



# FCC Radio Test Report

## FCC ID: QISHG532E

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

**Issued Date** : Mar. 15, 2012  
**Project No.** : 1202C219  
**Equipment** : Home Gateway  
**Model Name** : HG532e  
**Applicant** : Huawei Technologies Co.,Ltd.  
**Address** : Administration Building, Huawei Base, Bantian,  
Longgang District , Shenzhen, China  
**Manufacturer** : Huawei Technologies Co.,Ltd.  
**Address** : Administration Building, Huawei Base, Bantian,  
Longgang District , Shenzhen 518129, P.R. China

**Tested by:**  
Neutron Engineering Inc. EMC Laboratory  
**Date of Receipt:** Feb. 29, 2012  
**Date of Test:**  
Feb. 29, 2012 ~ Mar. 14, 2012

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



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## 1. CERTIFICATION

Equipment : Home Gateway

Brand Name : HUAWEI

Model Name : HG532e

Applicant : Huawei Technologies Co.,Ltd.

Factory : Huawei Technologies Co.,Ltd.

Address : Administration Building, Huawei Base, Bantian, Longgang District ,Shenzhen  
518129, P.R. China

Date of Test : Feb. 29, 2012 ~ Mar. 14, 2012

Test Item : ENGINEERING SAMPLE

Standards : FCC Part15, Subpart C(15.247) / ANSI C63.4 : 2003

The above equipment has been tested and found compliance with the requirement of the relative standards by Neutron Engineering Inc. EMC Laboratory.

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. NEI-FCCP-1-1202C219) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of NVLAP and TAF according to the ISO-17025 quality assessment standard and technical standard(s).



## 2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

<b>FCC Part15 (15.247) , Subpart C</b>				
Standard	Section	Test Item	Judgment	Remark
15.207		Conducted Emission	PASS	
15.247(d)		Antenna conducted Spurious Emission	PASS	
15.247(a)(2)		6dB Bandwidth	PASS	
15.247(b)(3)		Peak Output Power	PASS	
15.209/15.205		Radiated Spurious Emission	PASS	
15.247(e)		Power Spectral Density	PASS	
15.203		Antenna Requirement	PASS	

**NOTE:**

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



**2.1 TEST FACILITY**

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

**2.2 MEASUREMENT UNCERTAINTY**

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

The reported uncertainty of measurement  $y \pm U$ , where expanded 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	30MHz ~ 200MHz	V	3.82	
		30MHz ~ 200MHz	H	3.60	
		200MHz ~ 1,000MHz	V	3.86	
		200MHz ~ 1,000MHz	H	3.94	



### 3. GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

Equipment	Home Gateway
Brand Name	HUAWEI
Model Name	HG532e
OEM Brand/Model Name	N/A
Model Difference	Only one model name for 3 samples (A1/B1/C1). A1 as the same as the C1. 3 samples Differences are transformers and flash (A1/C1 is 8M; B1 is 4M).
Product Description	The EUT is a Home Gateway.
	Operation Frequency: 2412~2462 MHz
	Modulation Type: 802.11b:CCK, DQPSK, DBPSK 802.11g:OFDM 802.11n:OFDM
	Bit Rate of Transmitter 802.11b:11/5.5/2/1 Mbps 802.11g:54/48/36/24/18/12/9/6 Mbps Draft 802.11n:up to 300Mbps
	Number of Channel 11 CH, Please see Note 2. (please see page 9)
	Antenna Designation: Please see Note 3.
	Antenna Gain(Peak) (please see page 9)
	Output Power: 802.11b: 20.32dBm 802.11g: 19.56dBm 802.11n(20MHz): 20.24dBm 802.11n(40MHz): 22.58 dBm
	Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.
Power Source	DC Voltage supplied from AC/DC adapter 1# Brand / Model : HUAWEI; HW-120050U1W S/N: UEAABC2100191 2# Brand / Model : HUAWEI; HW-120050U1W S/N: XQHC21804987
Power Rating	1# I/P 100-240V~ 50/60Hz, 0.2A O/P 12.0V, 0.5A 2# I/P 100-240V~ 50/60Hz, 0.2A O/P 12.0V, 0.5A
Connecting I/O Port(s)	Please refer to the User's Manual

**Note:**

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



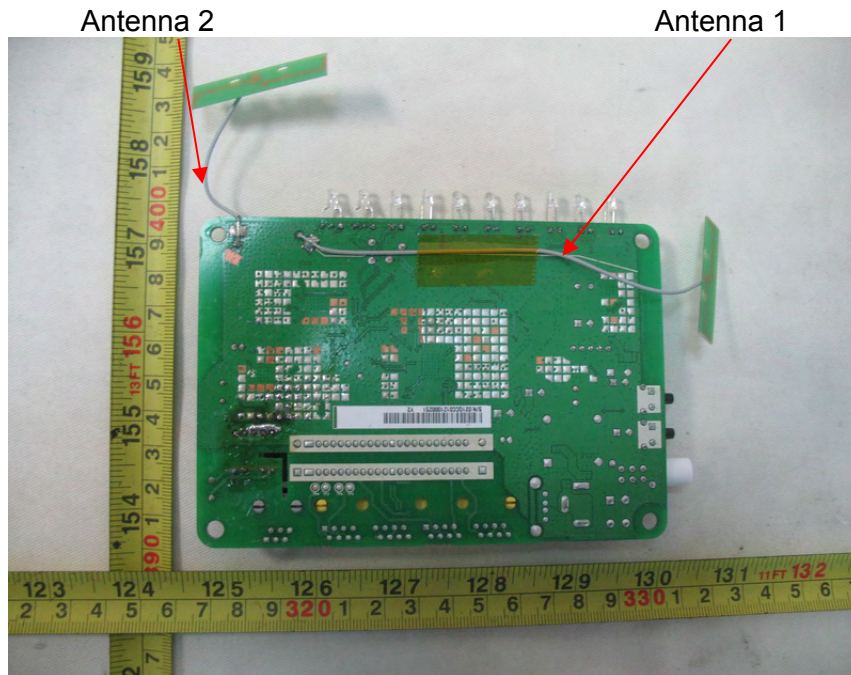
2. CH 01 – CH 11 for 802.11b, 802.11g, 802.11n(20MHz)  
CH 03 – CH 09 for 802.11n(40MHz)

**Channel List**

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	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.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	N/A	N/A	Integral	N/A	3.2
2	N/A	N/A	Integral	N/A	3.2



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

Operating Mode	1TX	2TX
	TX Mode	
802.11b	V (ANT1 or ANT2)	-
802.11g	V (ANT1 or ANT2)	-
802.11n(20MHz)	V (ANT1 or ANT2)	-
802.11n(40MHz)	-	V (ANT1 & ANT2)



**3.2 DESCRIPTION OF TEST MODES**

To investigate the maximum EMI emission characteristics generated from EUT, the test system was pre-scanning tested based on the consideration of following EUT operation mode or test configuration mode which possibly 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	TX N-40MHZ MODE CHANNEL 03/06/09
Mode 5	TX Mode

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 5	TX Mode

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
Mode 4	TX N-40MHZ MODE CHANNEL 03/06/09

Note:

- (1) The measurements are performed at the highest, middle, lowest available channels.
- (2) During the output power test, all data rates have been investigated and the highest output powers were recorded are as follows:
  - 802.11b mode: DBPSK (1Mbps)
  - 802.11g mode: OFDM (6Mbps)
  - 802.11n HT20/HT40 mode : MCS0 (6Mbps)
 For radiated emission tests, the highest output powers were set for final test.



**3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING**

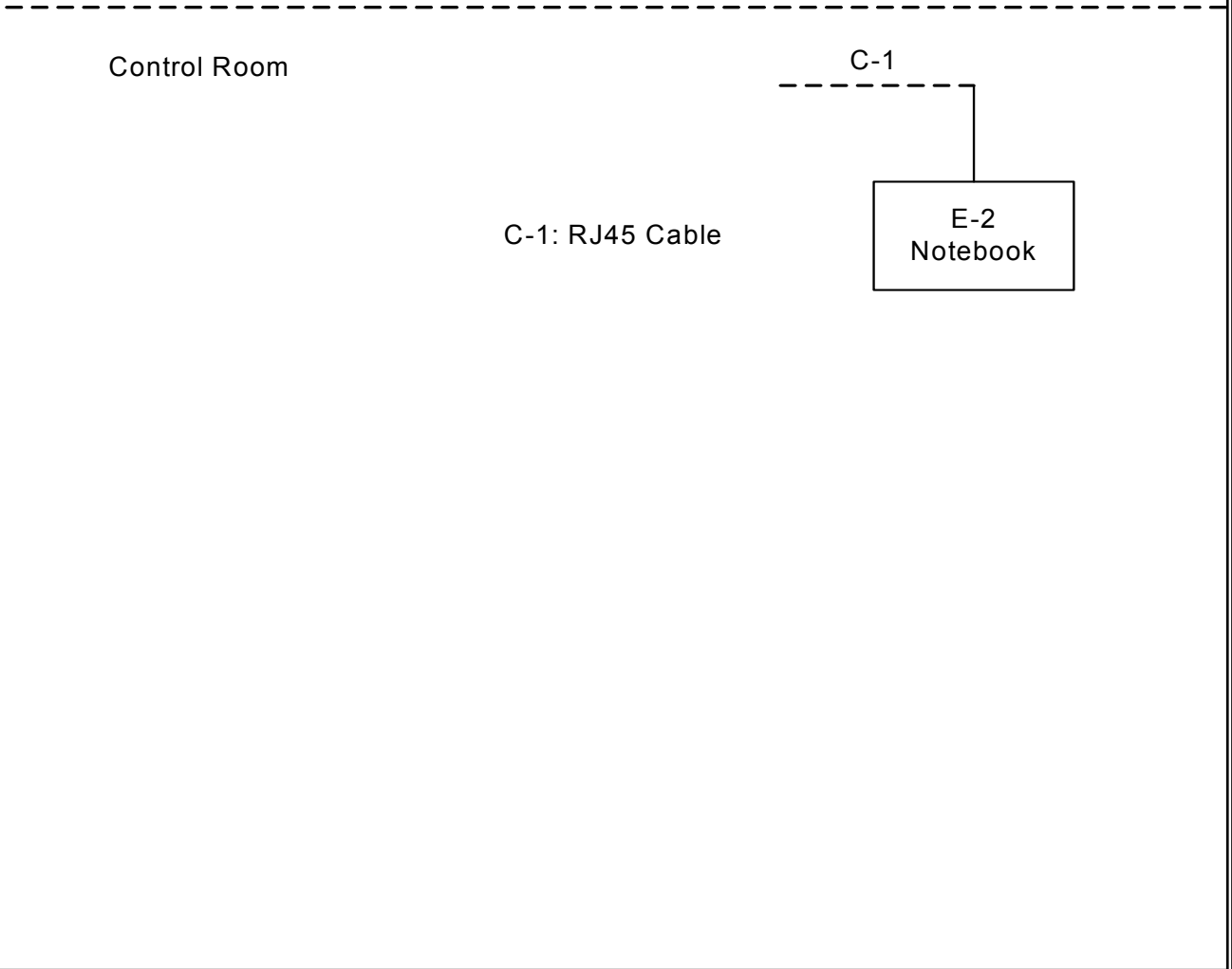
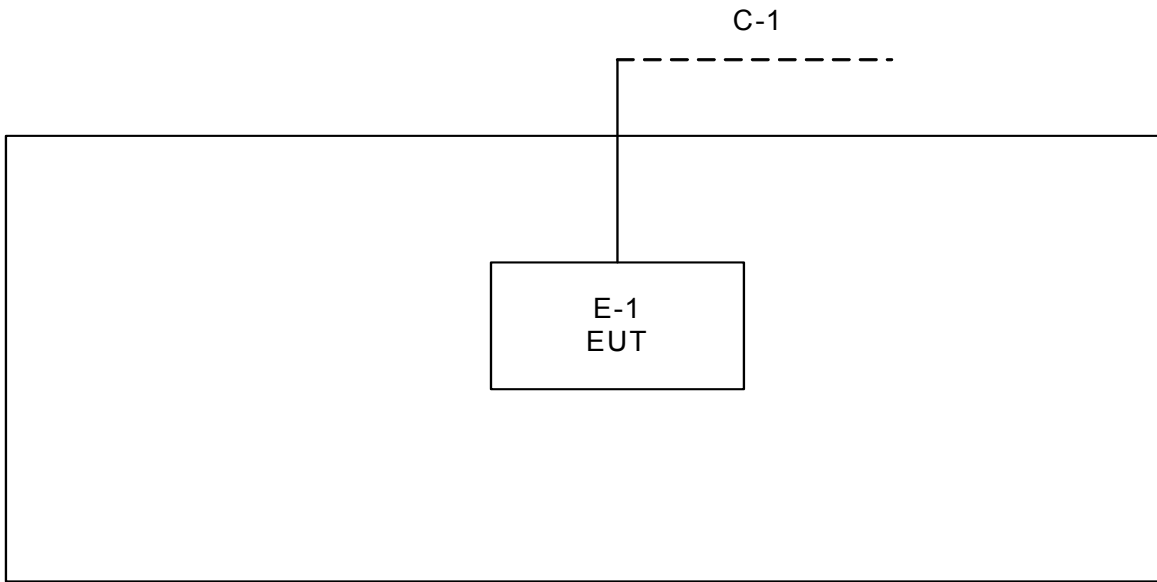
During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final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

Test software Version	Test Program: Telnet		
Frequency	2412 MHz	2437 MHz	2462 MHz
IEEE 802.11b DSSS	16	16	16
IEEE 802.11g OFDM	7	7	6

Test software Version	Test Program: Telnet		
Frequency (MHz)	2412 MHz	2437 MHz	2462 MHz
IEEE 802.11n (20MHz)	8	8	8
Frequency (MHz)	2422 MHz	2437 MHz	2452 MHz
IEEE 802.11n (40MHz)	8(ANT1)	8(ANT1)	8(ANT1)
	8(ANT2)	8(ANT2)	8(ANT2)



**3.4 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED**





**3.5 DESCRIPTION OF SUPPORT UNITS (RADIATED MODE)**

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

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.	Note
E-1	Home Gateway	HUAWEI	HG532e	QISHG532E	N/A	EUT
E-2	NOTEBOOK	DELL	INSPIRON 1420	DOC	JX193A01SDC2	

Item	Shielded Type	Ferrite Core	Length	Note
C-1	NO	NO	10M	

Note:

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



**4. EMC EMISSION TEST**

**4.1 CONDUCTED EMISSION MEASUREMENT**

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

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

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

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " \* " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

**4.1.2 MEASUREMENT INSTRUMENTS LIST AND SETTING**

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	LISN	EMCO	3816/2SH	00052766	May.26.2012
2	LISN	R&S	ENV216	100526	May.26.2012
3	Test Cable	N/A	RG400 12m	N/A	Mar.18.2012
4	EMI TEST RECEIVER	R&S	ESCI	100895	May.26.2012
5	50Ω Terminator	SHX	TF2-3G-A	08122901	May.26.2012

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

The following table is the setting of the receiver

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

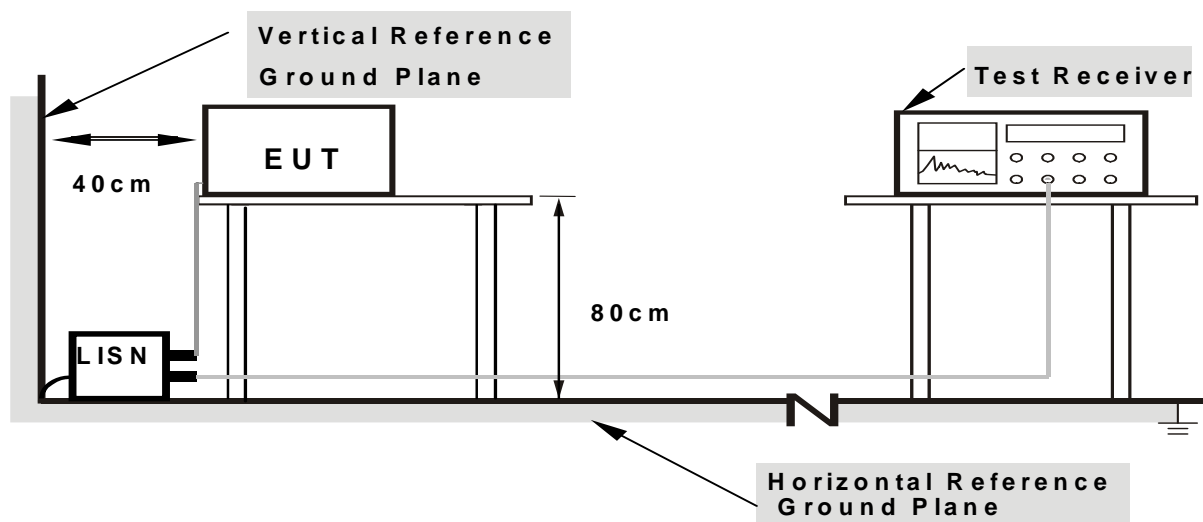
#### 4.1.3 TEST PROCEDURE

- 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.
- 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.
- 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.
- LISN at least 80 cm from nearest part of EUT chassis.
- 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 cm from other units and other metal planes**

#### 4.1.6 EUT OPERATING CONDITIONS

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

The EUT was programmed to be in continuously transmitting mode.



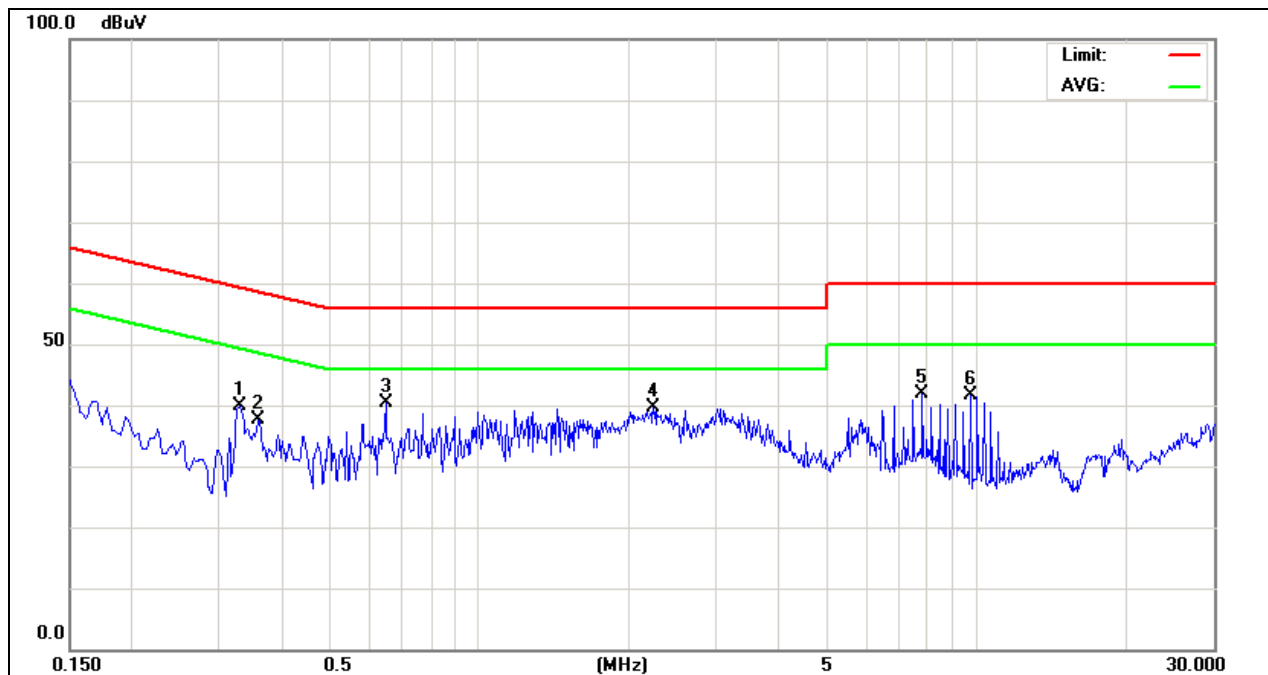
**4.1.7 TEST RESULTS**

EUT :	Home Gateway	Model Name :	HG532e
Temperature :	25 °C	Relative Humidity :	50%
Pressure :	1010hPa	Test Power :	AC 120V/60Hz
Test Mode :	TX Mode – Adapter (S/N: UEAABC2100191)		

Freq. (MHz)	Terminal L/N	Measured(dBuV)		Limits(dBuV)		Margin (dB)	Note
		QP-Mode	AV-Mode	QP-Mode	AV-Mode		
0.33	Line	39.89	*	59.45	49.45	-19.56	(QP)
0.36	Line	37.51	*	58.77	48.77	-21.26	(QP)
0.65	Line	40.46	*	56.00	46.00	-15.54	(QP)
2.25	Line	39.65	*	56.00	46.00	-16.35	(QP)
7.79	Line	41.97	*	60.00	50.00	-18.03	(QP)
9.73	Line	41.68	*	60.00	50.00	-18.32	(QP)

**Remark**

- (1) All readings are QP Mode value unless otherwise stated AVG in column of Note. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform. In this case, a " \* " marked in AVG Mode column of Interference Voltage Measured.
- (2) Measuring frequency range from 150KHz to 30MHz.





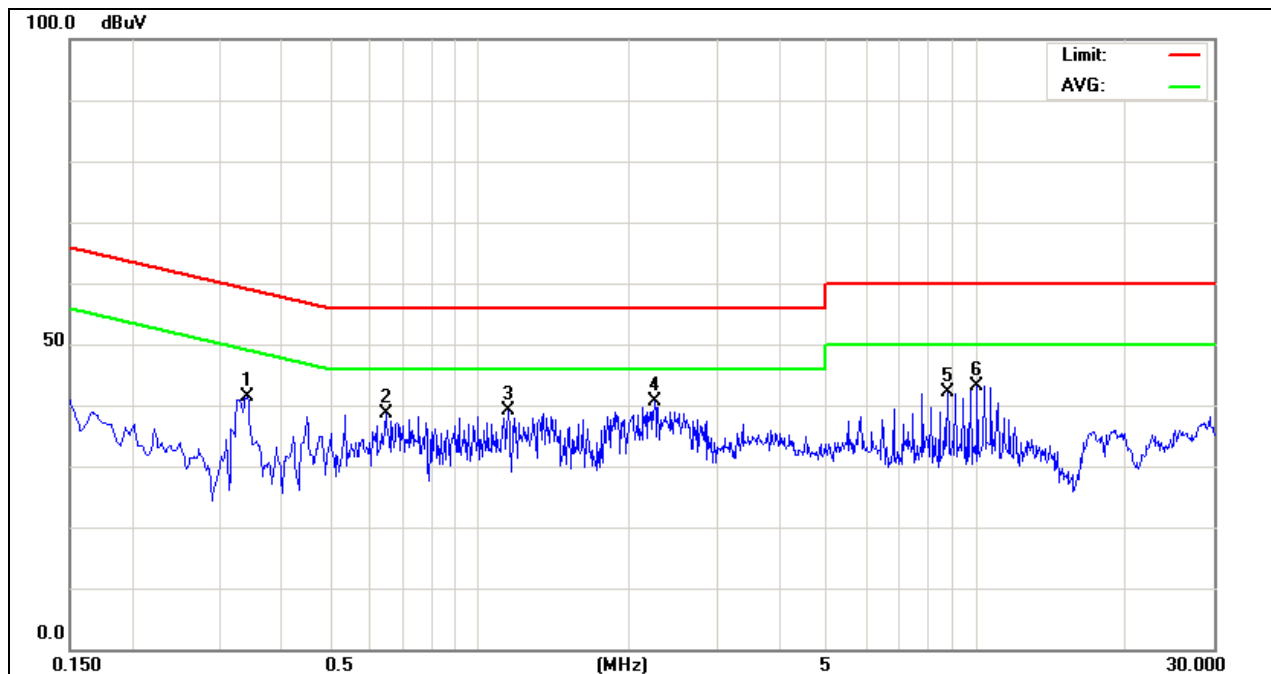


EUT :	Home Gateway	Model Name :	HG532e
Temperature :	25 °C	Relative Humidity :	50%
Pressure :	1010hPa	Test Power :	AC 120V/60Hz
Test Mode :	TX Mode – Adapter (S/N: UEAABC2100191)		

Freq. (MHz)	Terminal L/N	Measured(dBuV)		Limits(dBuV)		Margin (dB)	Note
		QP-Mode	AV-Mode	QP-Mode	AV-Mode		
0.34	Neutral	41.29	*	59.15	49.15	-17.86	(QP)
0.65	Neutral	38.56	*	56.00	46.00	-17.44	(QP)
1.14	Neutral	39.10	*	56.00	46.00	-16.90	(QP)
2.25	Neutral	40.54	*	56.00	46.00	-15.46	(QP)
8.75	Neutral	42.02	*	60.00	50.00	-17.98	(QP)
10.05	Neutral	43.13	*	60.00	50.00	-16.87	(QP)

**Remark**

- (1) All readings are QP Mode value unless otherwise stated AVG in column of Note. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform. In this case, a " \* " marked in AVG Mode column of Interference Voltage Measured.
- (2) Measuring frequency range from 150KHz to 30MHz.



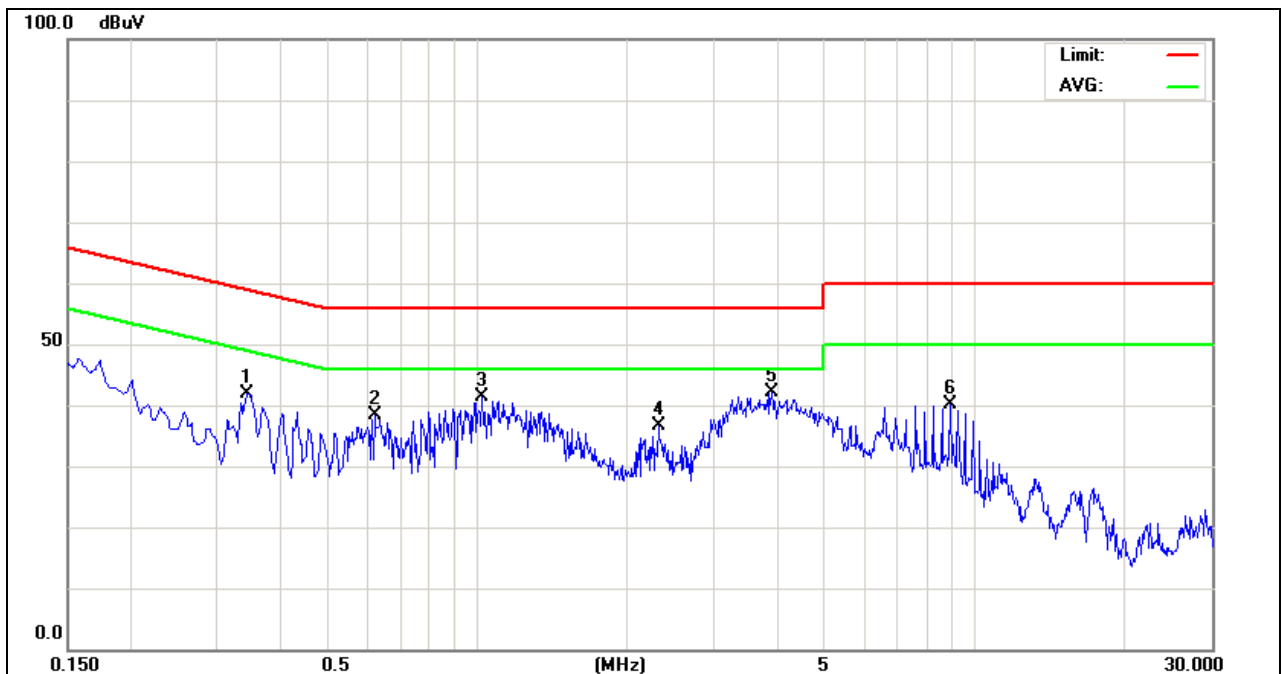


EUT :	Home Gateway	Model Name :	HG532e
Temperature :	25 °C	Relative Humidity :	50%
Pressure :	1010hPa	Test Power :	AC 120V/60Hz
Test Mode :	TX Mode – Adapter (S/N: XQHC21804987)		

Freq. (MHz)	Terminal L/N	Measured(dBuV)		Limits(dBuV)		Margin (dB)	Note
		QP-Mode	AV-Mode	QP-Mode	AV-Mode		
0.35	Line	41.76	*	59.06	49.06	-17.30	(QP)
0.62	Line	38.48	*	56.00	46.00	-17.52	(QP)
1.02	Line	41.35	*	56.00	46.00	-14.65	(QP)
2.31	Line	36.61	*	56.00	46.00	-19.39	(QP)
3.92	Line	42.18	*	56.00	46.00	-13.82	(QP)
8.93	Line	40.12	*	60.00	50.00	-19.88	(QP)

**Remark**

- (1) All readings are QP Mode value unless otherwise stated AVG in column of Note. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform. In this case, a “ \* ” marked in AVG Mode column of Interference Voltage Measured.
- (2) Measuring frequency range from 150KHz to 30MHz.



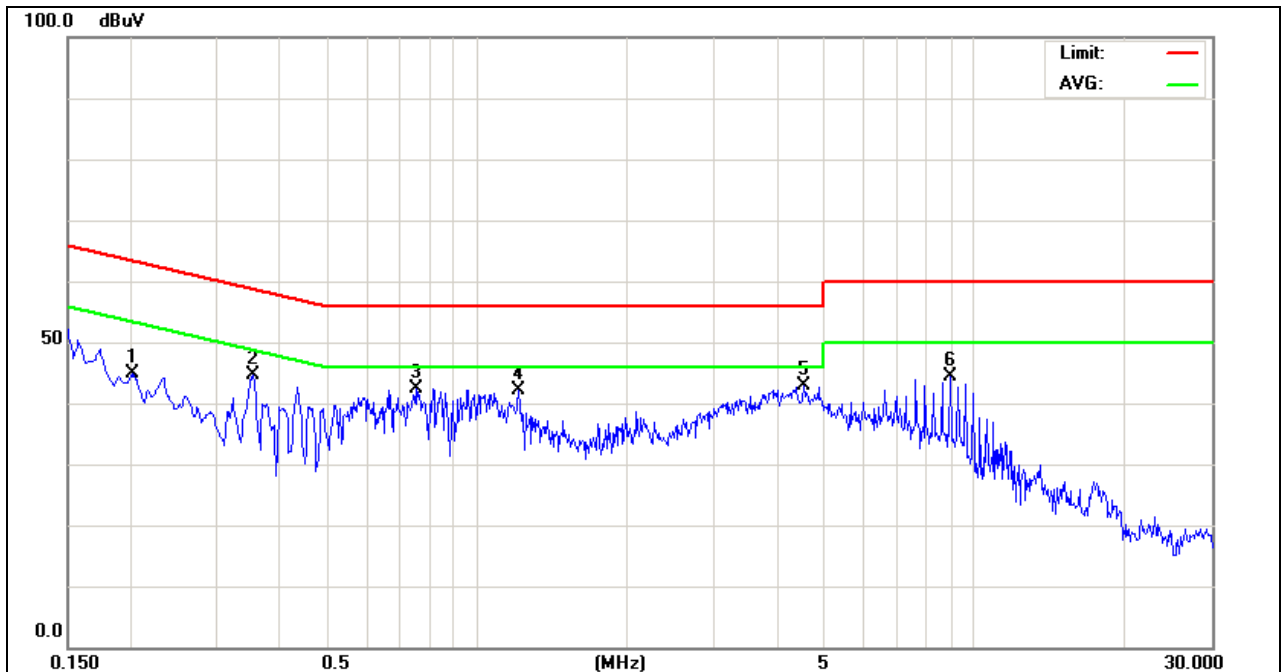


EUT :	Home Gateway	Model Name :	HG532e
Temperature :	25 °C	Relative Humidity :	50%
Pressure :	1010hPa	Test Power :	AC 120V/60Hz
Test Mode :	TX Mode – Adapter (S/N: XQHC21804987)		

Freq. (MHz)	Terminal L/N	Measured(dBuV)		Limits(dBuV)		Margin (dB)	Note
		QP-Mode	AV-Mode	QP-Mode	AV-Mode		
0.20	Neutral	44.77	*	63.53	53.53	-18.76	(QP)
0.35	Neutral	44.53	*	58.87	48.87	-14.34	(QP)
0.75	Neutral	42.40	*	56.00	46.00	-13.60	(QP)
1.21	Neutral	42.16	*	56.00	46.00	-13.84	(QP)
4.53	Neutral	42.98	*	56.00	46.00	-13.02	(QP)
8.94	Neutral	44.50	*	60.00	50.00	-15.50	(QP)

**Remark**

- (1) All readings are QP Mode value unless otherwise stated AVG in column of Note. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform. In this case, a “ \* ” marked in AVG Mode column of Interference Voltage Measured.
- (2) Measuring frequency range from 150KHz to 30MHz.





