

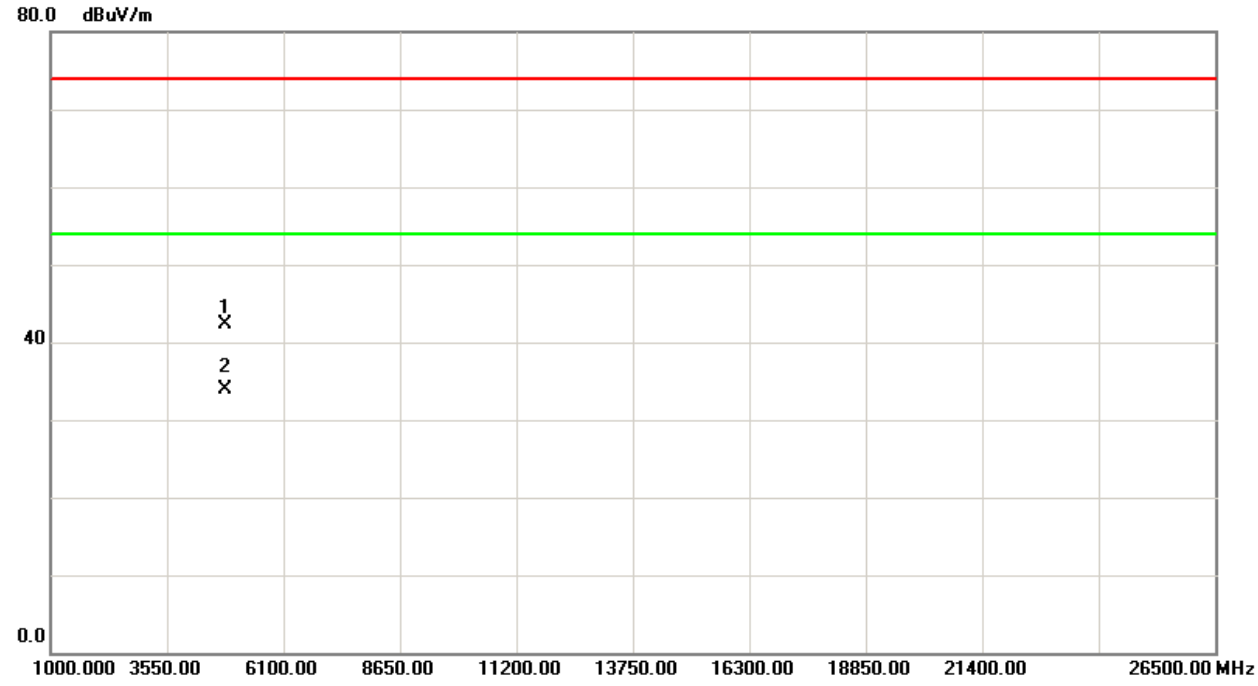
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(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 CH01 (Above 1000 MHz, Vertical)





EUT:	Wireless ADSL router	Model Name :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	51 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX G MODE 2412MHz		

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	24.35	14.67	34.09	58.44	48.76	74.00	54.00	X/E
2412.10	**H**	**66.63**	**57.99**	**34.16**	**100.79**	**92.15**			**X/F**
4823.96	H	36.13	27.60	6.43	42.56	34.03	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.

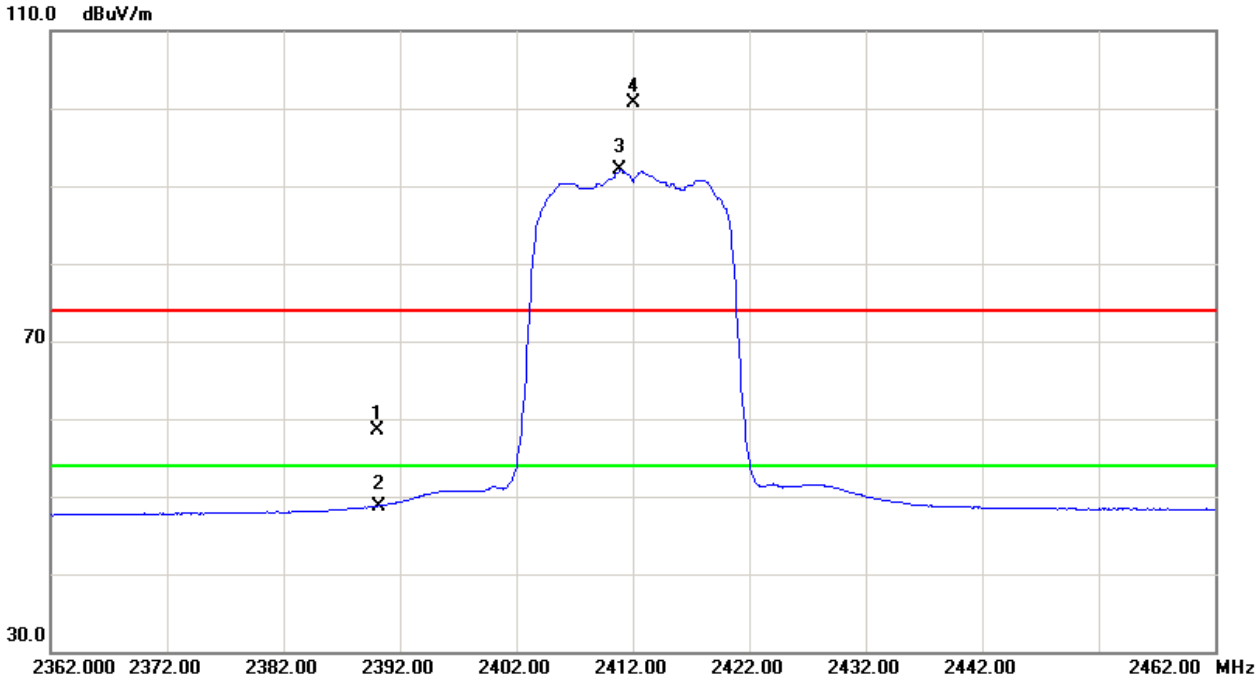
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

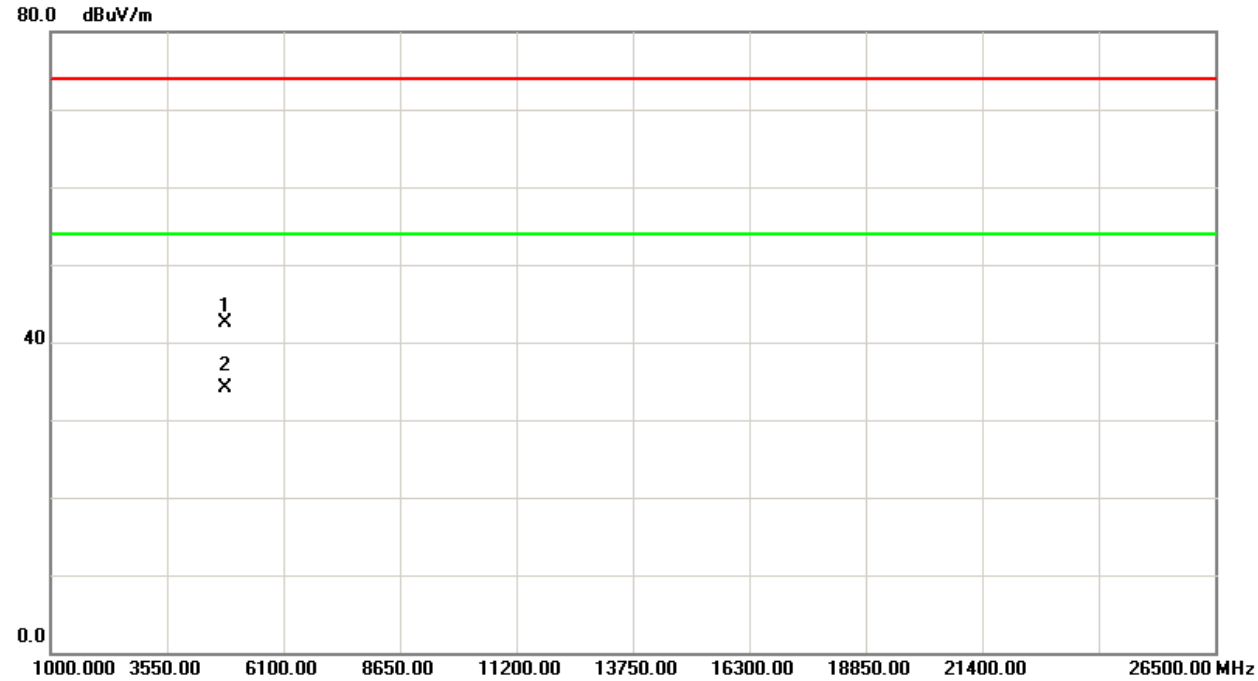
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(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 CH01 (Above 1000 MHz, Horizontal)





EUT:	Wireless ADSL router	Model Name :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	51 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX G MODE 2437MHz		

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)	
2436.20	**V**	**41.04**	**33.78**	**34.23**	**75.27**	**68.01**			**X/F**
4873.90	V	36.89	27.20	6.58	43.47	33.78	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.

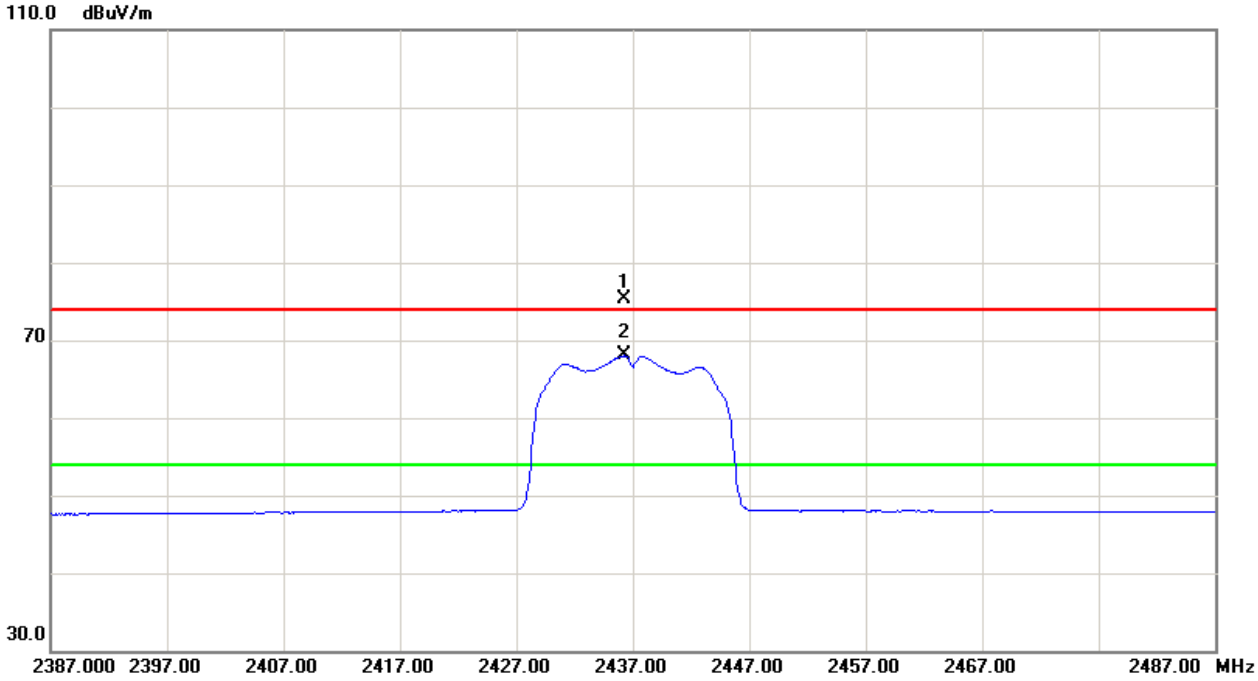
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

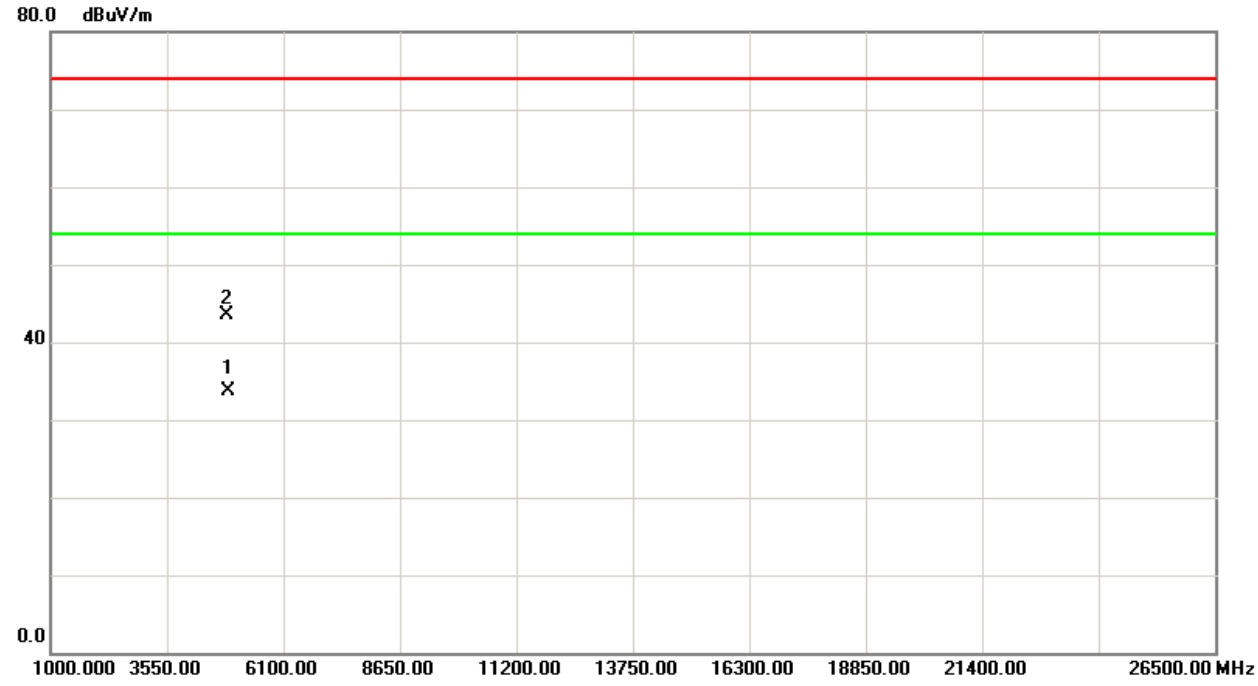
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(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 CH06 (Above 1000 MHz, Vertical)





EUT:	Wireless ADSL router	Model Name :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	51 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX G MODE 2437MHz		

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)	
2436.20	**H**	**53.40**	**45.92**	**34.23**	**87.63**	**80.15**			**X/F**
4873.97	H	36.85	27.25	6.58	43.43	33.83	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.

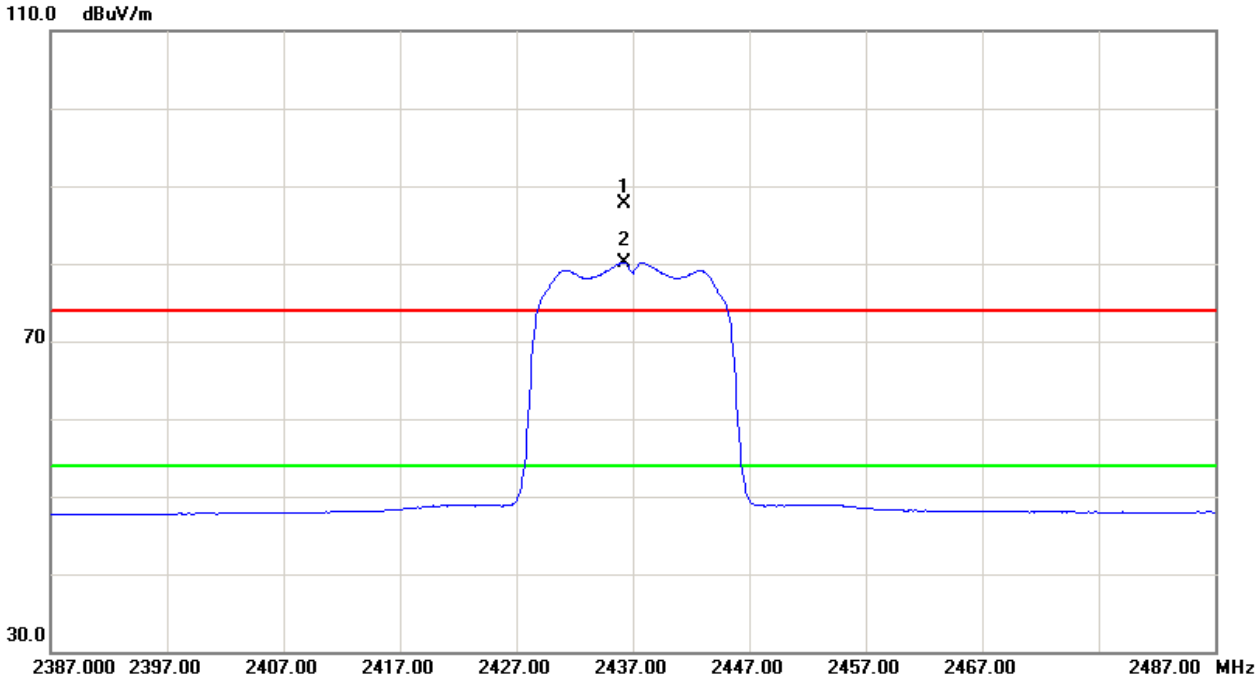
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

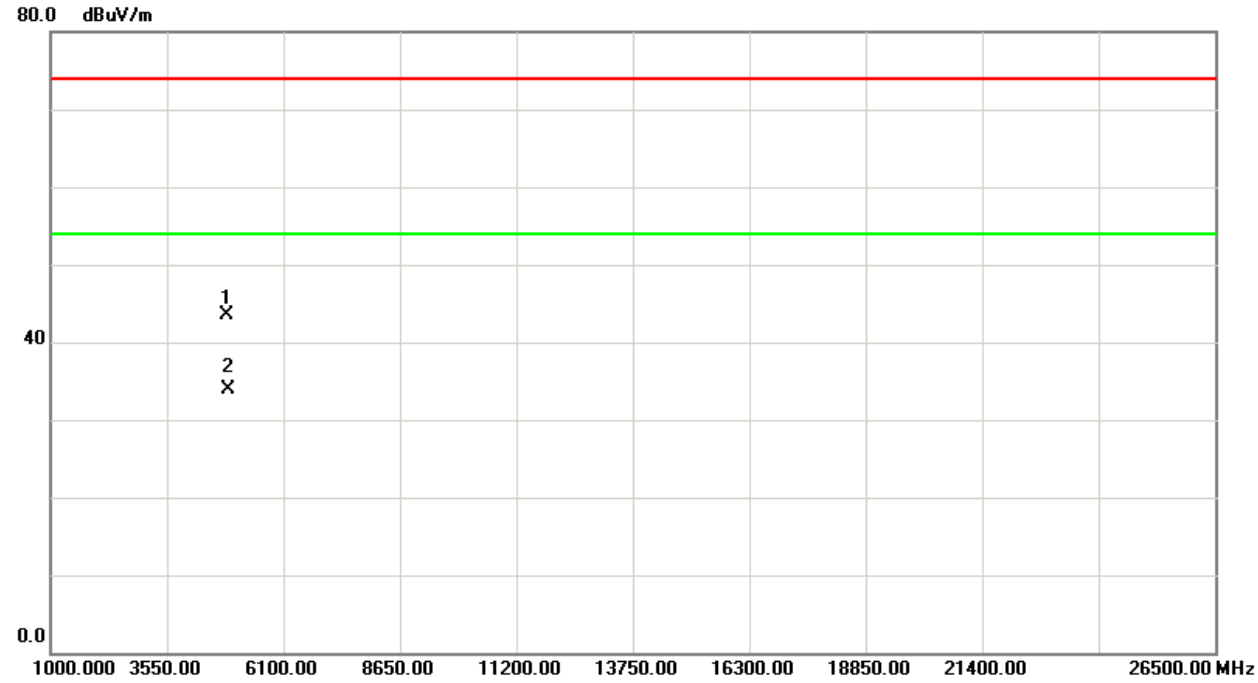
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(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 CH06 (Above 1000 MHz, Horizontal)





EUT:	Wireless ADSL router	Model Name :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	51 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX G MODE 2462MHz		

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)	
2462.80	**V**	**51.21**	**41.78**	**34.31**	**85.52**	**76.09**			**X/F**
2483.50	V	23.18	13.58	34.37	57.55	47.95	74.00	54.00	X/E
4924.00	V	34.13	26.13	6.72	40.85	32.85	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.