**4.2 RADIATED EMISSION MEASUREMENT**

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

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

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

**LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)**

FREQUENCY (MHz)	(dBuV/m) (at 3m)	
	PEAK	AVERAGE
Above 1000	74	54

Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

**FREQUENCY RANGE OF RADIATED MEASUREMENT (For unintentional radiators)**

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



**4.2.2 MEASUREMENT INSTRUMENTS LIST AND SETTING**

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	Schwarbeck	VULB9160	9160-3232	Jun .04.2012
2	Amplifier	HP	8447D	2944A09673	May.26.2012
3	Test Receiver	R&S	ESCI	100382	May.26.2012
4	Test Cable	N/A	C-01_CB03	N/A	Jul.01.2012
5	Antenna	ETS	3115	00075789	May.26.2012
6	Amplifier	Agilent	8449B	3008A02274	May.26.2012
7	Spectrum	Agilent	E4408B	US39240143	Nov.25.2012
8	Test Cable	HUBER+SUHNER	C-45	N/A	May.04.2012
9	Controller	CT	SC100	N/A	N/A
10	Active Loop Antenna	R&S	HFH2-Z2	830749/020	May.26.2012
11	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Oct.13.2012

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

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (Emission in restricted band)	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



#### **4.2.3 TEST PROCEDURE**

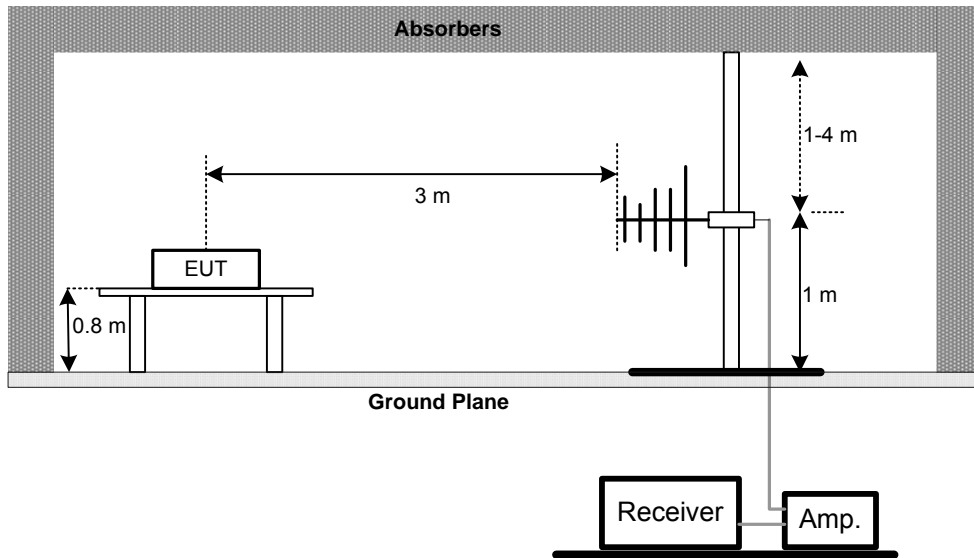
- a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated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

#### **4.2.4 DEVIATION FROM TEST STANDARD**

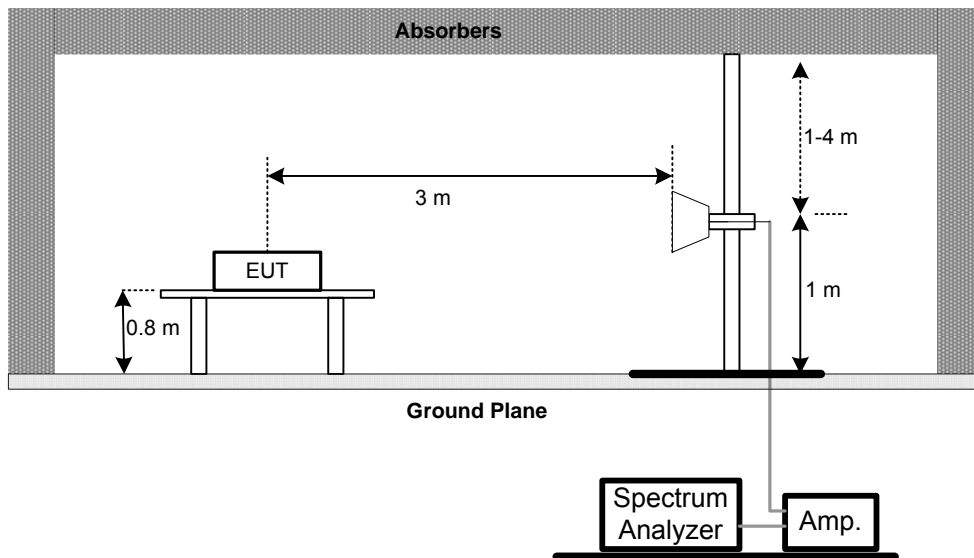
No deviation

**4.2.5 TEST SETUP**

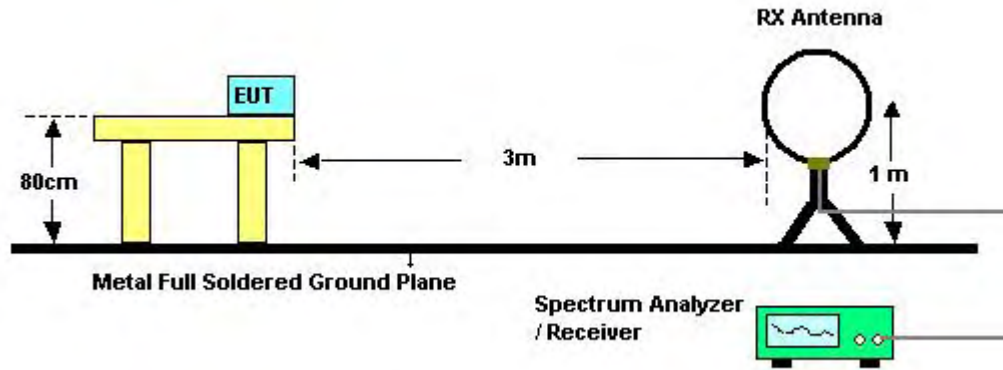
(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



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



(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 (BELOW 30MHZ)**

EUT :	Home Gateway	Model Name :	HG532e
Temperature :	24 °C	Relative Humidity :	55 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX Mode		

Freq. (MHz)	Ant. 0°/90°	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Note
0.009	0°	28.56	24.30	52.86	128.33	-75.47	AVG
0.009	0°	32.05	24.30	56.35	148.33	-91.98	PK
0.024	0°	23.60	24.03	47.63	119.91	-72.28	AVG
0.024	0°	25.01	24.03	49.04	139.91	-90.87	PK
0.036	0°	19.68	23.31	42.99	116.57	-73.58	AVG
0.036	0°	21.33	23.31	44.64	136.57	-91.93	PK
0.064	0°	18.53	22.12	40.65	111.51	-70.86	AVG
0.064	0°	23.05	22.12	45.17	131.51	-86.34	PK
0.243	0°	22.69	20.41	43.10	99.88	-56.78	AVG
0.243	0°	22.69	20.41	43.10	119.88	-76.78	PK
1.267	0°	26.67	19.57	46.24	65.55	-19.31	QP

Freq. (MHz)	Ant. 0°/90°	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Note
0.010	90°	16.23	24.30	40.53	127.88	-87.35	AVG
0.010	90°	20.11	24.30	44.41	147.88	-103.47	PK
0.025	90°	12.36	23.99	36.35	119.70	-83.35	AVG
0.025	90°	15.38	23.99	39.37	139.70	-100.33	PK
0.036	90°	20.06	23.29	43.35	116.50	-73.15	AVG
0.036	90°	23.94	23.29	47.23	136.50	-89.27	PK
0.063	90°	21.39	22.13	43.52	111.57	-68.05	AVG
0.063	90°	25.36	22.13	47.49	131.57	-84.08	PK
0.247	90°	21.73	20.41	42.14	99.76	-57.62	AVG
0.247	90°	24.88	20.41	45.29	119.76	-74.47	PK
1.267	90°	22.89	19.57	42.46	65.55	-23.09	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. ◦



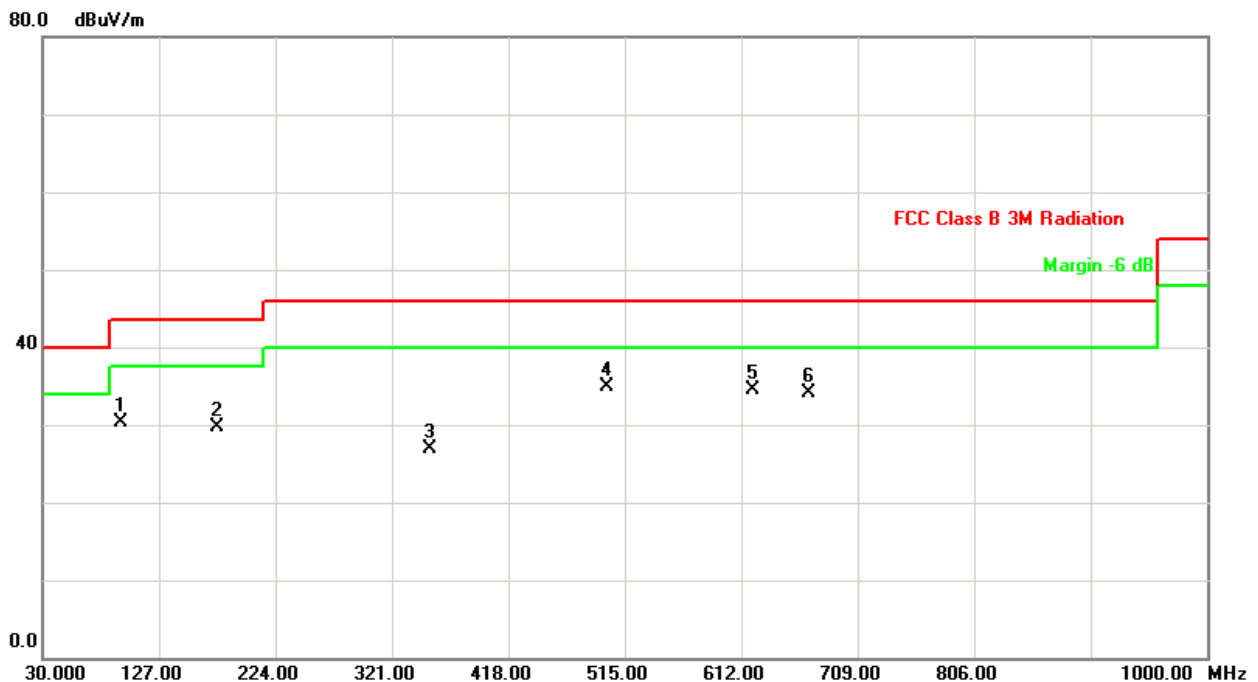
**4.2.8 TEST RESULTS (BETWEEN 30 – 1000 MHZ)**

EUT :	Home Gateway	Model Name :	HG532e
Temperature :	24 °C	Relative Humidity :	55 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE CHANNEL 01		

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
95.48	V	48.69	-18.48	30.21	43.50	- 13.29	
175.50	V	46.78	-17.07	29.71	43.50	- 13.79	
352.53	V	37.73	-10.75	26.98	46.00	- 19.02	
500.45	V	42.22	-7.34	34.88	46.00	- 11.12	
621.70	V	38.31	-3.86	34.45	46.00	- 11.55	
667.78	V	37.46	-3.28	34.18	46.00	- 11.82	

**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.



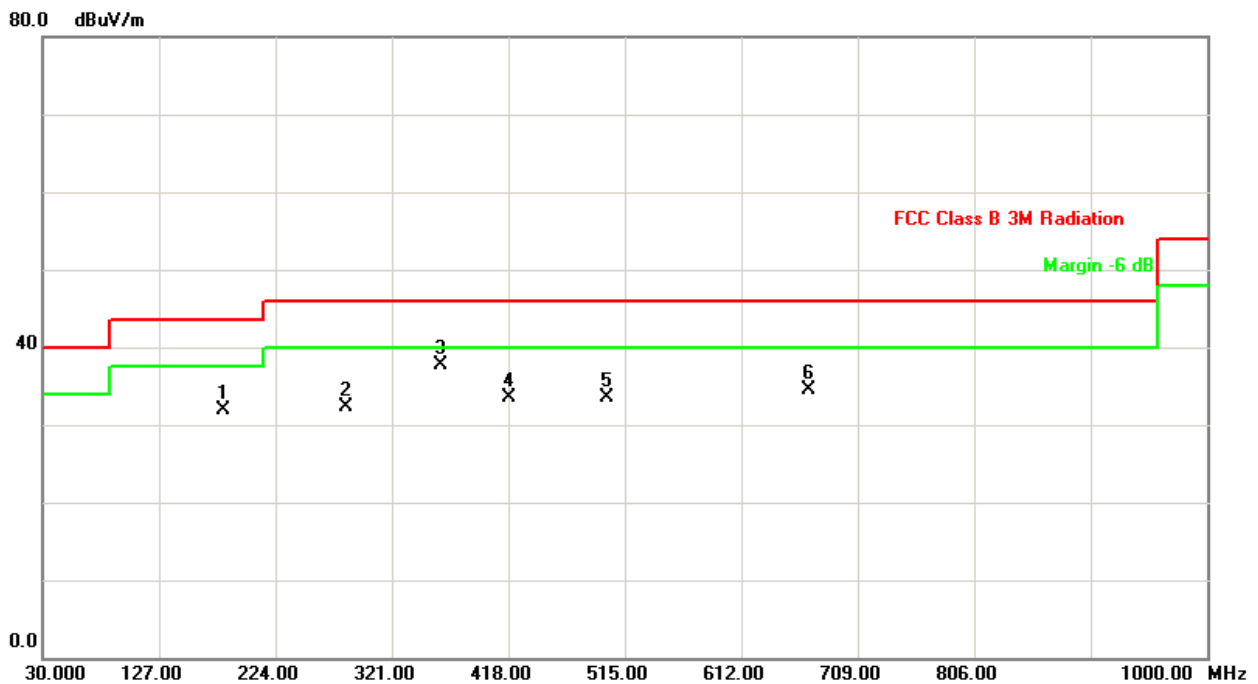


EUT :	Home Gateway	Model Name :	HG532e
Temperature :	24 °C	Relative Humidity :	55 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE CHANNEL 01		

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
180.35	H	48.71	-16.88	31.83	43.50	- 11.67	
282.20	H	44.88	-12.52	32.36	46.00	- 13.64	
362.23	H	48.15	-10.40	37.75	46.00	- 8.25	
418.00	H	42.24	-8.70	33.54	46.00	- 12.46	
500.45	H	40.88	-7.34	33.54	46.00	- 12.46	
667.78	H	37.70	-3.28	34.42	46.00	- 11.58	

**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.



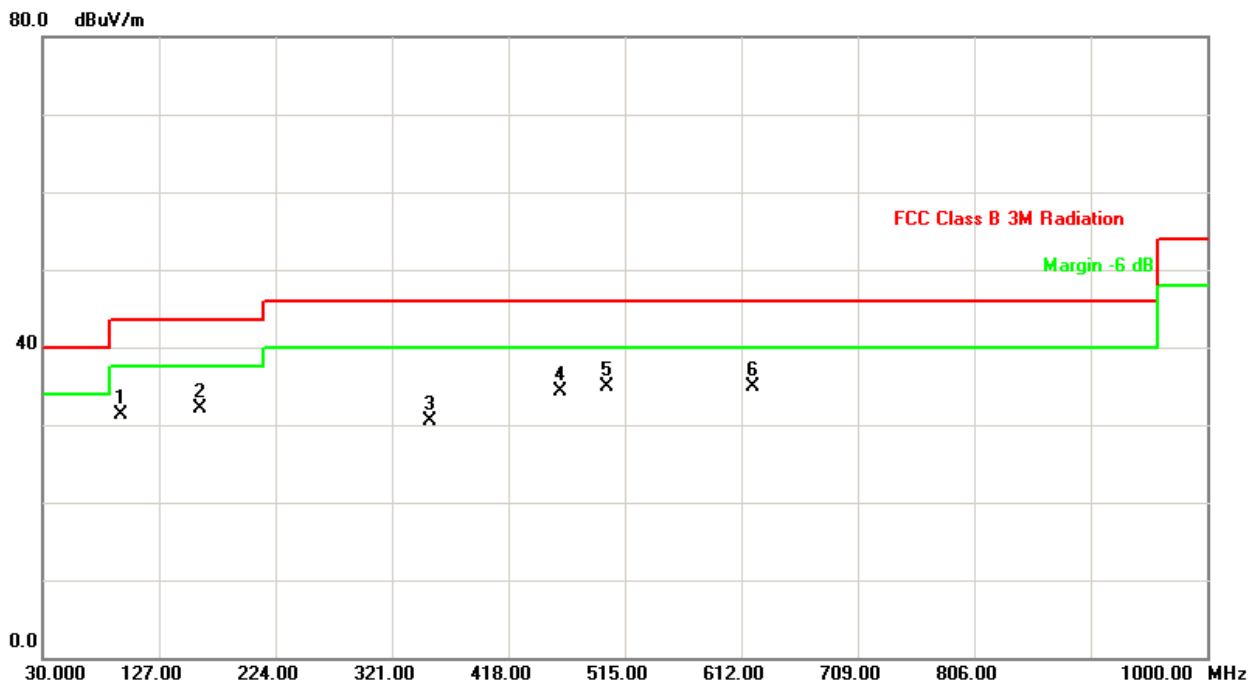


EUT :	Home Gateway	Model Name :	HG532e
Temperature :	24 °C	Relative Humidity :	55 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE CHANNEL 06		

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
94.48	V	49.69	-18.48	31.21	43.50	- 12.29	
160.95	V	49.71	-17.62	32.09	43.50	- 11.41	
352.53	V	41.23	-10.75	30.48	46.00	- 15.52	
461.65	V	42.28	-7.93	34.35	46.00	- 11.65	
500.45	V	42.22	-7.34	34.88	46.00	- 11.12	
621.70	V	38.81	-3.86	34.95	46.00	- 11.05	

**Remark :**

- (1) Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode or Peak Mode with Detector BW=120KHz ; SPA setting in RBW=120KHz, VBW =120KHz, Swp. Time = 0.3 sec./MHz.
- (2) All readings are Peak unless otherwise stated QP in column of 『 Note 』 . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform.
- (3) Measuring frequency range from 30MHz to 1000MHz.
- (4) If the peak scan value lower limit more than 20dB, then this signal data does not show in table.



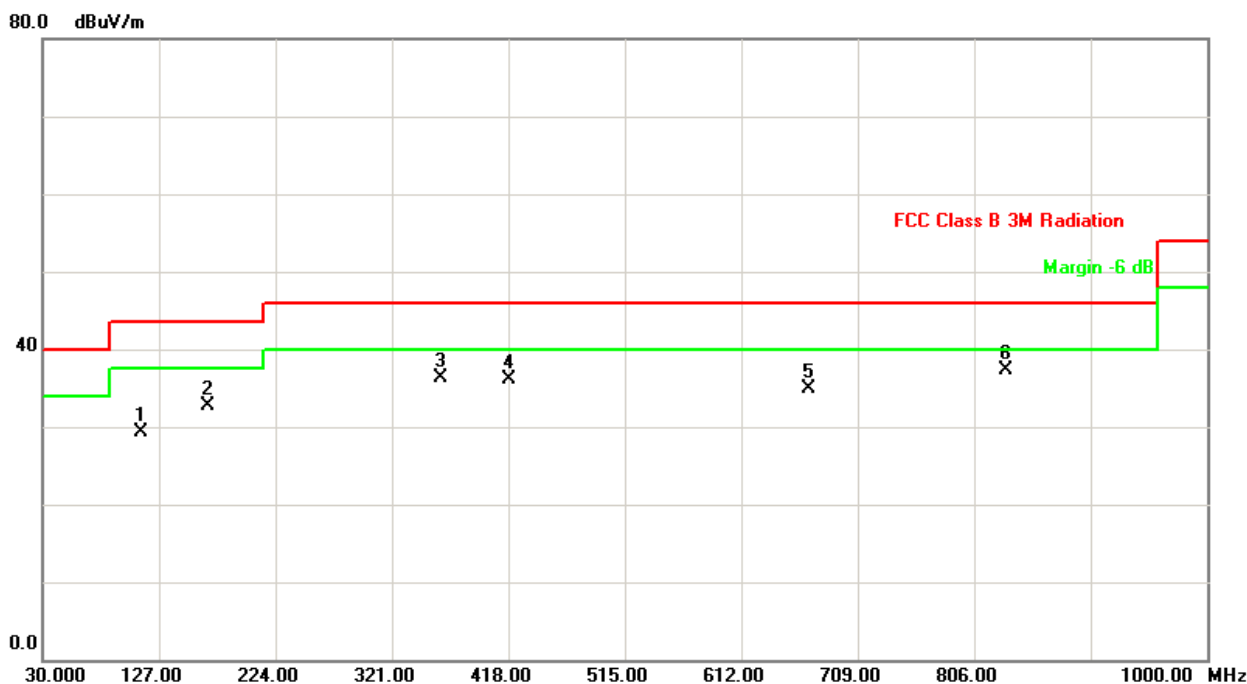


EUT :	Home Gateway	Model Name :	HG532e
Temperature :	24 °C	Relative Humidity :	55 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE CHANNEL 06		

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
112.45	H	47.64	-18.34	29.30	43.50	- 14.20	
168.23	H	50.13	-17.35	32.78	43.50	- 10.72	
362.23	H	46.65	-10.40	36.25	46.00	- 9.75	
418.00	H	44.74	-8.70	36.04	46.00	- 9.96	
667.78	H	38.20	-3.28	34.92	46.00	- 11.08	
832.68	H	38.60	-1.22	37.38	46.00	- 8.62	

**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.



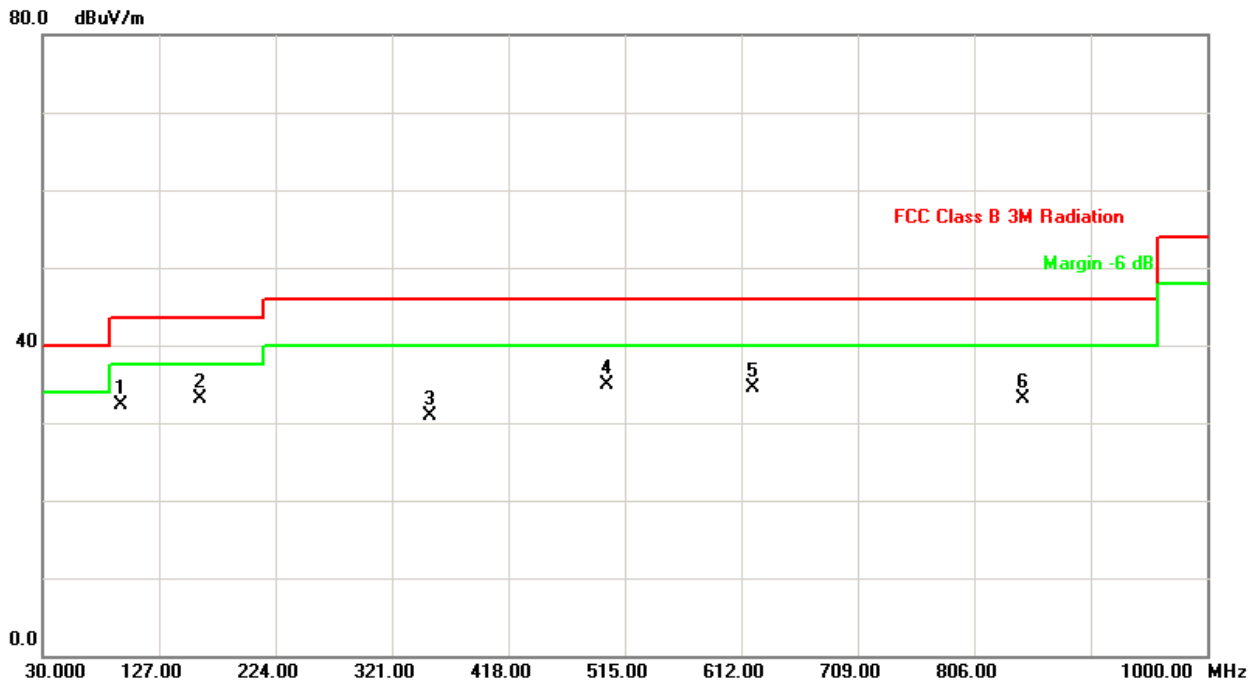


EUT :	Home Gateway	Model Name :	HG532e
Temperature :	24 °C	Relative Humidity :	55 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE CHANNEL 11		

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
95.48	V	50.69	-18.48	32.21	43.50	- 11.29	
160.95	V	50.71	-17.62	33.09	43.50	- 10.41	
352.53	V	41.73	-10.75	30.98	46.00	- 15.02	
500.45	V	42.22	-7.34	34.88	46.00	- 11.12	
621.70	V	38.31	-3.86	34.45	46.00	- 11.55	
847.23	V	34.12	-0.93	33.19	46.00	- 12.81	

**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.



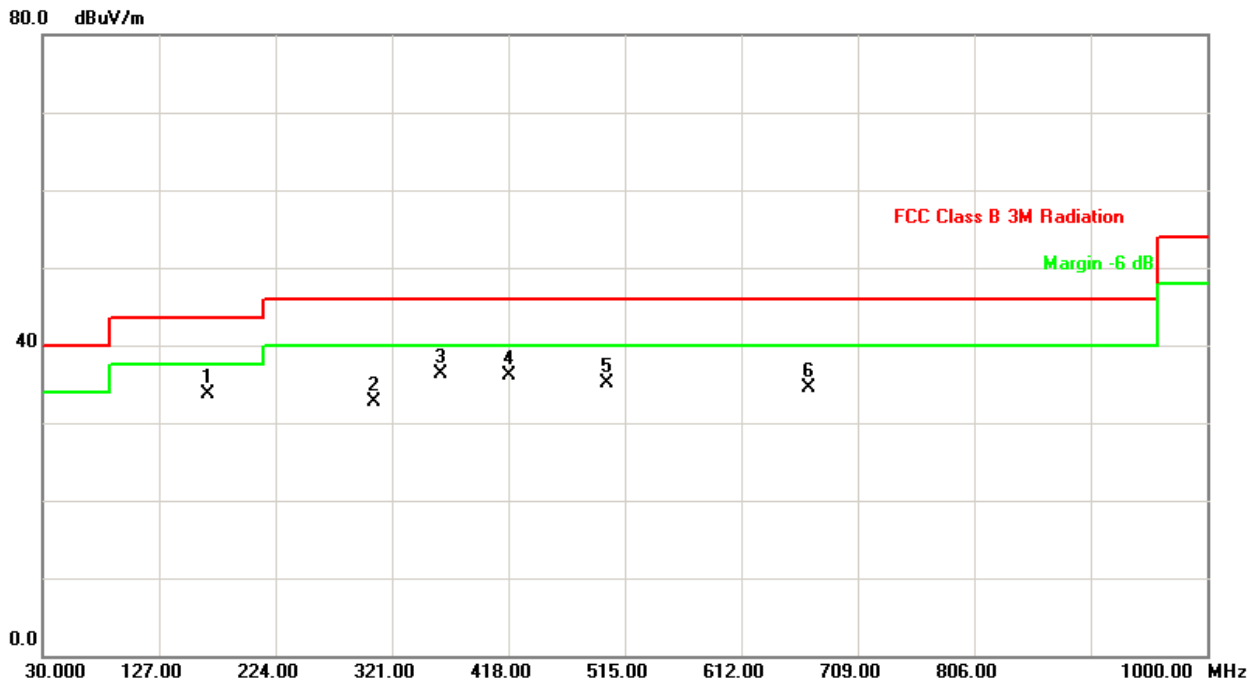


EUT :	Home Gateway	Model Name :	HG532e
Temperature :	24 °C	Relative Humidity :	55 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE CHANNEL 11		

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
168.23	H	51.13	-17.35	33.78	43.50	- 9.72	
306.45	H	44.56	-11.91	32.65	46.00	- 13.35	
362.23	H	46.65	-10.40	36.25	46.00	- 9.75	
418.00	H	44.74	-8.70	36.04	46.00	- 9.96	
500.45	H	42.38	-7.34	35.04	46.00	- 10.96	
667.78	H	37.70	-3.28	34.42	46.00	- 11.58	

**Remark :**

- (1) Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode or Peak Mode with Detector BW=120KHz ; SPA setting in RBW=120KHz, VBW =120KHz, Swp. Time = 0.3 sec./MHz.
- (2) All readings are Peak unless otherwise stated QP in column of 『 Note 』 . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform.
- (3) Measuring frequency range from 30MHz to 1000MHz.
- (4) If the peak scan value lower limit more than 20dB, then this signal data does not show in table.





**4.2.9 TEST RESULTS (ABOVE 1000 MHZ)**

EUT :	Home Gateway	Model Name :	HG532e
Temperature :	25 °C	Relative Humidity :	58 %
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)	
2370.50	V	27.61	17.25	31.94	59.55	49.19	74.00	54.00	X/E
2390.00	V	25.37	14.39	31.91	57.28	46.3	74.00	54.00	X/E
<b>2413.00</b>	<b>V</b>	<b>77.01</b>	<b>72.74</b>	<b>31.88</b>	<b>108.89</b>	<b>104.62</b>			<b>X/F</b>
2329.34	V	60.14	52.00	-1.39	58.75	50.61	74.00	54.00	X/H
4824.00	V	50.60	47.16	5.29	55.89	52.45	74.00	54.00	X/H

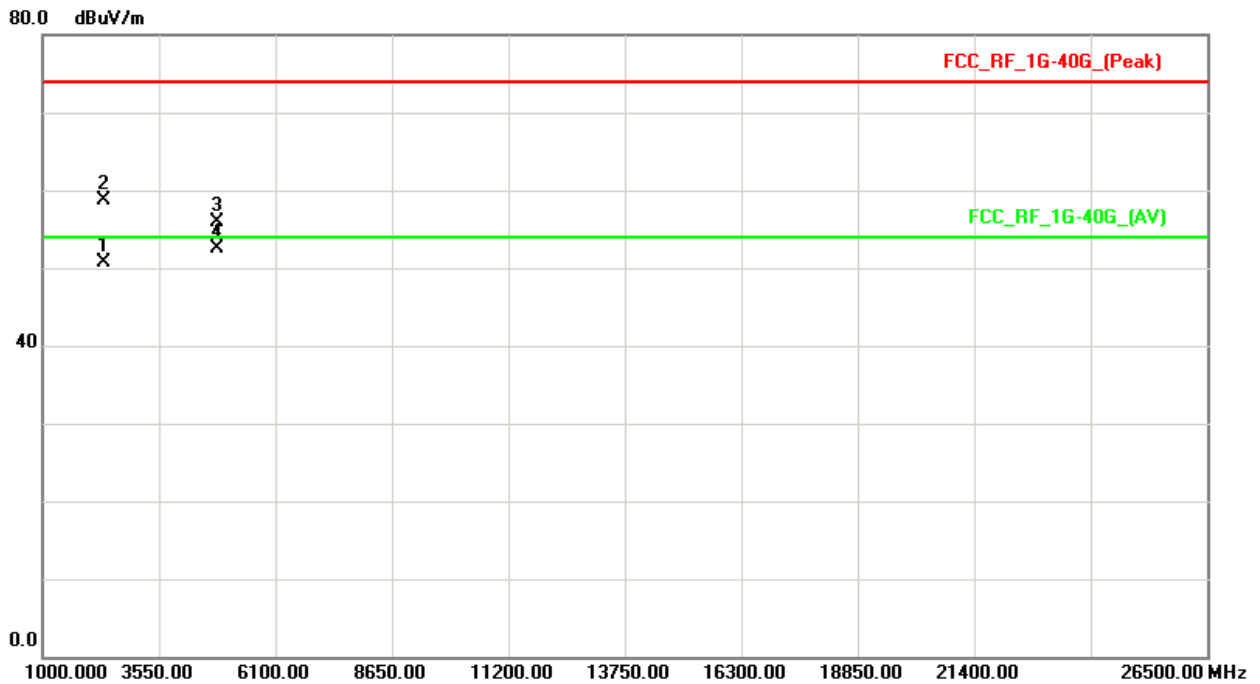
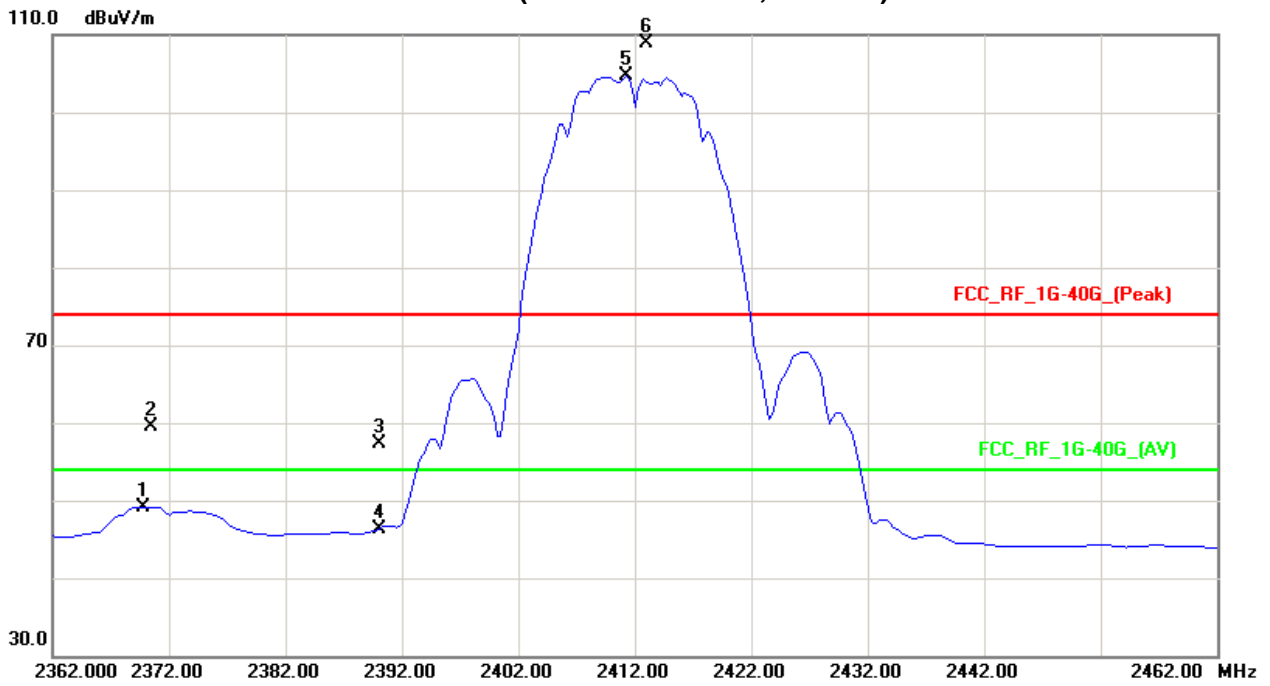
Remark :

- (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 :	Home Gateway	Model Name :	HG532e
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE 2412MHz		