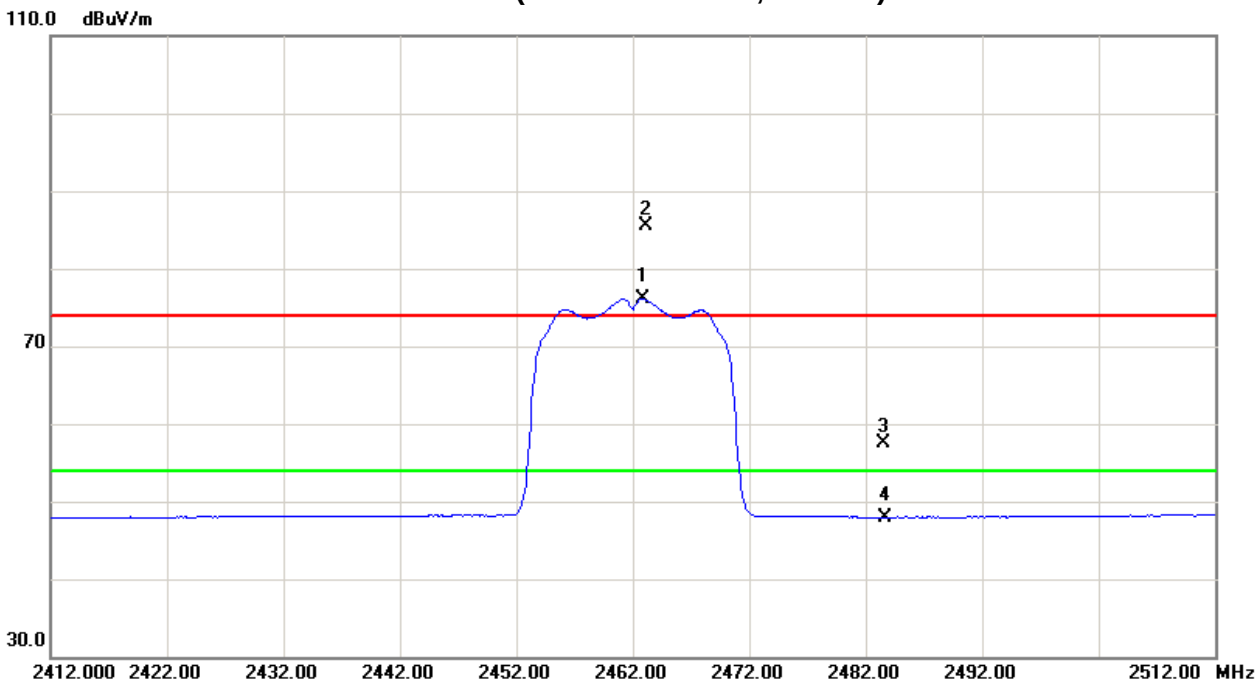
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

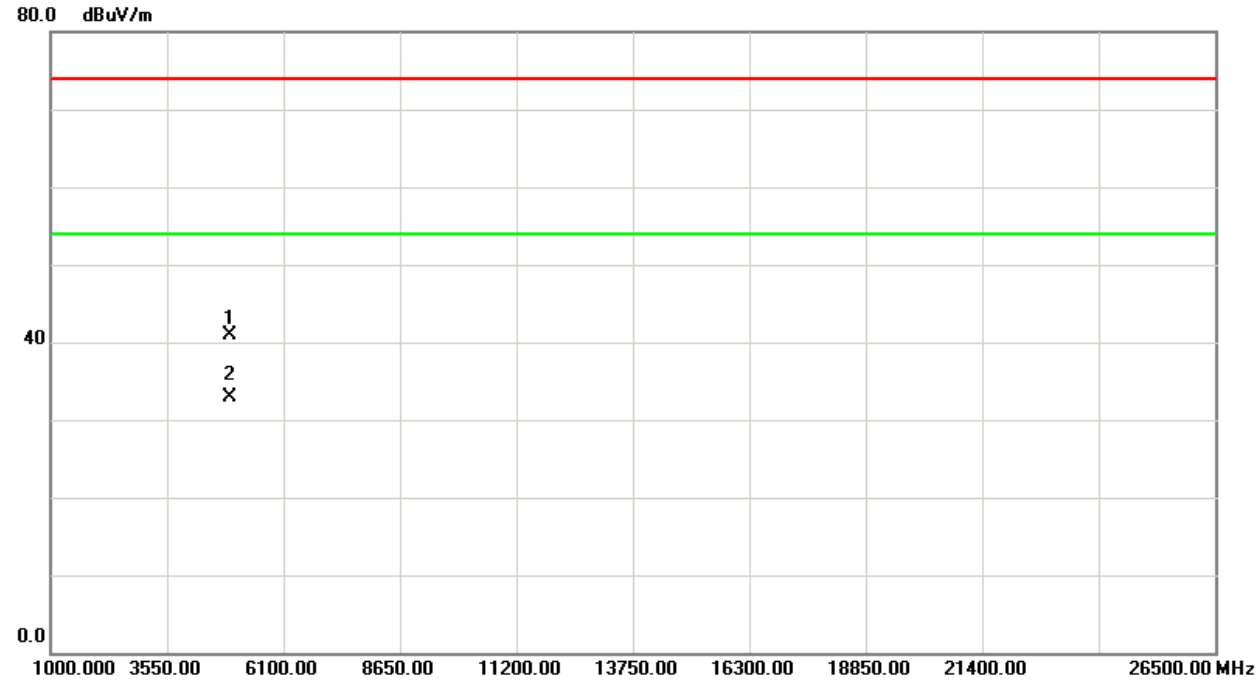
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(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 CH11 (Above 1000 MHz, Vertical)





EUT:	Wireless ADSL router	Model Name :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	51 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX G MODE 2462MHz		

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)	
2462.50	**H**	**63.58**	**55.21**	**34.31**	**97.89**	**89.52**			**X/F**
2483.50	H	24.34	14.77	34.37	58.71	49.14	74.00	54.00	X/E
4924.00	H	35.12	26.17	6.72	41.84	32.89	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.

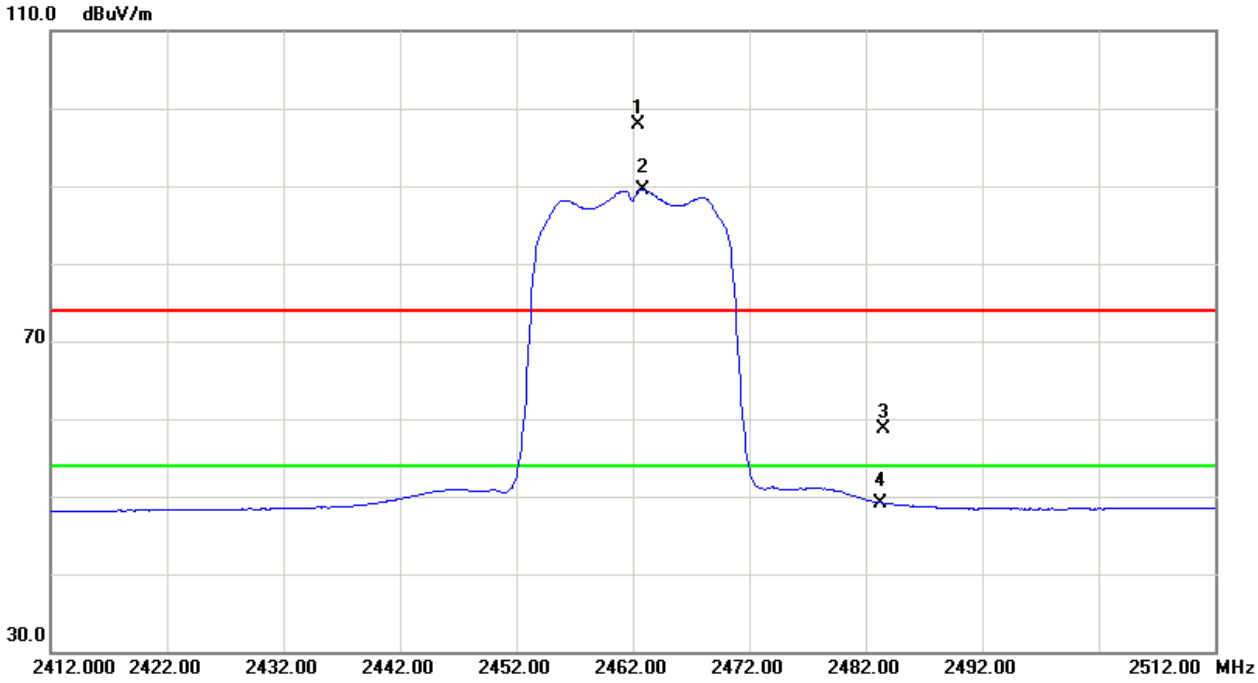
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

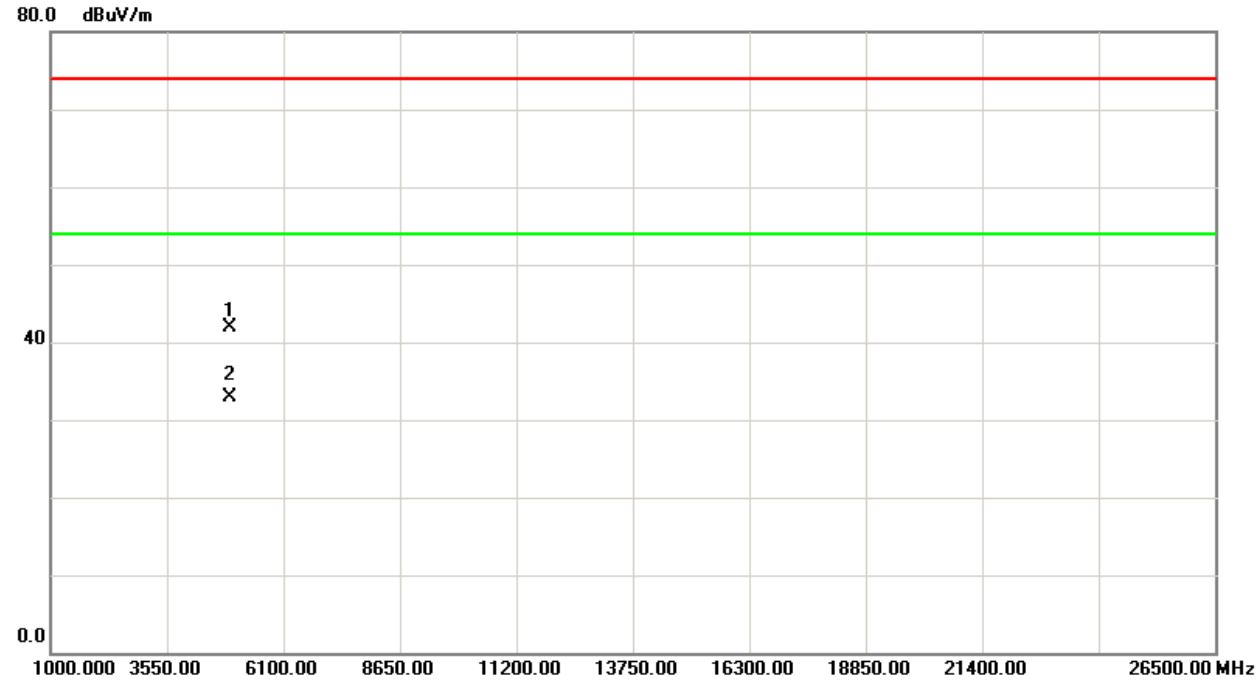
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(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 CH11 (Above 1000 MHz, Horizontal)





EUT:	Wireless ADSL router	Model Name :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	51 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE 2412MHz		

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	24.01	14.16	34.09	58.10	48.25	74.00	54.00	X/E
2411.00	**V**	**62.42**	**51.54**	**34.16**	**96.58**	**85.70**			**X/F**
4823.99	V	36.27	28.36	6.43	42.70	34.79	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.

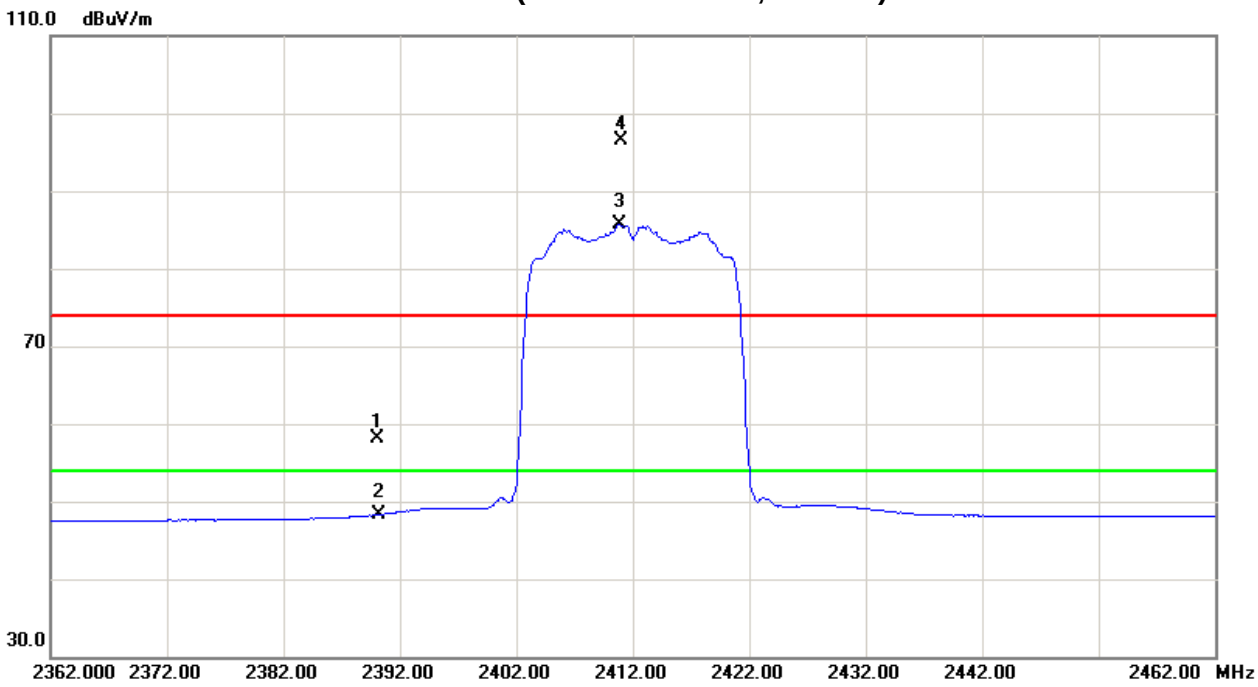
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

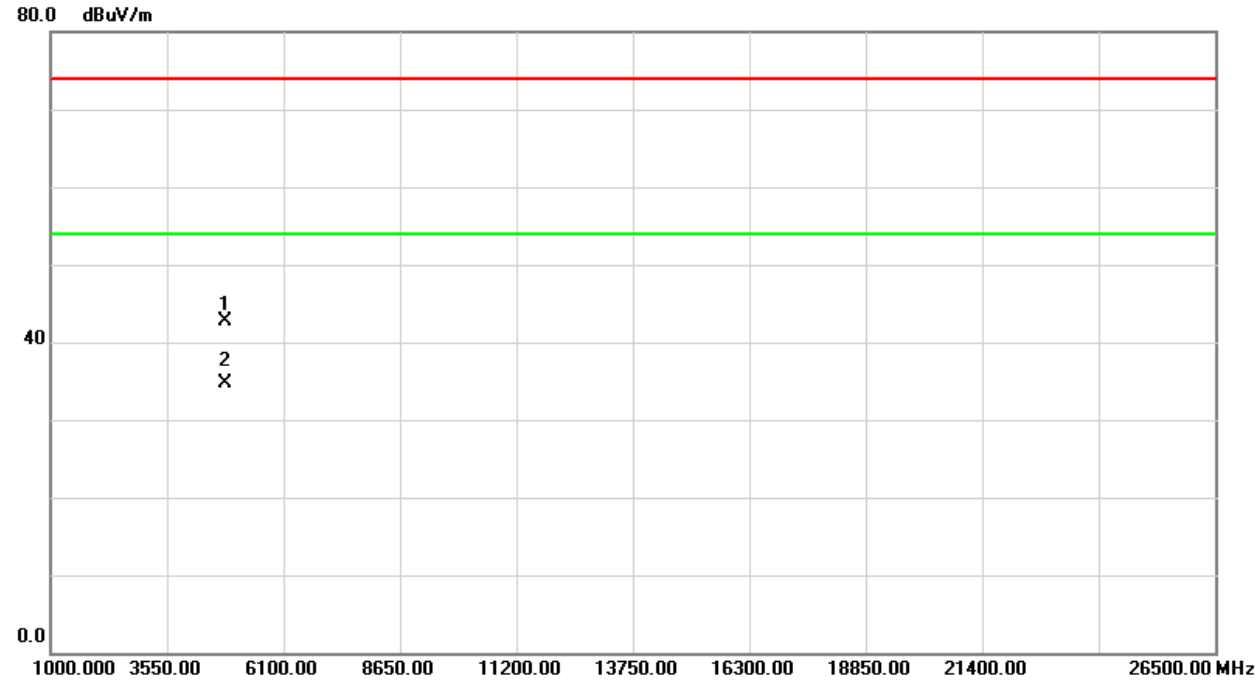
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(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 CH01 (Above 1000 MHz, Vertical)





EUT:	Wireless ADSL router	Model Name :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	51 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE 2412MHz		

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	24.19	14.81	34.09	58.28	48.90	74.00	54.00	X/E
2411.00	**H**	**66.33**	**55.35**	**34.16**	**100.49**	**89.51**			**X/F**
4823.97	H	38.69	27.65	6.43	45.12	34.08	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.

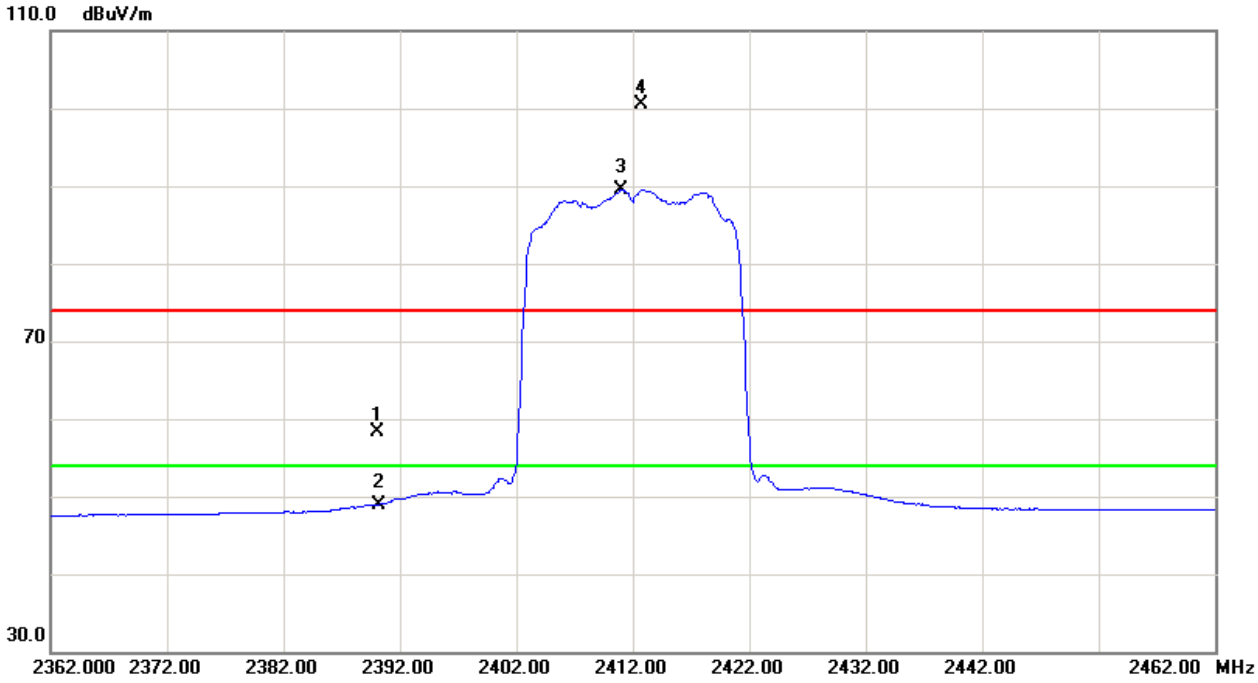
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

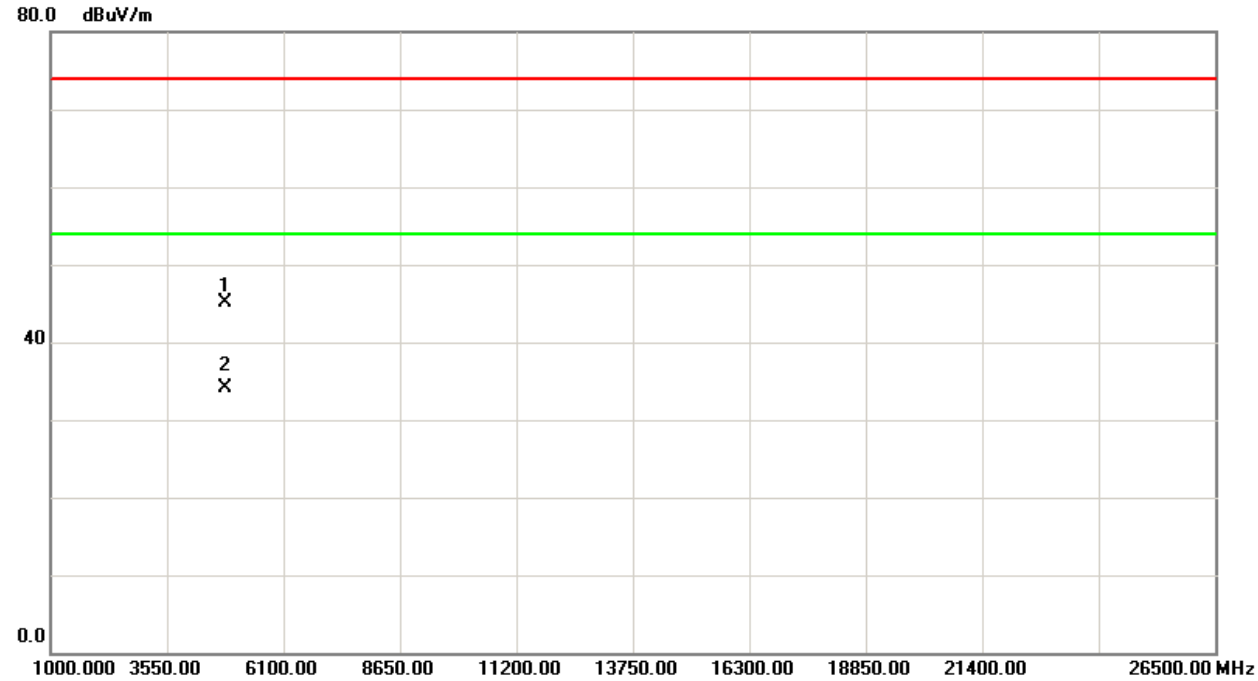
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(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 CH01 (Above 1000 MHz, Horizontal)





EUT:	Wireless ADSL router	Model Name :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	51 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE 2437MHz		

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)	
2435.60	**V**	**59.99**	**51.68**	**34.23**	**94.22**	**85.91**			**X/F**
4874.01	V	37.85	27.54	6.58	44.43	34.12	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.

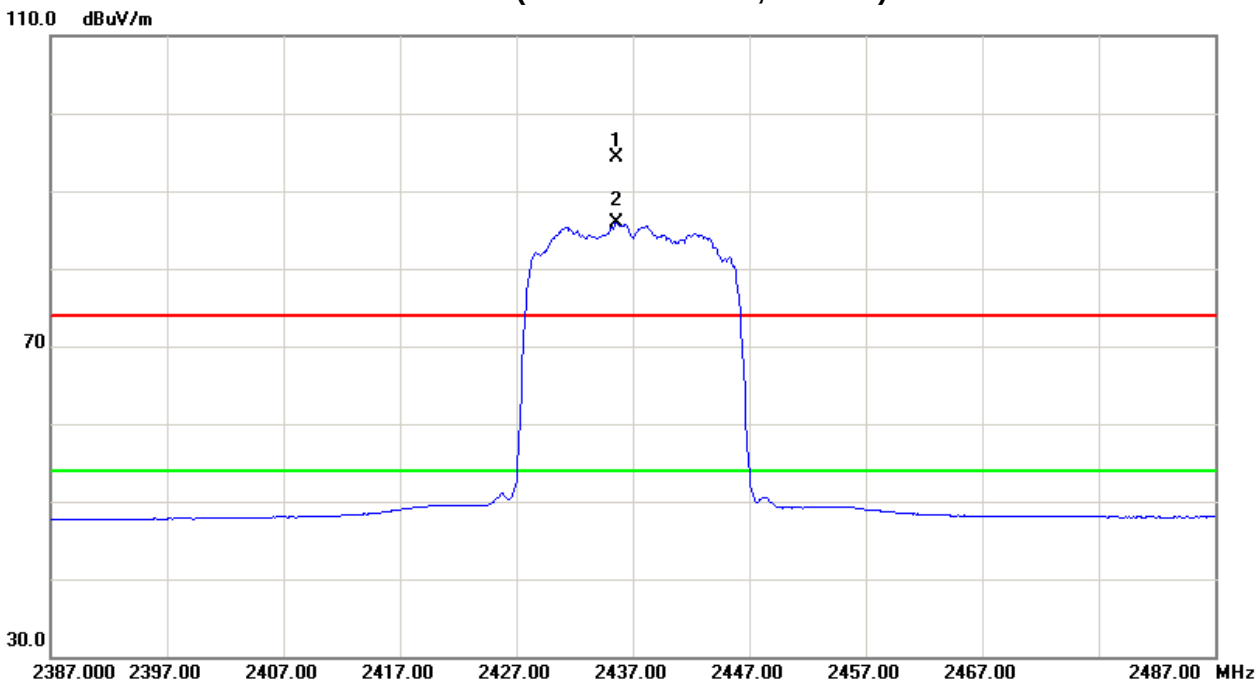
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

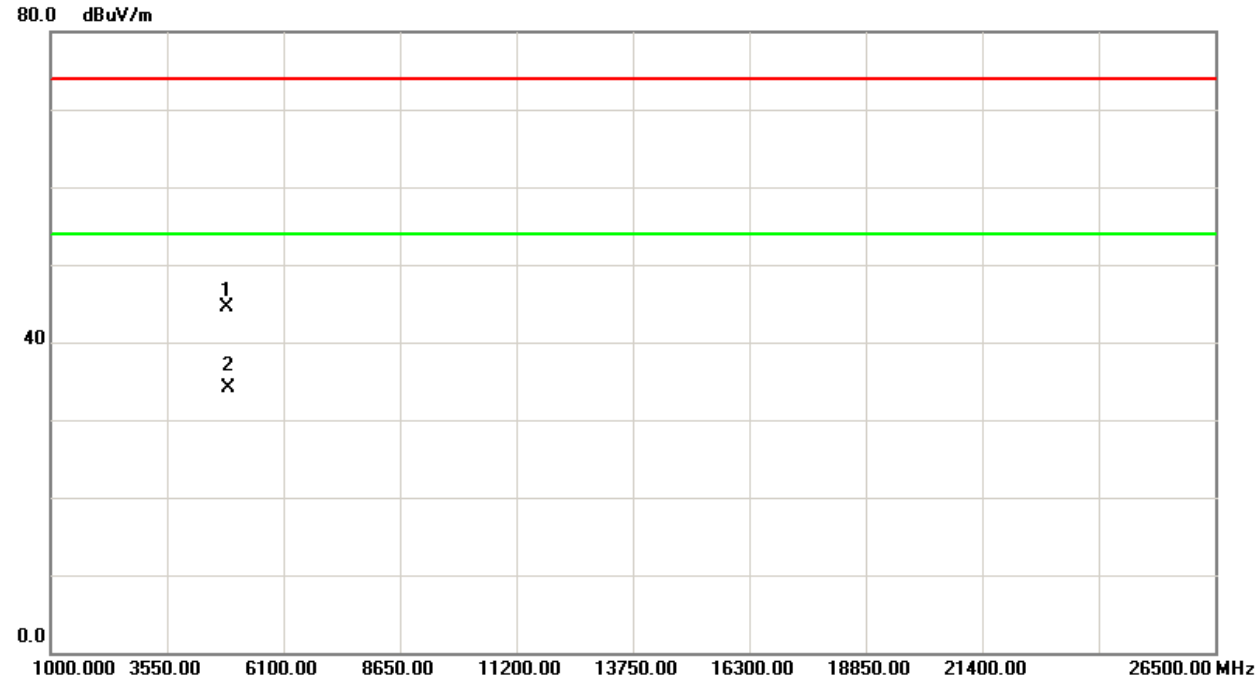
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(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 CH06 (Above 1000 MHz, Vertical)





EUT:	Wireless ADSL router	Model Name :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	51 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE 2437MHz		

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)	
2437.90	**H**	**61.26**	**56.14**	**34.23**	**95.49**	**90.37**			**X/F**
4874.04	H	36.55	27.43	6.58	43.13	34.01	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.