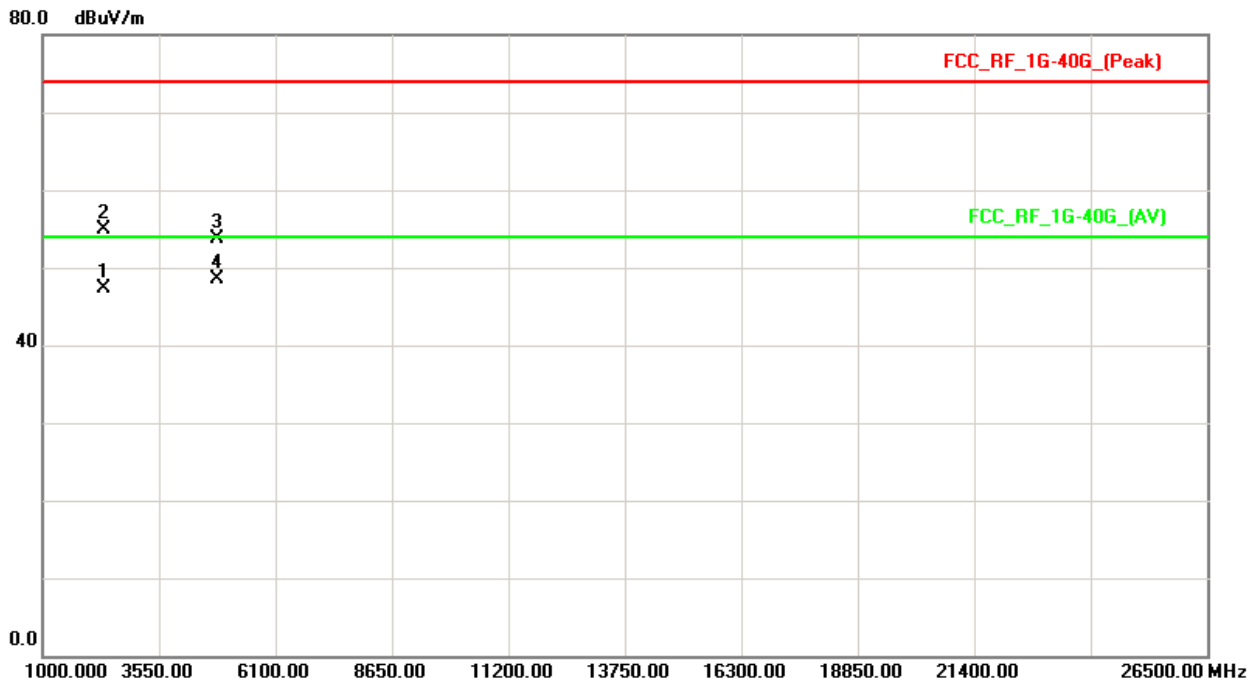
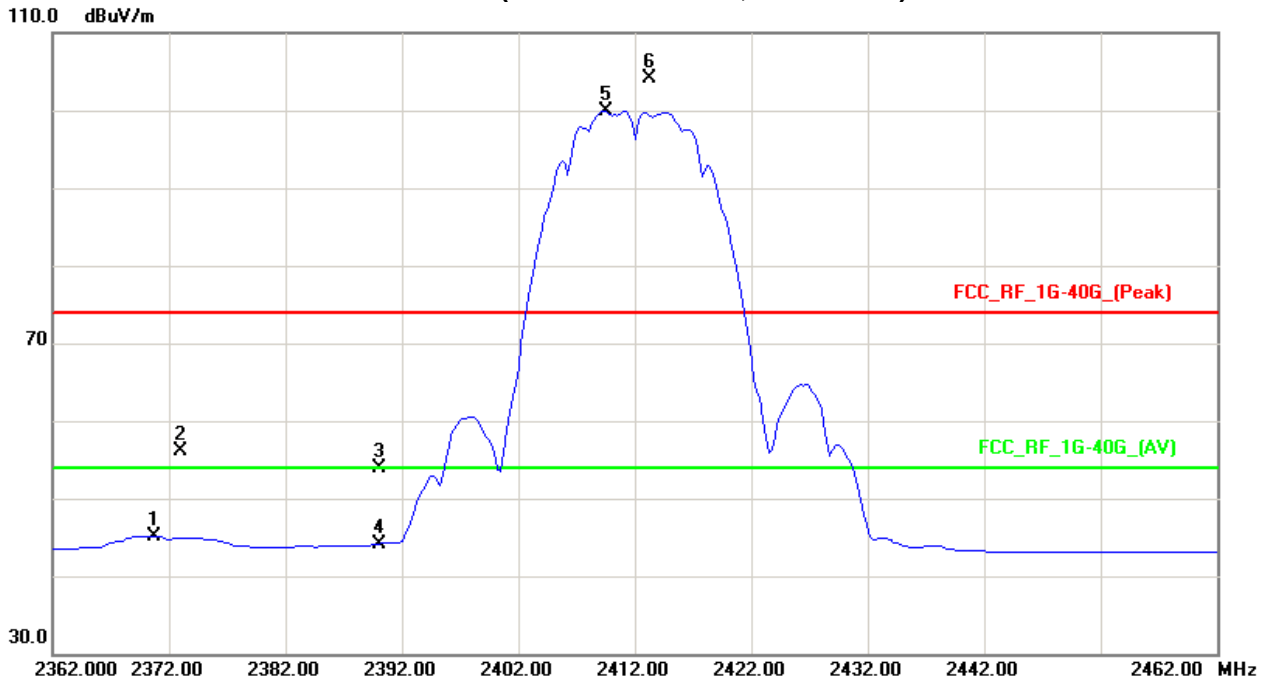
Freq. (MHz)	Ant.Pol. HV	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
2373.00	H	24.27	13.19	31.93	56.20	45.12	74.00	54.00	X/E
2390.00	H	21.94	12.26	31.91	53.85	44.17	74.00	54.00	X/E
<b>2413.25</b>	<b>H</b>	<b>72.31</b>	<b>68.07</b>	<b>31.89</b>	<b>104.20</b>	<b>99.96</b>			<b>X/F</b>
2329.75	H	56.20	48.65	-1.39	54.81	47.26	74.00	54.00	X/H
4823.86	H	48.40	43.20	5.29	53.69	48.49	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 :	Home Gateway	Model Name :	HG532e
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE 2437MHz		

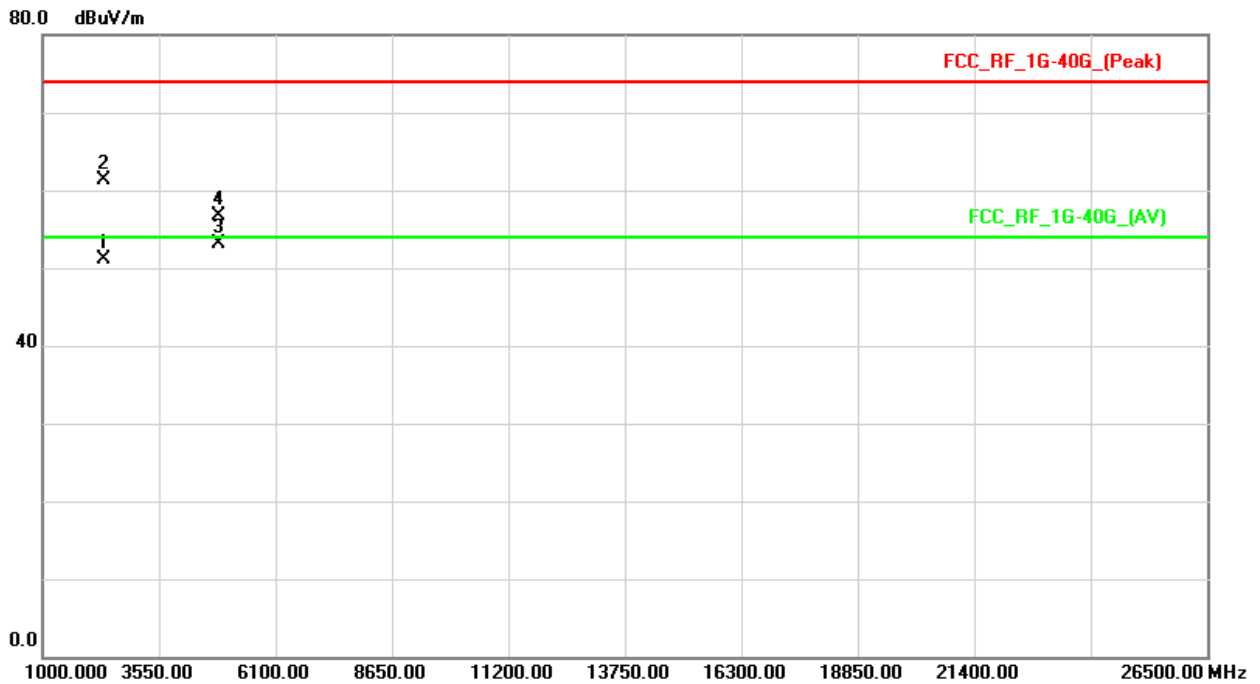
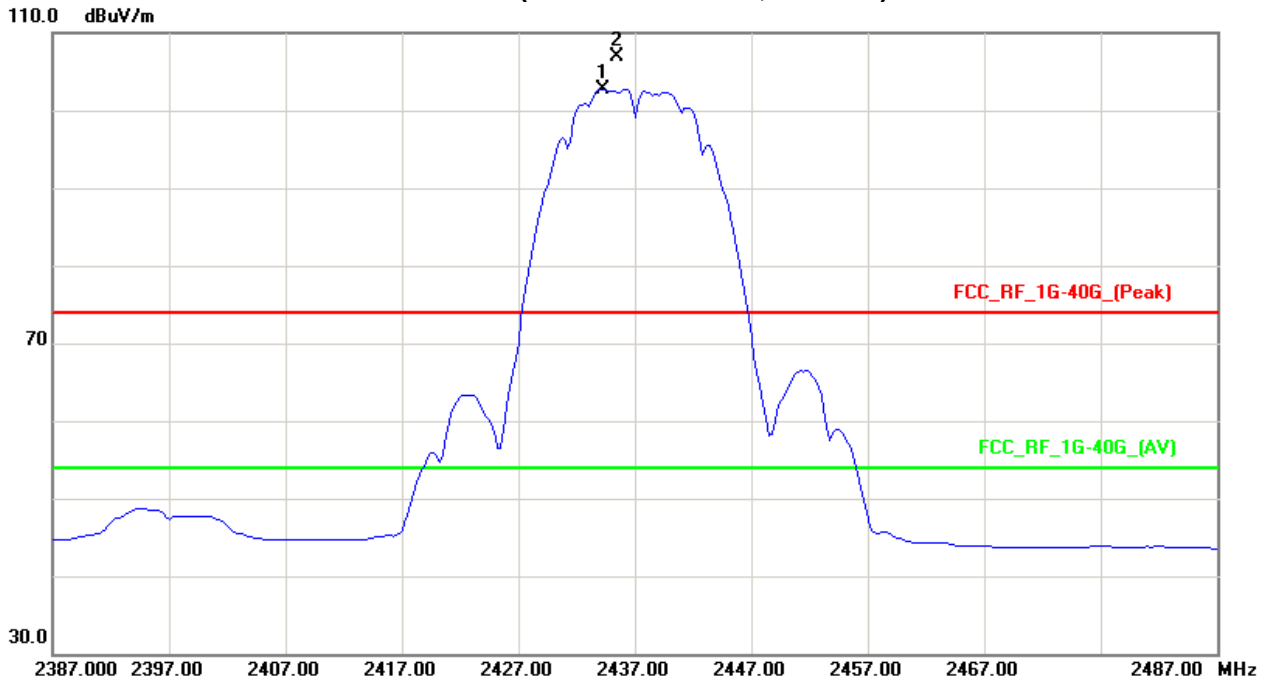
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
<b>2435.50</b>	<b>V</b>	<b>75.13</b>	<b>70.91</b>	<b>31.86</b>	<b>106.99</b>	<b>102.77</b>			<b>X/F</b>
2359.27	V	62.72	52.62	-1.44	61.28	51.18	74.00	54.00	X/H
4874.10	V	51.20	47.67	5.47	56.67	53.14	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 :	Home Gateway	Model Name :	HG532e
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE 2437MHz		

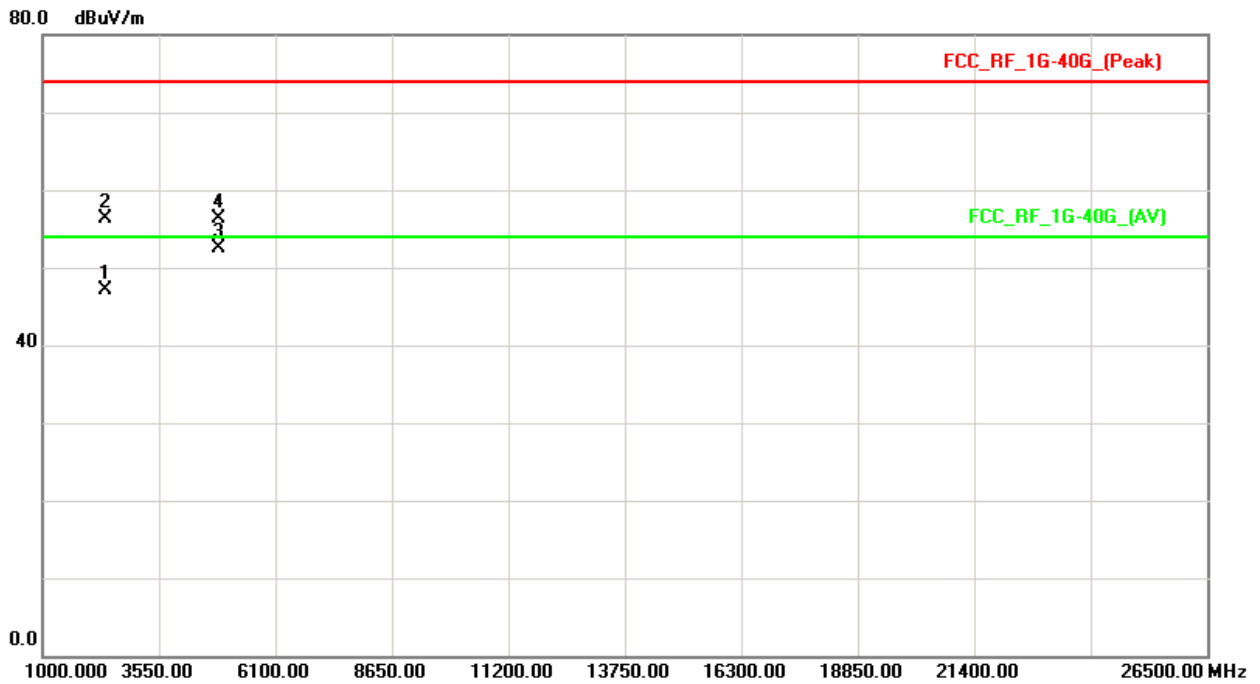
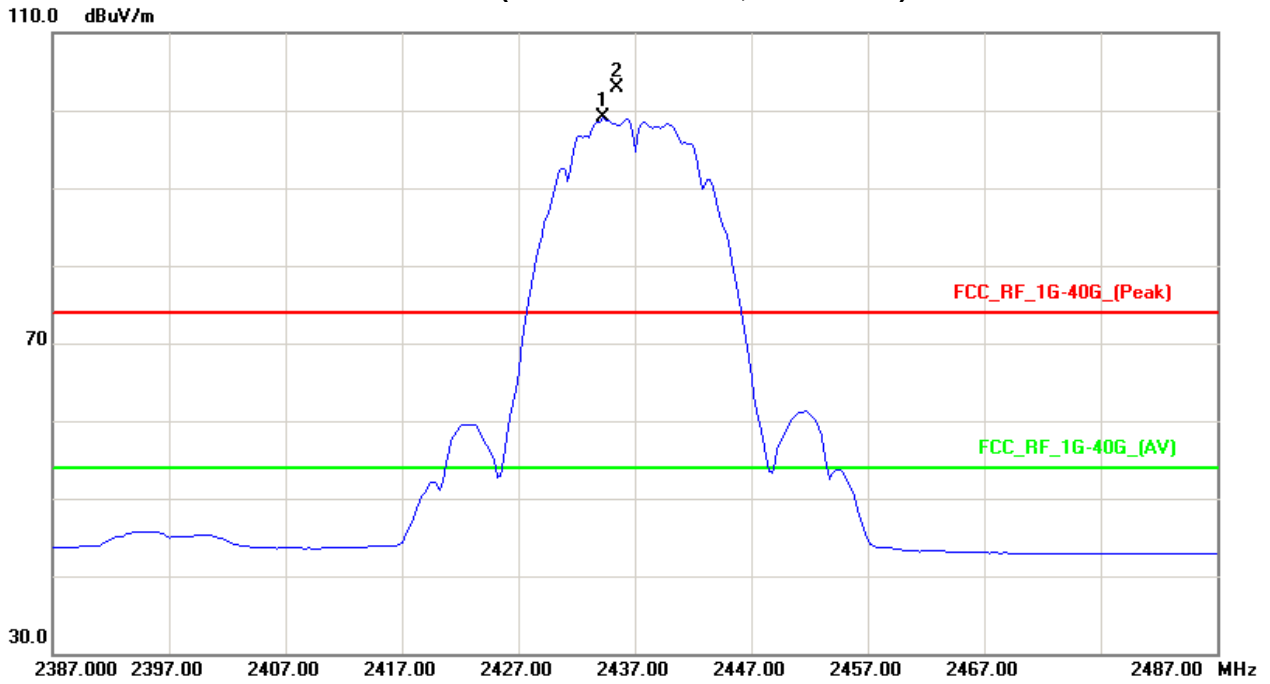
Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
<b>2435.50</b>	<b>H</b>	<b>71.02</b>	<b>67.17</b>	<b>31.86</b>	<b>102.88</b>	<b>99.03</b>			<b>X/F</b>
2360.34	H	57.65	48.50	-1.44	56.21	47.06	74.00	54.00	X/H
4874.11	H	50.76	47.04	5.47	56.23	52.51	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 :	Home Gateway	Model Name :	HG532e
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE 2462MHz		

Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
<b>2463.00</b>	<b>V</b>	<b>74.63</b>	<b>70.42</b>	<b>31.82</b>	<b>106.45</b>	<b>102.24</b>			<b>X/F</b>
2483.50	V	23.02	12.93	31.80	54.82	44.73	74.00	54.00	X/E
2381.30	V	59.36	51.49	-1.47	57.89	50.02	74.00	54.00	X/H
4924.03	V	54.53	44.88	5.65	60.18	50.53	74.00	54.00	X/H

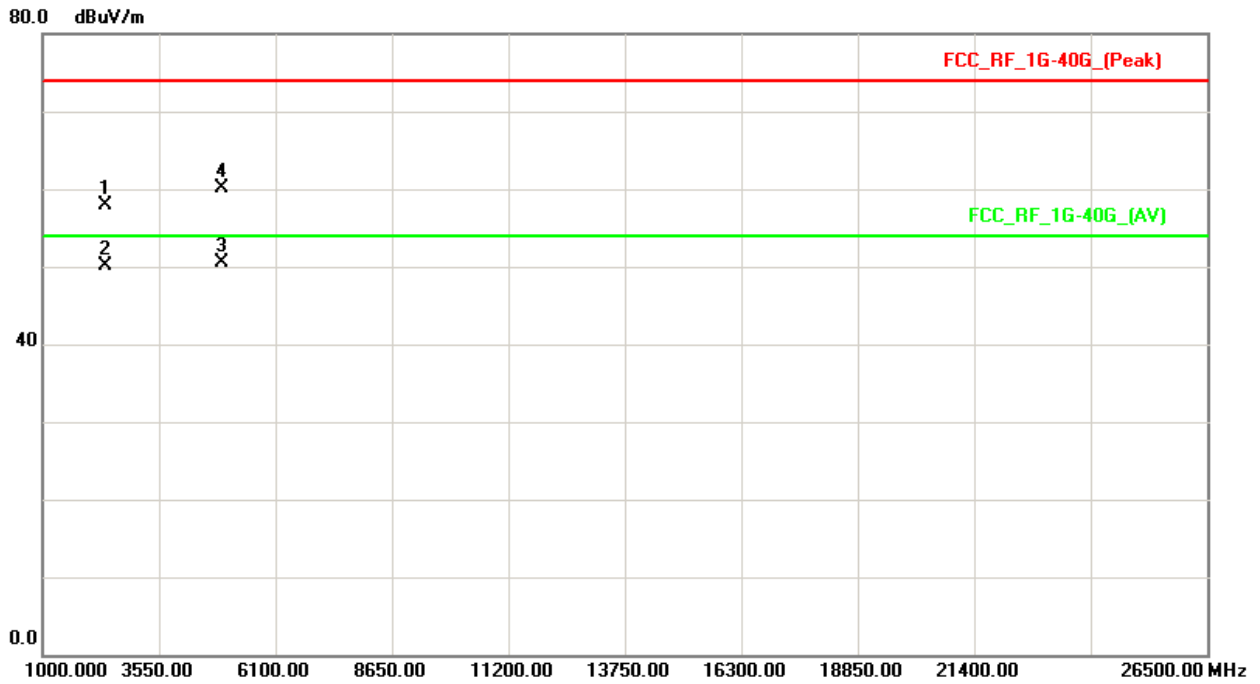
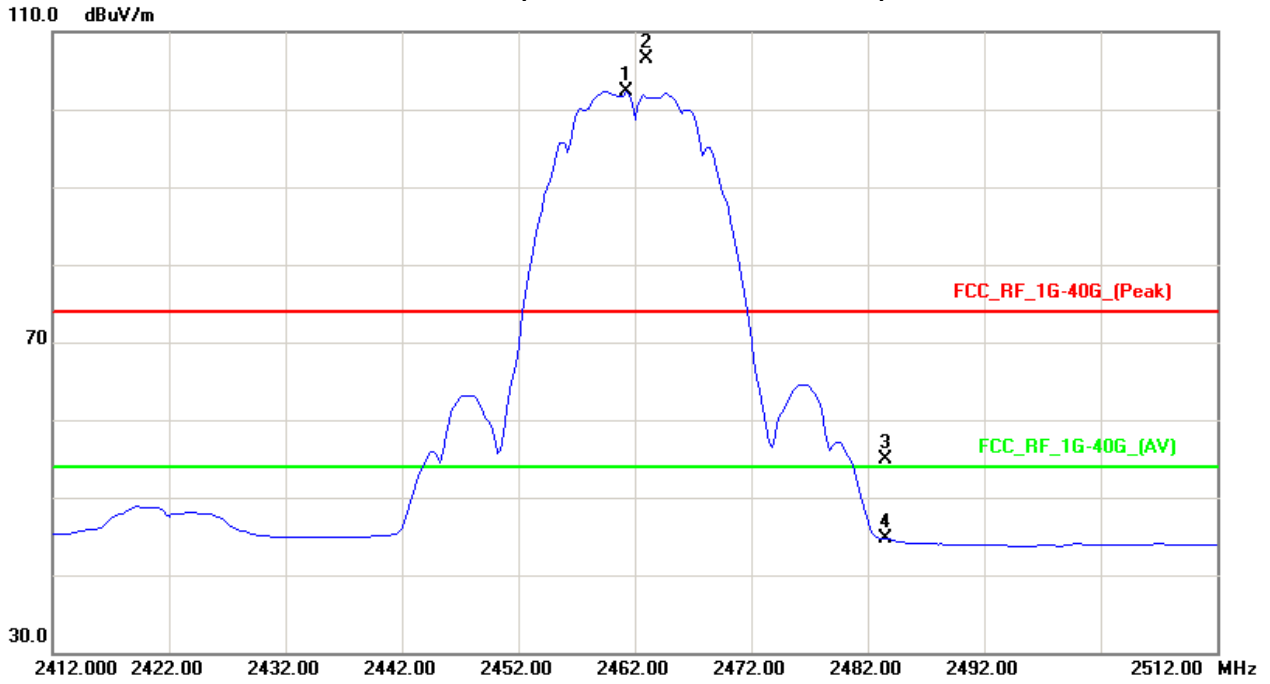
**Remark :**

- (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 :	Home Gateway	Model Name :	HG532e
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE 2462MHz		

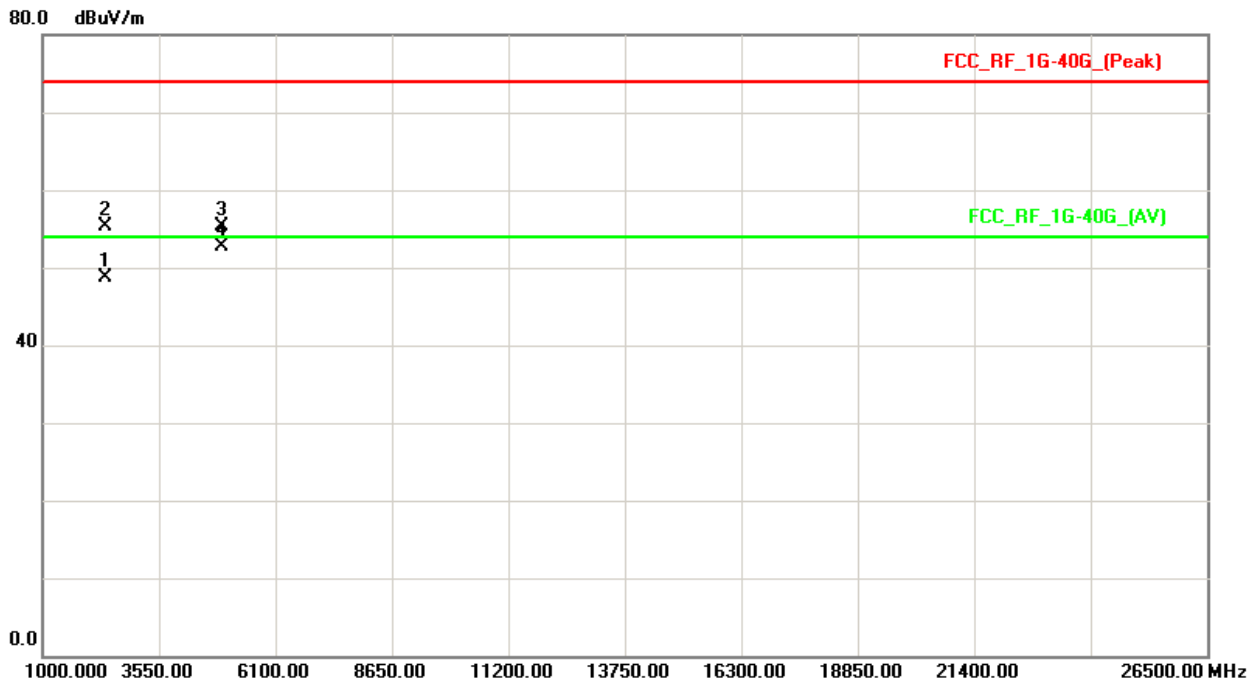
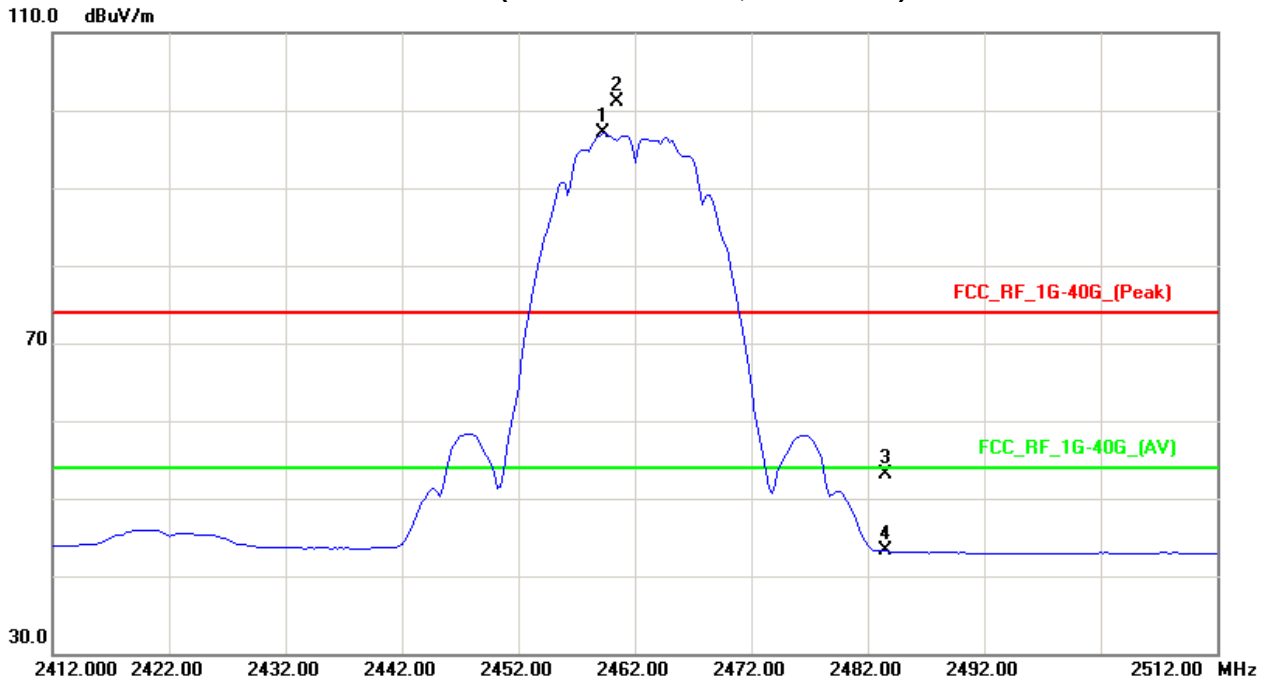
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
<b>2460.50</b>	<b>H</b>	<b>69.18</b>	<b>65.19</b>	<b>31.83</b>	<b>101.01</b>	<b>97.02</b>			<b>X/F</b>
2483.50	H	21.33	11.42	31.80	53.13	43.22	74.00	54.00	X/E
2381.36	H	56.69	50.09	-1.47	55.22	48.62	74.00	54.00	X/H
4923.97	H	49.67	47.09	5.65	55.32	52.74	74.00	54.00	X/H

**Remark :**

- (1) All readings are Peak unless otherwise stated QP in column of 『 Note 』 . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform.
- (2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency. "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission .
- (4) Data of measurement within this frequency range shown " \* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (6) EUT Orthogonal Axis :  
"X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna



TX CH11 (Above 1000 MHz, Horizontal)





EUT :	Home Gateway	Model Name :	HG532e
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX G MODE 2412MHz		

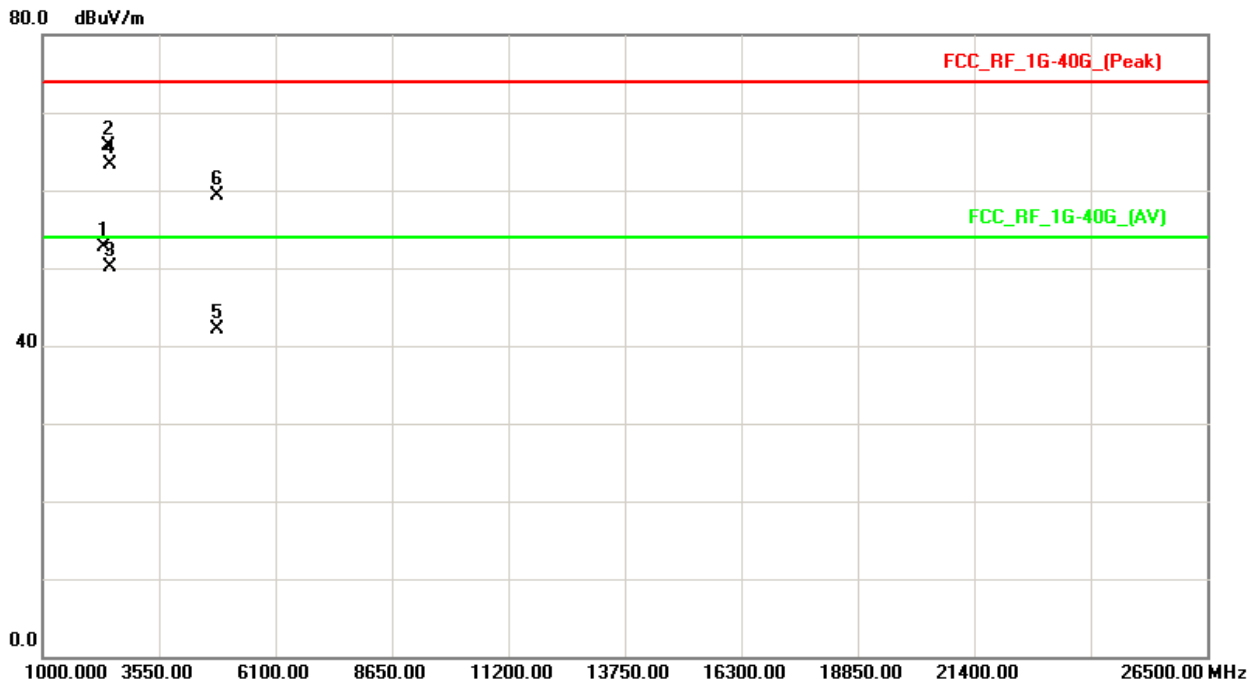
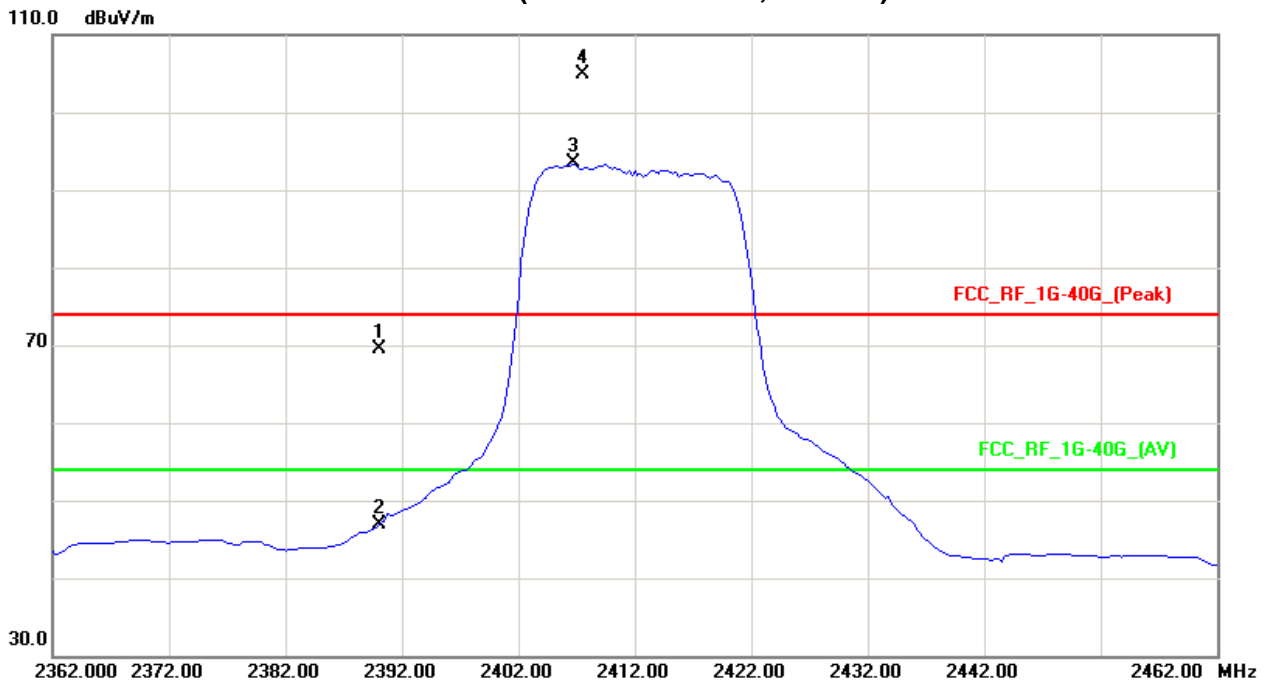
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
2390.00	V	37.51	14.96	31.91	69.42	46.87	74.00	54.00	X/E
<b>2407.50</b>	<b>V</b>	<b>72.93</b>	<b>61.70</b>	<b>31.90</b>	<b>104.83</b>	<b>93.6</b>			<b>X/F</b>
2438.54	V	67.31	54.11	-1.56	65.75	52.55	74.00	54.00	X/H
2478.26	V	64.83	51.77	-1.62	63.21	50.15	74.00	54.00	X/H
4824.21	V	53.97	36.89	5.29	59.26	42.18	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 :	Home Gateway	Model Name :	HG532e
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX G MODE 2412MHz		