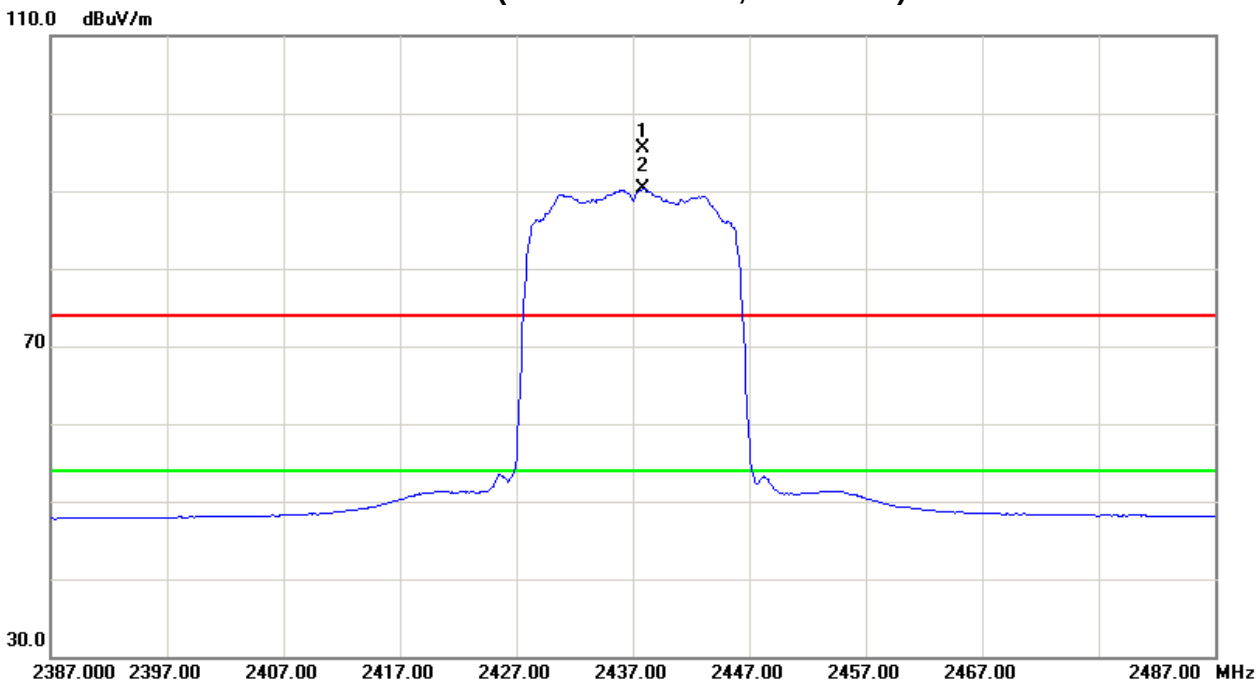
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

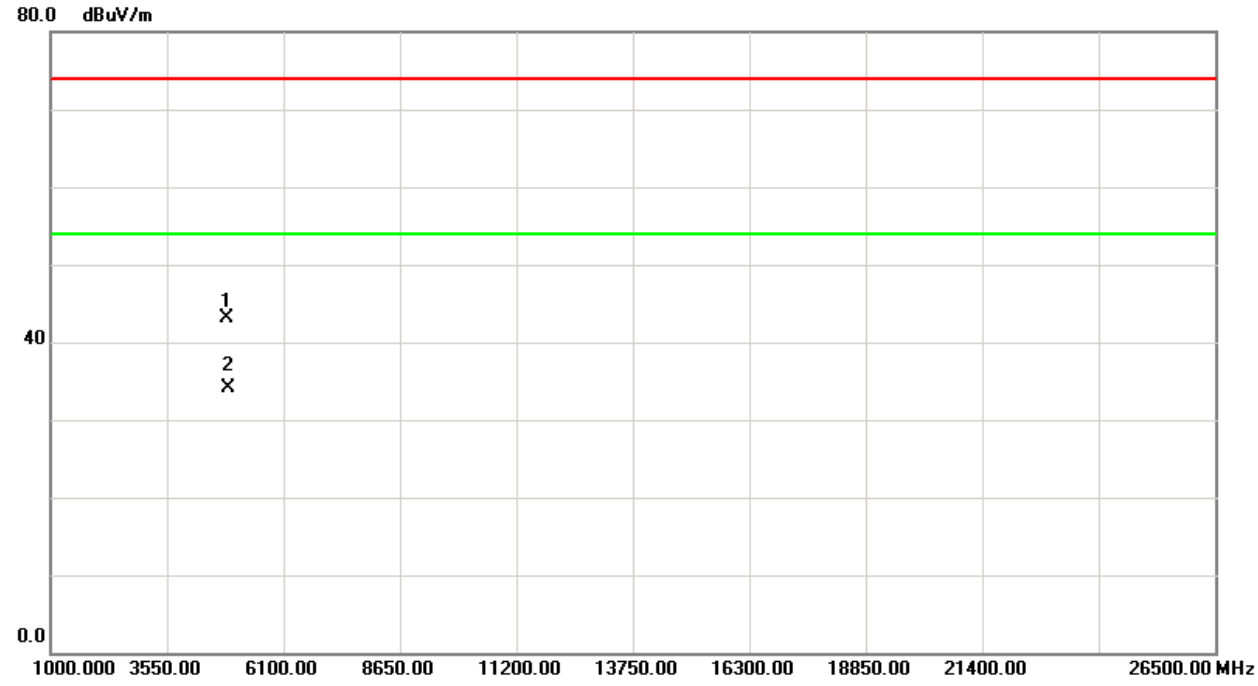
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(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 CH06 (Above 1000 MHz, Horizontal)





EUT:	Wireless ADSL router	Model Name :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	51 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE 2462MHz		

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)	
2460.80	**V**	**62.05**	**52.46**	**34.31**	**96.36**	**86.77**			**X/F**
2483.50	V	22.65	14.17	34.37	57.02	48.54	74.00	54.00	X/E
4923.96	V	34.67	26.58	6.72	41.39	33.30	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.

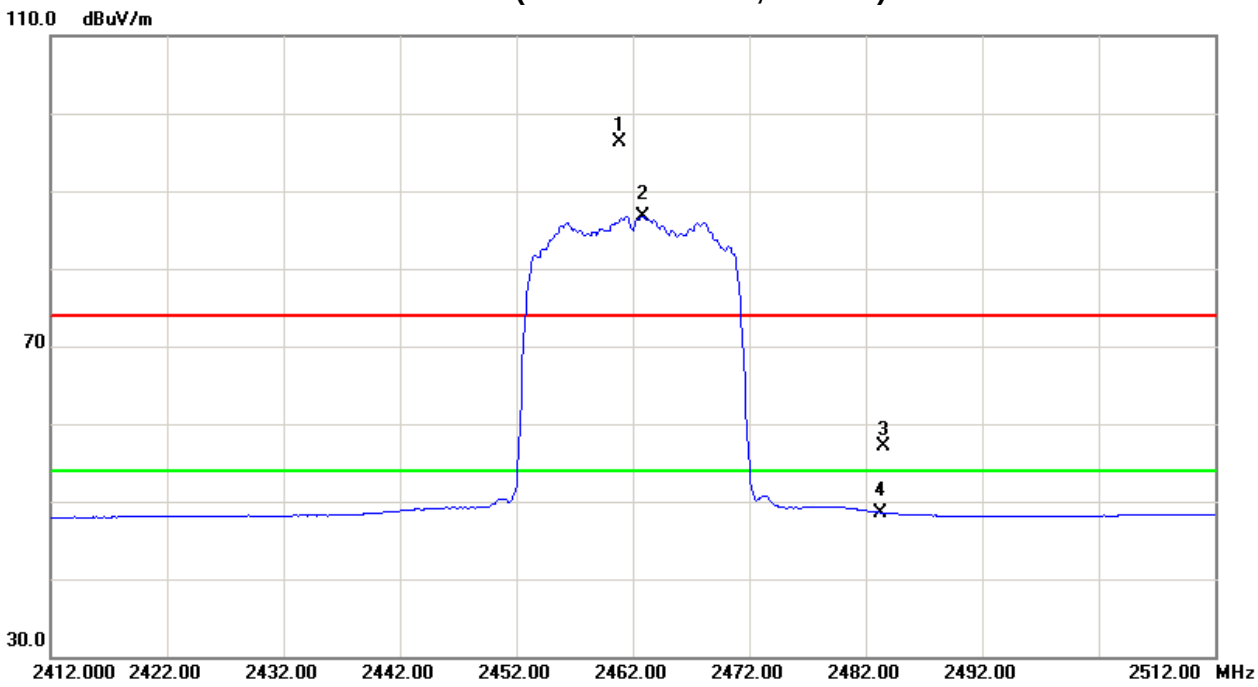
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

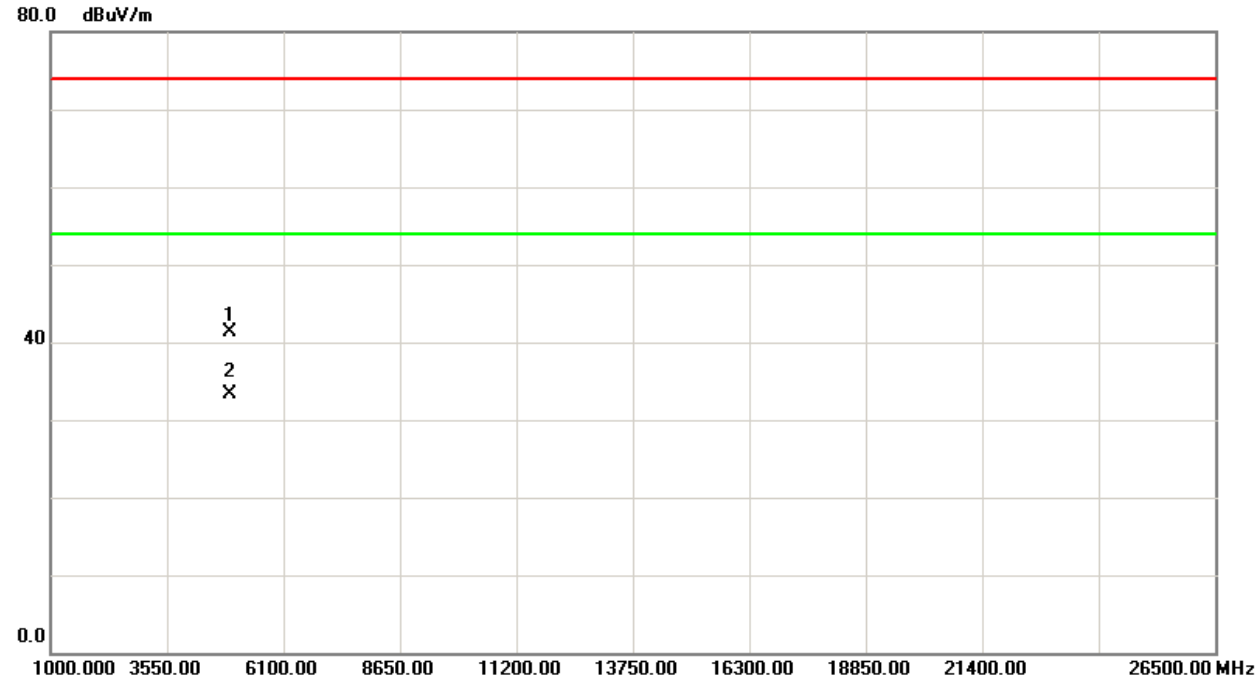
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(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 CH11 (Above 1000 MHz, Vertical)





EUT:	Wireless ADSL router	Model Name :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	51 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE 2462MHz		

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)	
2462.70	**H**	**69.57**	**58.87**	**34.31**	**103.88**	**93.18**			**X/F**
2483.50	H	24.96	15.63	34.37	59.33	50.00	74.00	54.00	X/E
4923.88	H	36.12	26.69	6.72	42.84	33.41	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.

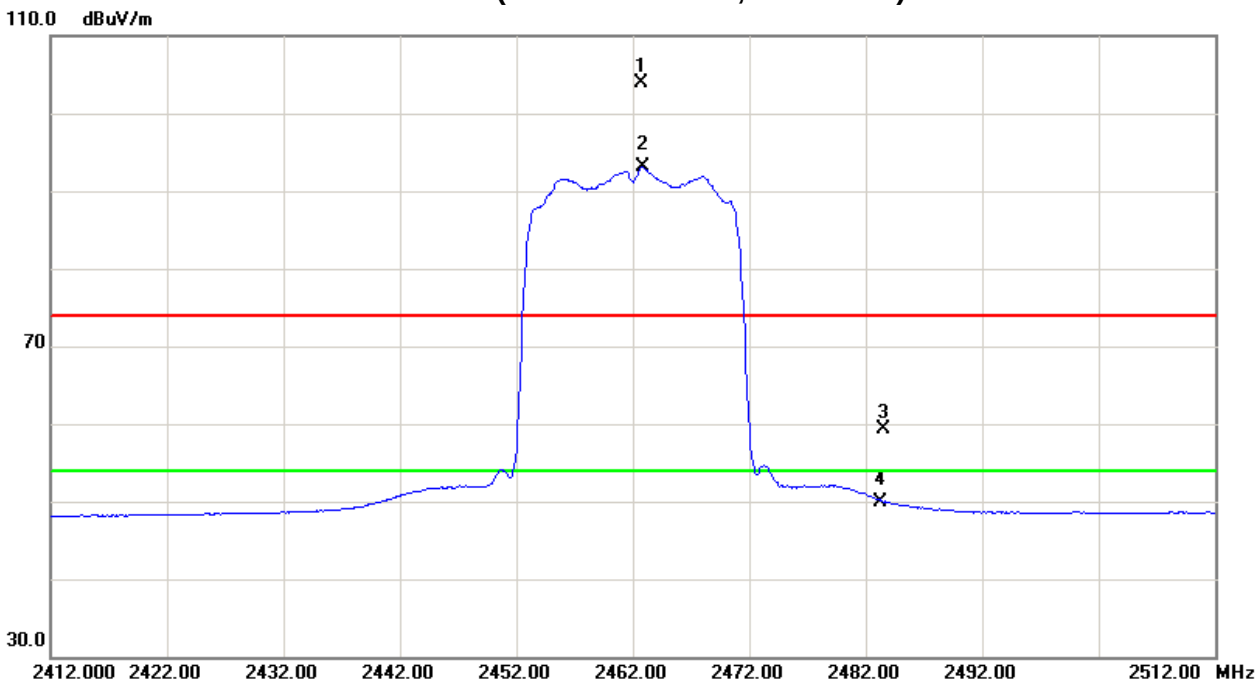
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

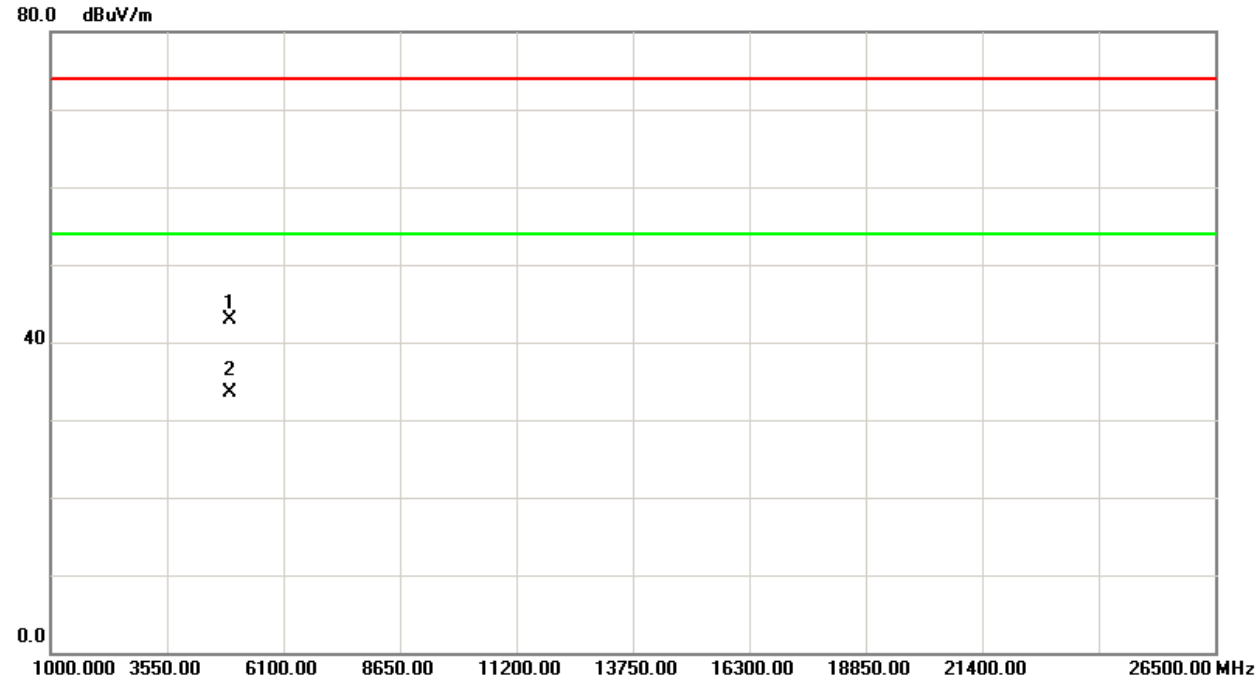
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(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 CH11 (Above 1000 MHz, Horizontal)





5. BANDWIDTH TEST

5.1 Applied procedures

FCC Part15 (15.247) , Subpart C/ RSS-GEN and RSS-210			
Section	Test Item	Frequency Range (MHz)	Result
15.247(a)(2) RSS-GEN section 4.6.1 RSS-210 Annex 8 (A8.2(a))	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 40	100185	Nov. 16, 2013

Remark: “N/A” denotes no model name, serial no. or calibration specified.
All calibration period of equipment list is one year.

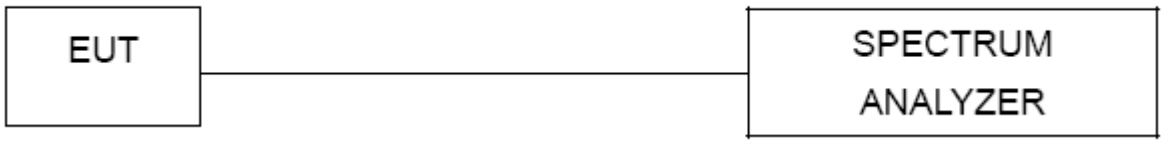
5.1.2 TEST PROCEDURE

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=300KHz, Sweep time = 2.5 ms.

5.1.3 DEVIATION FROM STANDARD

No deviation.

5.1.4 TEST SETUP



5.1.5 EUT OPERATION CONDITIONS

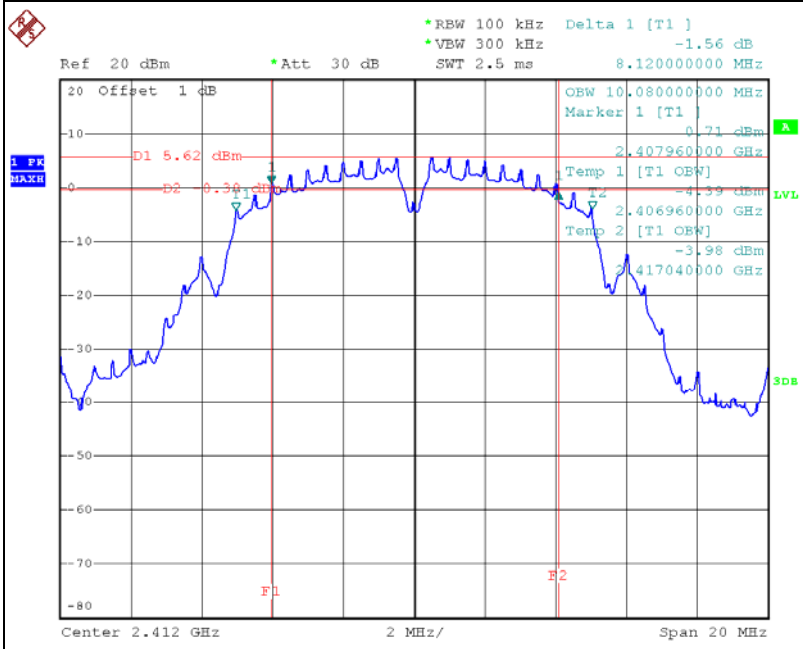
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

5.1.6 TEST RESULTS

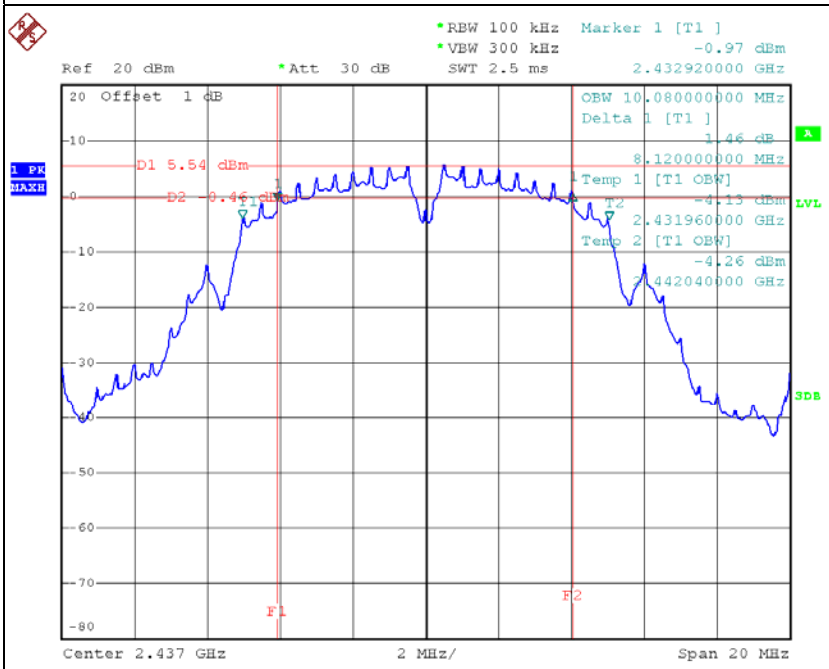
EUT:	Wireless ADSL router	Model Name. :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE /CH01, CH06, CH11		

Test Channel	Frequency (MHz)	Bandwidth (MHz)	99% Occupied Bandwith (MHz)	Result
CH01	2412	8.12	10.08	PASS
CH06	2437	8.12	10.08	PASS
CH11	2462	8.16	10.08	PASS

TX CH 01

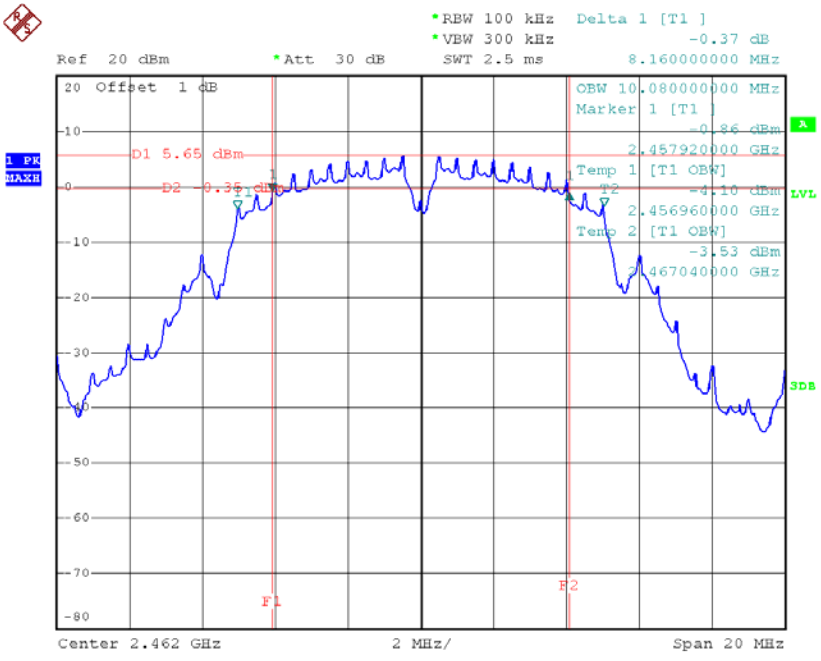


TX CH 06



Date: 6.NOV.2013 05:32:11

TX CH 11

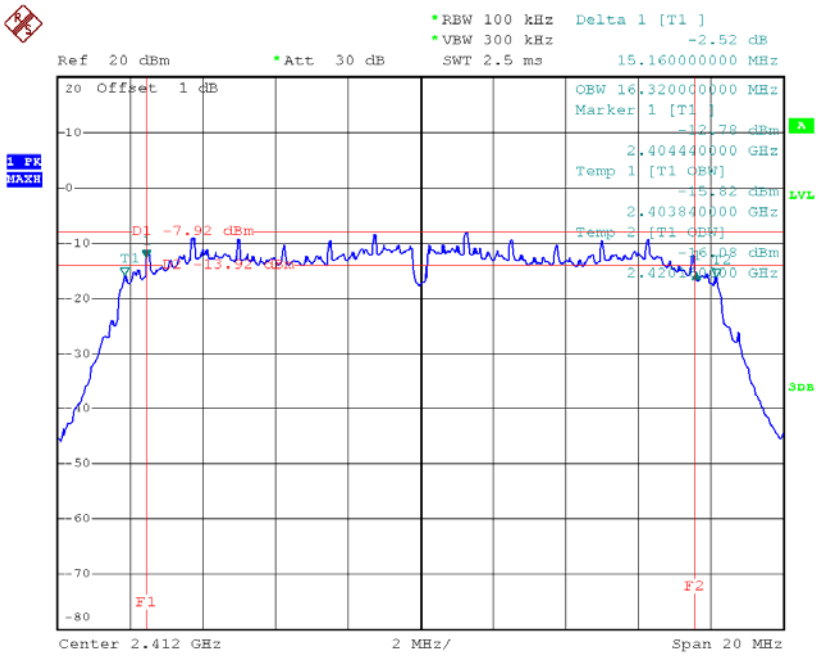


Date: 6.NOV.2013 05:37:43

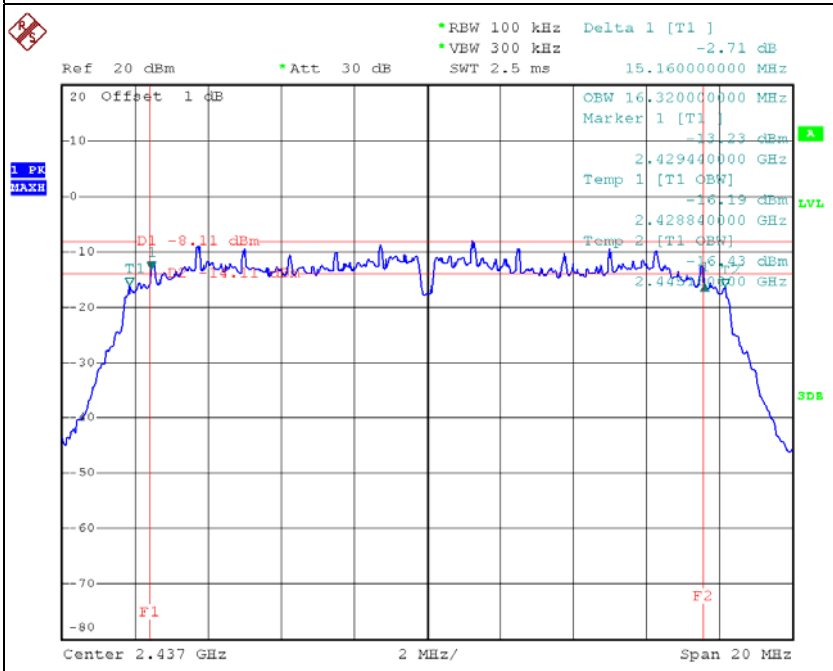
EUT:	Wireless ADSL router	Model Name. :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX G MODE /CH01, CH06, CH11		

Test Channel	Frequency (MHz)	Bandwidth (MHz)	99% Occupied Bandwith (MHz)	Result
CH01	2412	15.16	16.32	PASS
CH06	2437	15.16	16.32	PASS
CH11	2462	15.16	16.32	PASS

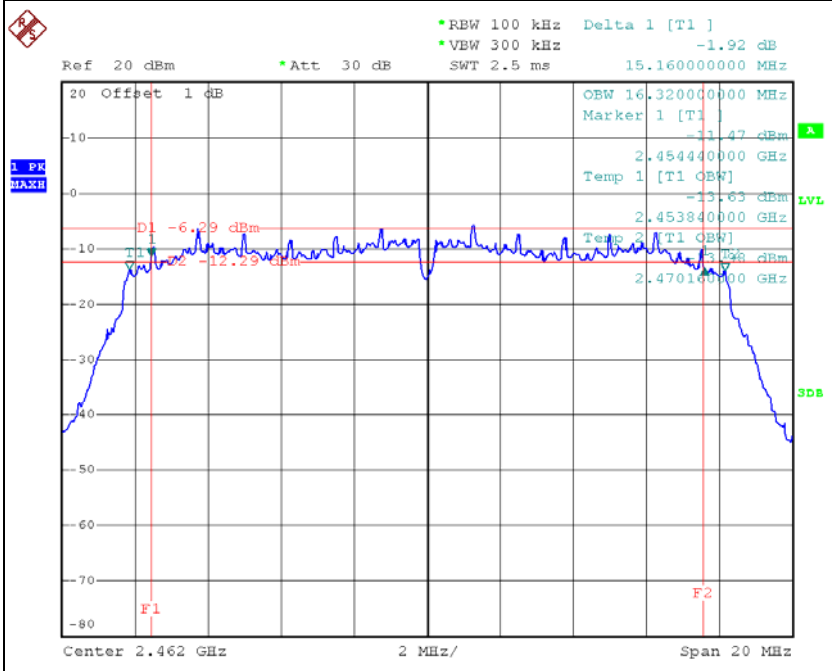
TX CH 01



TX CH 06



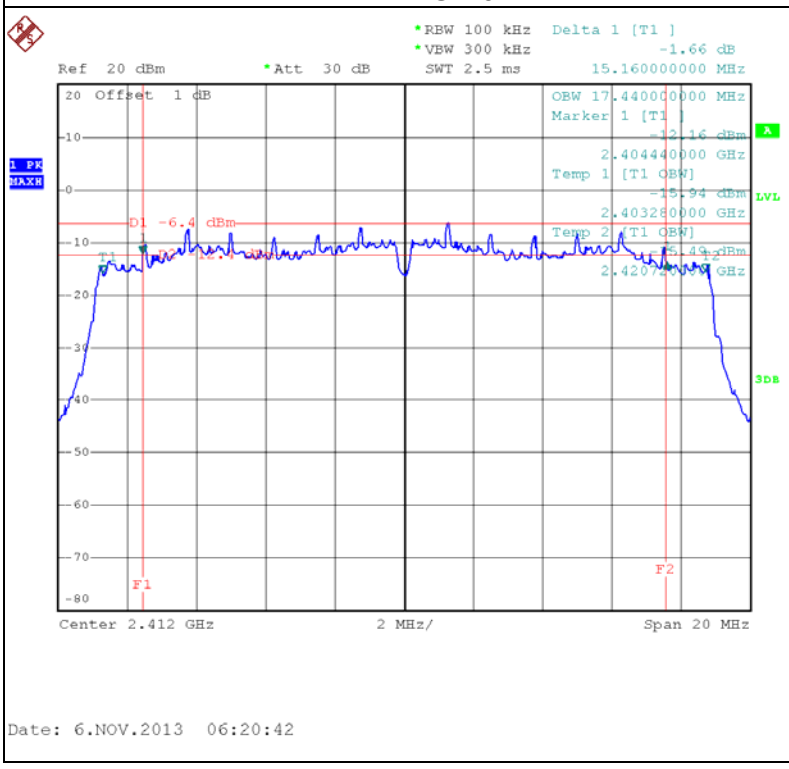
TX CH 11



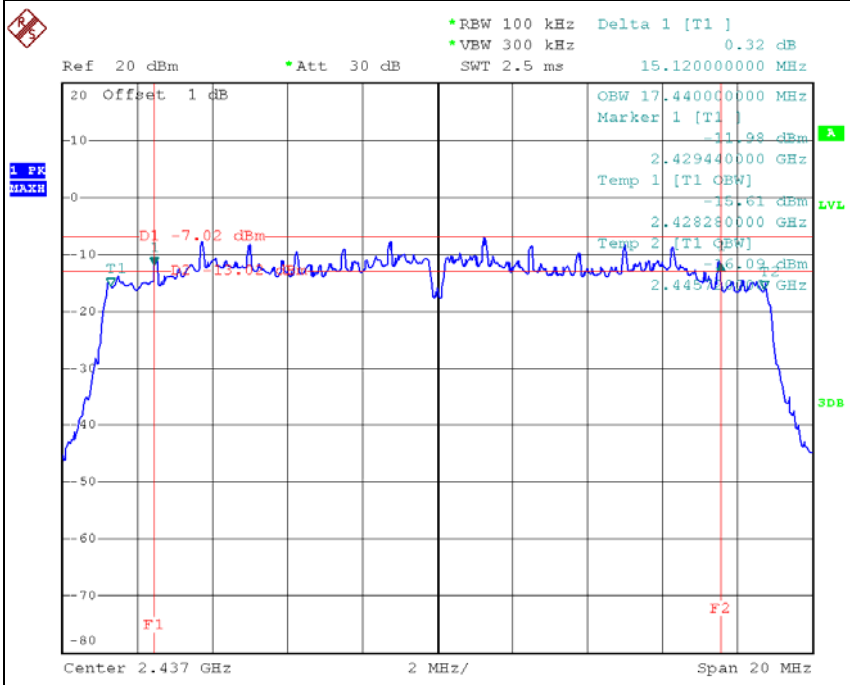
EUT:	Wireless ADSL router	Model Name. :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N MODE -20MHz/ CH01, CH06, CH11		

Test Channel	Frequency (MHz)	Bandwidth (MHz)	99% Occupied Bandwith (MHz)	Result
CH01	2412	15.16	17.44	PASS
CH06	2437	15.12	17.44	PASS
CH11	2462	15.26	17.44	PASS

TX CH 01

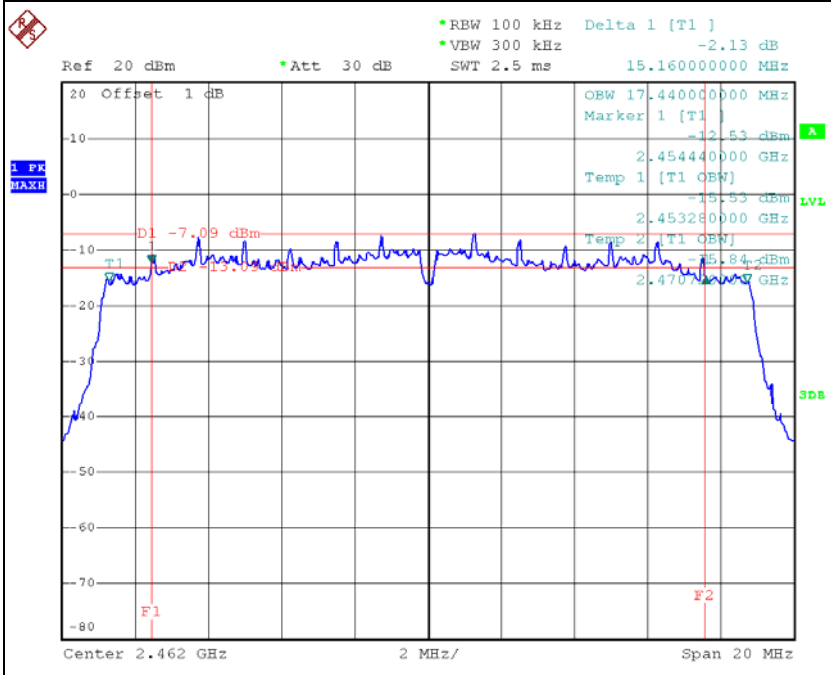


TX CH 06



Date: 6.NOV.2013 06:25:53

TX CH 11



Date: 6.NOV.2013 06:28:13

6. MAXIMUM OUTPUT POWER TEST

6.1 Applied procedures / limit

FCC Part15 (15.247) , Subpart C/ RSS-210				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(b)(3) RSS-210 Annex 8.4(4)	Maximum 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	P-series Power meter	Agilent	N1911A	MY45100473	Apr. 25, 2014
2	Wireband Power sensor	Agilent	N1921A	MY51100041	Apr. 25, 2014

Remark: “N/A” denotes no model name, serial no. or calibration specified.
All calibration period of equipment list is one year.

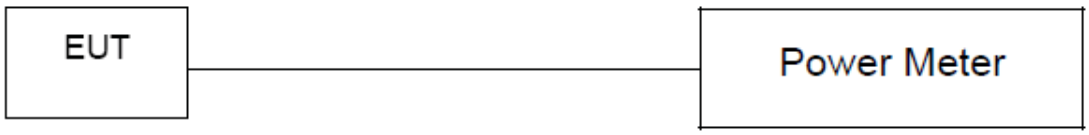
6.1.2 TEST PROCEDURE

a. The EUT was directly connected to the power meter and antenna output port as show in the block diagram below,
b. The maximum peak conducted output power was performed in accordance with method 9.1.3 of FCC KDB 558074 D01 DTS Meas Guidance v03r01.

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.
Transmit output power was measured while the host equipment supply voltage was varied from 85 % to 115 % of the nominal rated supply voltage. No change in transmit output power was observed.

6.1.6 TEST RESULTS

EUT:	Wireless ADSL router	Model Name :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE /CH01, CH06, CH11		

Test Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Limit (Watt)
CH01	2412	17.22	30	1
CH06	2437	17.15	30	1
CH11	2462	17.10	30	1

EUT:	Wireless ADSL router	Model Name :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX G MODE /CH01, CH06, CH11		

Test Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Limit (Watt)
CH01	2412	14.24	30	1
CH06	2437	14.37	30	1
CH11	2462	14.33	30	1

EUT:	Wireless ADSL router	Model Name :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE /CH01, CH06, CH11 – ANT 1		

Test Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Limit (Watt)
CH01	2412	11.88	30	1
CH06	2437	11.85	30	1
CH11	2462	11.95	30	1

EUT:	Wireless ADSL router	Model Name :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE /CH01, CH06, CH11 – ANT 2		

Test Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Limit (Watt)
CH01	2412	11.85	30	1
CH06	2437	11.81	30	1
CH11	2462	11.92	30	1

EUT:	Wireless ADSL router	Model Name :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE /CH01, CH06, CH11 – ANT 1 + ANT 2		

Test Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Limit (Watt)
CH01	2412	14.88	30	1
CH06	2437	14.84	30	1
CH11	2462	14.95	30	1

7. ANTENNA CONDUCTED SPURIOUS EMISSION

7.1 Applied procedures / limit

20dB in any 100 KHz bandwidth outside the operating frequency band, In case the emission fall within the restricted band specified on 15.205(a) & RSS-210 section 2.2& Annex 8 (A8.5), then the 15.209(a) & RSS-GEN limit in the table below has to be followed.

Frequency (MHz)	Field Strength (microvolts/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
960~1000	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

Frequency (MHz)	(dBuV/m) (at 3 meters)	
	Peak	Average
Above 1000	74	54

7.1.1 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 16, 2013

Remark: ”N/A” denotes no model name, serial no. or calibration specified.
All calibration period of equipment list is one year.

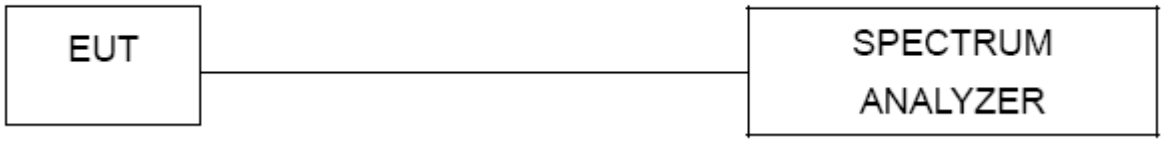
7.1.2 TEST PROCEDURE

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=300KHz, Sweep time = Auto.

7.1.3 DEVIATION FROM STANDARD

No deviation.

7.1.4 TEST SETUP



7.1.5 EUT OPERATION CONDITIONS

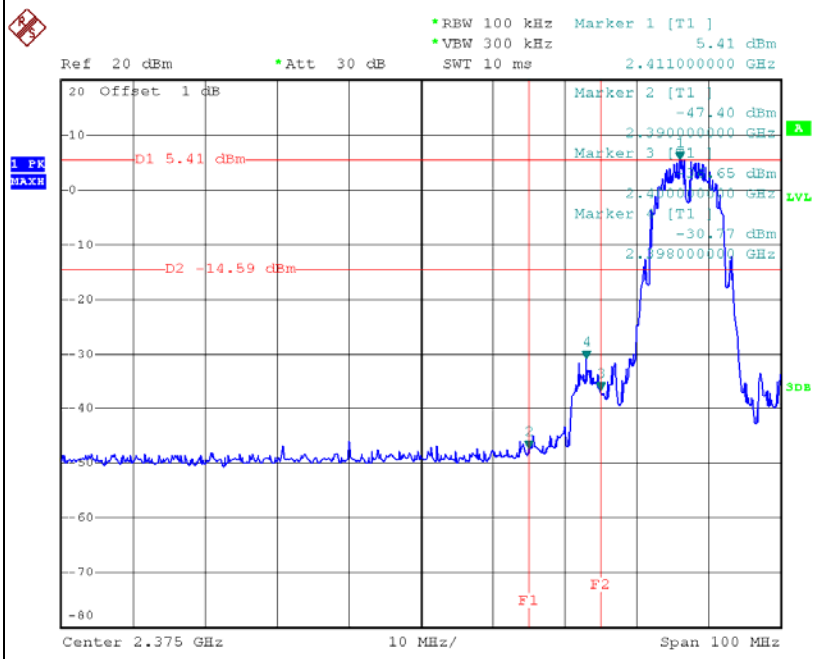
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

7.1.6 TEST RESULTS

EUT:	Wireless ADSL router	Model Name :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE /CH01, CH06 , CH11		

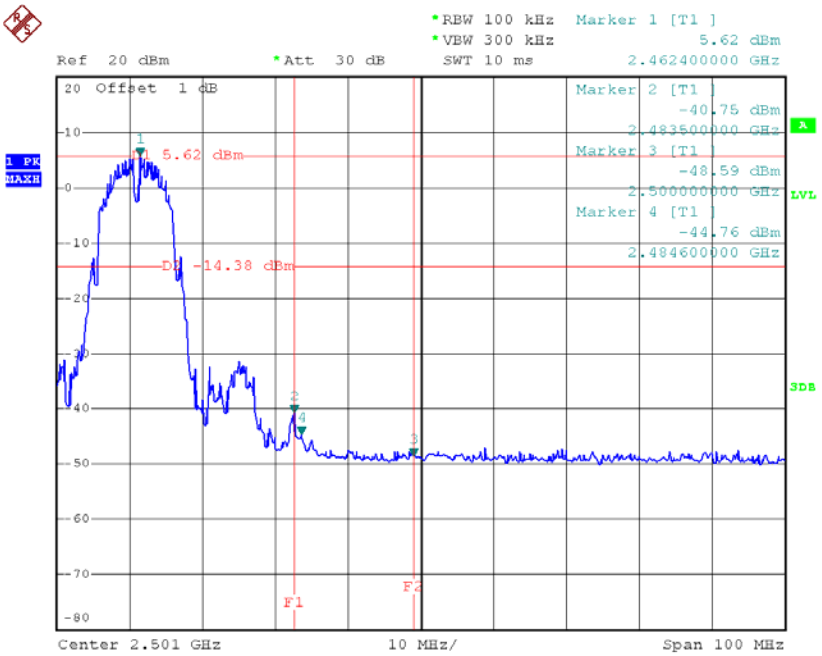
Channel of Worst Data: CH01			
The max. radio frequency power in any 100KHz bandwidth outside the frequency band		The max. radio frequency power in any 100 KHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
2398.00	-30.77	2483.50	-40.75
Result			
In any 100KHz 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.			