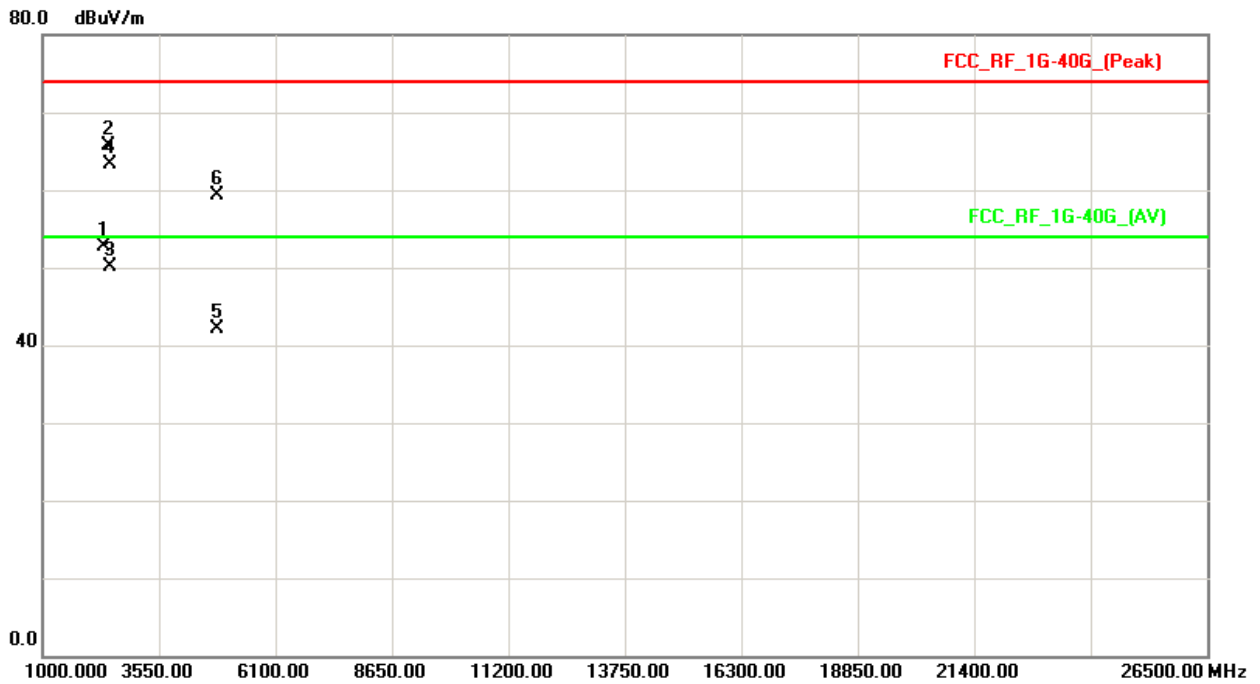
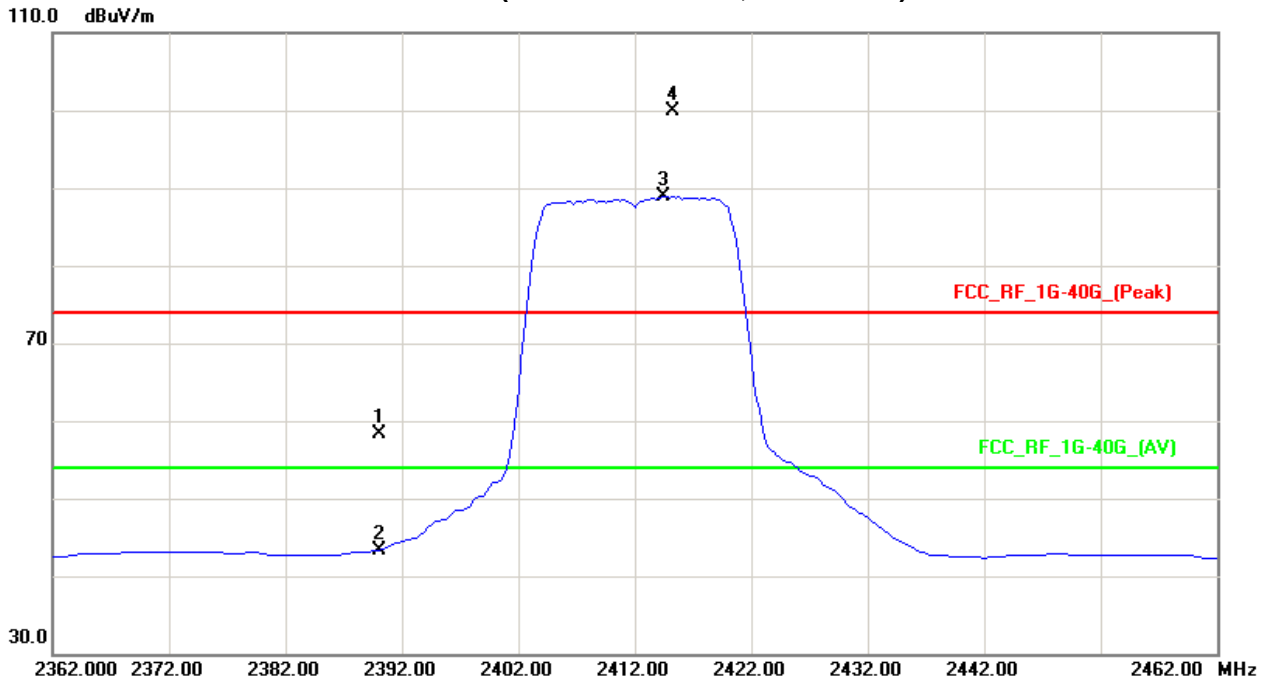
Freq. (MHz)	Ant.Pol. HV	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
2390.00	H	26.40	11.46	31.91	58.31	43.37	74.00	54.00	X/E
<b>2415.26</b>	<b>H</b>	<b>68.06</b>	<b>57.05</b>	<b>31.88</b>	<b>99.94</b>	<b>88.93</b>			<b>X/F</b>
2438.54	H	67.31	54.11	-1.56	65.75	52.55	74.00	54.00	X/H
2478.26	H	64.83	51.77	-1.62	63.21	50.15	74.00	54.00	X/H
4824.21	H	53.97	36.89	5.29	59.26	42.18	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 :	Home Gateway	Model Name :	HG532e
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX G MODE 2437MHz		

Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
<b>2435.25</b>	<b>V</b>	<b>73.50</b>	<b>62.81</b>	<b>31.86</b>	<b>105.36</b>	<b>94.67</b>			<b>X/F</b>
2359.27	V	62.72	54.12	-1.44	61.28	52.68	74.00	54.00	X/H
2501.36	V	62.72	51.26	-1.65	61.07	49.61	74.00	54.00	X/H
4874.10	V	51.20	47.67	5.47	56.67	53.14	74.00	54.00	X/H

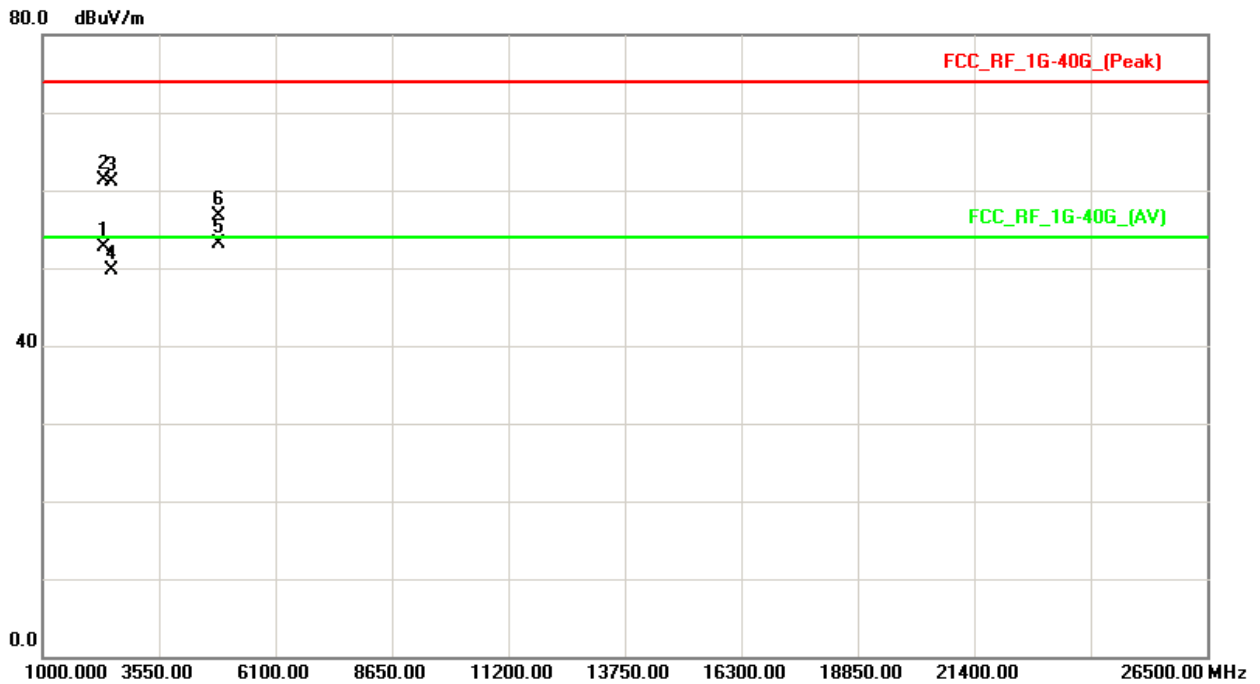
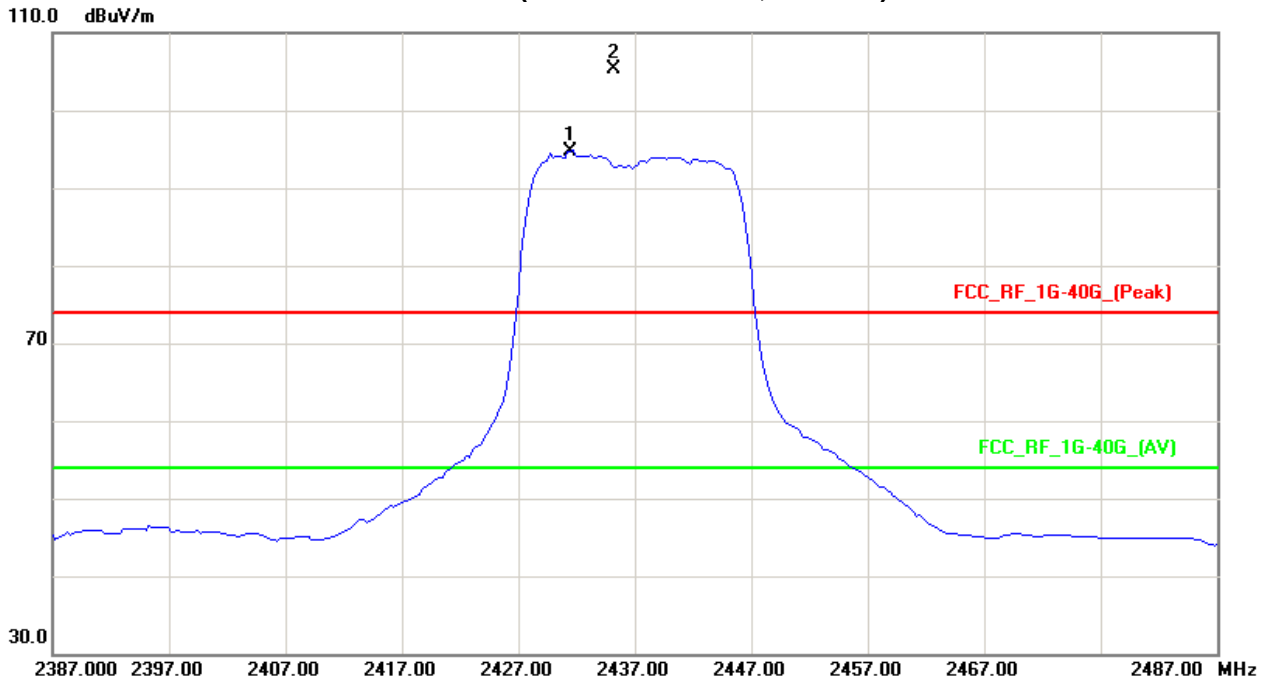
Remark :

- (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 :	Home Gateway	Model Name :	HG532e
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX G MODE 2437MHz		

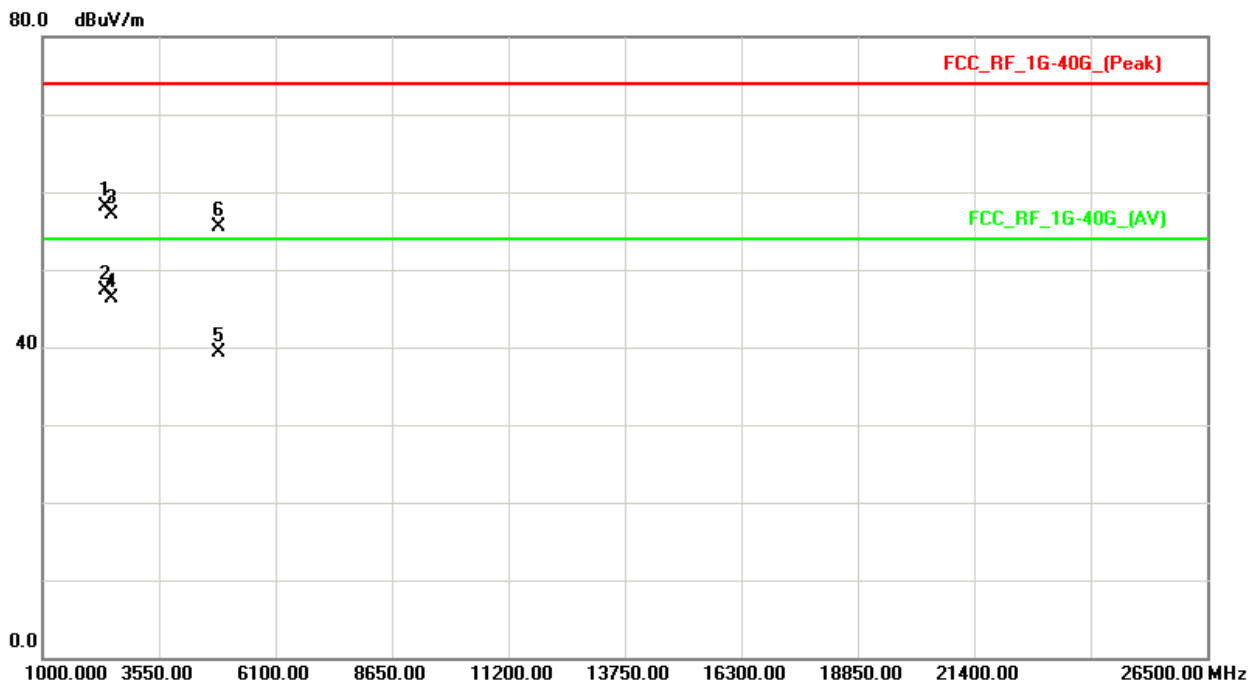
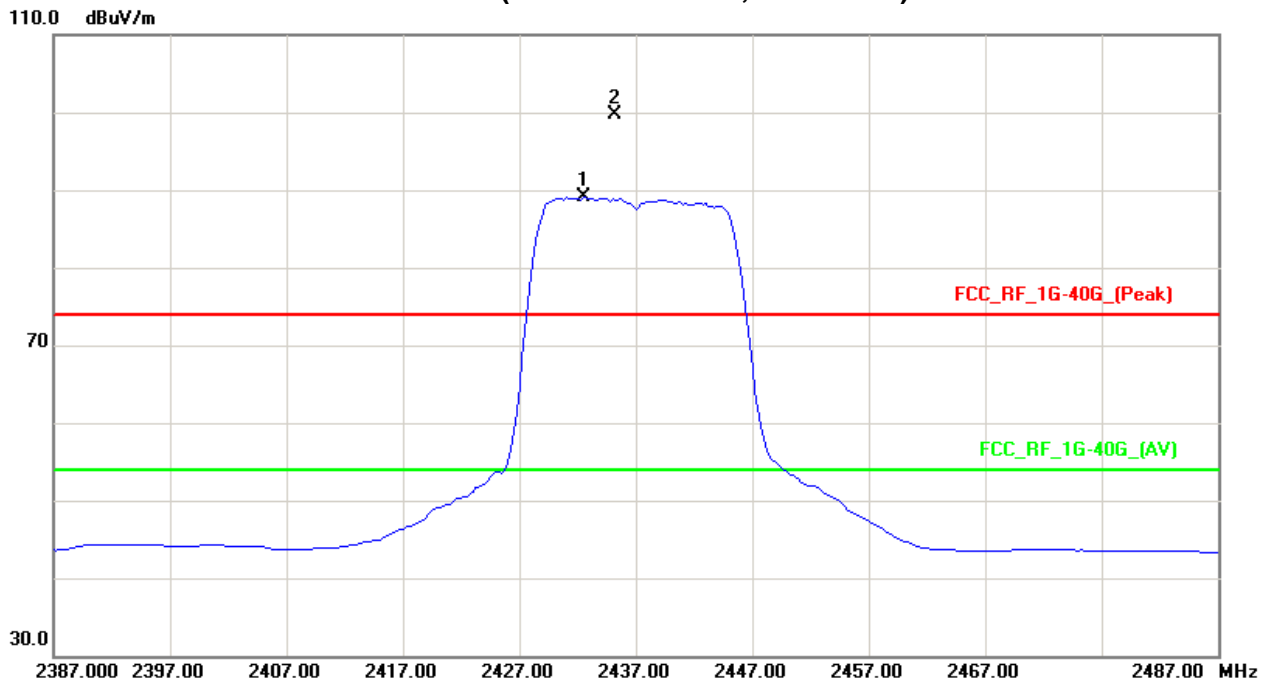
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
<b>2435.25</b>	<b>H</b>	<b>67.81</b>	<b>57.22</b>	<b>31.86</b>	<b>99.67</b>	<b>89.08</b>			<b>X/F</b>
2371.38	H	59.48	48.73	-1.45	58.03	47.28	74.00	54.00	X/H
2503.36	H	58.85	48.03	-1.65	57.20	46.38	74.00	54.00	X/H
4874.18	H	50.01	33.79	5.47	55.48	39.26	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 :	Home Gateway	Model Name :	HG532e
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX G MODE 2462MHz		

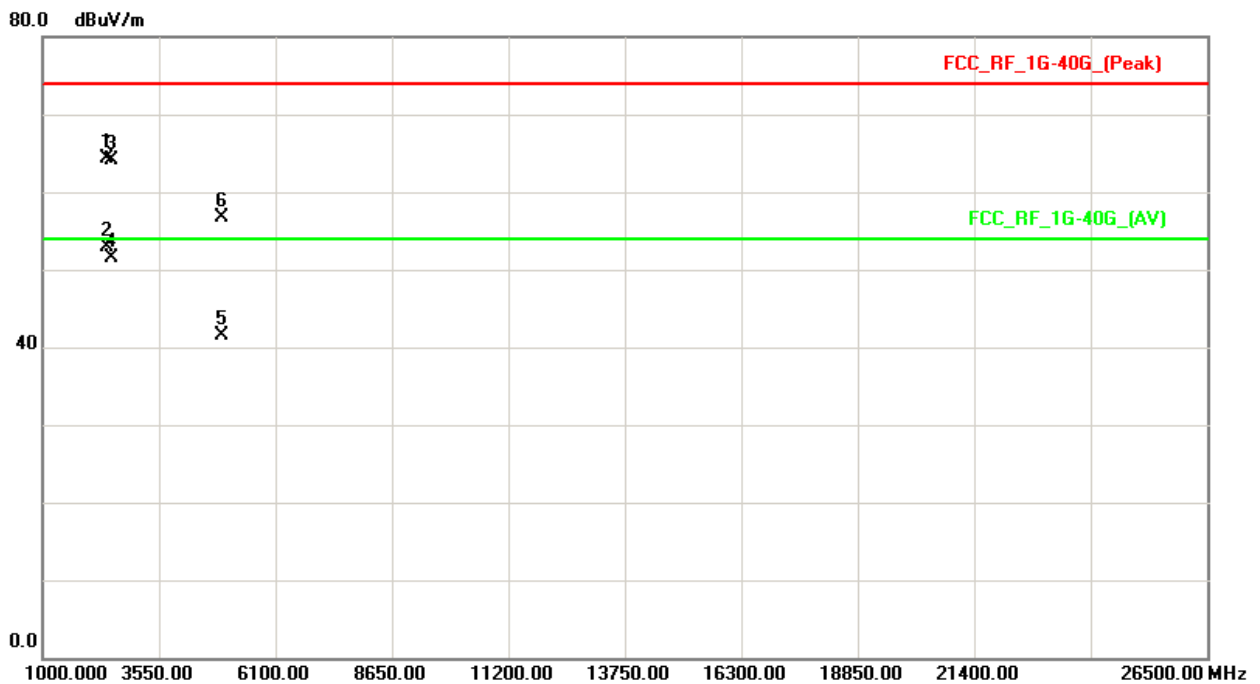
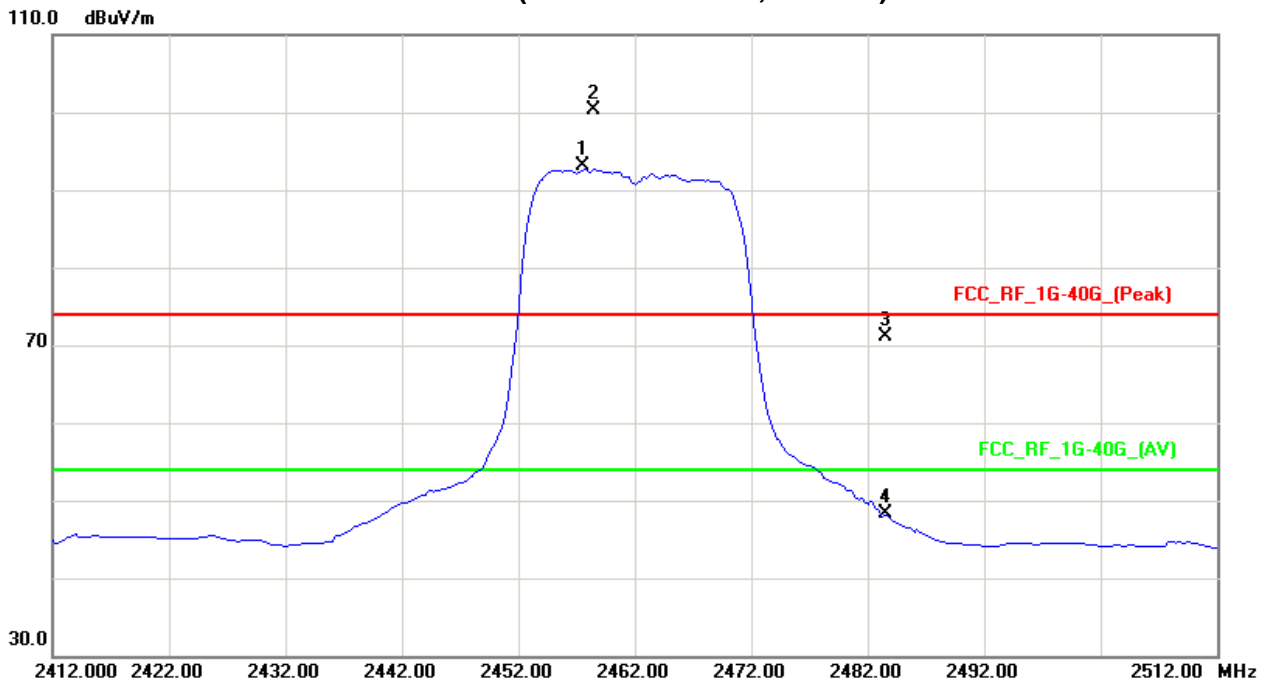
Freq. (MHz)	Ant. Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
<b>2458.42</b>	<b>V</b>	<b>68.43</b>	<b>61.19</b>	<b>31.83</b>	<b>100.26</b>	<b>93.02</b>			<b>X/F</b>
2483.50	V	39.37	16.45	31.80	71.17	48.25	74.00	54.00	X/E
2395.38	V	65.74	54.47	-1.49	64.25	52.98	74.00	54.00	X/H
2528.43	V	65.62	53.00	-1.54	64.08	51.46	74.00	54.00	X/H
4924.41	V	51.15	35.86	5.65	56.80	41.51	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 :	Home Gateway	Model Name :	HG532e
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX G MODE 2462MHz		

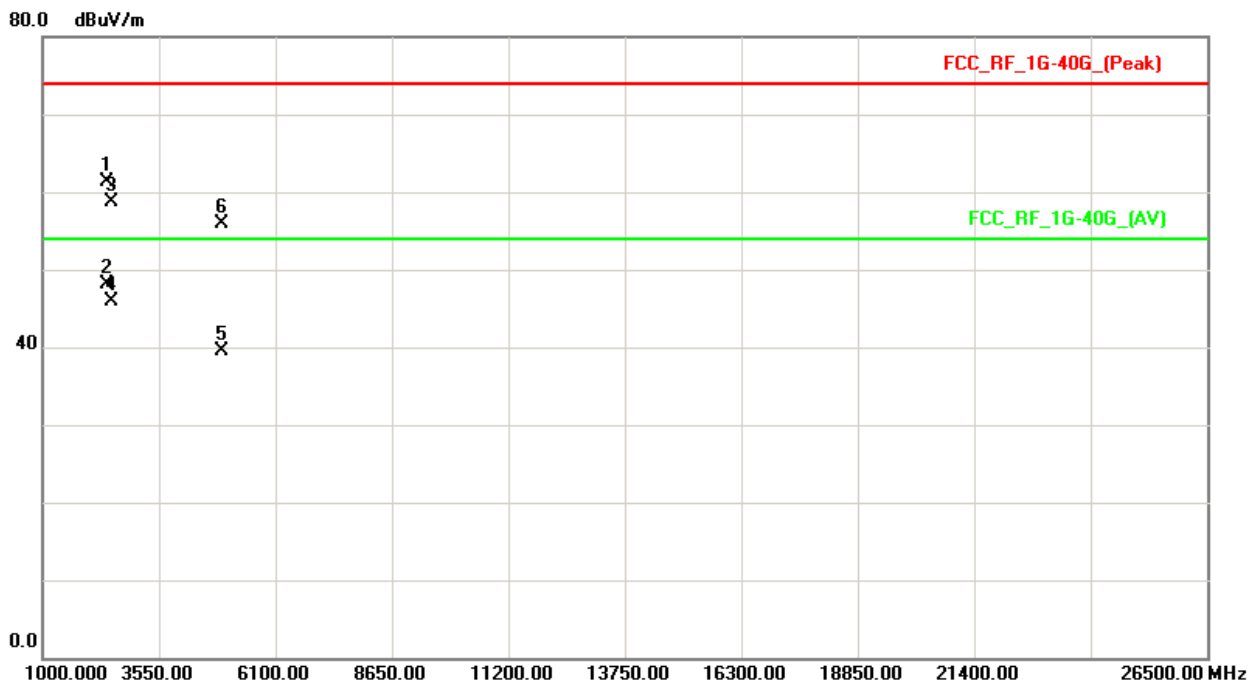
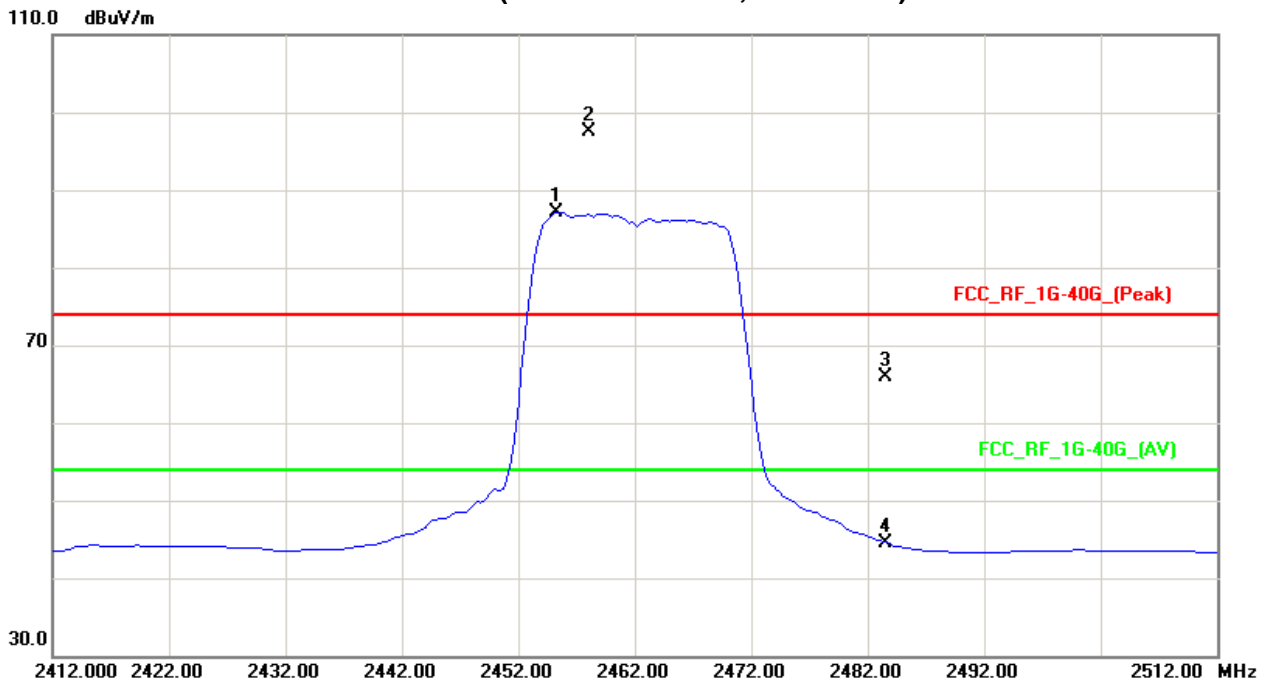
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
<b>2458.00</b>	<b>H</b>	<b>65.62</b>	<b>55.25</b>	<b>31.83</b>	<b>97.45</b>	<b>87.08</b>			<b>X/F</b>
2483.50	H	34.05	12.80	31.80	65.85	44.60	74.00	54.00	X/E
2395.16	H	62.80	49.51	-1.49	61.31	48.02	74.00	54.00	X/H
2528.18	H	60.21	47.35	-1.54	58.67	45.81	74.00	54.00	X/H
4923.97	H	50.16	33.95	5.65	55.81	39.60	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 :	Home Gateway	Model Name :	HG532e
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N20 MODE 2412MHz		

Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
2390.00	V	39.35	17.06	31.91	71.26	48.97	74.00	54.00	X/E
<b>2407.50</b>	<b>V</b>	<b>75.03</b>	<b>64.50</b>	<b>31.90</b>	<b>106.93</b>	<b>96.4</b>			<b>X/F</b>
2439.50	V	68.41	53.46	-1.56	66.85	51.9	74.00	54.00	X/H
2477.41	V	64.82	51.85	-1.61	63.21	50.24	74.00	54.00	X/H
4824.32	V	53.97	36.89	5.29	59.26	42.18	74.00	54.00	X/H