TX B mode CH01



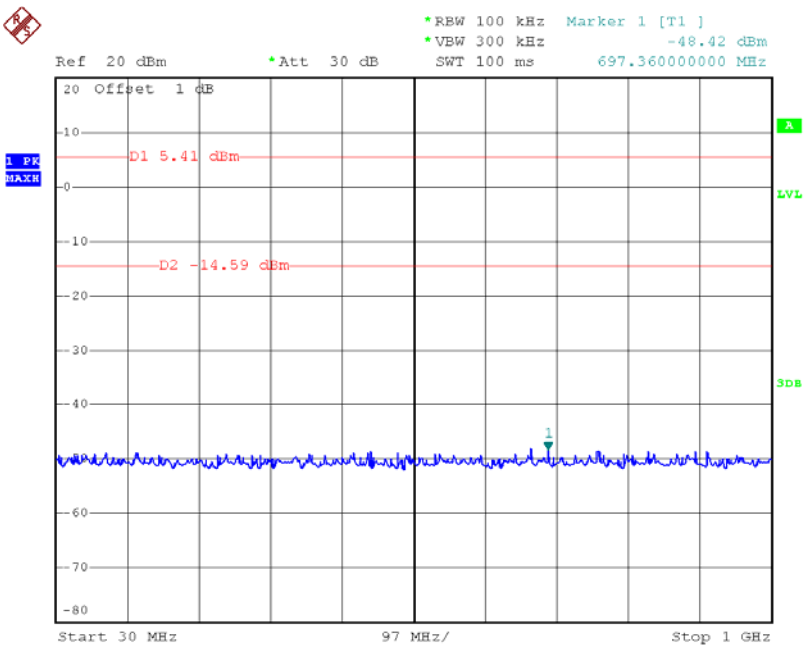
Date: 6.NOV.2013 05:43:39

TX B mode CH11



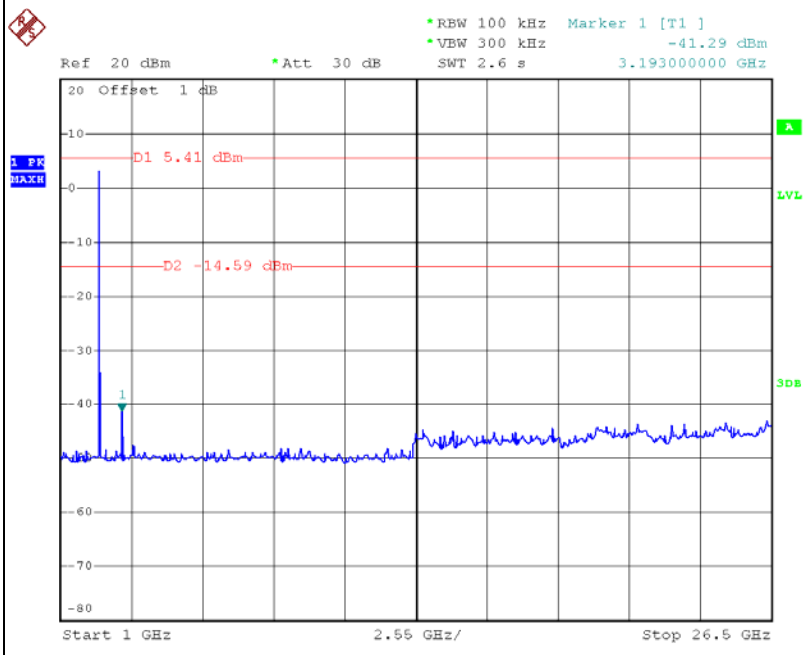
Date: 6.NOV.2013 05:41:40

TX B mode CH01 (30M~1000MHz)



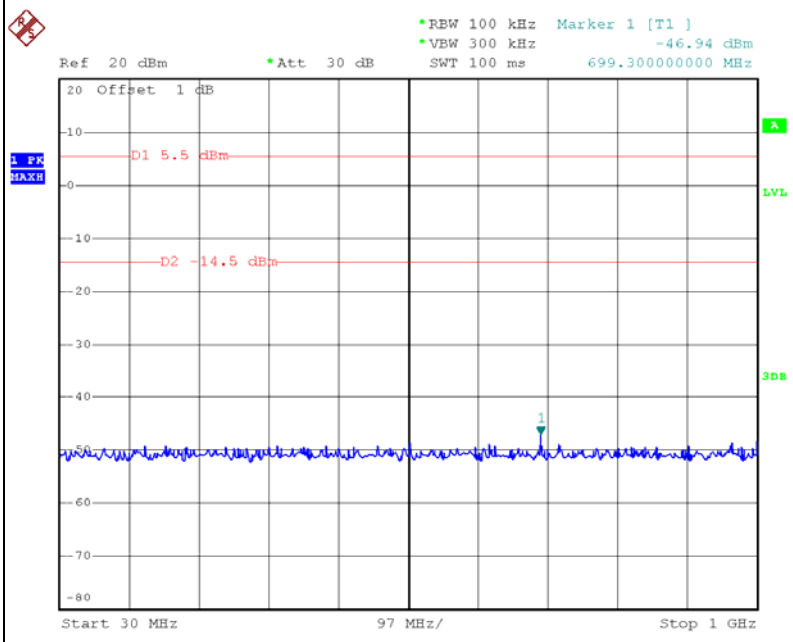
Date: 6.NOV.2013 05:44:37

TX B mode CH01 (1000MHz~10th Harmonic)

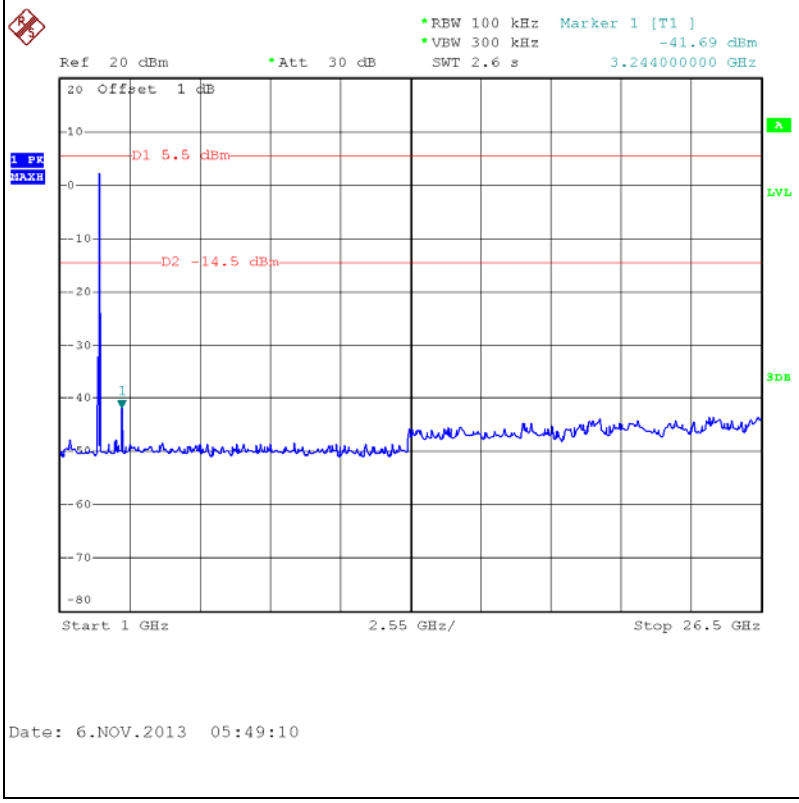


Date: 6.NOV.2013 05:45:27

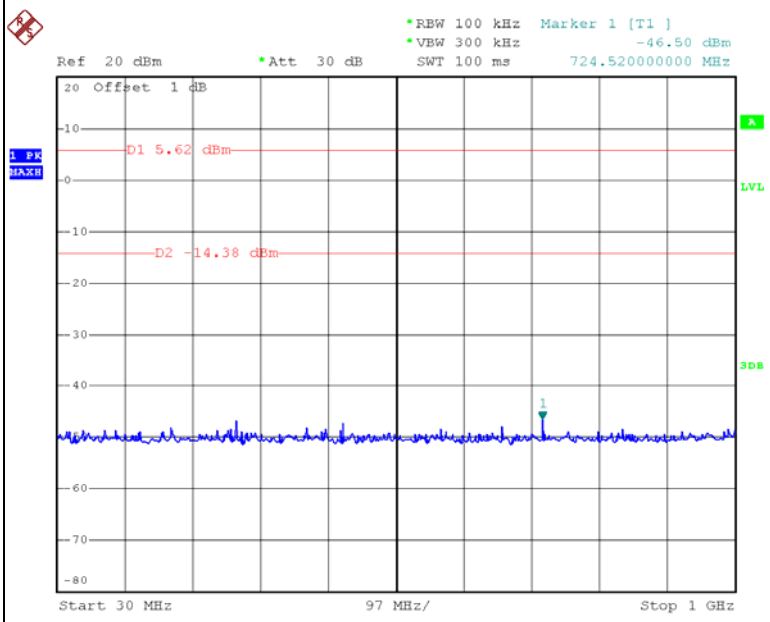
TX B mode CH06 (30M~1000MHz)



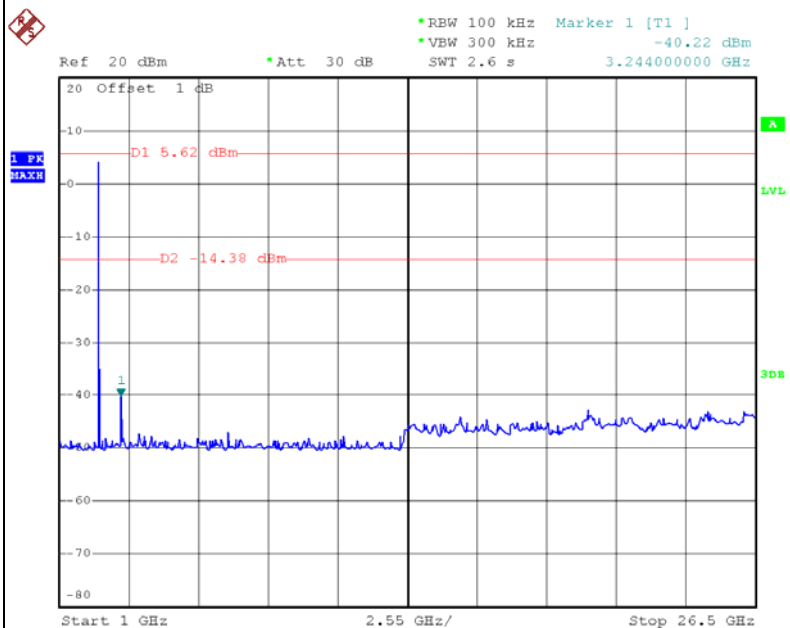
TX B mode CH06 (1000MHz~10th Harmonic)



TX B mode CH11 (30M~1000MHz)



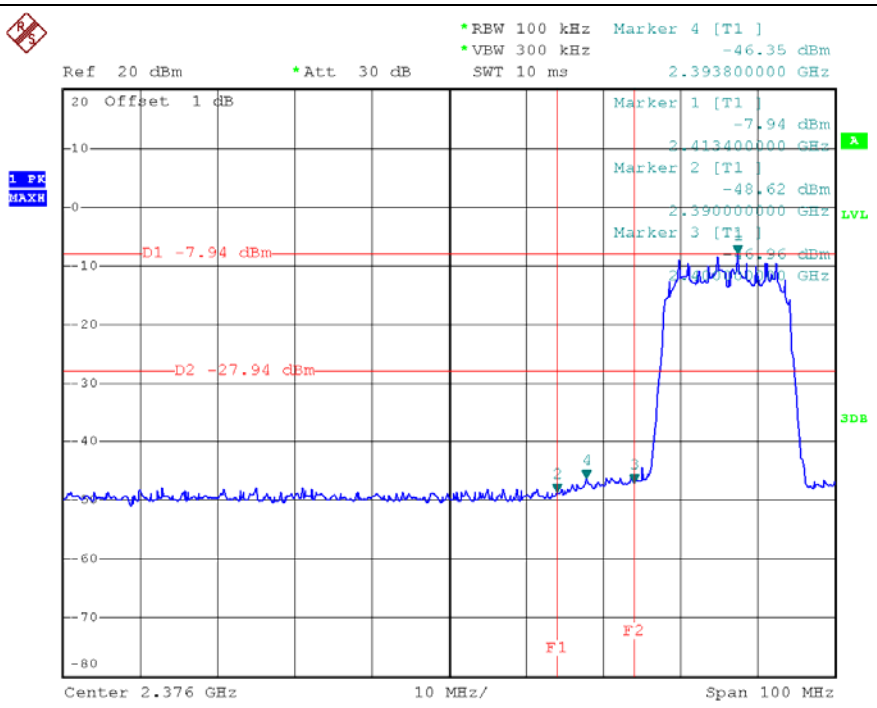
TX B mode CH11 (1000MHz~10th Harmonic)



EUT:	Wireless ADSL router	Model Name :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX G MODE / CH01, CH06 , CH11		

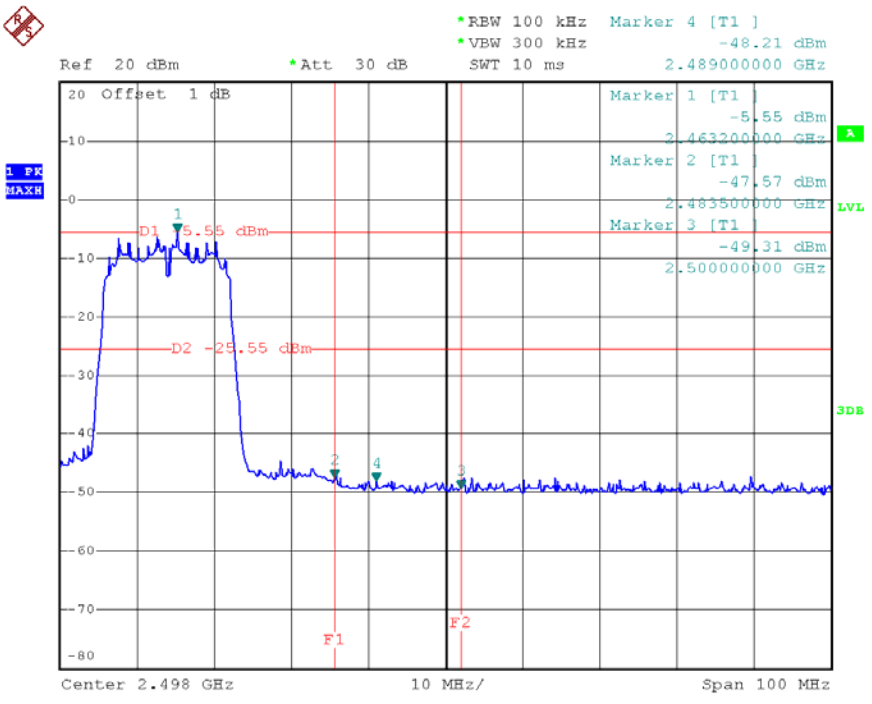
Channel of Worst Data: CH01			
The max. radio frequency power in any 100KHz bandwidth within the frequency band		The max. radio frequency power in any 100 KHz bandwidth outside the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
2393.80	-46.35	2483.50	-47.57
Result			
In any 100KHz 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.			

TX G mode CH01



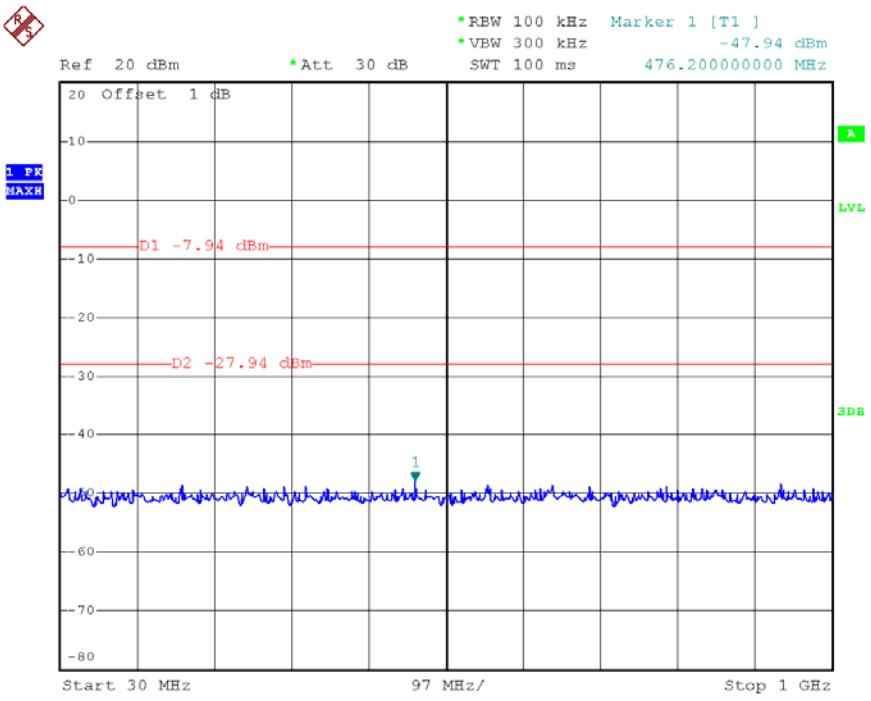
Date: 6.NOV.2013 06:07:49

TX G mode CH11



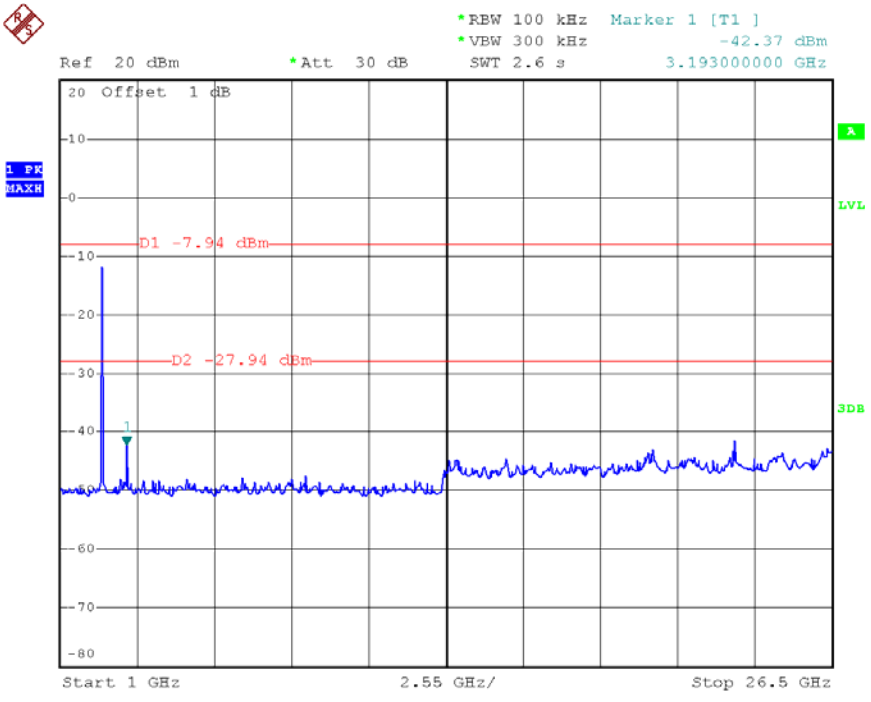
Date: 6.NOV.2013 06:05:50

TX G mode CH01 (30M~1000MHz)



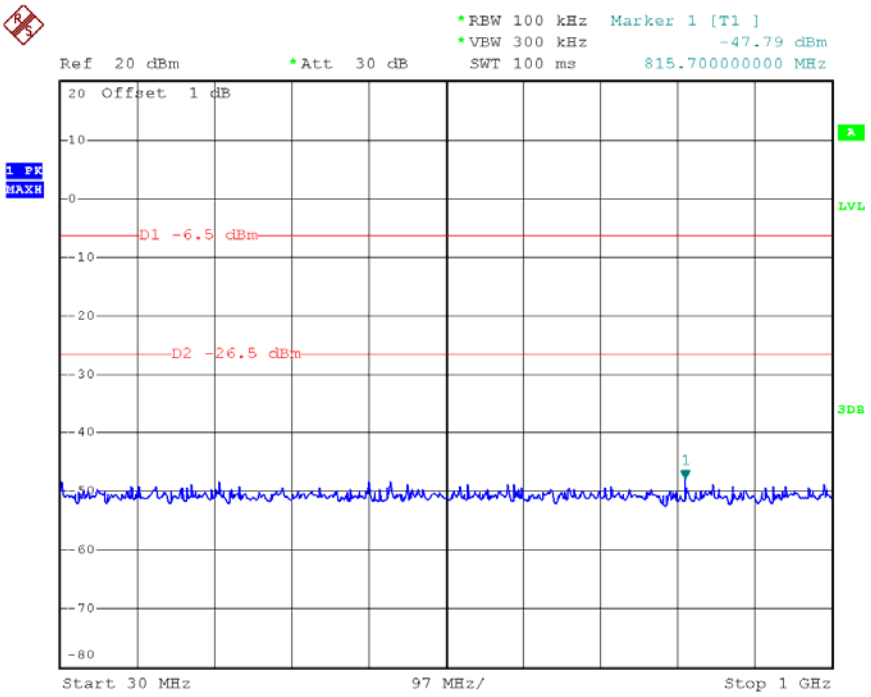
Date: 6.NOV.2013 06:08:40

TX G mode CH01 (1000MHz~10th Harmonic)



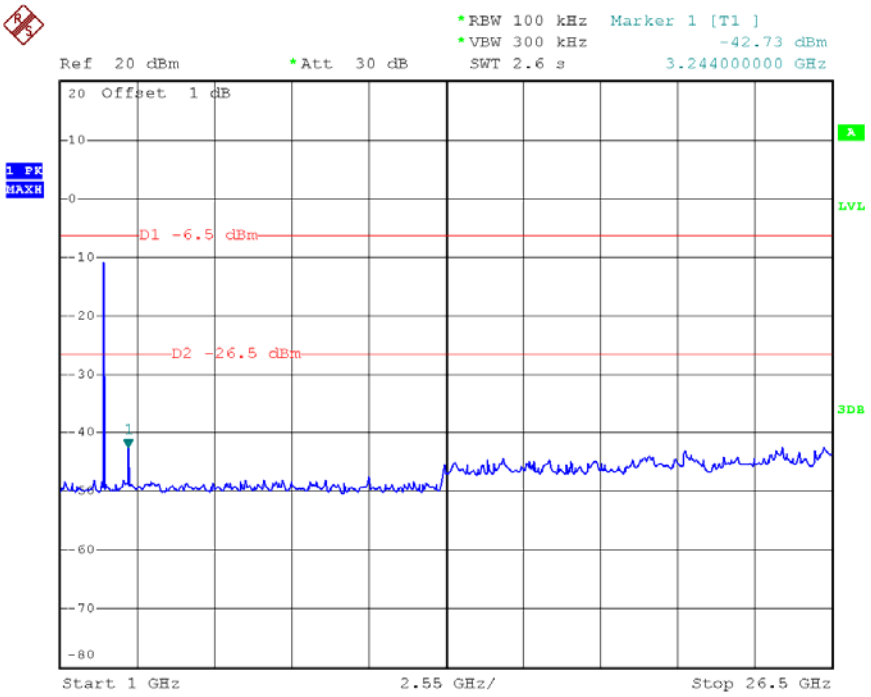
Date: 6.NOV.2013 06:09:13

TX G mode CH06 (30M~1000MHz)