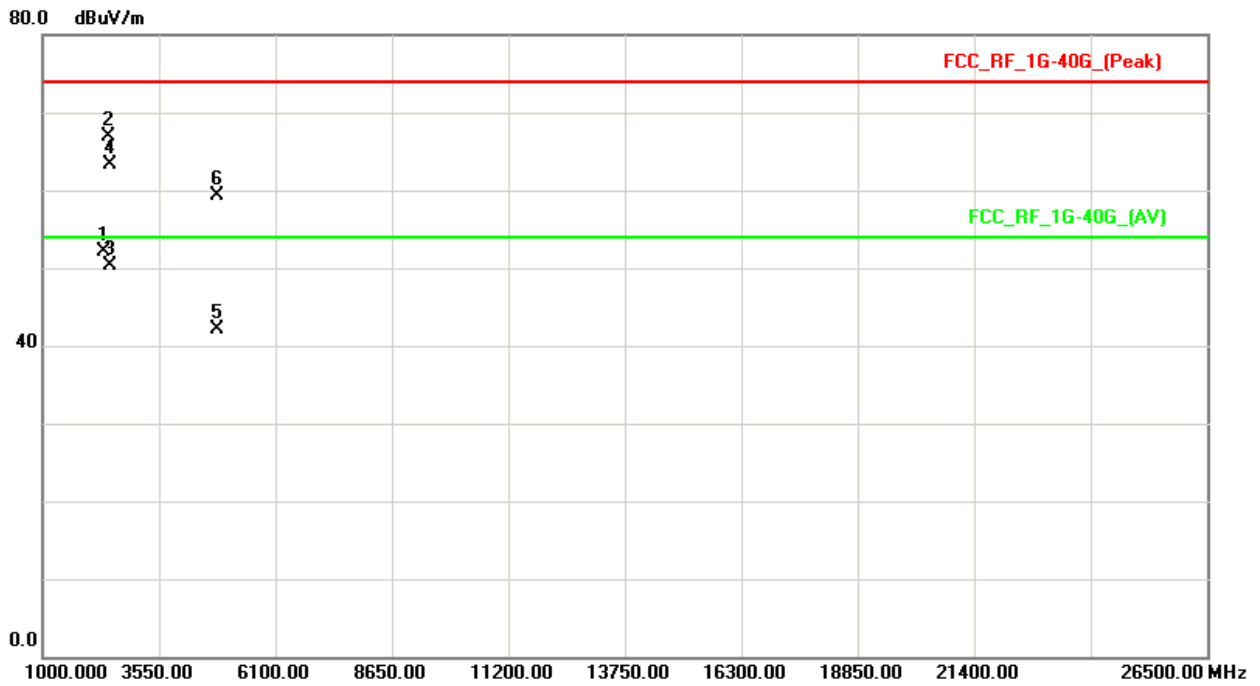
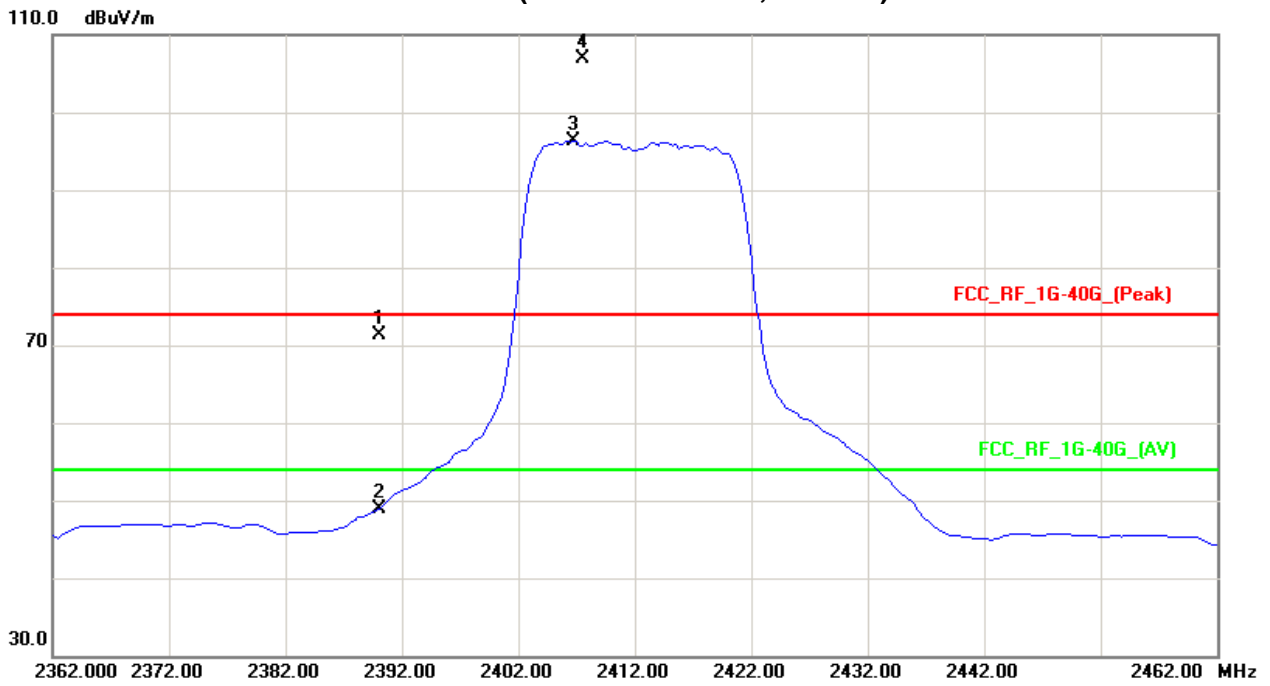
Remark :

- (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 :	Home Gateway	Model Name :	HG532e
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N20 MODE 2412MHz		

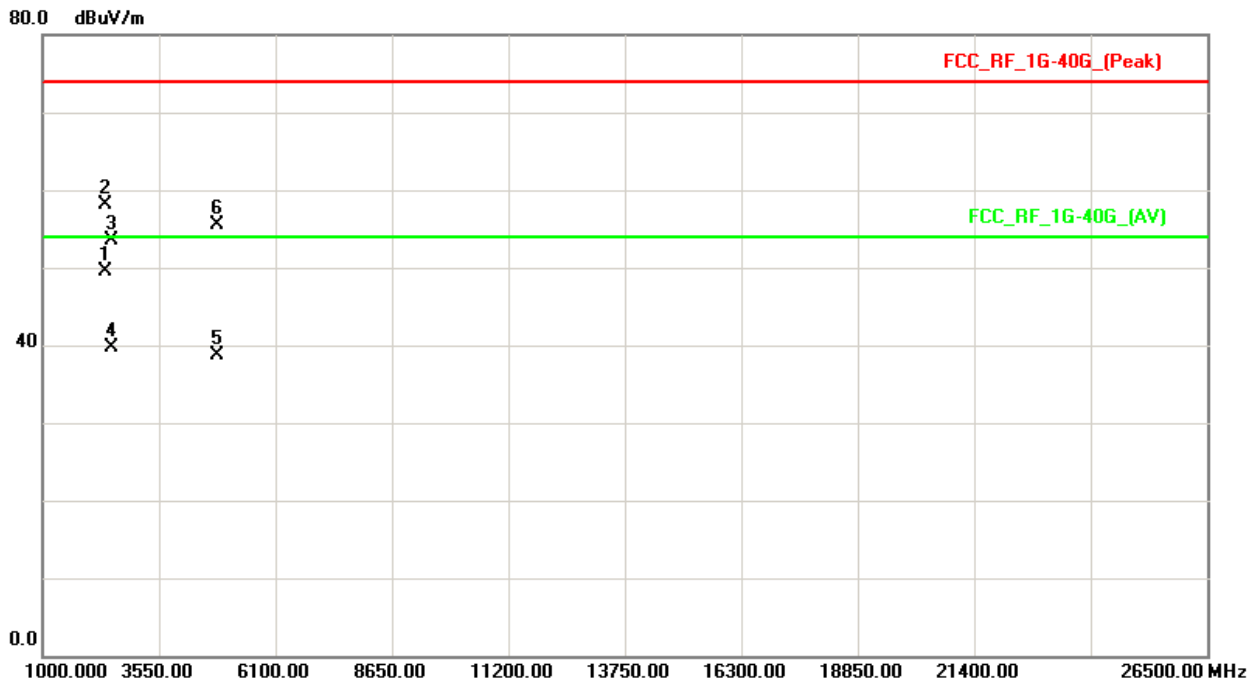
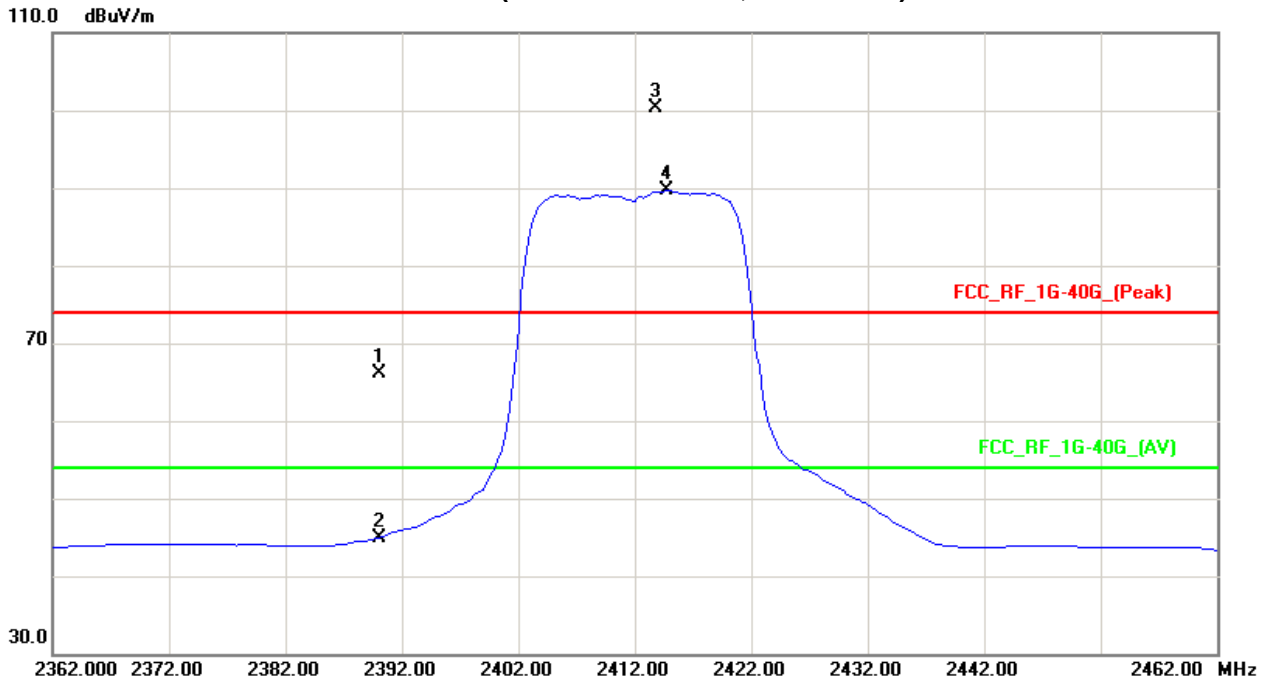
Freq. (MHz)	Ant.Pol. HV	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
2390.00	H	34.26	12.98	31.91	66.17	44.89	74.00	54.00	X/E
<b>2413.75</b>	<b>H</b>	<b>68.35</b>	<b>57.81</b>	<b>31.88</b>	<b>100.23</b>	<b>89.69</b>			<b>X/F</b>
2371.57	H	59.46	50.99	-1.45	58.01	49.54	74.00	54.00	X/H
2501.26	H	55.12	41.31	-1.65	53.47	39.66	74.00	54.00	X/H
4824.15	H	50.23	33.38	5.29	55.52	38.67	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 :	Home Gateway	Model Name :	HG532e
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N20 MODE 2437MHz		

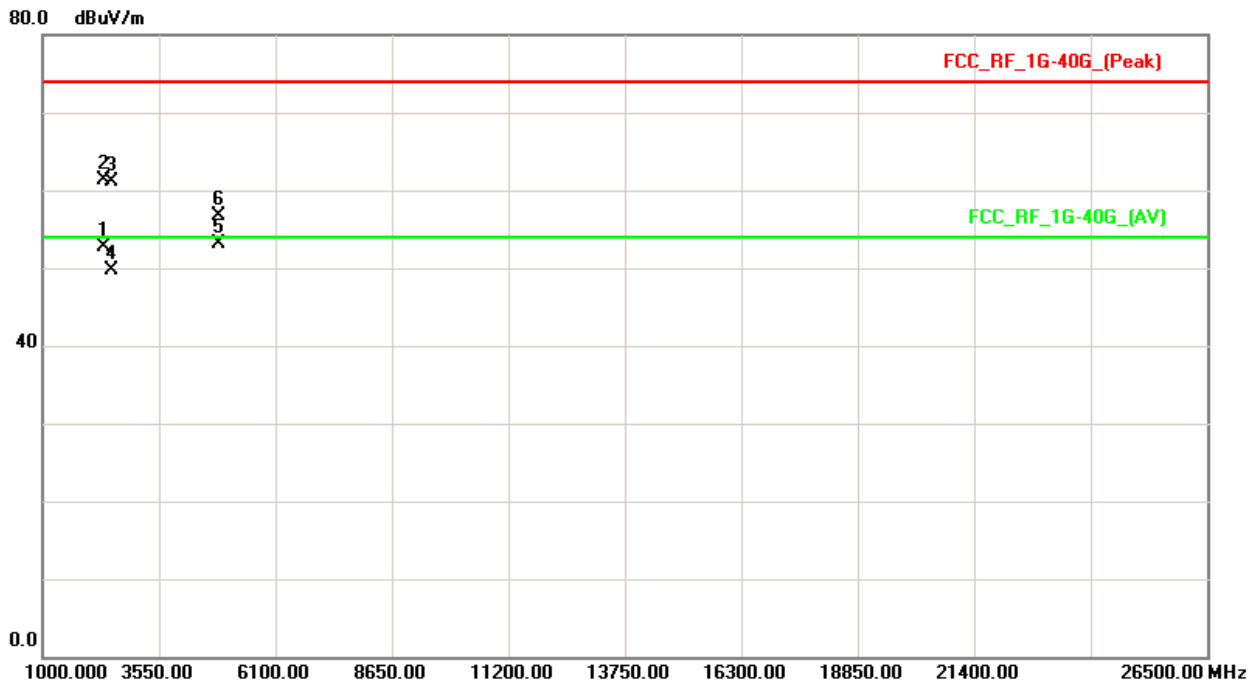
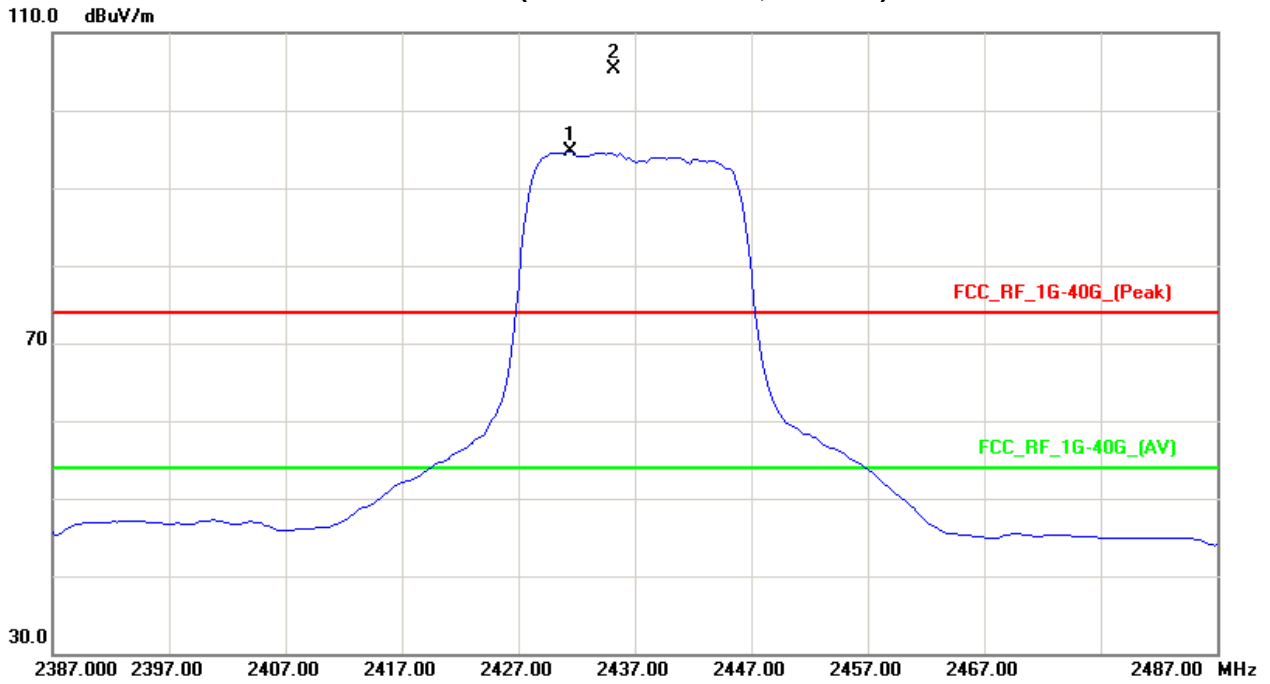
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
<b>2435.25</b>	<b>V</b>	<b>73.50</b>	<b>62.81</b>	<b>31.86</b>	<b>105.36</b>	<b>94.67</b>			<b>X/F</b>
2359.27	V	62.72	54.12	-1.44	61.28	52.68	74.00	54.00	X/H
2501.36	V	62.72	51.26	-1.65	61.07	49.61	74.00	54.00	X/H
4874.10	V	51.20	47.67	5.47	56.67	53.14	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 :	Home Gateway	Model Name :	HG532e
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N20 MODE 2437MHz		

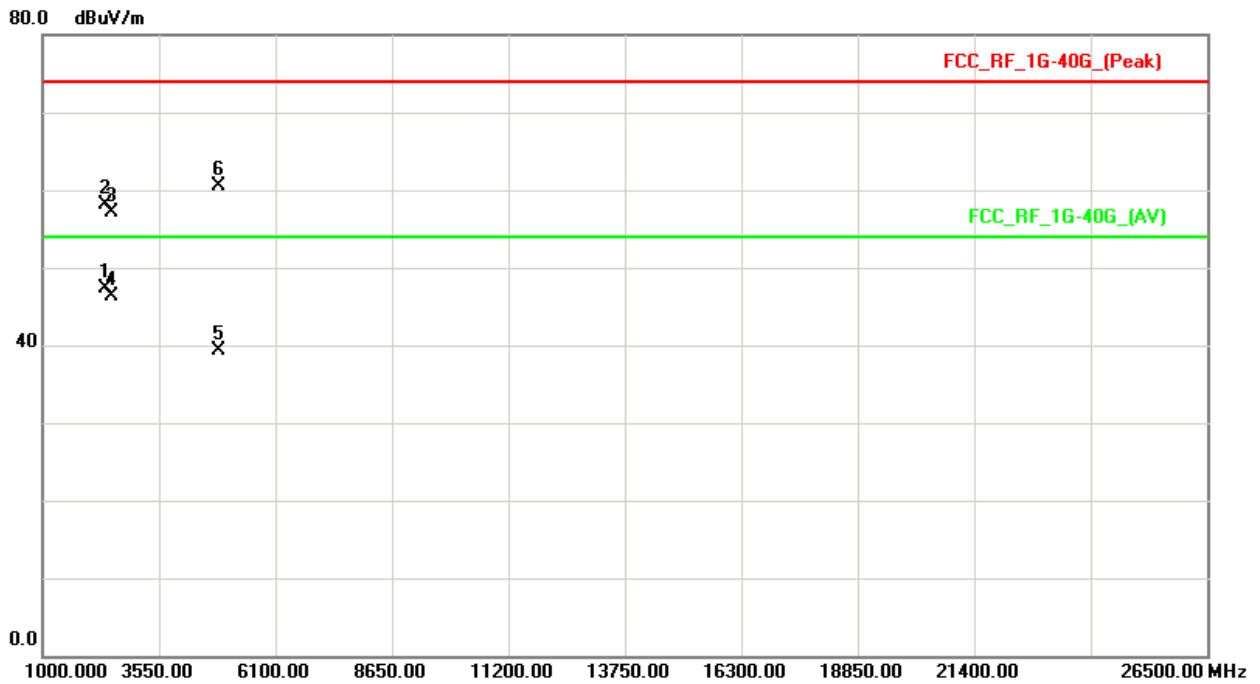
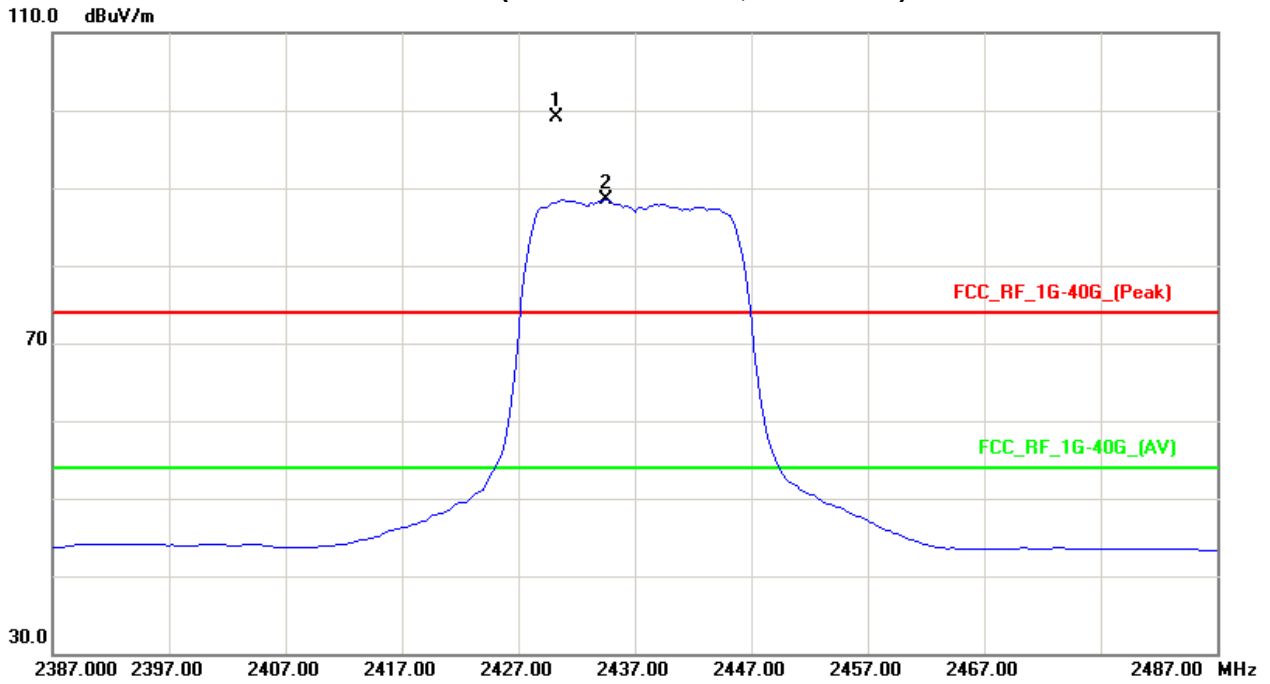
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
<b>2430.25</b>	<b>H</b>	<b>67.17</b>	<b>56.59</b>	<b>31.87</b>	<b>99.04</b>	<b>88.46</b>			<b>X/F</b>
2371.25	H	59.48	48.73	-1.45	58.03	47.28	74.00	54.00	X/H
2501.01	H	58.85	48.03	-1.65	57.20	46.38	74.00	54.00	X/H
4874.35	H	55.01	33.79	5.47	60.48	39.26	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 :	Home Gateway	Model Name :	HG532e
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N20 MODE 2462MHz		

Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
<b>2456.50</b>	<b>V</b>	<b>72.00</b>	<b>61.29</b>	<b>31.84</b>	<b>103.84</b>	<b>93.13</b>			<b>X/F</b>
2483.50	V	39.89	17.29	31.80	71.69	49.09	74.00	54.00	X/E
2395.38	V	65.74	54.47	-1.49	64.25	52.98	74.00	54.00	X/H
2528.43	V	65.62	53.00	-1.54	64.08	51.46	74.00	54.00	X/H
4924.41	V	51.15	35.86	5.65	56.80	41.51	74.00	54.00	X/H

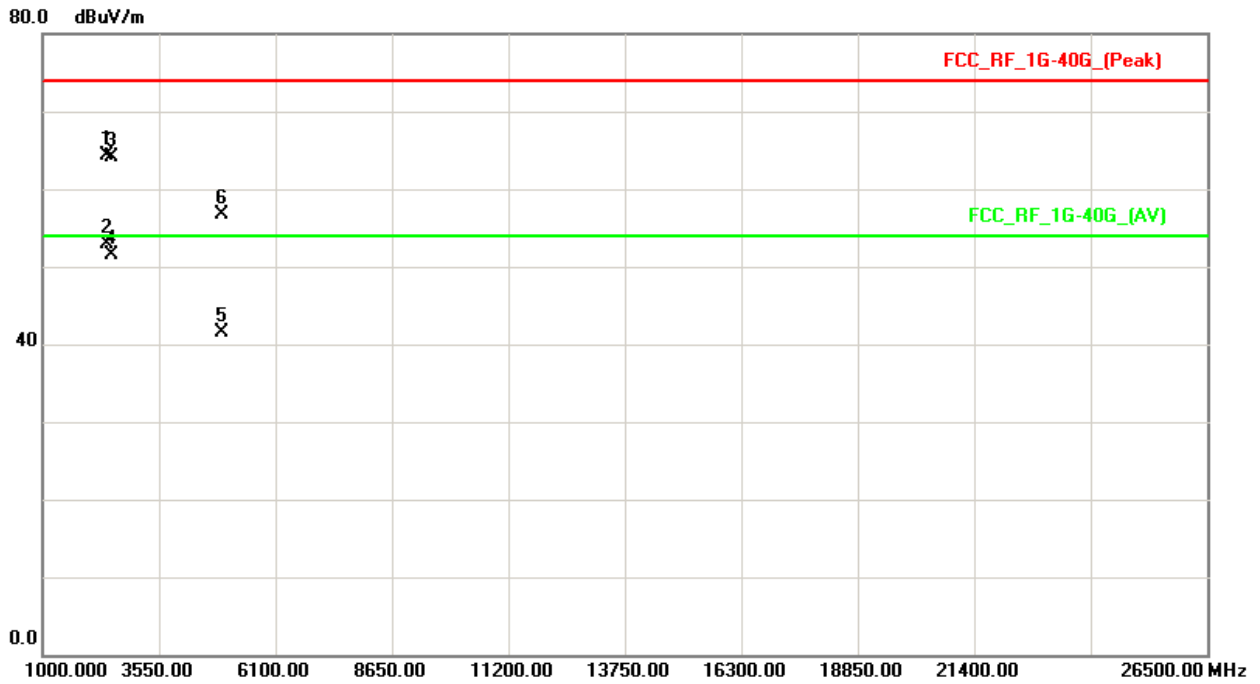
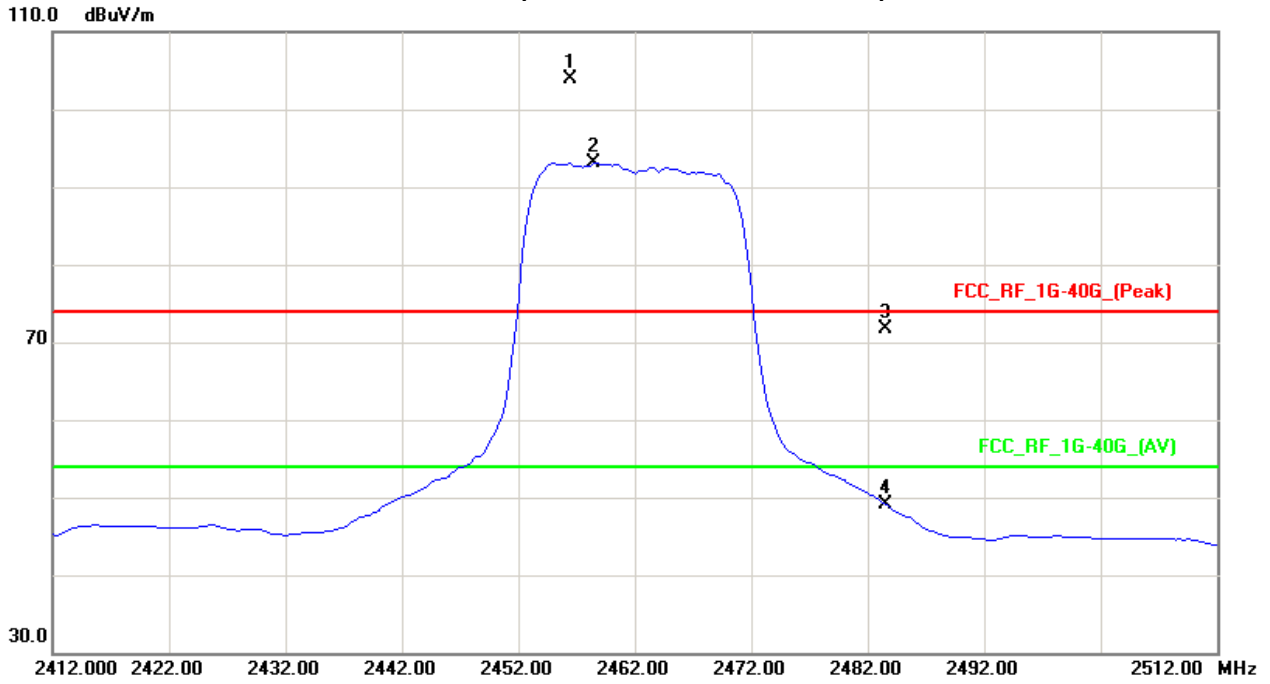
Remark :

- (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 :	Home Gateway	Model Name :	HG532e
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N20 MODE 2462MHz		

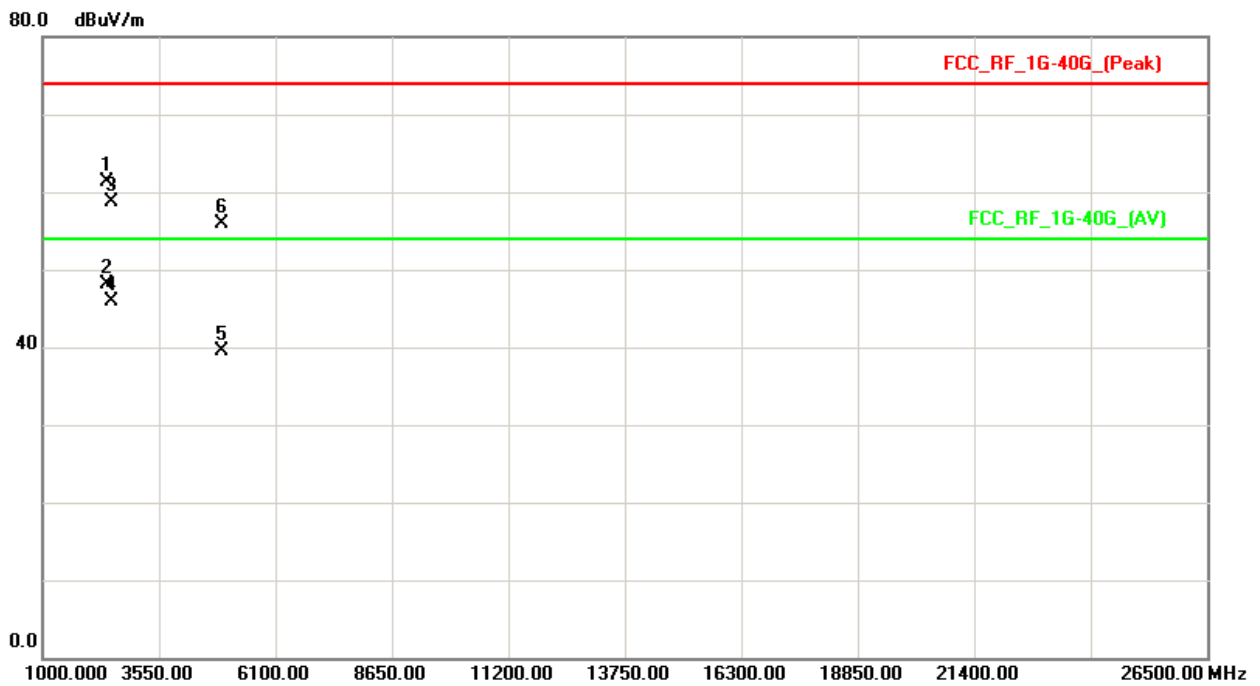
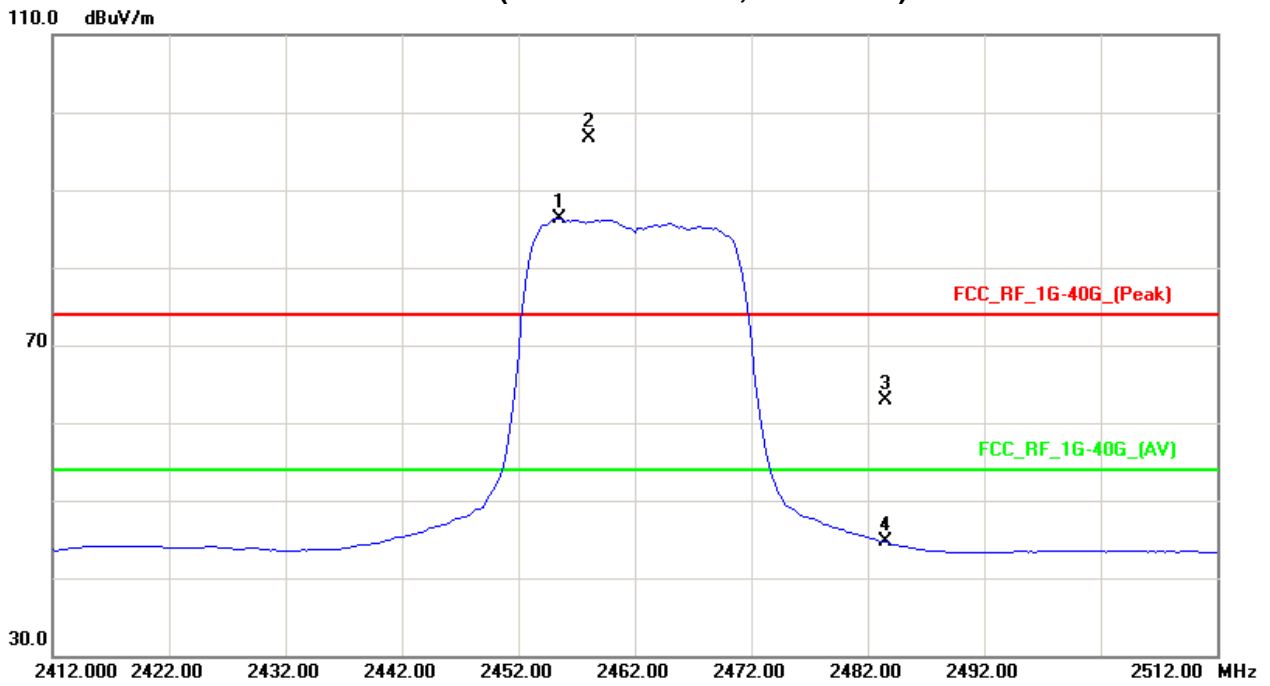
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
<b>2458.00</b>	<b>H</b>	<b>64.80</b>	<b>54.52</b>	<b>31.83</b>	<b>96.63</b>	<b>86.35</b>			<b>X/F</b>
2483.50	H	31.06	12.81	31.80	62.86	44.61	74.00	54.00	X/E
2394.80	H	62.80	49.51	-1.49	61.31	48.02	74.00	54.00	X/H
2527.31	H	60.21	47.35	-1.54	58.67	45.81	74.00	54.00	X/H
4924.02	H	50.16	33.95	5.65	55.81	39.60	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)





## Neutron Engineering Inc.

EUT :	Home Gateway	Model Name :	HG532e
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-40M MODE 2422MHz		