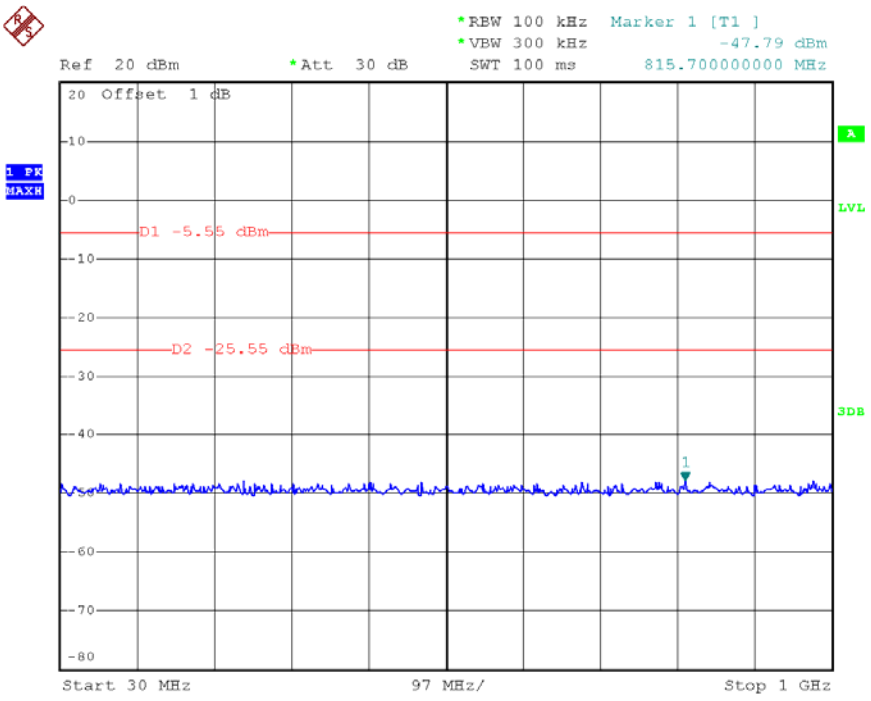
Date: 6.NOV.2013 06:11:11

TX G mode CH06 (1000MHz~10th Harmonic)



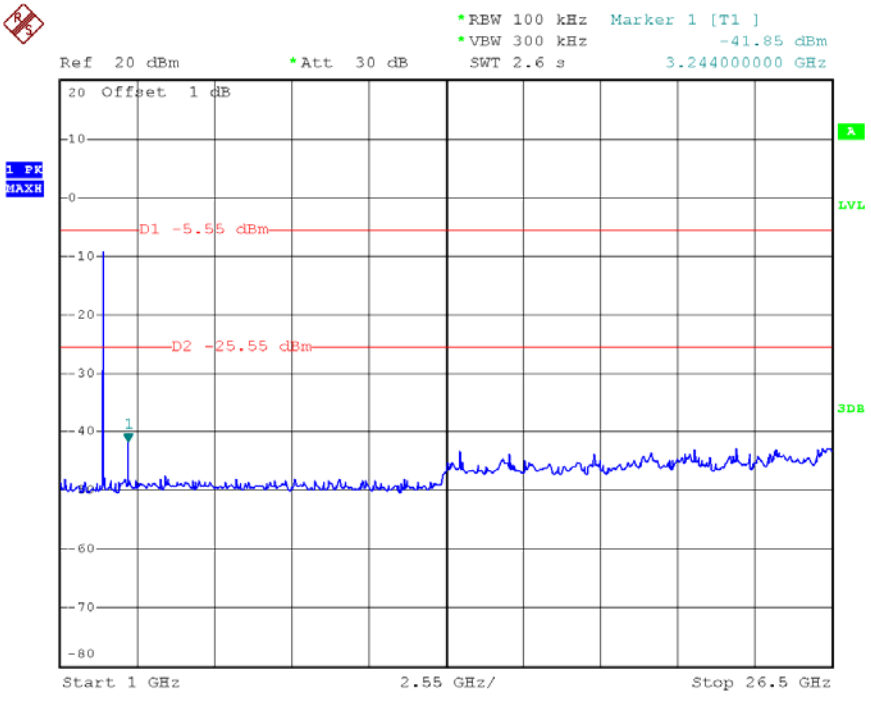
Date: 6.NOV.2013 06:10:54

TX G mode CH11 (30M~1000MHz)



Date: 6.NOV.2013 06:12:35

TX G mode CH11 (1000MHz~10th Harmonic)

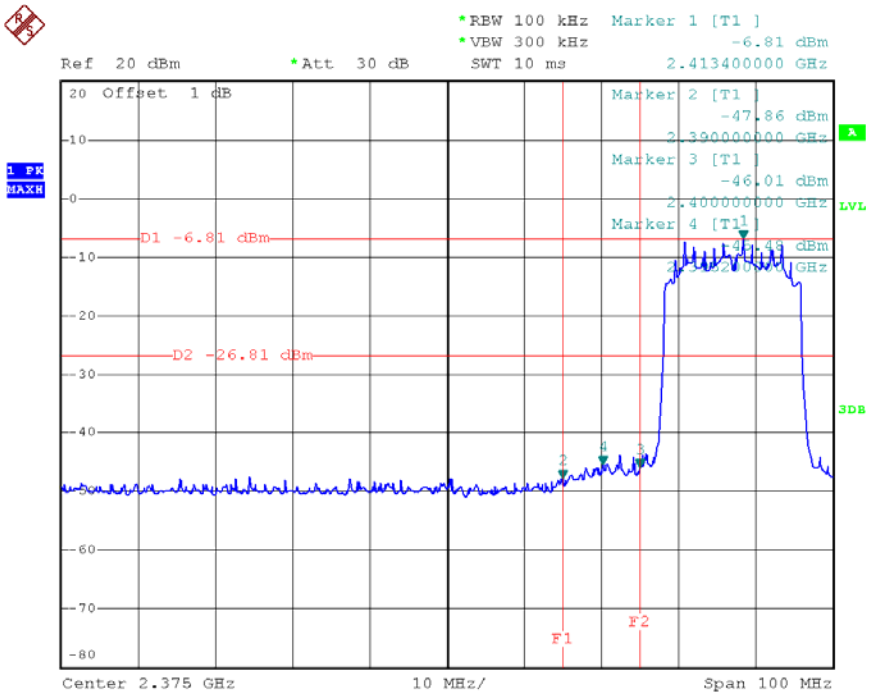


Date: 6.NOV.2013 06:13:25

EUT:	Wireless ADSL router	Model Name :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE / CH01, CH06 , CH11 – ANT 1		

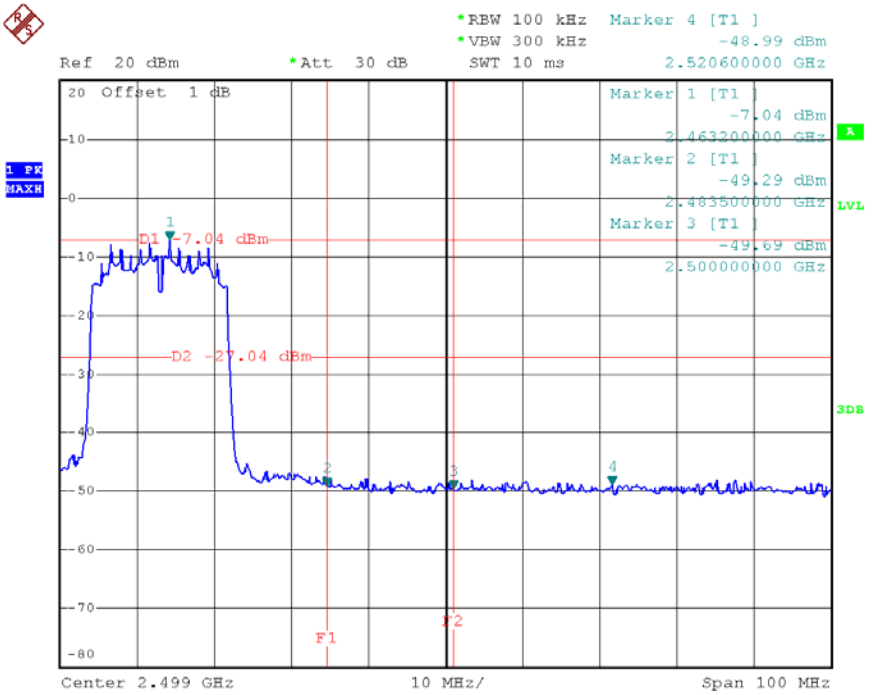
Channel of Worst Data: CH01			
The max. radio frequency power in any 100KHz bandwidth within the frequency band		The max. radio frequency power in any 100 KHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
2325.20	-45.48	2483.50	-49.29
Result			
In any 100KHz 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.			

TX HT20 mode CH01



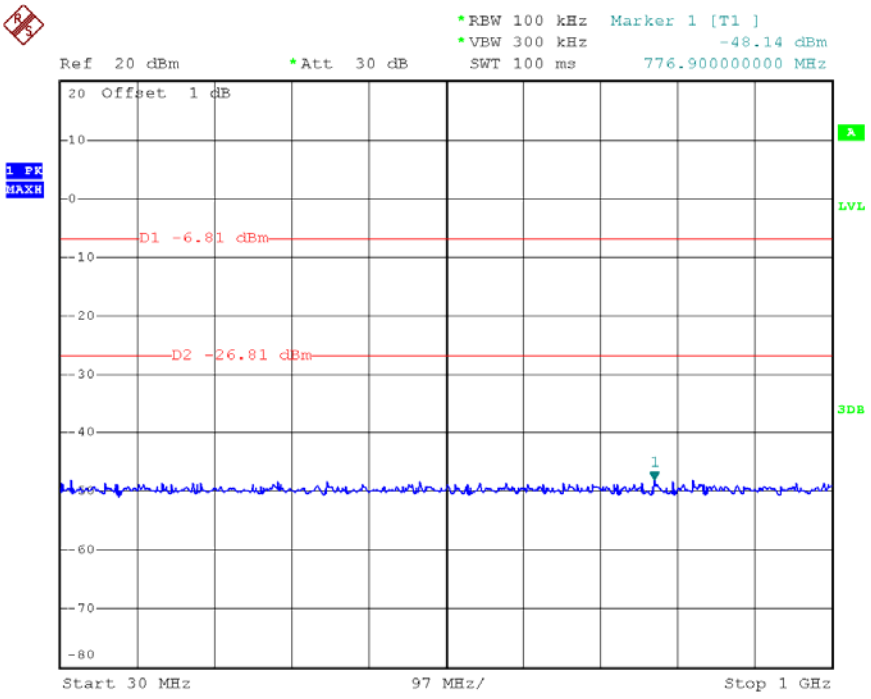
Date: 6.NOV.2013 06:34:22

TX HT20 mode CH11



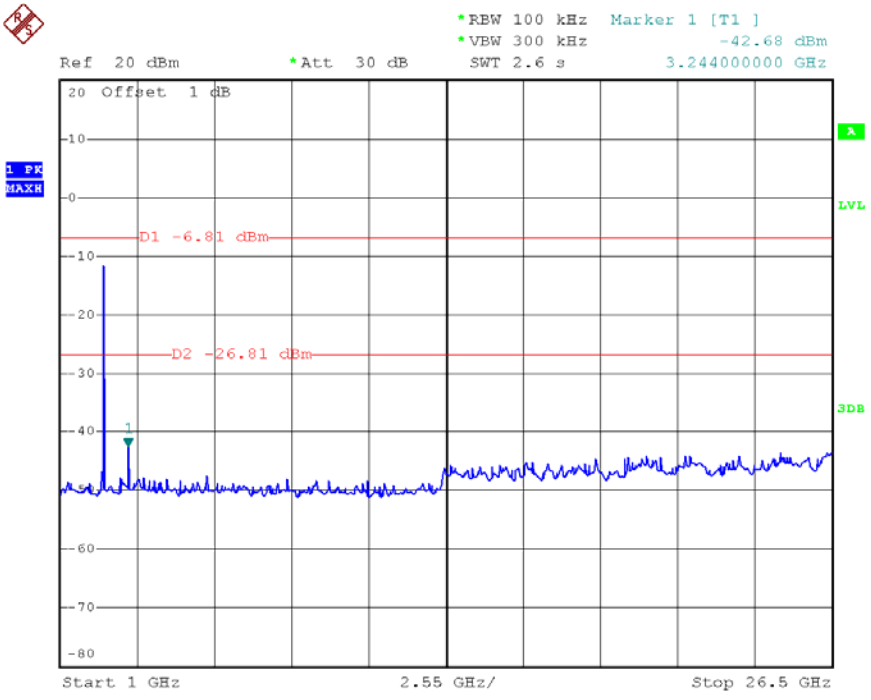
Date: 6.NOV.2013 06:37:22

TX HT20 mode CH01 (30M~1000MHz)



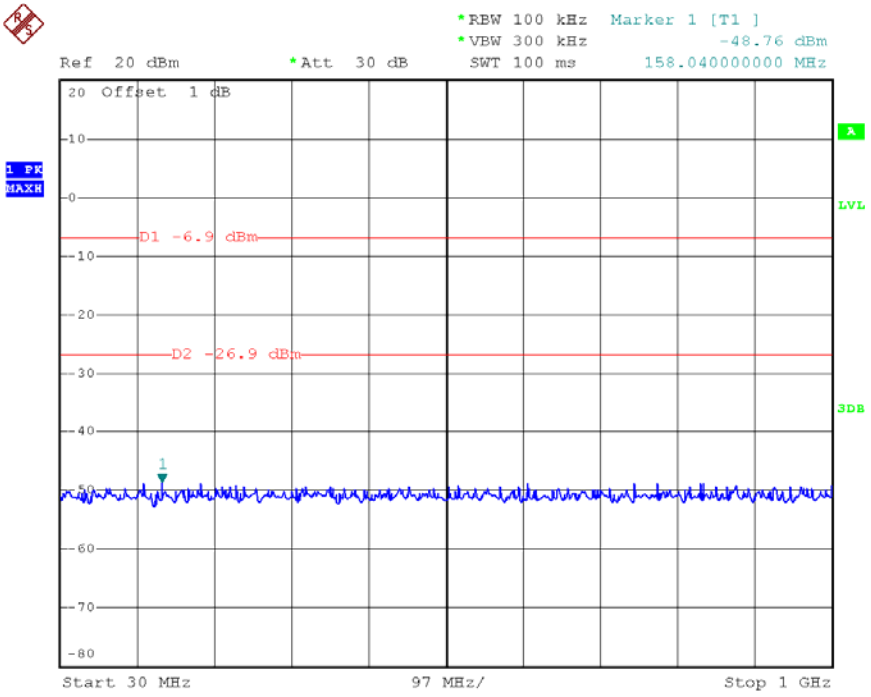
Date: 6.NOV.2013 06:43:36

TX HT20 mode CH01 (1000MHz~10th Harmonic)



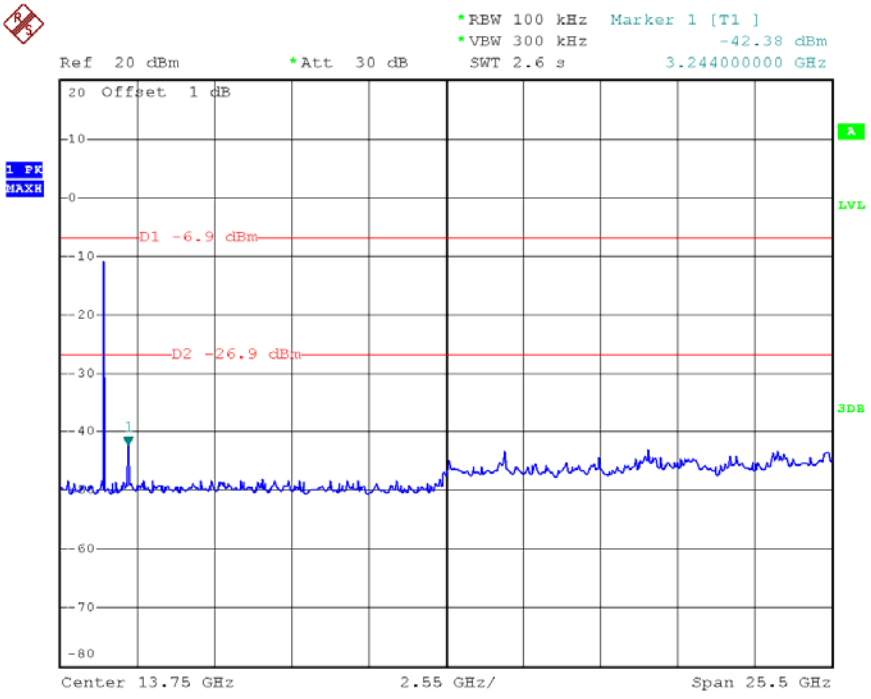
Date: 6.NOV.2013 06:44:31

TX HT20 mode CH06 (30M~1000MHz)



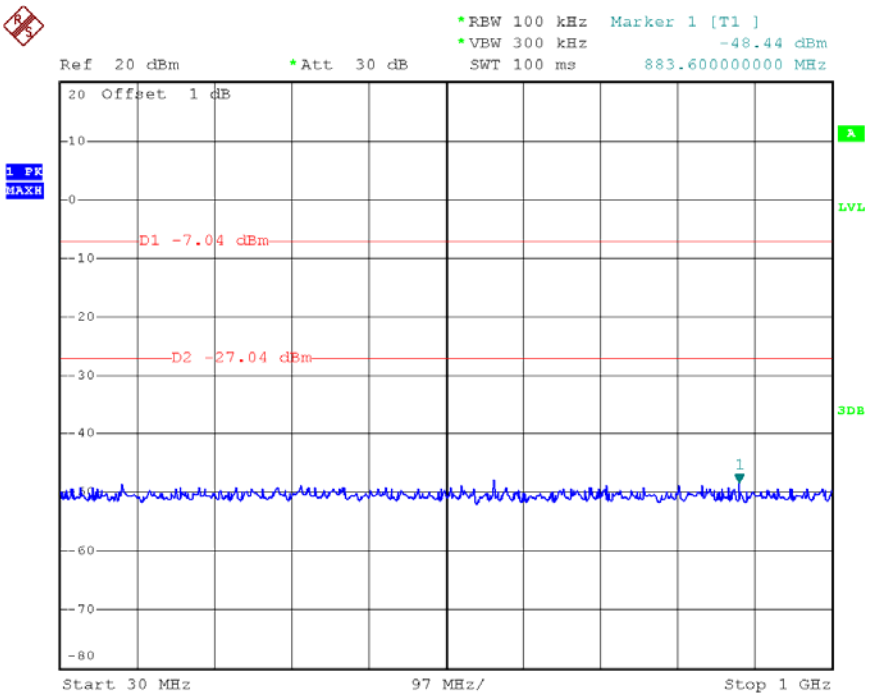
Date: 6.NOV.2013 06:42:46

TX HT20 mode CH06 (1000MHz~10th Harmonic)



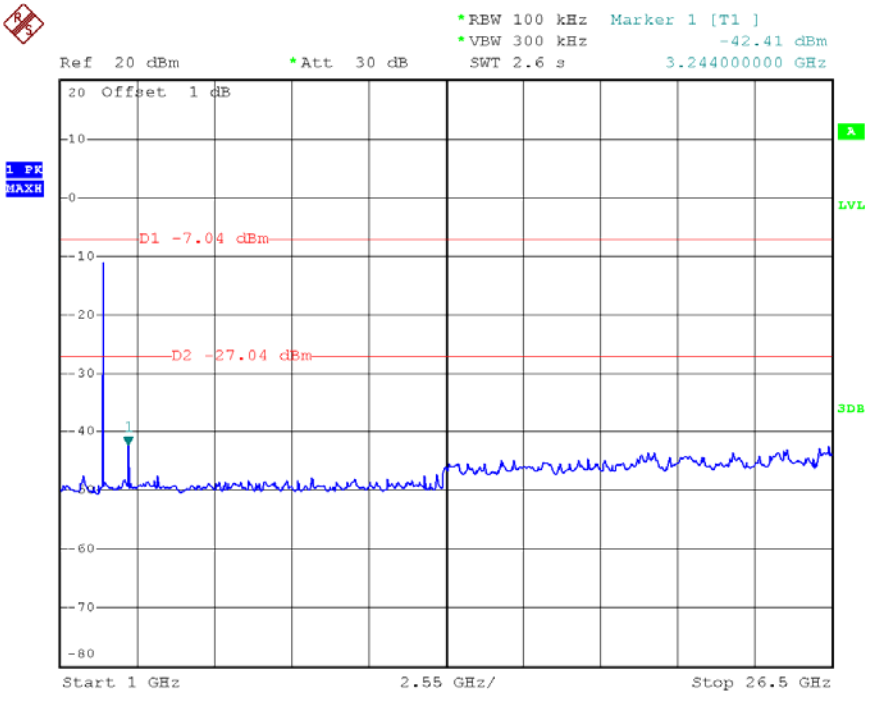
Date: 6.NOV.2013 06:42:13

TX HT20 mode CH11 (30M~1000MHz)



Date: 6.NOV.2013 06:40:01

TX HT20 mode CH11 (1000MHz~10th Harmonic)

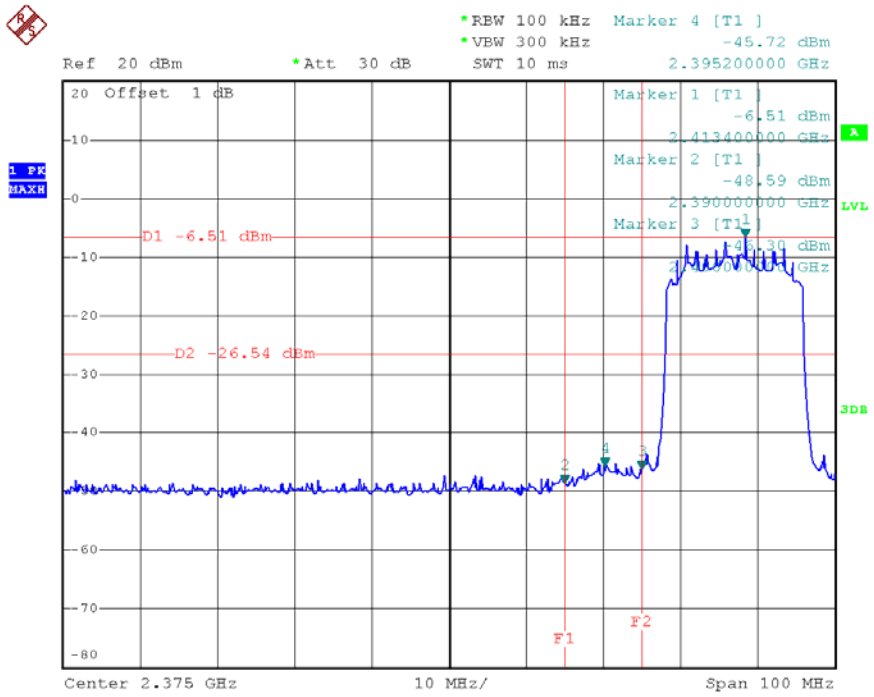


Date: 6.NOV.2013 06:41:04

EUT:	Wireless ADSL router	Model Name :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE / CH01, CH06 , CH11 – ANT 2		

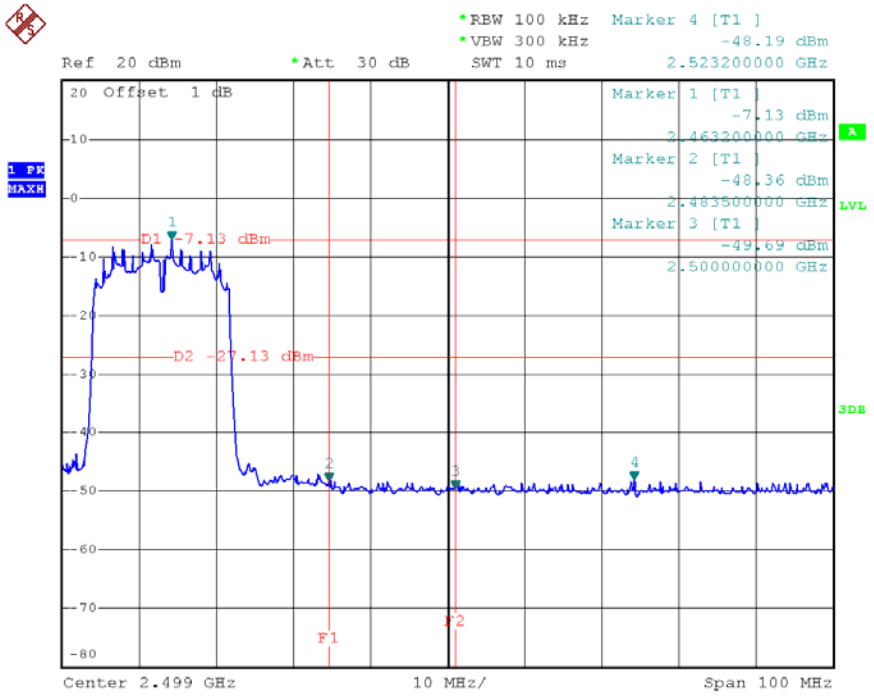
Channel of Worst Data: CH01			
The max. radio frequency power in any 100KHz bandwidth within the frequency band		The max. radio frequency power in any 100 KHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
2395.20	-45.72	2483.50	-48.36
Result			
In any 100KHz 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.			