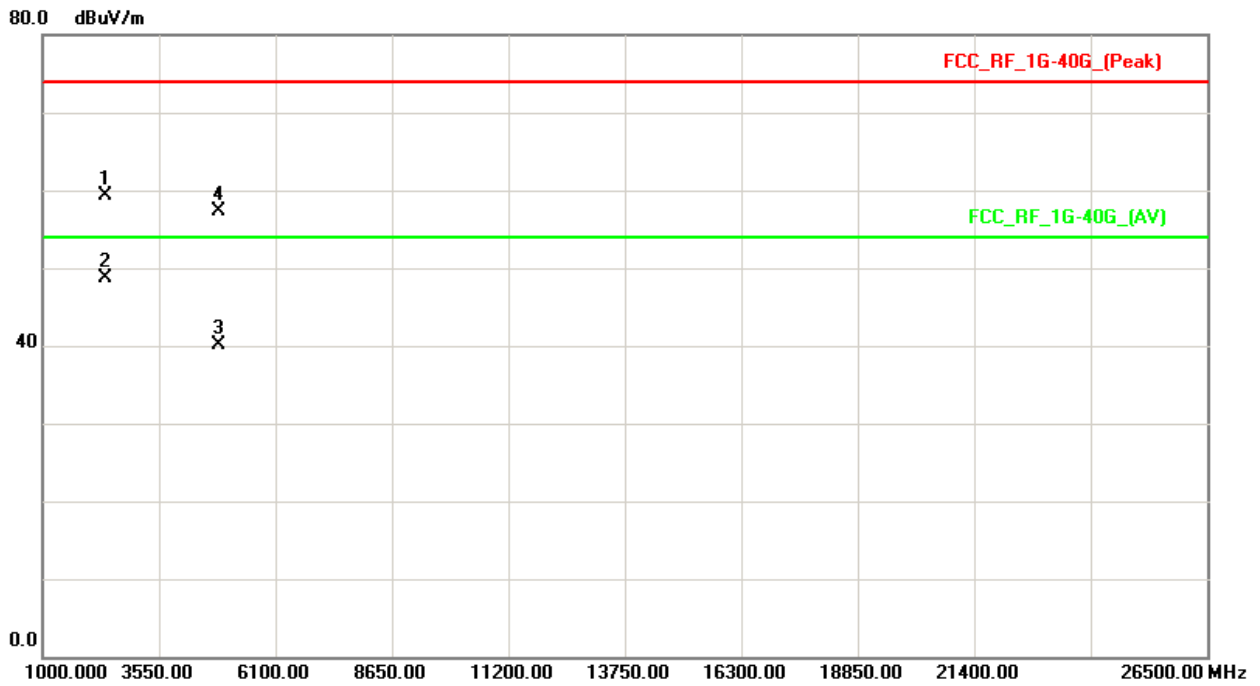
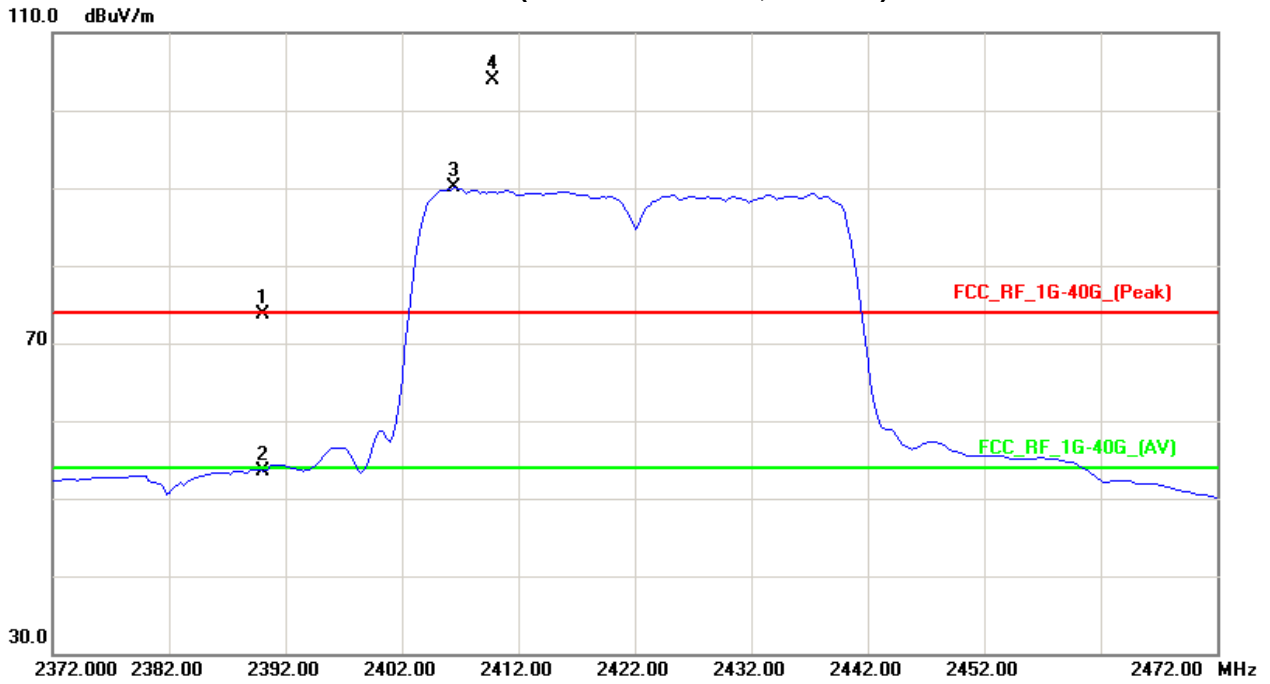
Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2390.00	V	41.80	21.68	31.91	73.71	53.59	74.00	54.00	X/E
<b>2409.75</b>	<b>V</b>	<b>72.10</b>	<b>58.15</b>	<b>31.89</b>	<b>103.99</b>	<b>90.04</b>			<b>X/F</b>
2368.72	V	60.66	50.08	-1.45	59.21	48.63	74.00	54.00	X/H
4844.36	V	51.90	34.78	5.36	57.26	40.14	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 CH03 (Above 1000 MHz, Vertical)





EUT :	Home Gateway	Model Name :	HG532e
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-40M MODE 2422MHz		

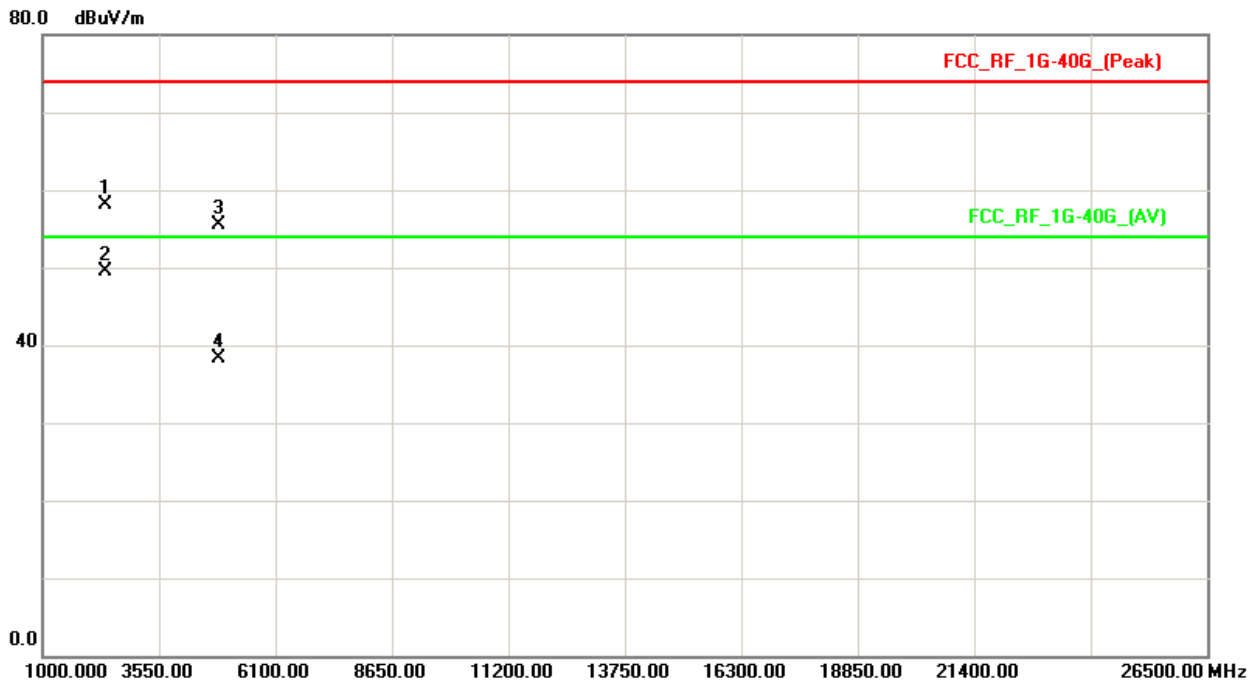
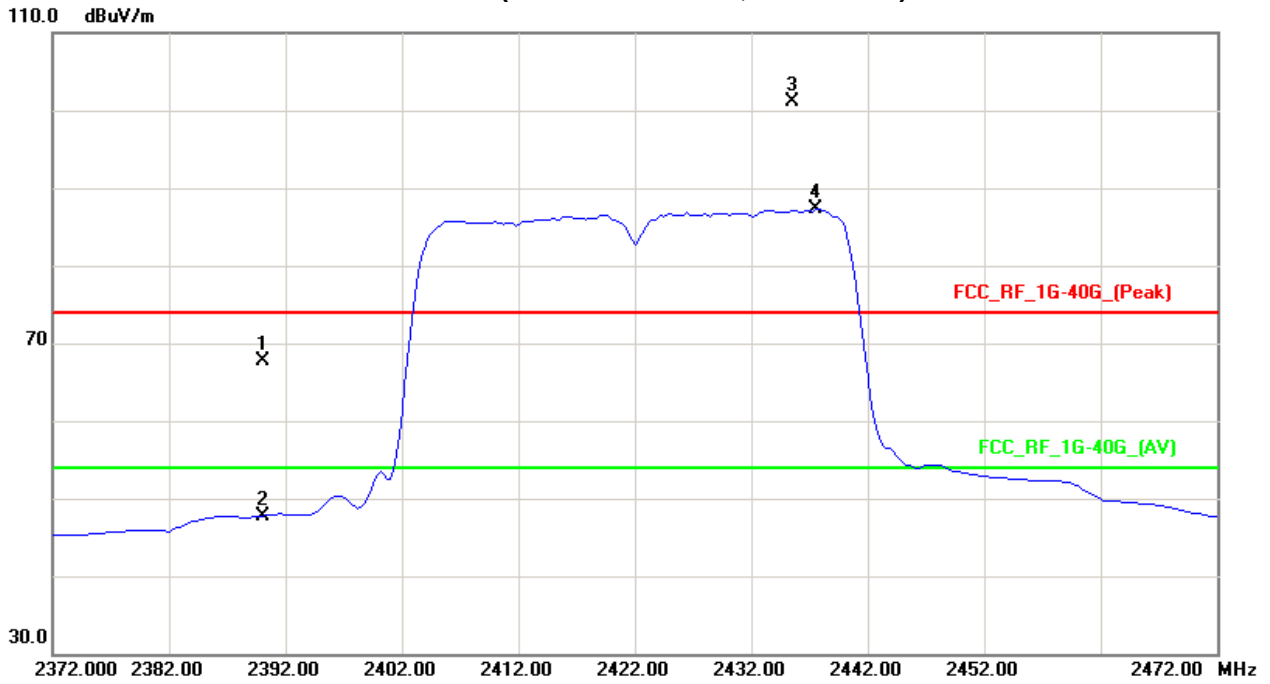
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
2390.00	H	35.71	15.87	31.91	67.62	47.78	74.00	54.00	X/E
<b>2435.50</b>	<b>H</b>	<b>69.27</b>	<b>55.40</b>	<b>31.86</b>	<b>101.13</b>	<b>87.26</b>			<b>X/F</b>
2365.74	H	59.45	50.98	-1.44	58.01	49.54	74.00	54.00	X/H
4844.21	H	50.16	32.86	5.36	55.52	38.22	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 CH03 (Above 1000 MHz, Horizontal)





EUT :	Home Gateway	Model Name :	HG532e
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-40M MODE 2437MHz		

Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
<b>2423.00</b>	<b>V</b>	<b>71.66</b>	<b>57.32</b>	<b>31.87</b>	<b>103.53</b>	<b>89.19</b>			<b>X/F</b>
2334.86	V	63.44	49.66	-1.40	62.04	48.26	74.00	54.00	X/H
4874.10	V	49.14	33.66	5.47	54.61	39.13	74.00	54.00	X/H

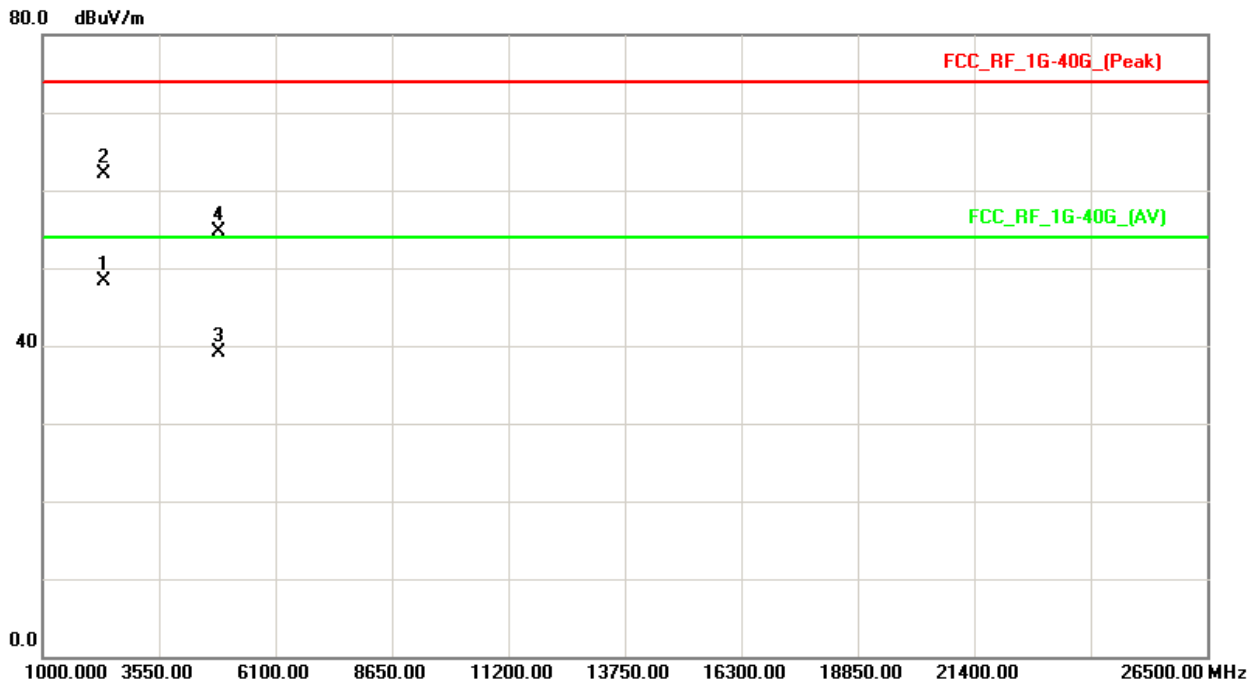
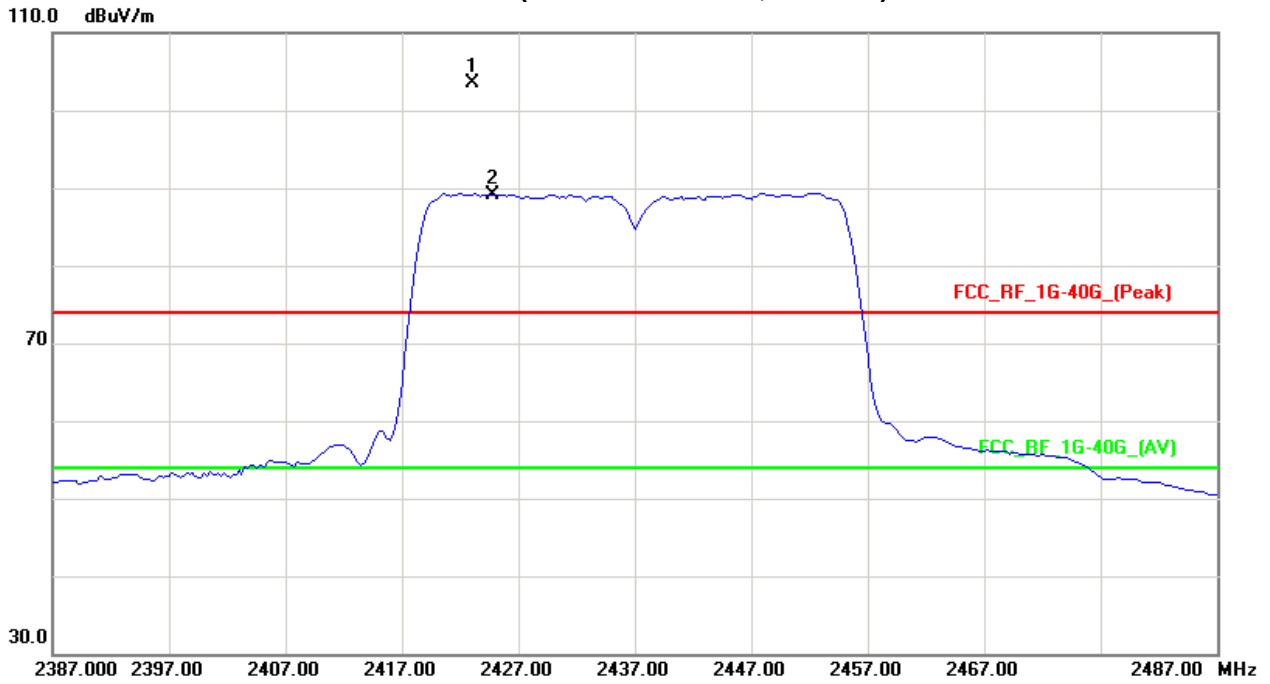
Remark :

- (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 :	Home Gateway	Model Name :	HG532e
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-40M MODE 2437MHz		

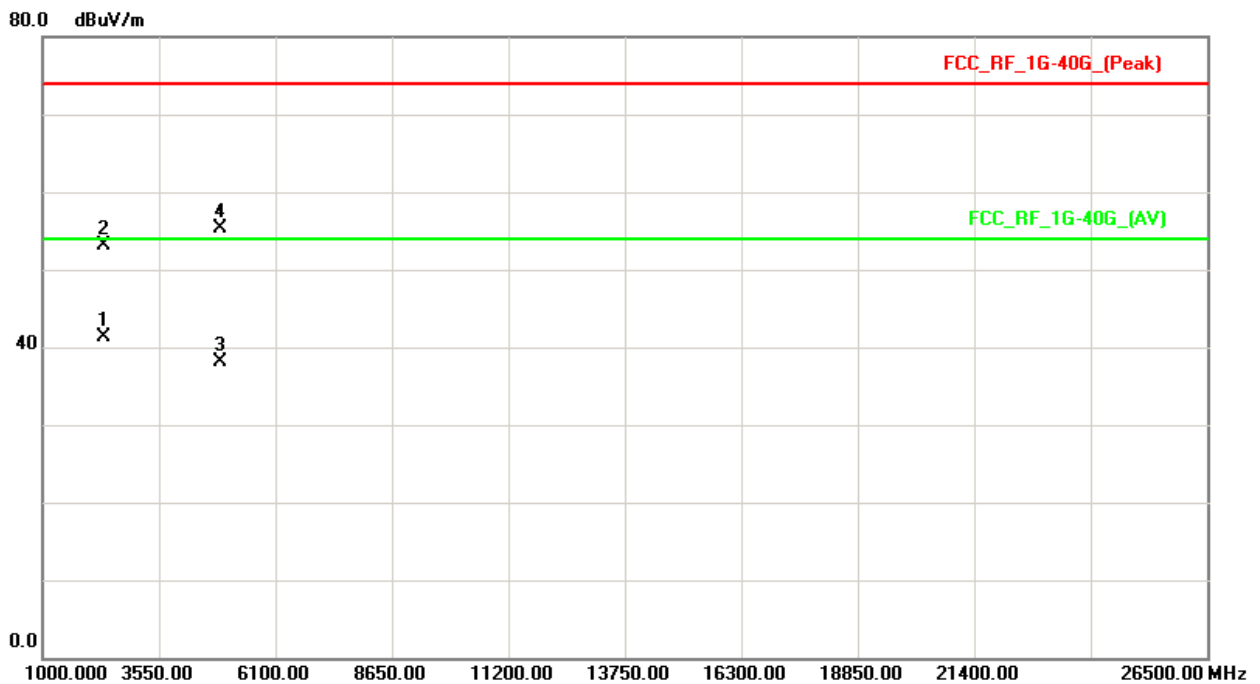
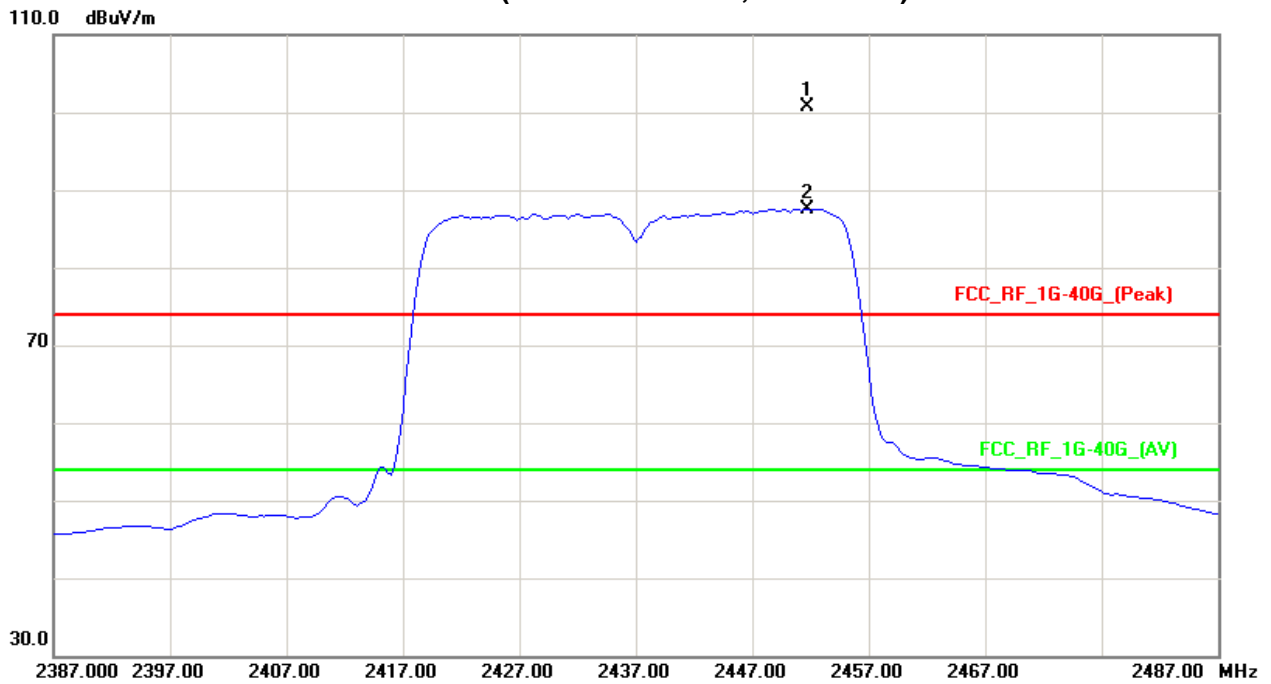
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
<b>2454.75</b>	<b>H</b>	<b>68.95</b>	<b>55.76</b>	<b>31.84</b>	<b>100.79</b>	<b>87.60</b>			<b>X/F</b>
2333.31	H	54.49	42.76	-1.40	53.09	41.36	74.00	54.00	X/H
4904.26	H	49.63	32.45	5.58	55.21	38.03	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 CH06 (Above 1000 MHz, Horizontal)





EUT :	Home Gateway	Model Name :	HG532e
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-40M MODE 2452MHz		

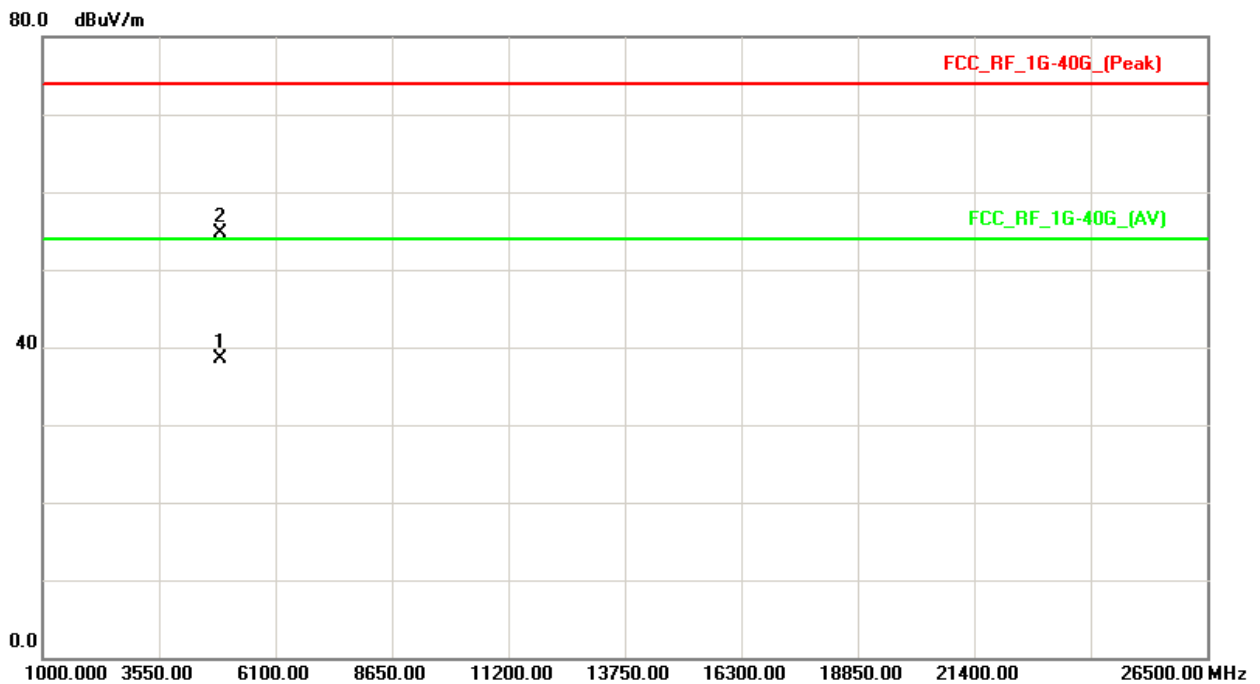
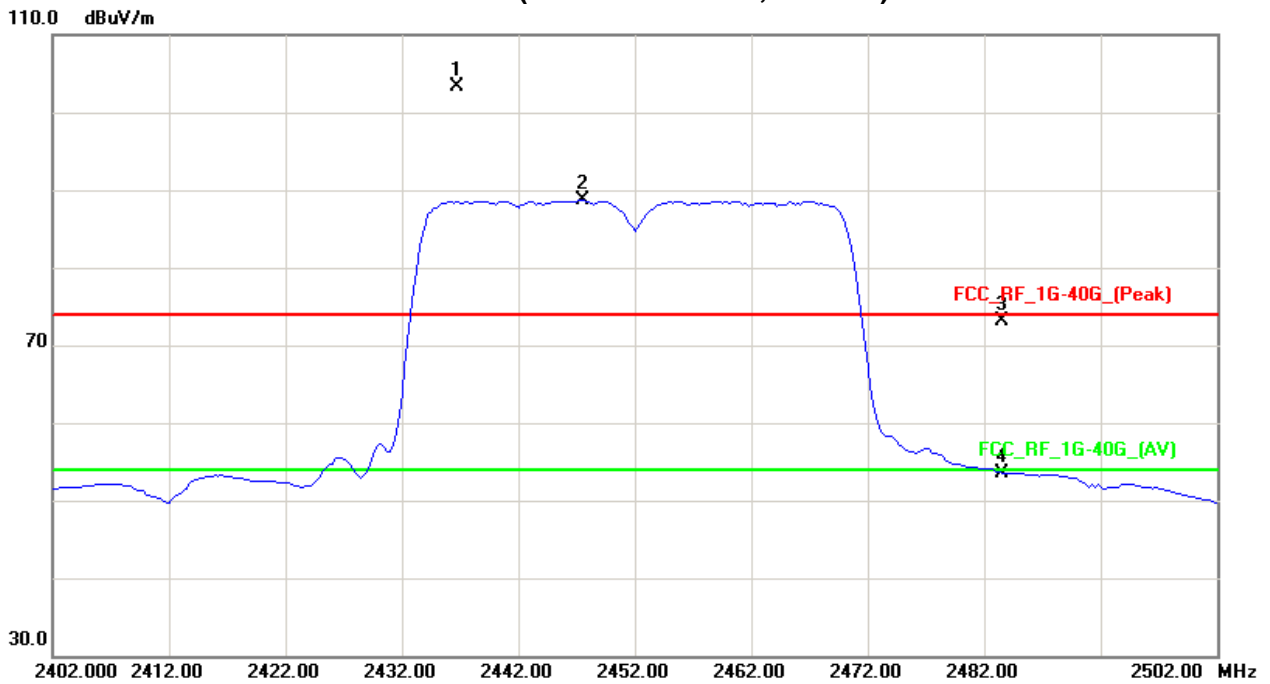
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
<b>2436.75</b>	<b>V</b>	<b>71.36</b>	<b>56.84</b>	<b>31.86</b>	<b>103.22</b>	<b>88.70</b>			<b>X/F</b>
2483.50	V	41.32	21.68	31.80	73.12	53.48	74.00	54.00	X/E
4904.41	V	49.22	32.93	5.58	54.80	38.51	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 CH09 (Above 1000 MHz, Vertical)





EUT :	Home Gateway	Model Name :	HG532e
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-40M MODE 2452MHz		

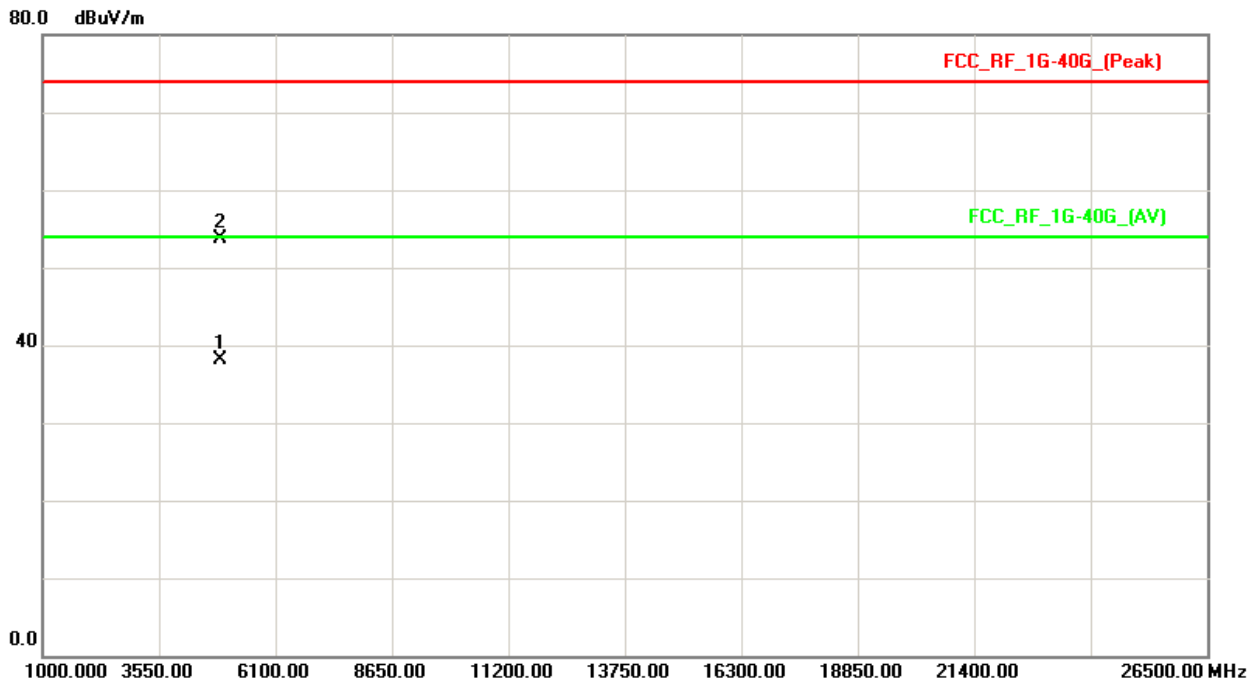
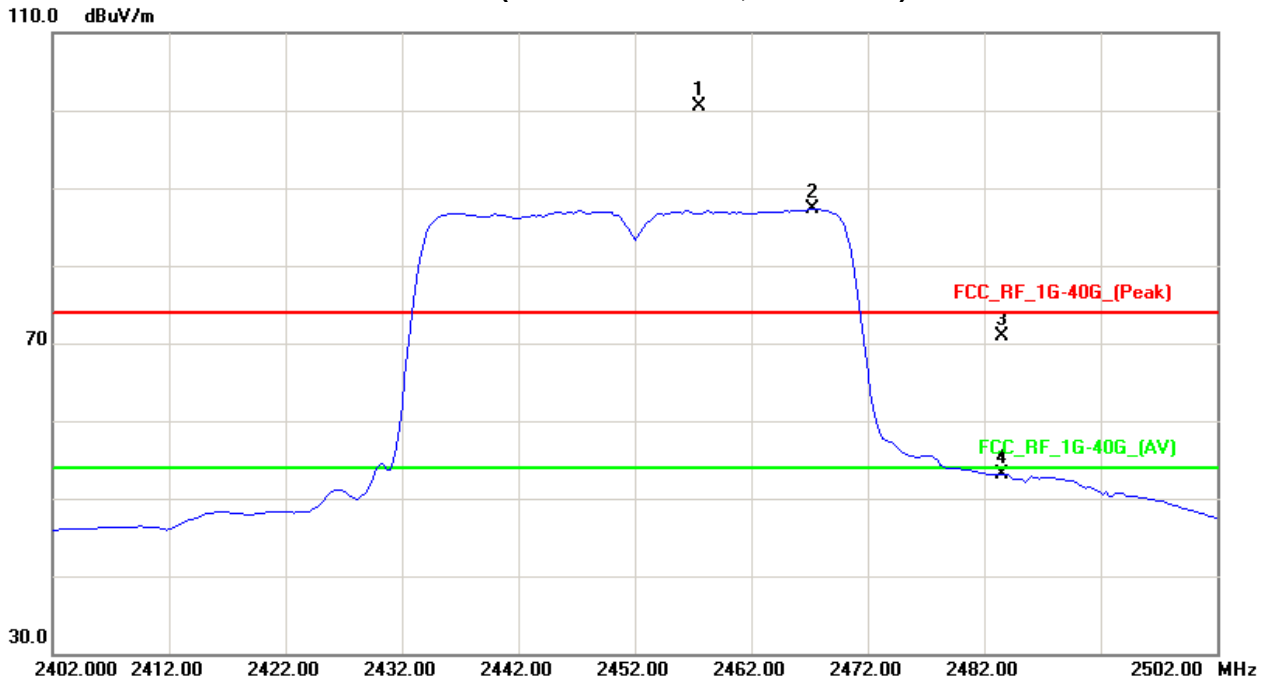
Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
<b>2457.50</b>	<b>H</b>	<b>68.75</b>	<b>55.48</b>	<b>31.84</b>	<b>100.59</b>	<b>87.32</b>			<b>X/F</b>
2483.50	H	39.11	21.34	31.80	70.91	53.14	74.00	54.00	X/E
4904.21	H	48.12	32.58	5.58	53.70	38.16	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 CH09 (Above 1000 MHz, Horizontal)