TX HT20 mode CH01



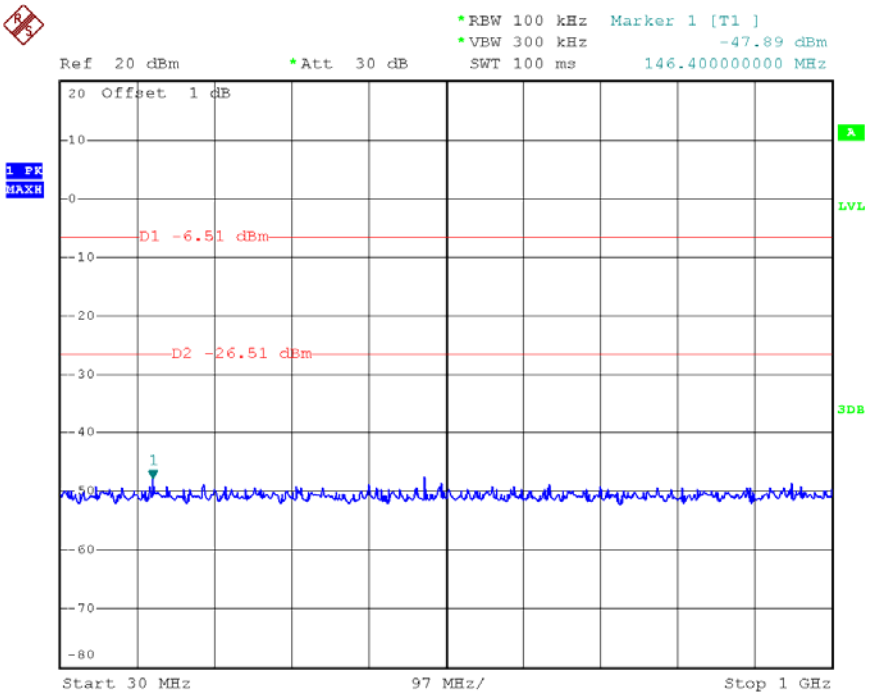
Date: 6.NOV.2013 06:33:06

TX HT20 mode CH11

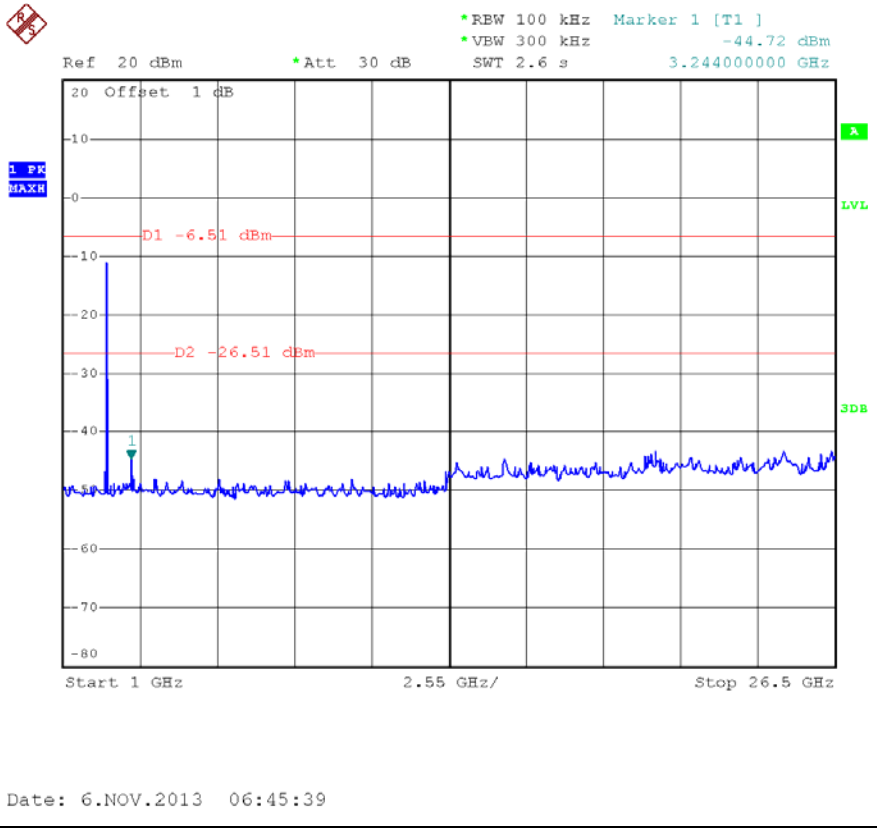


Date: 6.NOV.2013 06:35:50

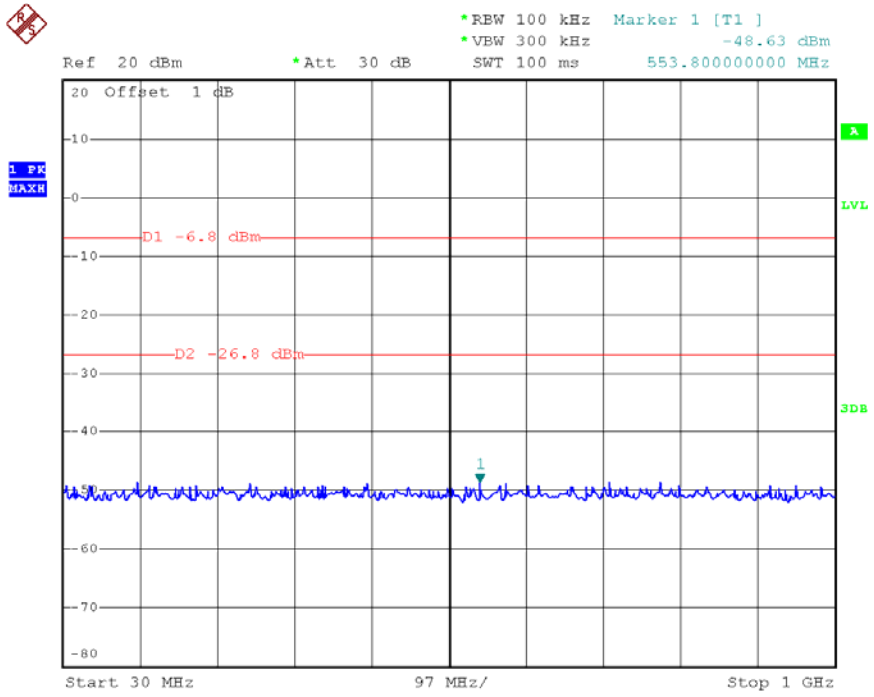
TX HT20 mode CH01 (30M~1000MHz)



TX HT20 mode CH01 (1000MHz~10th Harmonic)

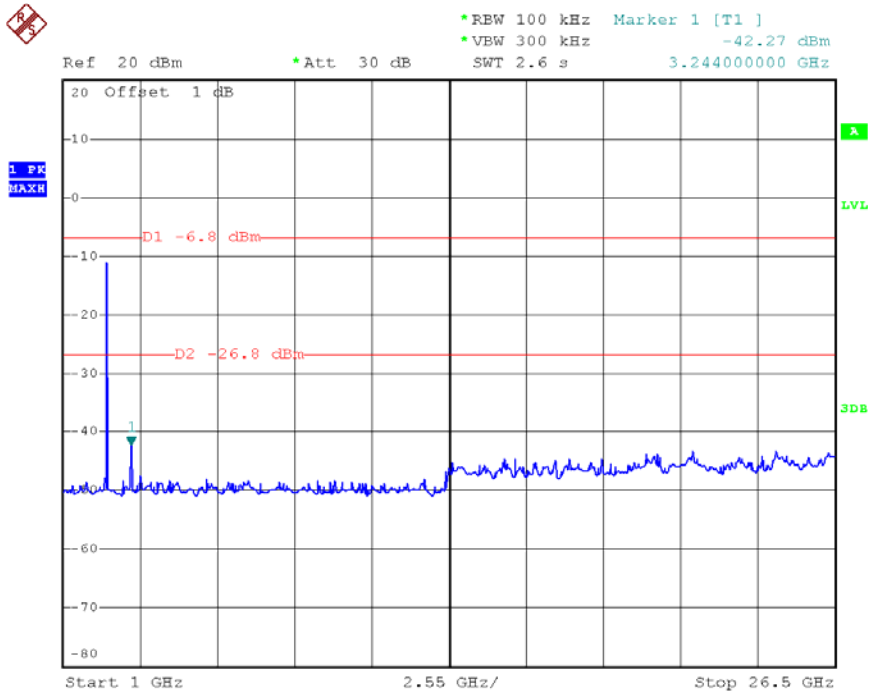


TX HT20 mode CH06 (30M~1000MHz)



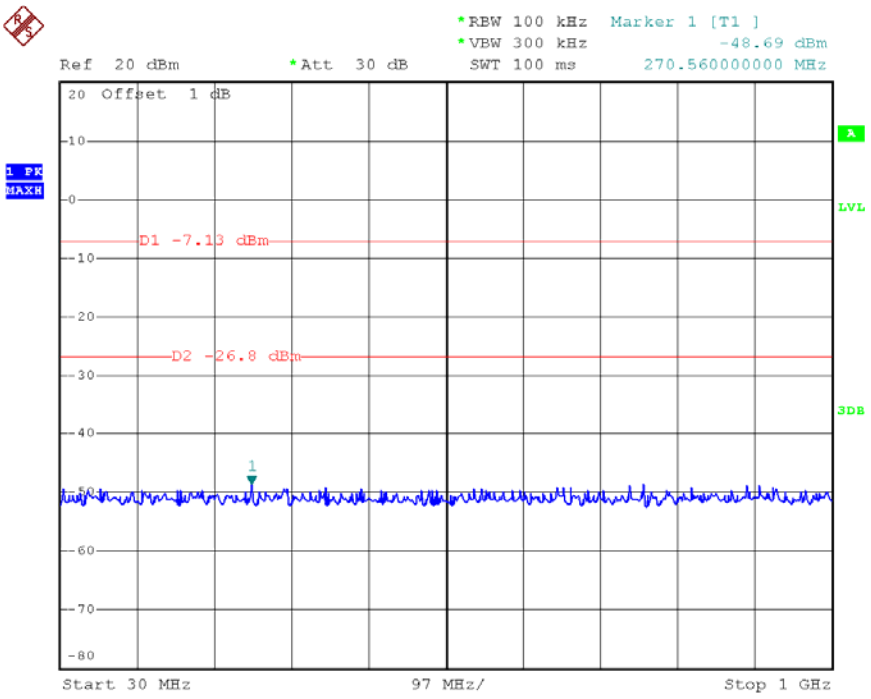
Date: 6.NOV.2013 06:47:03

TX HT20 mode CH06 (1000MHz~10th Harmonic)



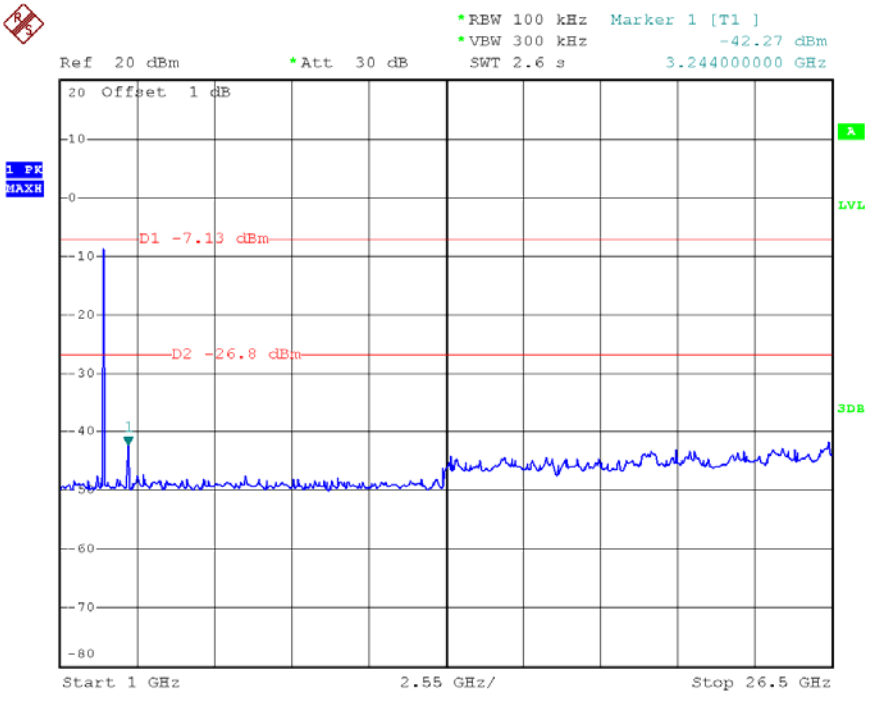
Date: 6.NOV.2013 06:47:57

TX HT20 mode CH11 (30M~1000MHz)



Date: 6.NOV.2013 06:48:57

TX HT20 mode CH11 (1000MHz~10th Harmonic)



Date: 6.NOV.2013 06:48:43

8. POWER SPECTRAL DENSITY TEST

8.1 Applied procedures / limit

FCC Part15 (15.247) , Subpart C / RSS-210				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(e) RSS-210 Annex 8(A8.2(b))	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 40	100185	Nov. 16, 2013

Remark: ”N/A” denotes no model name, serial no. or calibration specified.
All calibration period of equipment list is one year.

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=10KHz, Sweep time = Auto.

8.1.3 DEVIATION FROM STANDARD

No deviation.

8.1.4 TEST SETUP

8.1.5 EUT OPERATION CONDITIONS

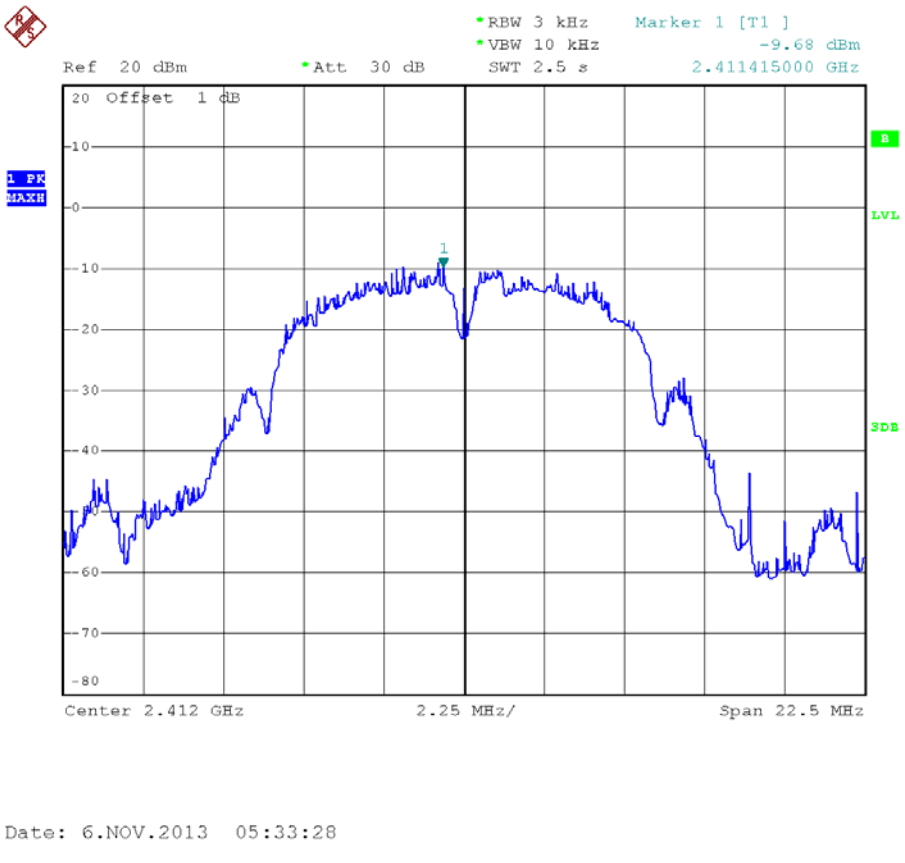
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

8.1.6 TEST RESULTS

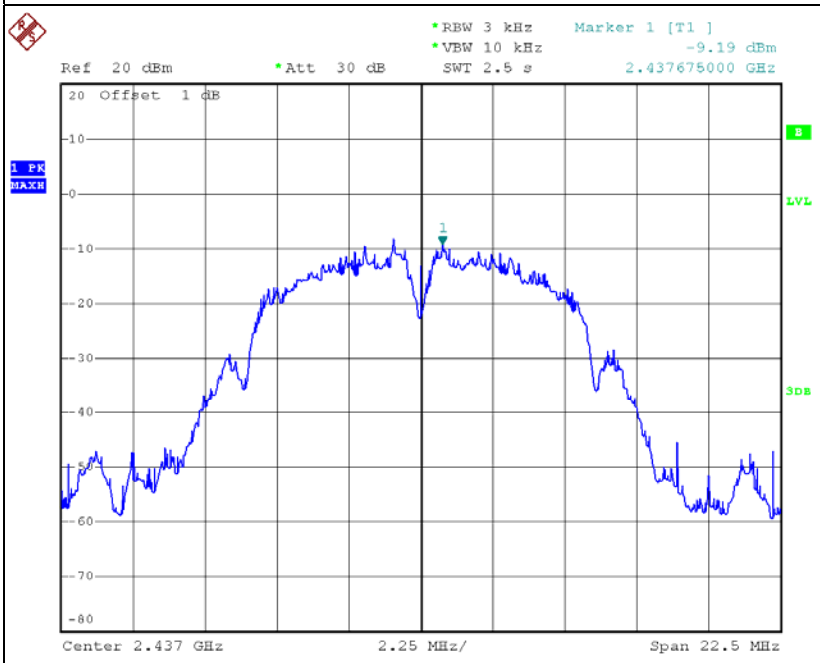
EUT:	Wireless ADSL router	Model Name :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE /CH01, CH06, CH11		

Test Channel	Frequency (MHz)	Power Density (dBm)	Limit (dBm)
CH01	2412	-9.68	8
CH06	2437	-9.19	8
CH11	2462	-9.14	8

TX CH01

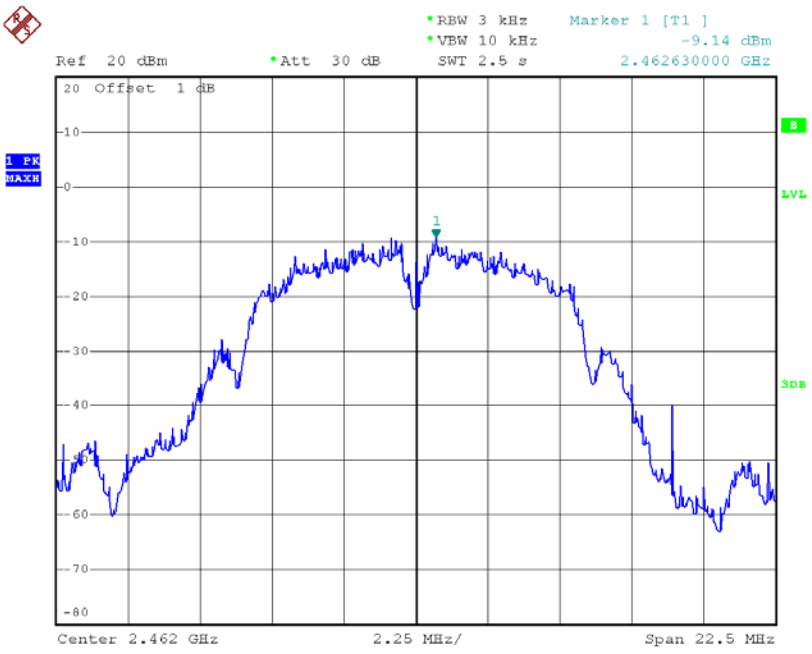


TX CH06



Date: 6.NOV.2013 05:32:49

TX CH11

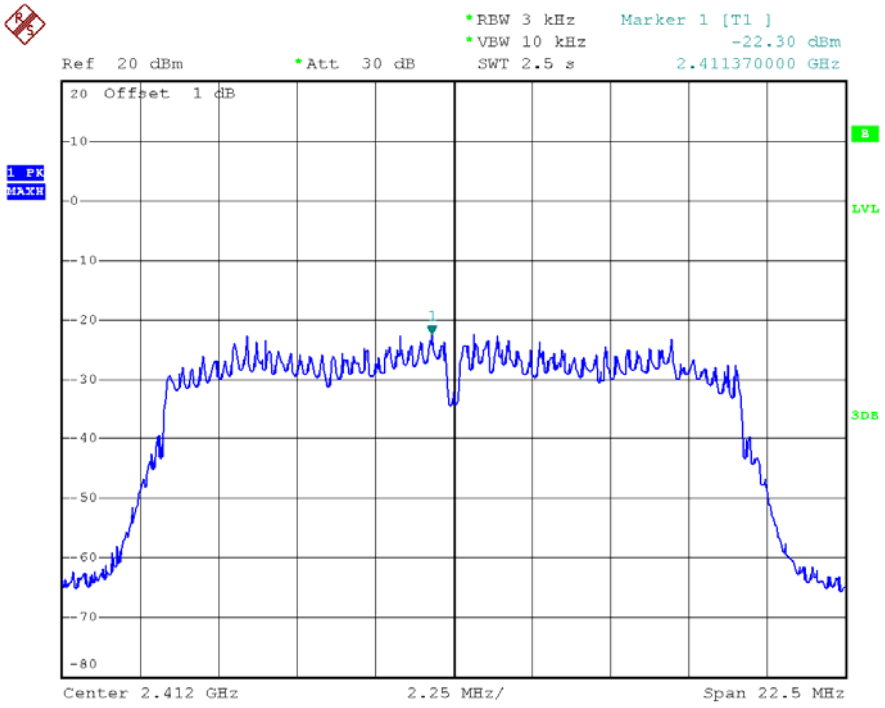


Date: 6.NOV.2013 05:38:15

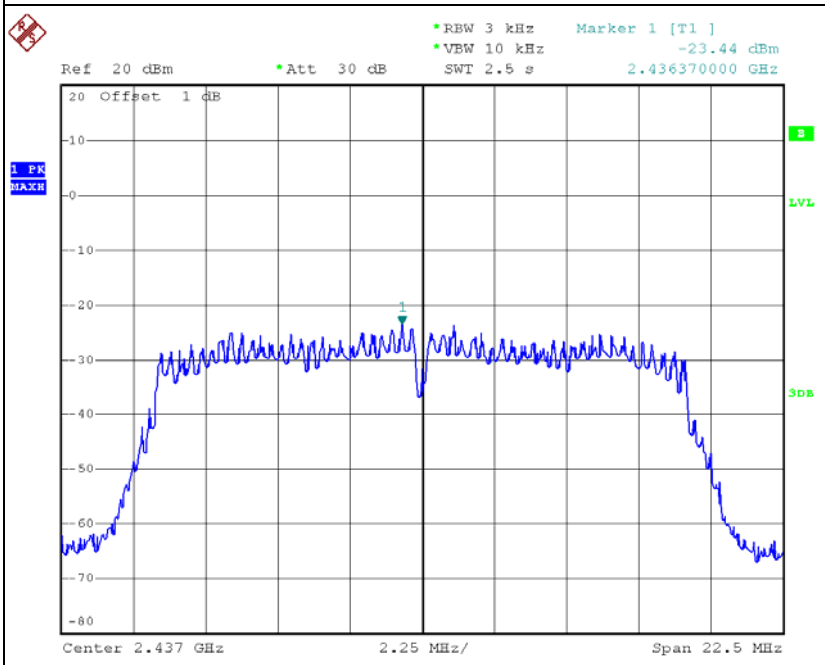
EUT:	Wireless ADSL router	Model Name :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX G MODE /CH01, CH06, CH11		