**5. BANDWIDTH TEST**

**5.1 Applied procedures / limit**

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(a)(2)	Bandwidth	$\geq 500\text{KHz}$ (6dB bandwidth)	2400-2483.5	PASS

**5.1.1 MEASUREMENT INSTRUMENTS LIST**

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP_40	100185	Nov.25.2012

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

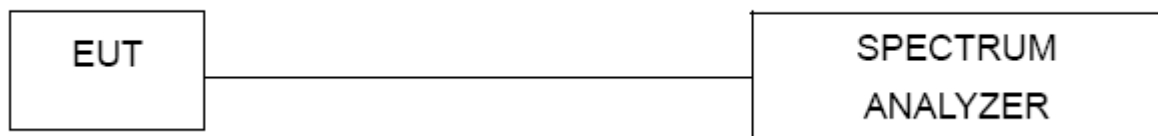
**5.1.2 TEST PROCEDURE**

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

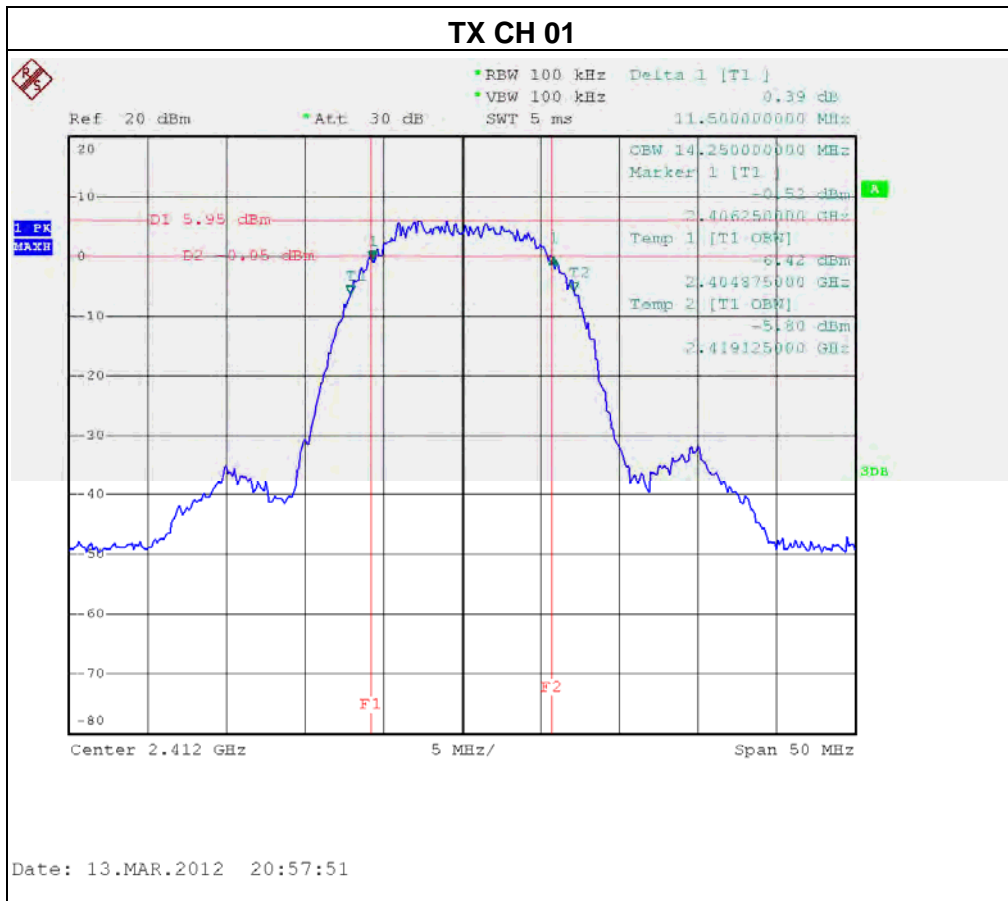


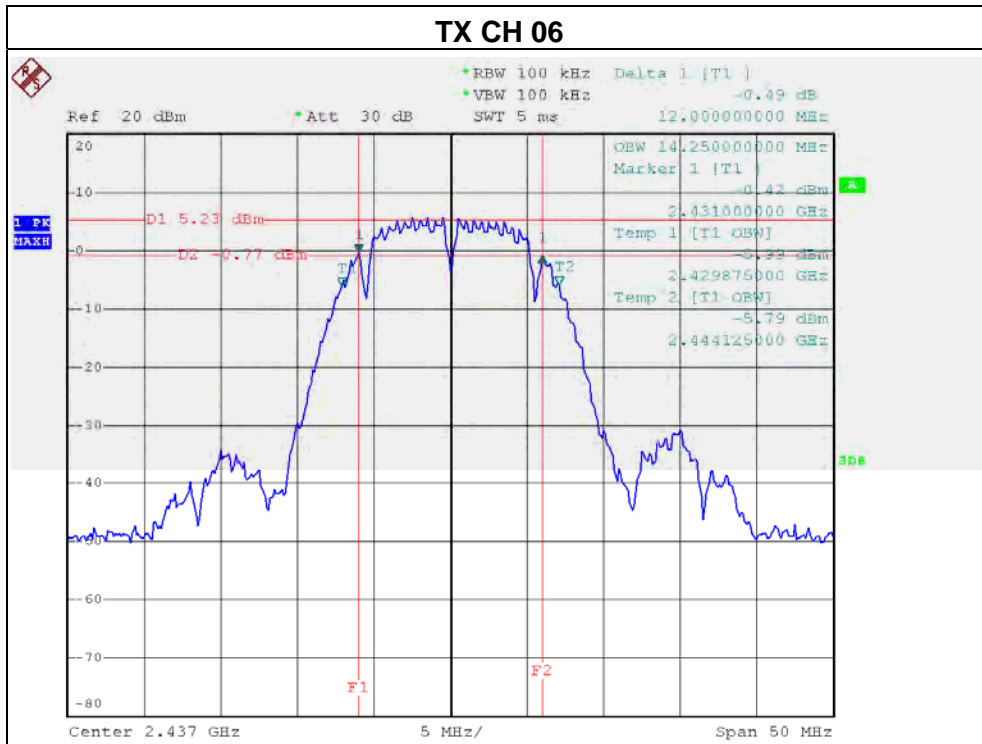


**5.1.6 TEST RESULTS**

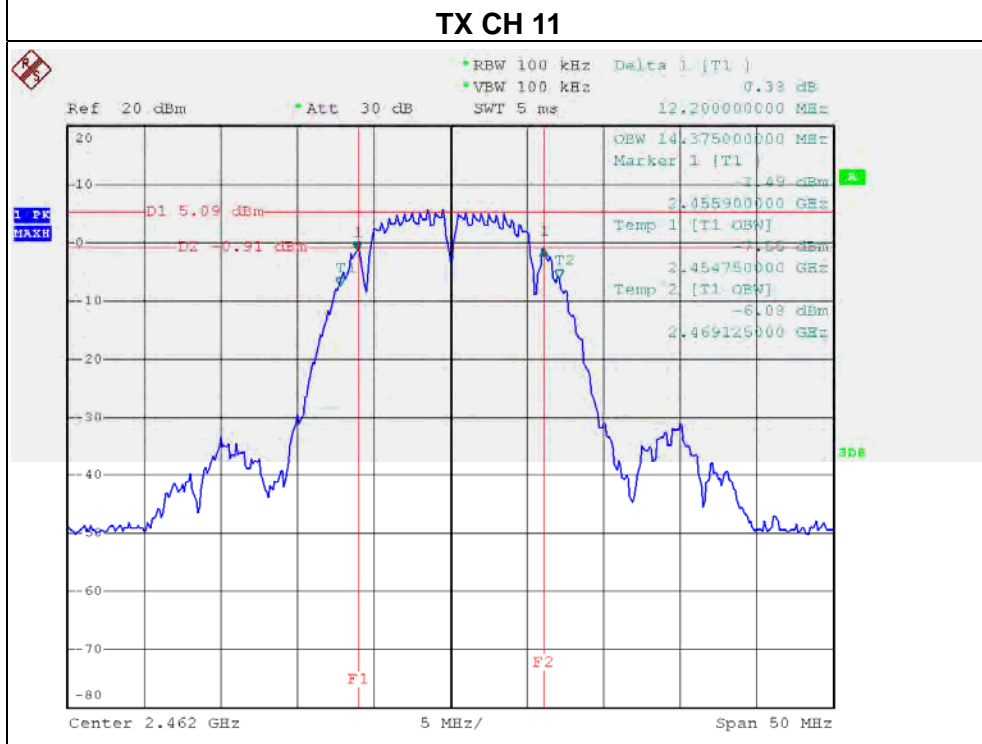
EUT :	Home Gateway	Model Name. :	HG532e
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE /CH01, CH06, CH11		

Test Channel	Frequency (MHz)	Bandwidth (MHz)	LIMIT (MHz)
CH01	2412	11.50	>=500KHz
CH06	2437	12.00	>=500KHz
CH11	2462	12.20	>=500KHz





Date: 13.MAR.2012 21:06:57

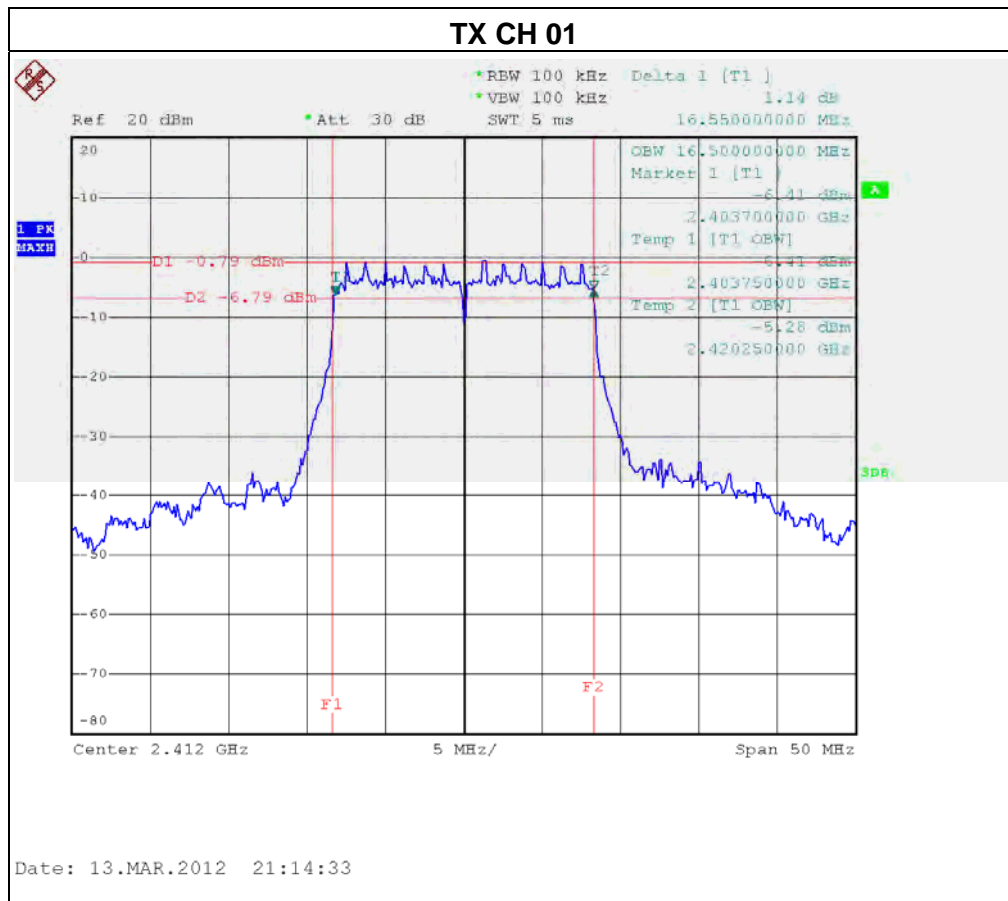


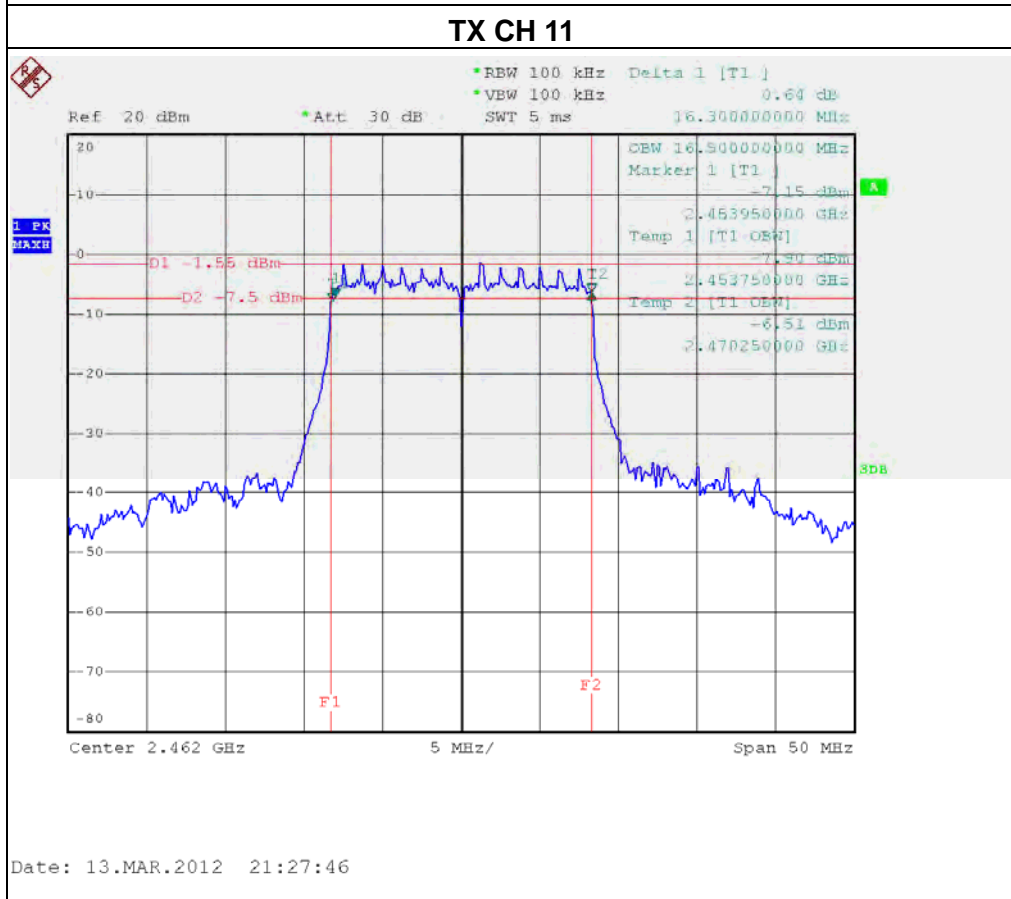
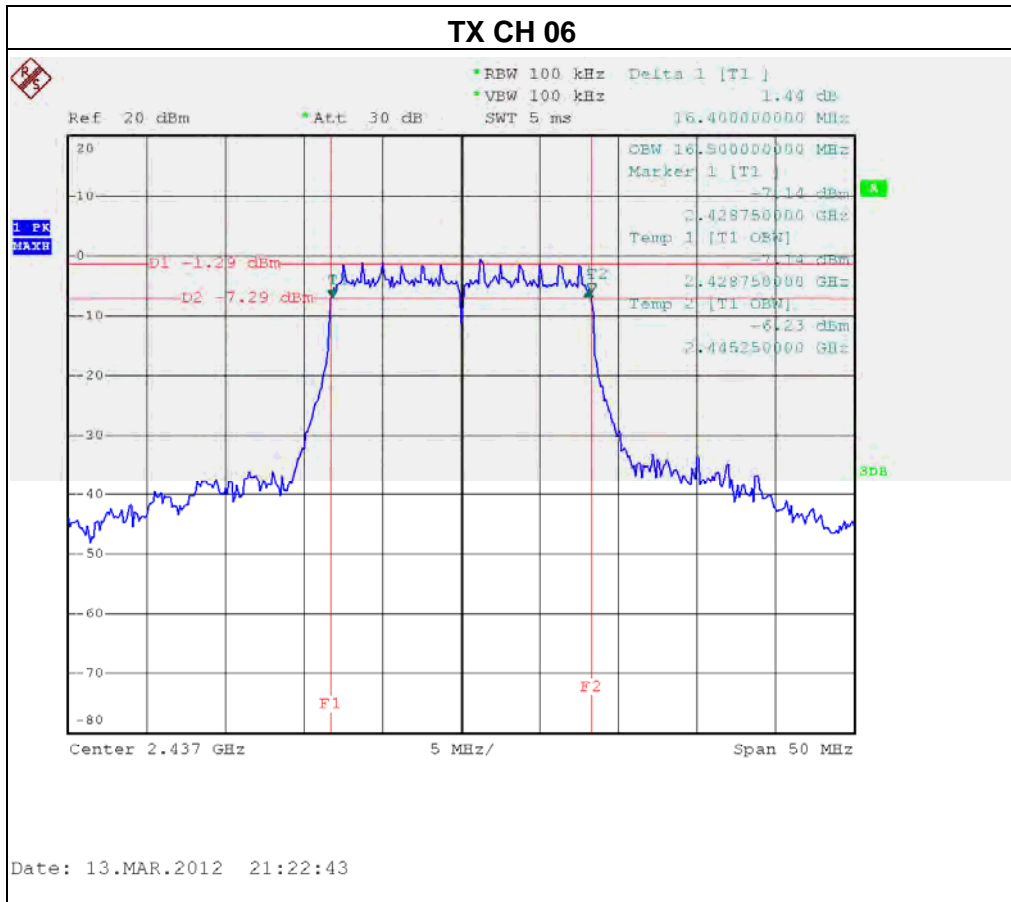
Date: 13.MAR.2012 21:11:25



EUT :	Home Gateway	Model Name. :	HG532e
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX G MODE /CH01, CH06, CH11		

Test Channel	Frequency (MHz)	Bandwidth (MHz)	LIMIT (MHz)
CH01	2412	16.55	>=500KHz
CH06	2437	16.40	>=500KHz
CH11	2462	16.30	>=500KHz

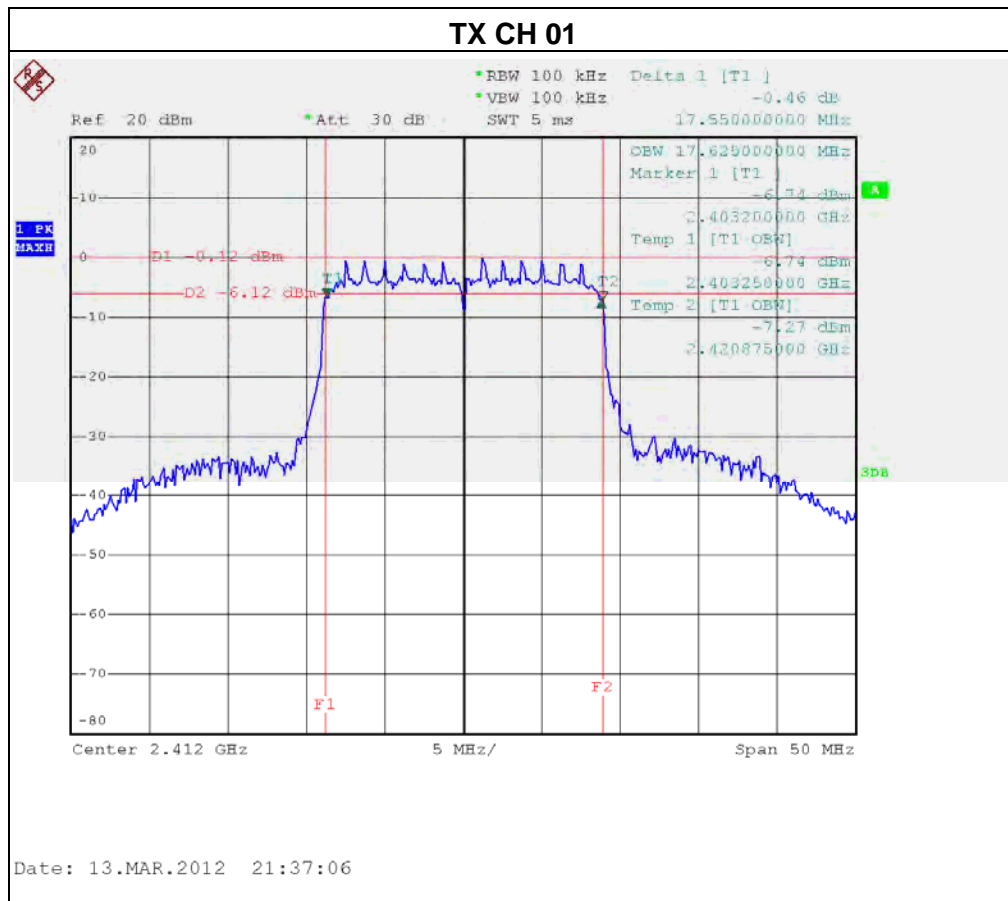


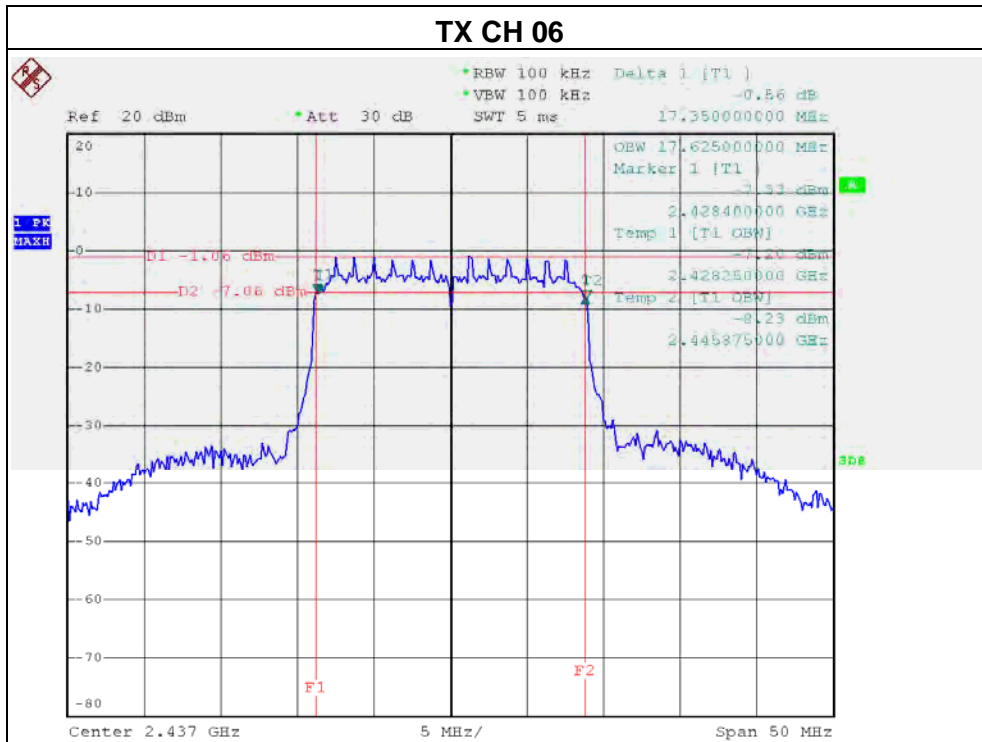




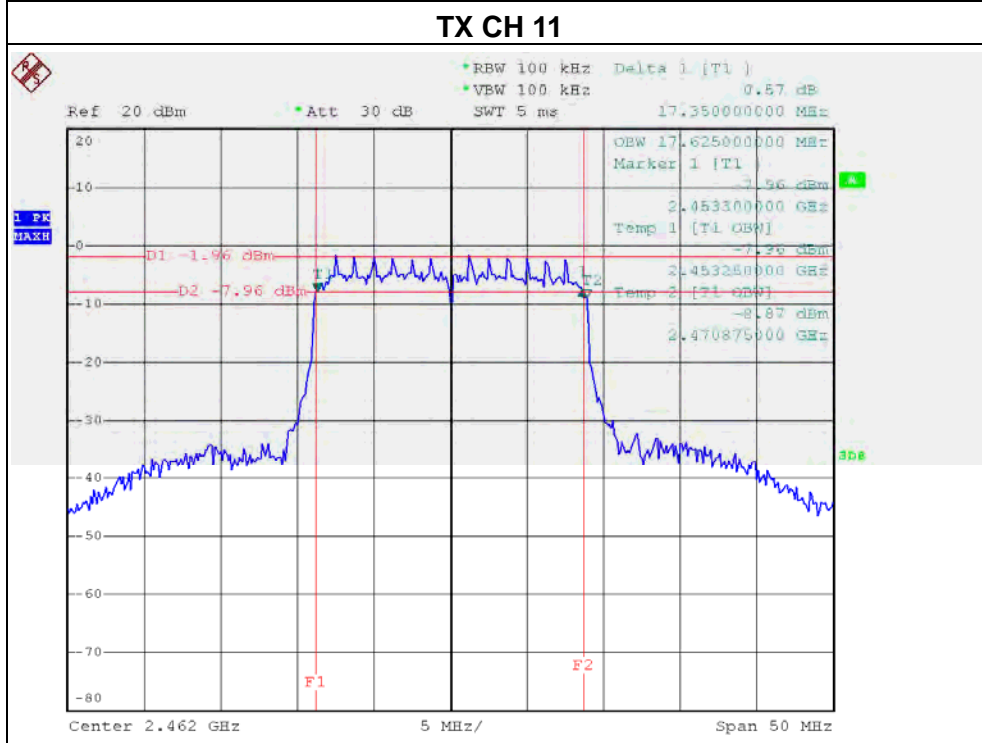
EUT :	Home Gateway	Model Name. :	HG532e
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N MODE -20MHz/ CH01, CH06, CH11		

Test Channel	Frequency (MHz)	Bandwidth (MHz)	LIMIT (MHz)
CH01	2412	17.55	>=500KHz
CH06	2437	17.35	>=500KHz
CH11	2462	17.35	>=500KHz





Date: 13.MAR.2012 21:42:33

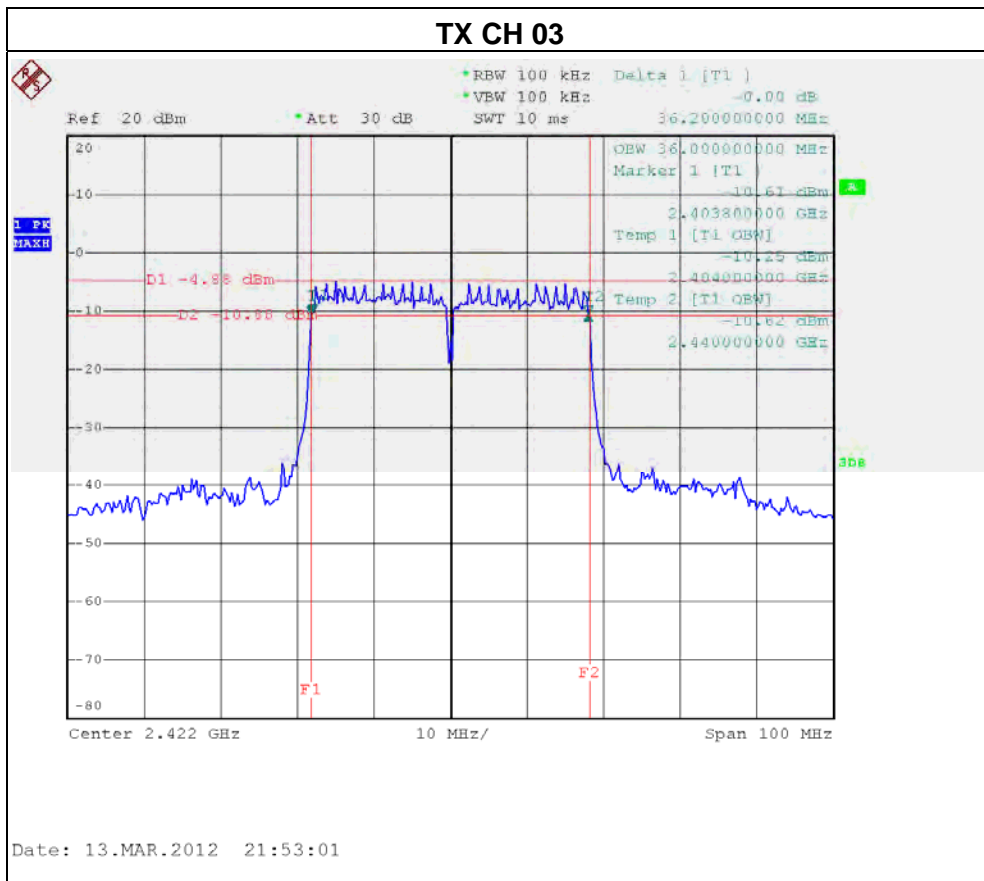


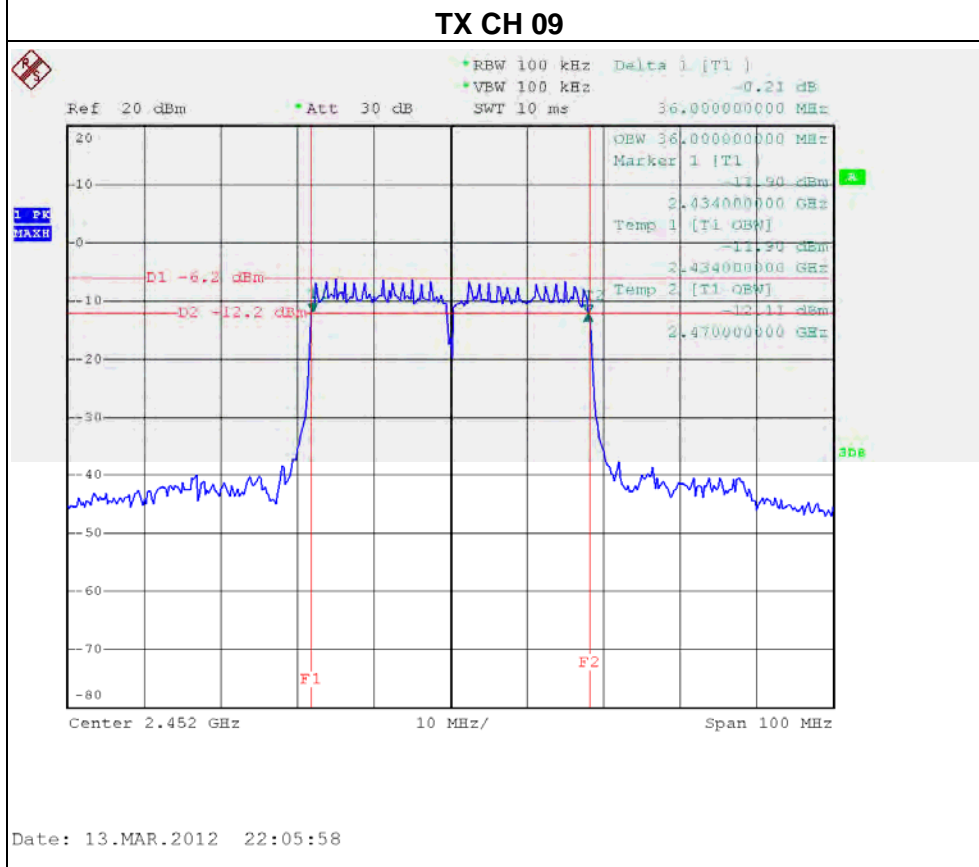
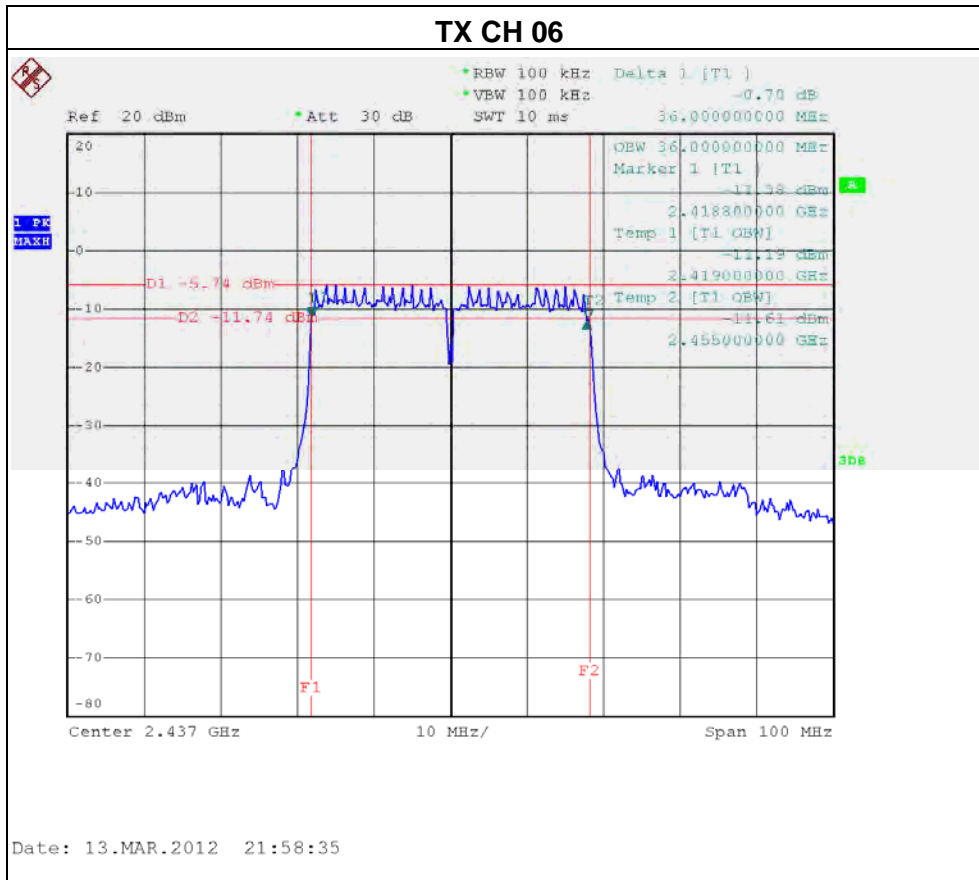
Date: 13.MAR.2012 21:45:04



EUT :	Home Gateway	Model Name. :	HG532e
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N MODE -40MHz/ CH03, CH06, CH09		

Test Channel	Frequency (MHz)	Bandwidth (MHz)	LIMIT (MHz)
CH03	2422	36.20	>=500KHz
CH06	2437	36.00	>=500KHz
CH09	2452	36.00	>=500KHz









**6. MAXIMUM OUTPUT POWER TEST**

**6.1 Applied procedures / limit**

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(b)(3)	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	Power Meter	Anritsu	ML2495A	1128009	Nov.01.2012
2	Pluse Power Sensor	Anritsu	MA2411B	1128009	Nov.01.2012

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

**6.1.2 TEST PROCEDURE**

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- b. Spectrum Setting : RBW= 1MHz, VBW=3MHz, Sample detector, Sweep time = 100 ms.