Test Channel	Frequency (MHz)	Power Density (dBm)	Limit (dBm)
CH01	2412	-22.30	8
CH06	2437	-23.44	8
CH11	2462	-20.26	8

TX CH01

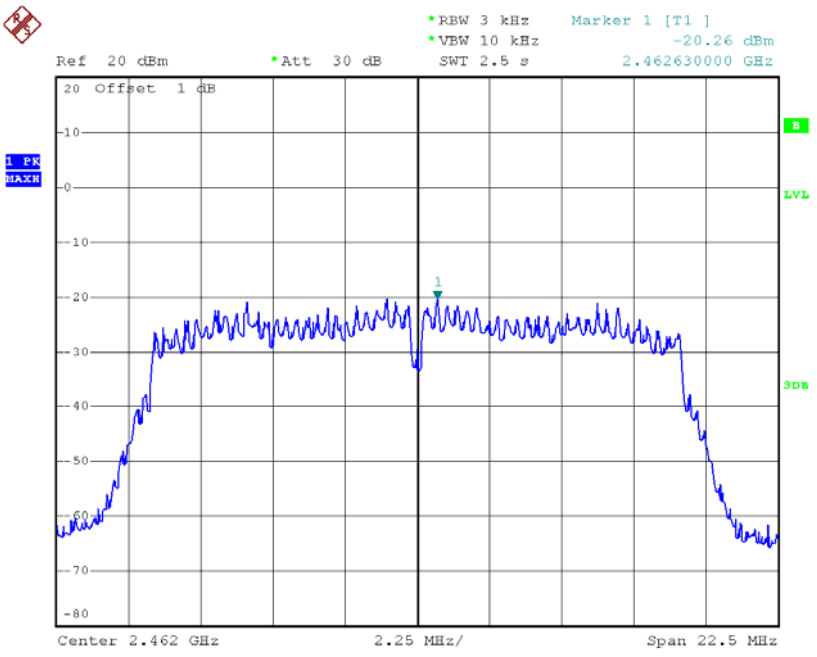


TX CH06



Date: 6.NOV.2013 05:57:06

TX CH11

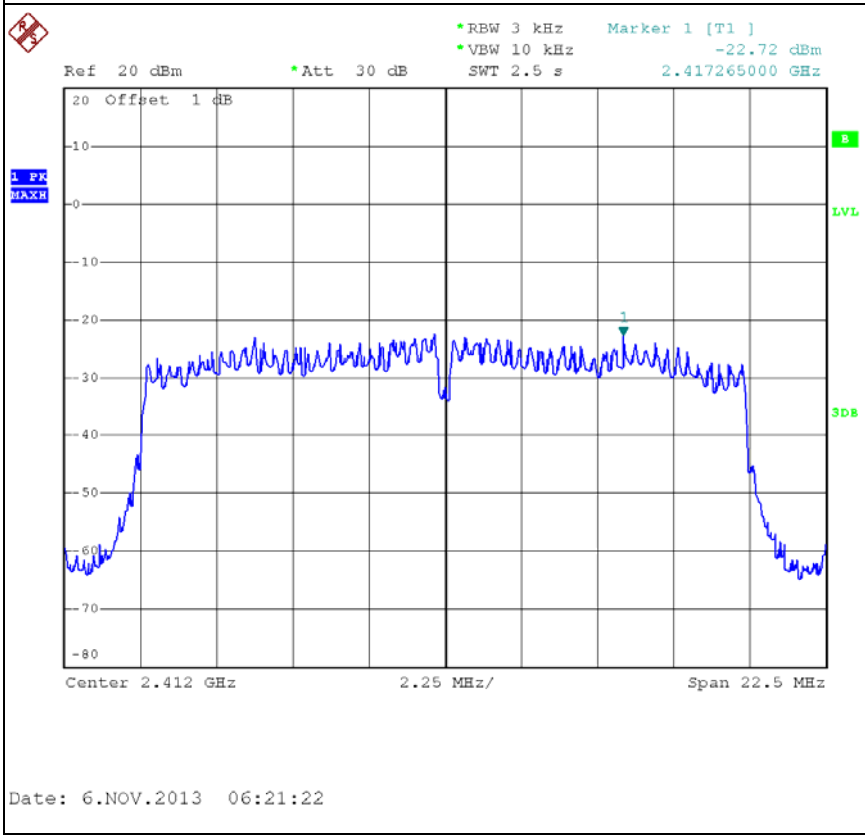


Date: 6.NOV.2013 06:01:43

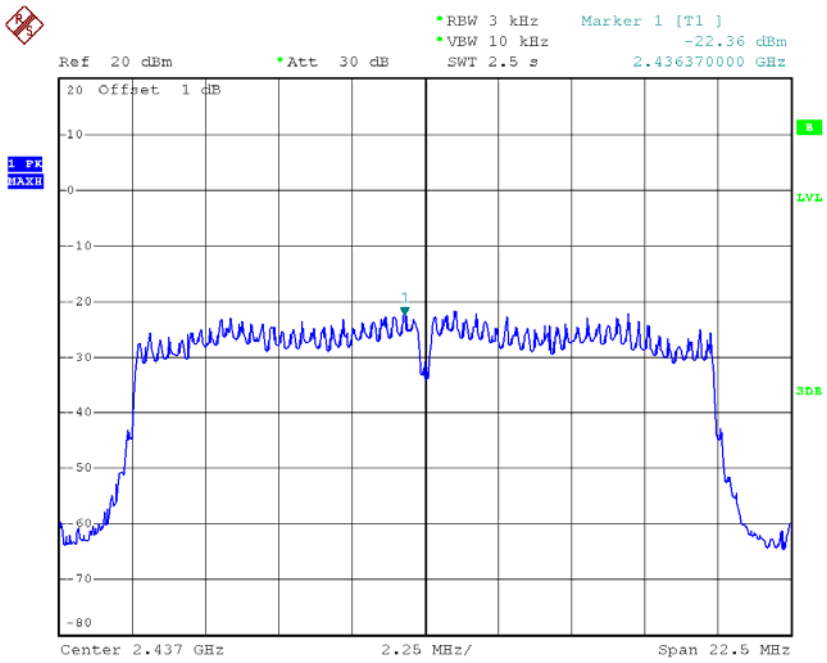
EUT:	Wireless ADSL router	Model Name :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N MODE-20MHz /CH01, CH06, CH11 – ANT 1		

Test Channel	Frequency (MHz)	Power Density (dBm)	Limit (dBm)
CH01	2412	-22.72	8
CH06	2437	-22.36	8
CH11	2462	-22.37	8

TX CH01

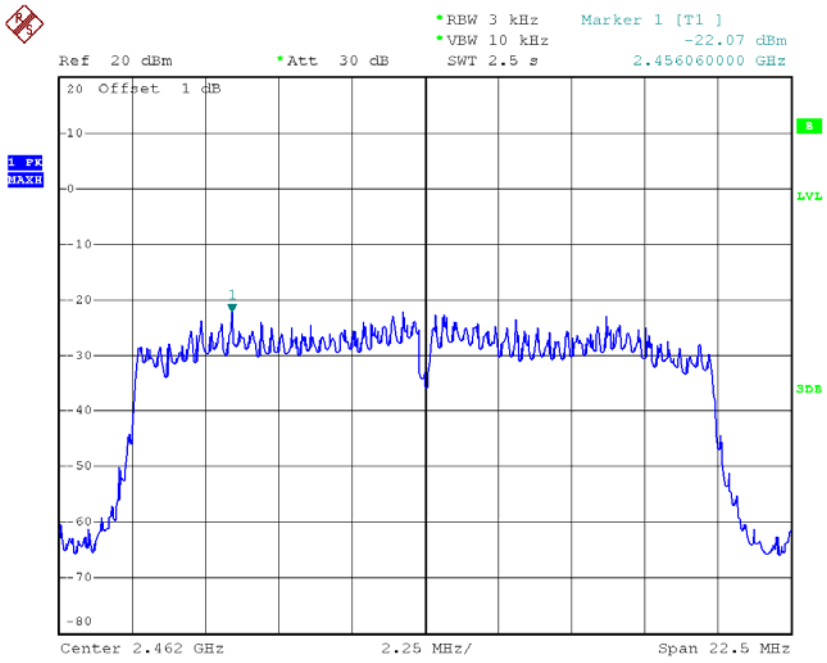


TX CH06



Date: 6.NOV.2013 06:23:13

TX CH11

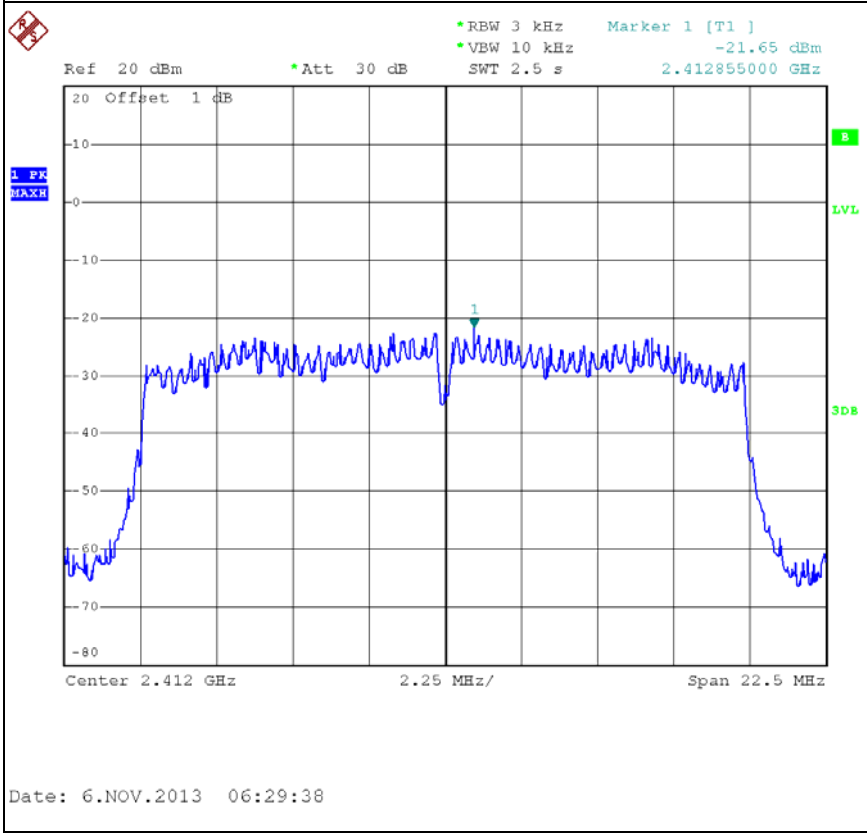


Date: 6.NOV.2013 06:28:42

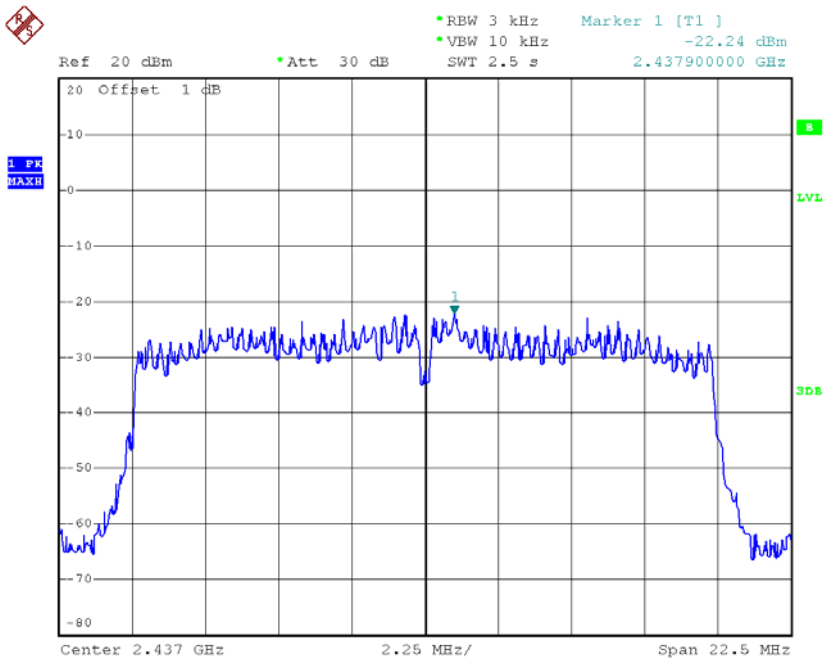
EUT:	Wireless ADSL router	Model Name :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N MODE-20MHz /CH01, CH06, CH11 – ANT 2		

Test Channel	Frequency (MHz)	Power Density (dBm)	Limit (dBm)
CH01	2412	-21.65	8
CH06	2437	-22.24	8
CH11	2462	-23.90	8

TX CH01

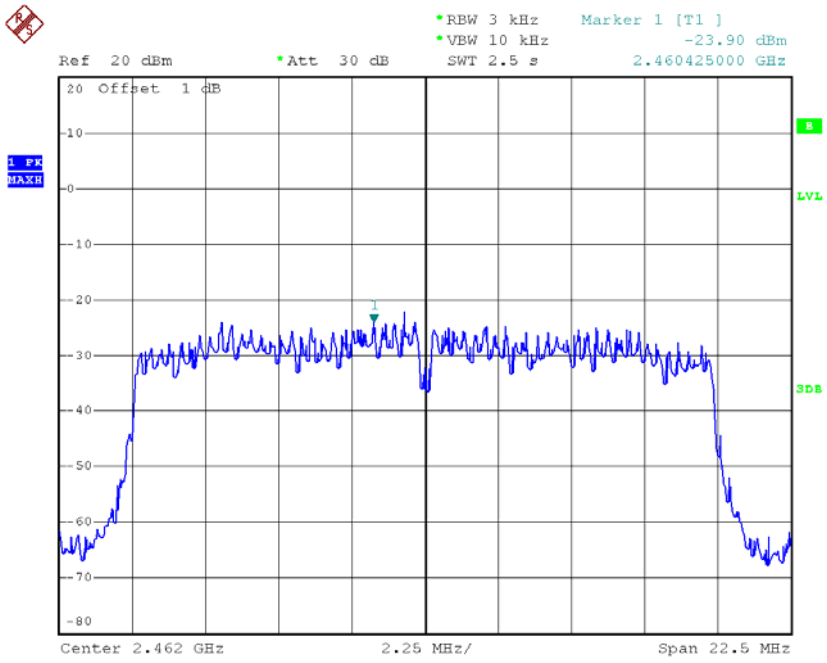


TX CH06



Date: 6.NOV.2013 06:22:28

TX CH11



Date: 6.NOV.2013 06:28:50

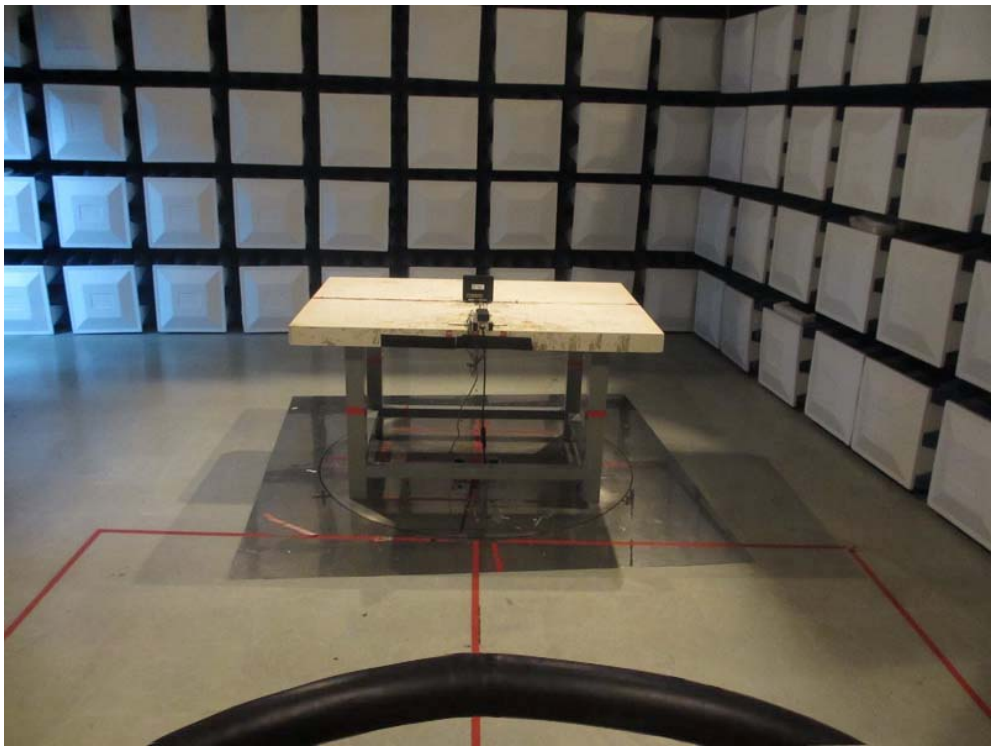
EUT:	Wireless ADSL router	Model Name :	F@ST 2704N
Temperature:	25 ℃	Relative Humidity:	58 %
Pressure:	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N MODE-20MHz /CH01, CH06, CH11 – ANT 1 + ANT 2		

Test Channel	Frequency (MHz)	Power Density (dBm)	Limit (dBm)
CH01	2412	-19.14	8
CH06	2437	-19.29	8
CH11	2462	-20.06	8

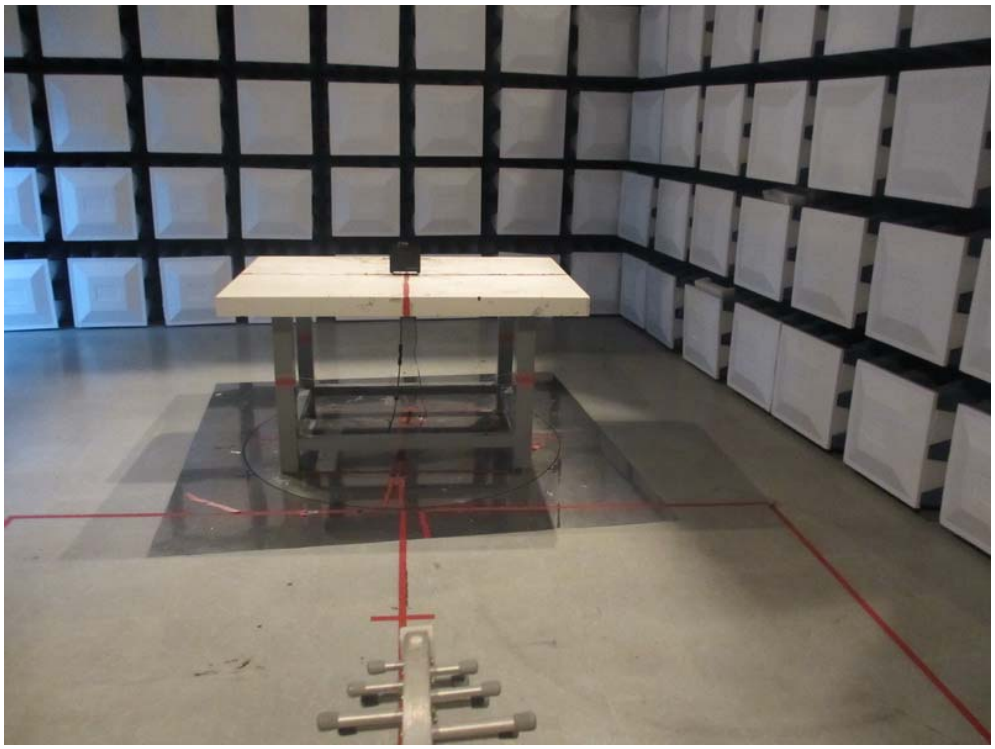
9. EUT TEST PHOTO

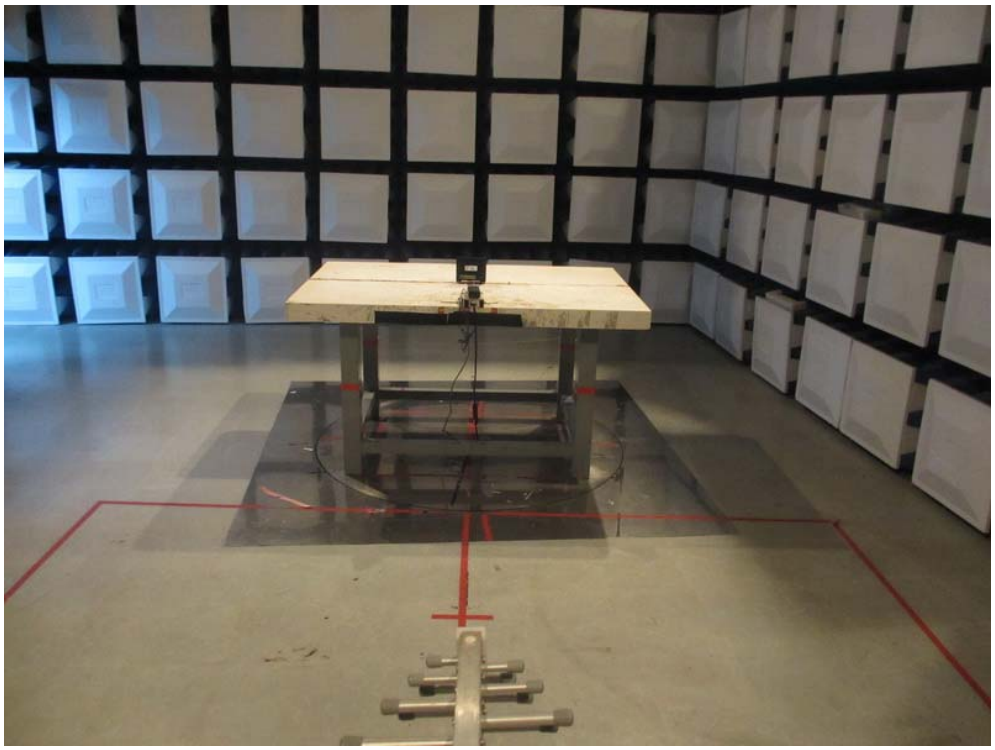
Conducted Measurement Photos

Radiated Measurement Photos
9K~30MHz



Radiated Measurement Photos
30~1000MHz





Radiated Measurement Photos
Above 1000MHz