**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 :	Home Gateway	Model Name :	HG532e
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE /CH01, CH06, CH11		

**Maximum Output Power**

Test Channel	Frequency (MHz)	Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH01	2412 MHz	20.26	30	1
CH06	2437 MHz	20.32	30	1
CH11	2462 MHz	20.14	30	1

EUT :	Home Gateway	Model Name :	HG532e
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX G MODE /CH01, CH06, CH11		

**Maximum Output Power**

Test Channel	Frequency (MHz)	Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH01	2412 MHz	19.56	30	1
CH06	2437 MHz	18.92	30	1
CH11	2462 MHz	18.05	30	1

EUT :	Home Gateway	Model Name :	HG532e
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE /CH01, CH06, CH11		

**Maximum Output Power**

Test Channel	Frequency (MHz)	Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH01	2412 MHz	20.06	30	1
CH06	2437 MHz	20.24	30	1
CH11	2462 MHz	20.16	30	1



EUT :	Home Gateway	Model Name :	HG532e
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-40M MODE /CH03, CH06, CH09 - ANT1		

**Maximum Output Power**

Test Channel	Frequency (MHz)	Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH03	2422 MHz	19.43	30	1
CH06	2437 MHz	19.13	30	1
CH09	2452 MHz	18.64	30	1

EUT :	Home Gateway	Model Name :	HG532e
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-40M MODE /CH03, CH06, CH09 - ANT2		

**Maximum Output Power**

Test Channel	Frequency (MHz)	Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH03	2422 MHz	19.71	30	1
CH06	2437 MHz	19.21	30	1
CH09	2452 MHz	18.73	30	1



EUT :	Home Gateway	Model Name :	HG532e
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-40M MODE /CH03, CH06, CH09 - ANT1+ ANT2		

**Maximum Output Power**

Test Channel	Frequency (MHz)	Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH03	2422 MHz	22.58	30	1
CH06	2437 MHz	22.18	30	1
CH09	2452 MHz	21.70	30	1

Note: Each antenna port was measured individually, and the aggregated power was summed up mathematically.

Remark :

- (1) **The MIMO test requirement, RF conducted output power shall measure each transmitter chain by using channel power method.**  
**And after obtain each individual transmitter chain power, then sum the output power by using the following formula:**  

$$((\text{dBm}/\text{Chain 1})/10^{\text{Log}}) + ((\text{dBm}/\text{Chain 2})/10^{\text{log}}) + ((\text{dBm}/\text{ChainN})/10^{\text{log}}) =$$
**Combined peak output power in mW.**
- (2) **Antenna Gain=3.2 dBi – ANT1**  
**Antenna Gain=3.2 dBi – ANT2**



**7. ANTENNA CONDUCTED SPURIOUS EMISSION**

**7.1 Applied procedures / limit**

30dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

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

**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.25.2012

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

**7.1.2 TEST PROCEDURE**

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- b. Spectrum Setting : RBW= 100KHz, VBW=100KHz, Sweep time = 10 ms.

**7.1.3 DEVIATION FROM STANDARD**

No deviation.

**7.1.4 TEST SETUP**



**7.1.5 EUT OPERATION CONDITIONS**

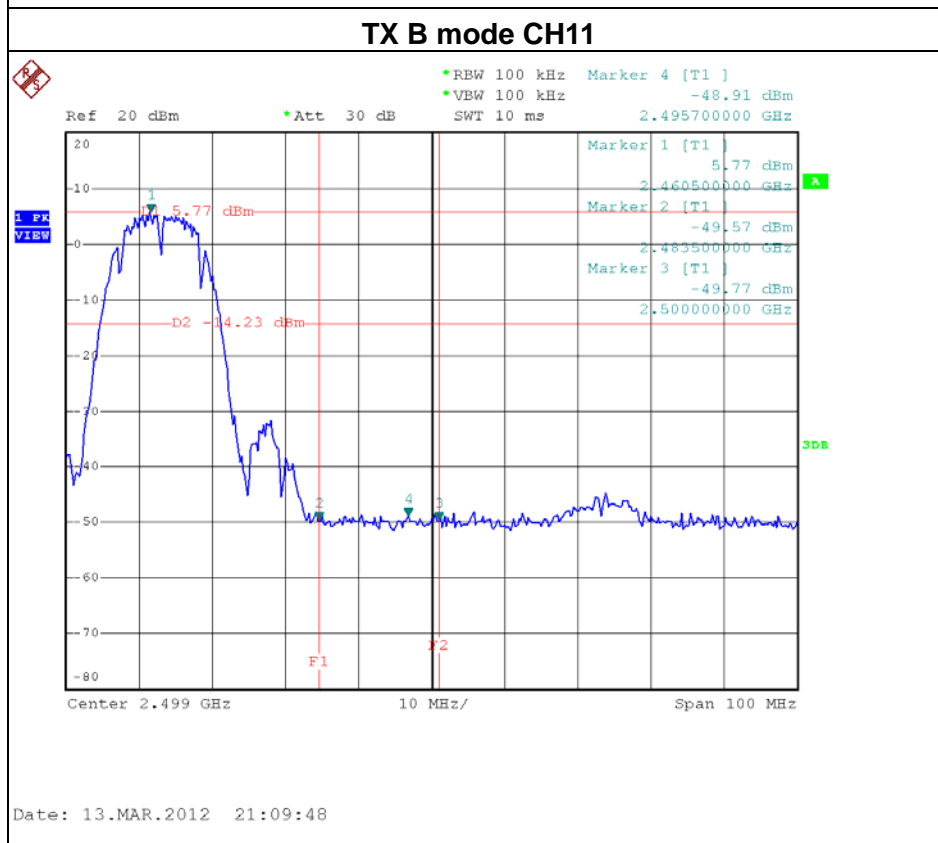
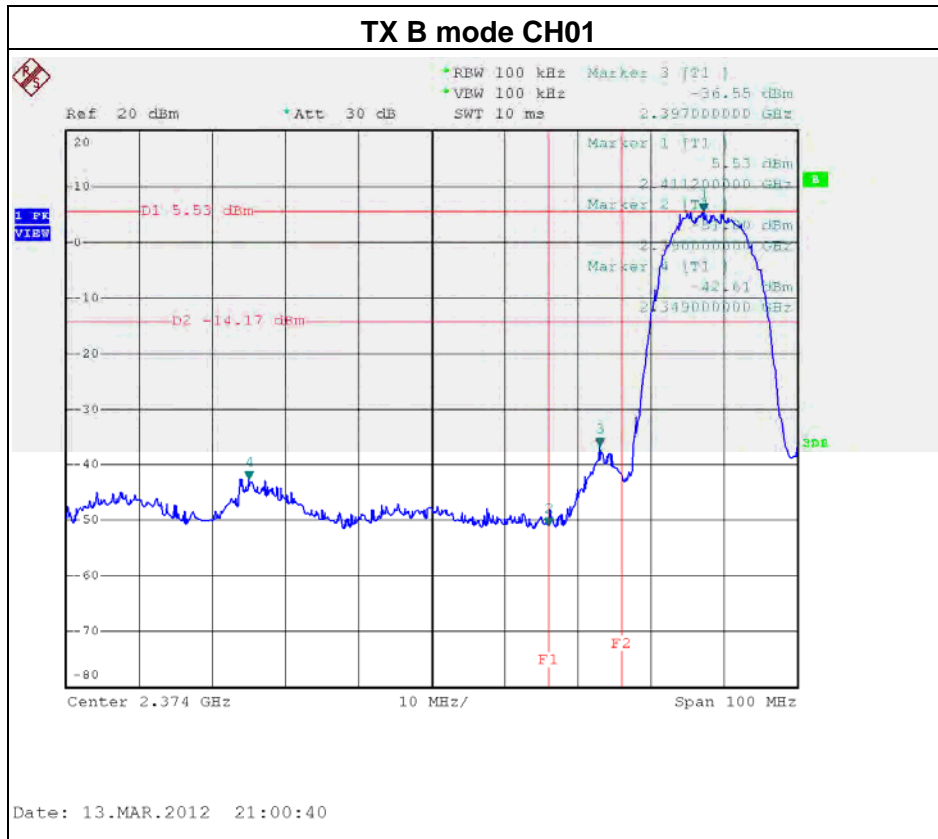
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

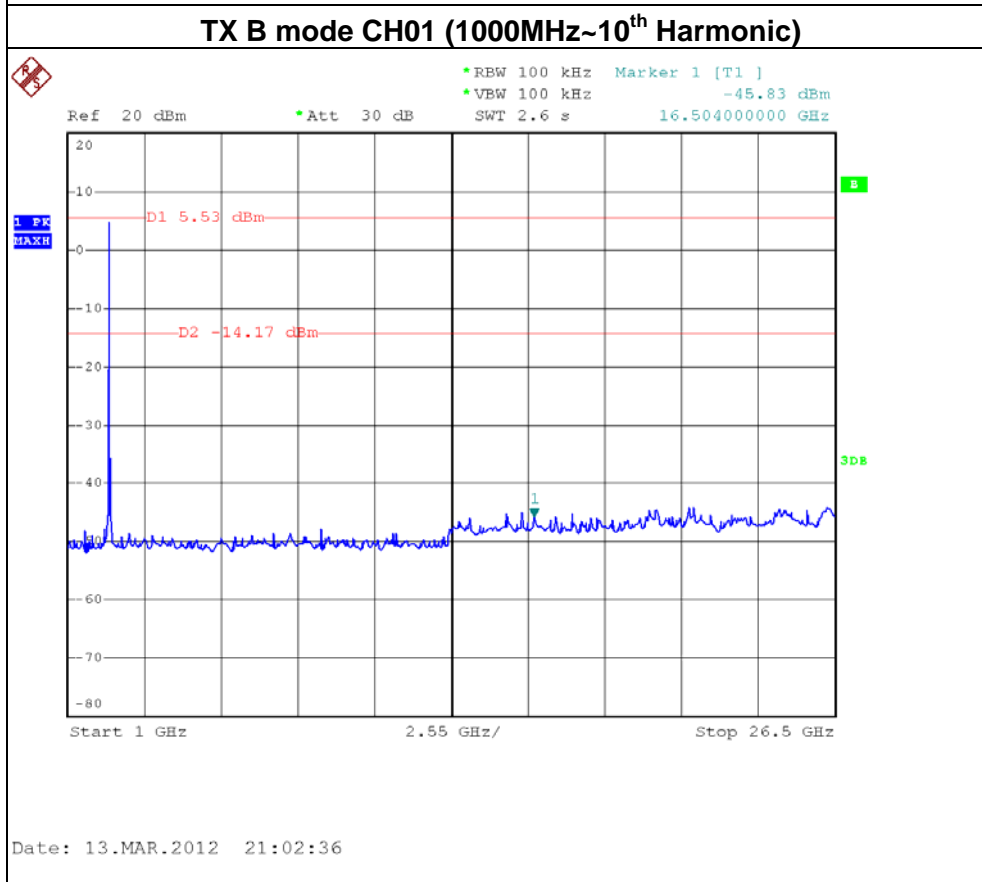
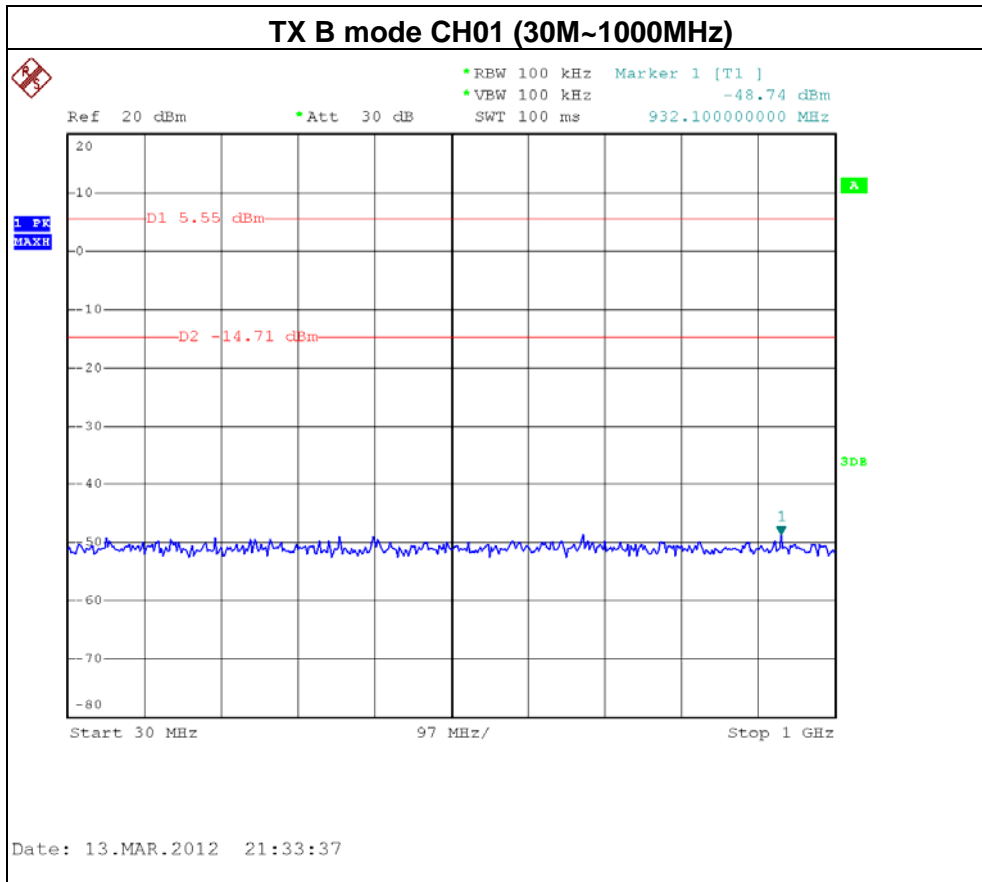


**7.1.6 TEST RESULTS**

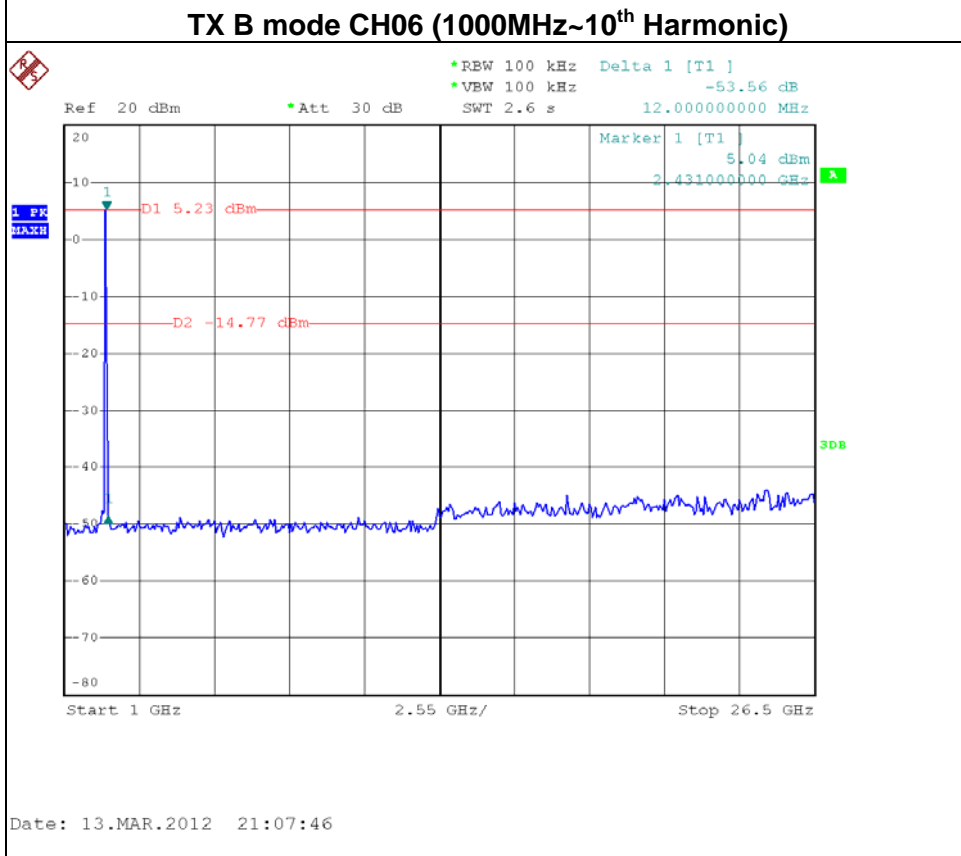
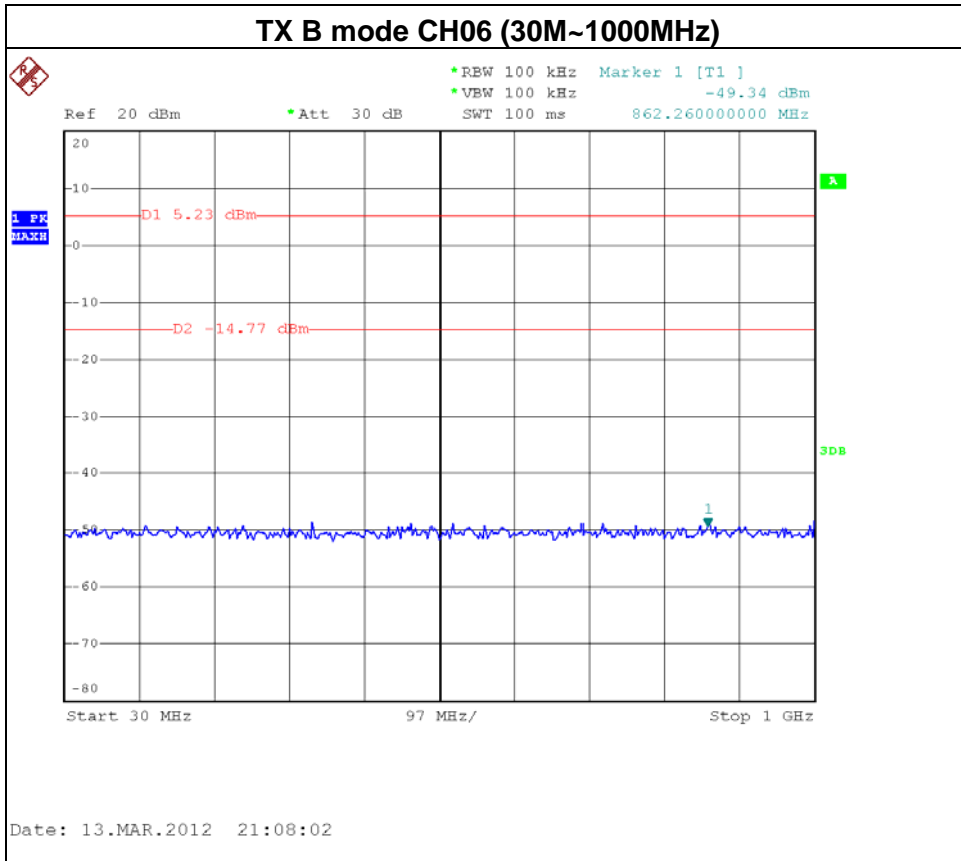
EUT :	Home Gateway	Model Name :	HG532e
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE /CH01, CH06 , CH11		

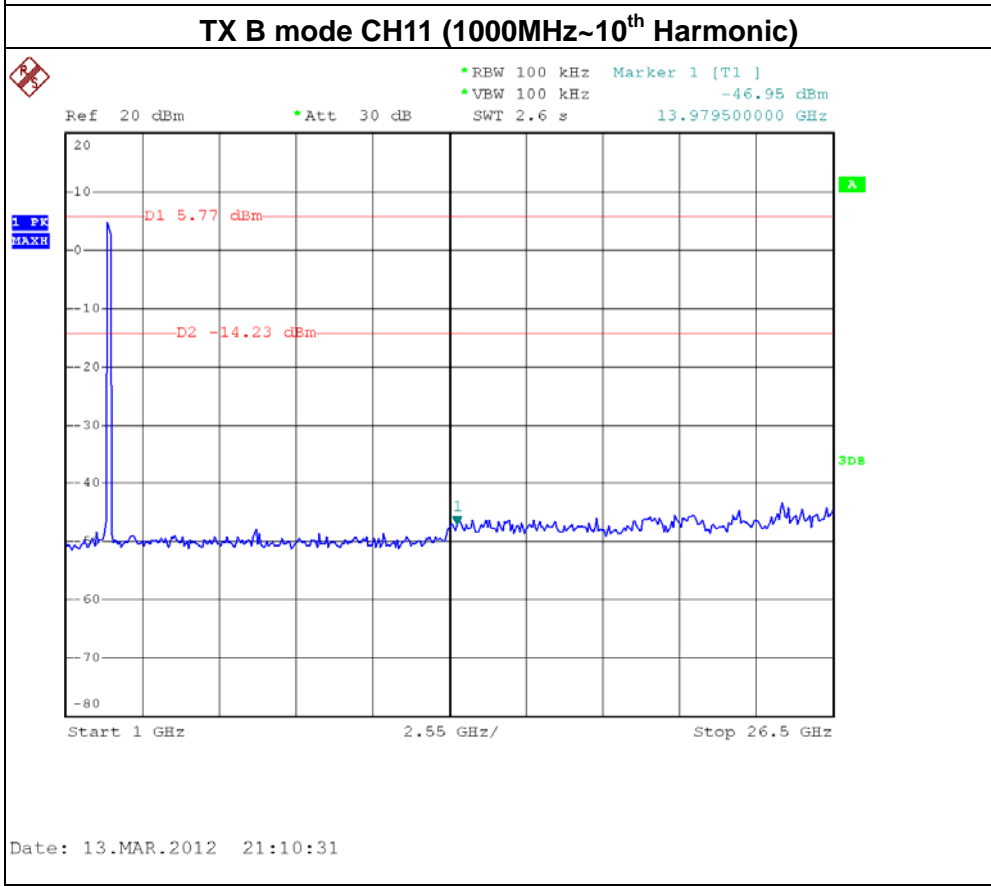
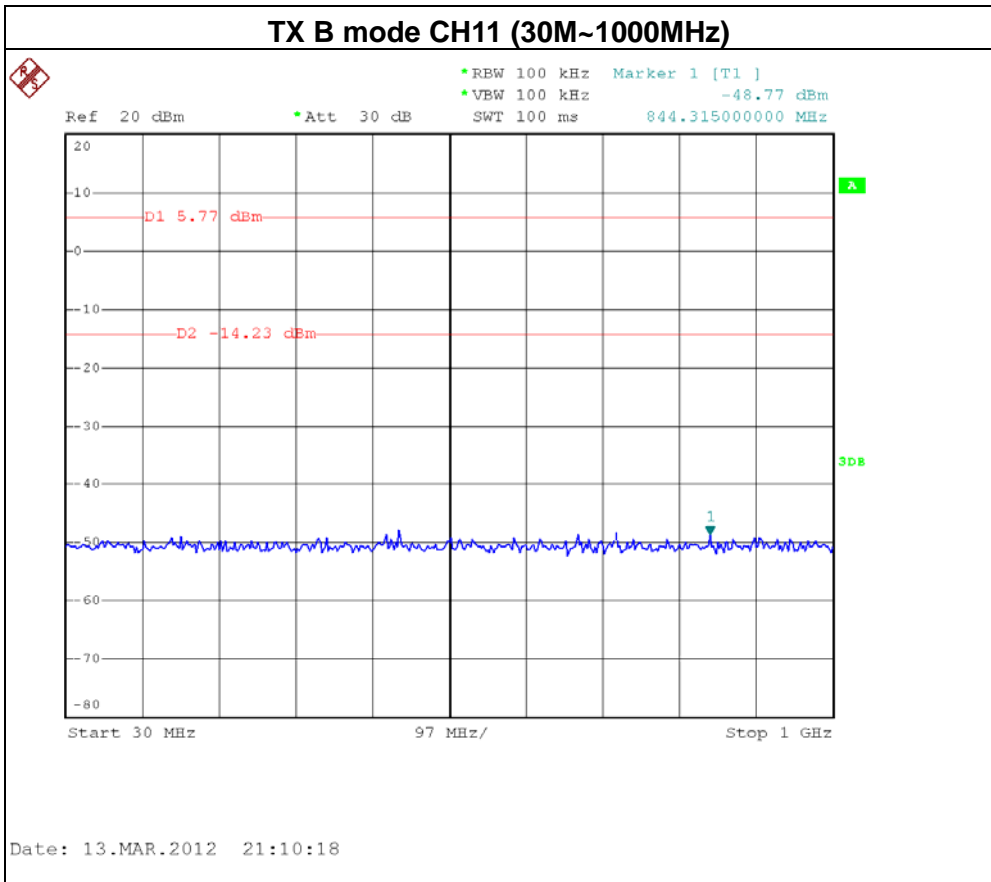
Channel of Worst Data: CH01			
The max. radio frequency power in any 100kHz bandwidth within the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
2397.00	-36.55	2495.70	-48.91
Result			
In any 100kHz 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 level of the desired power.			







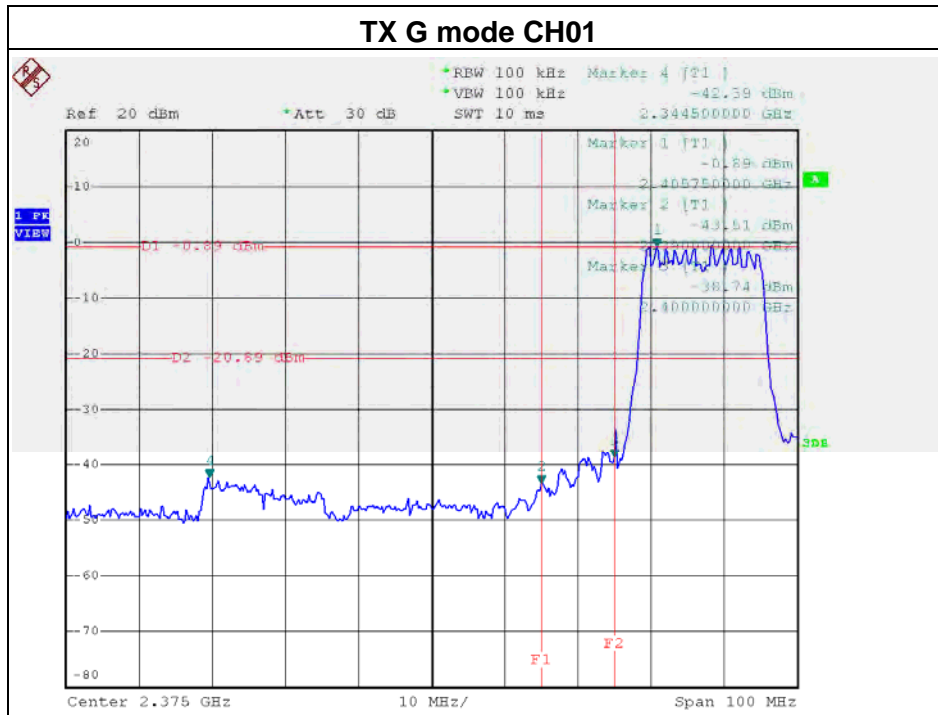




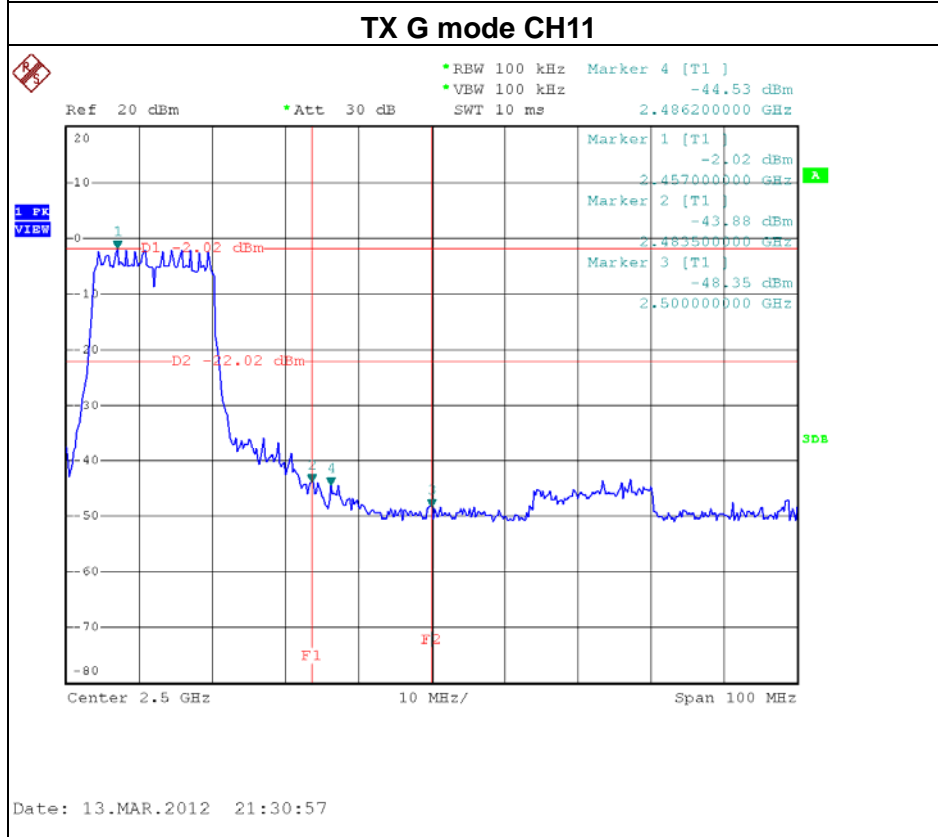


EUT :	Home Gateway	Model Name :	HG532e
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX G MODE / CH01, CH06 , CH11		

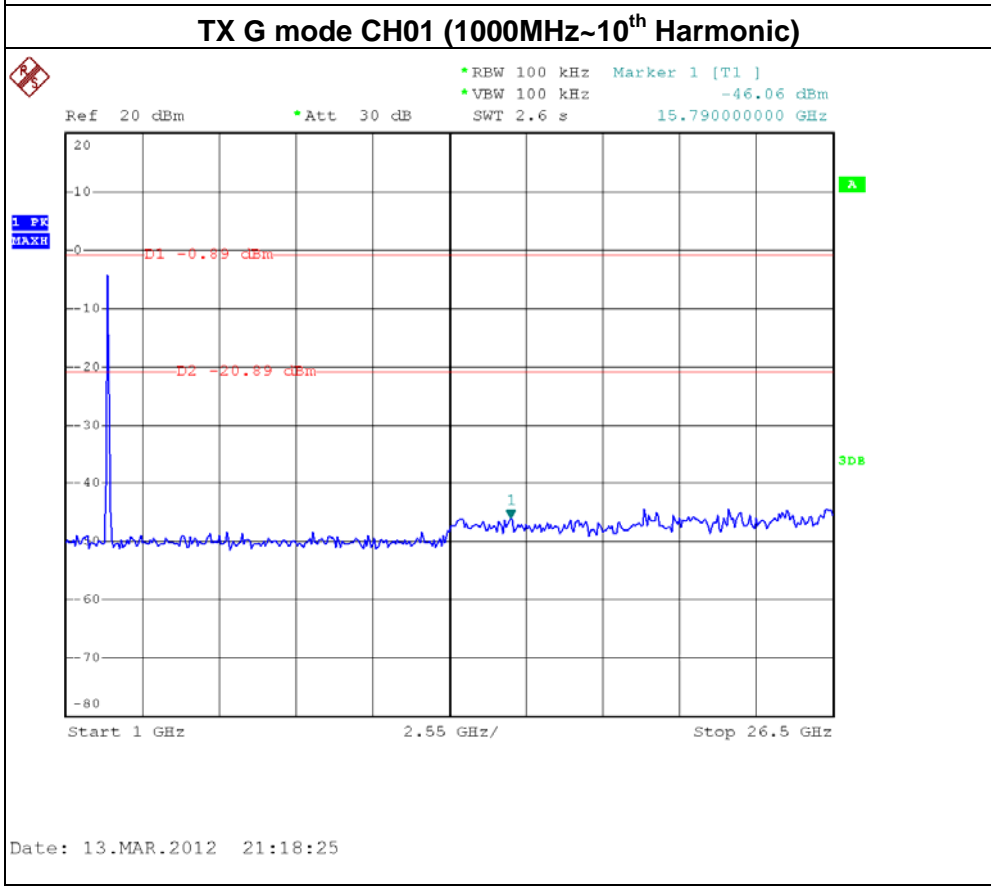
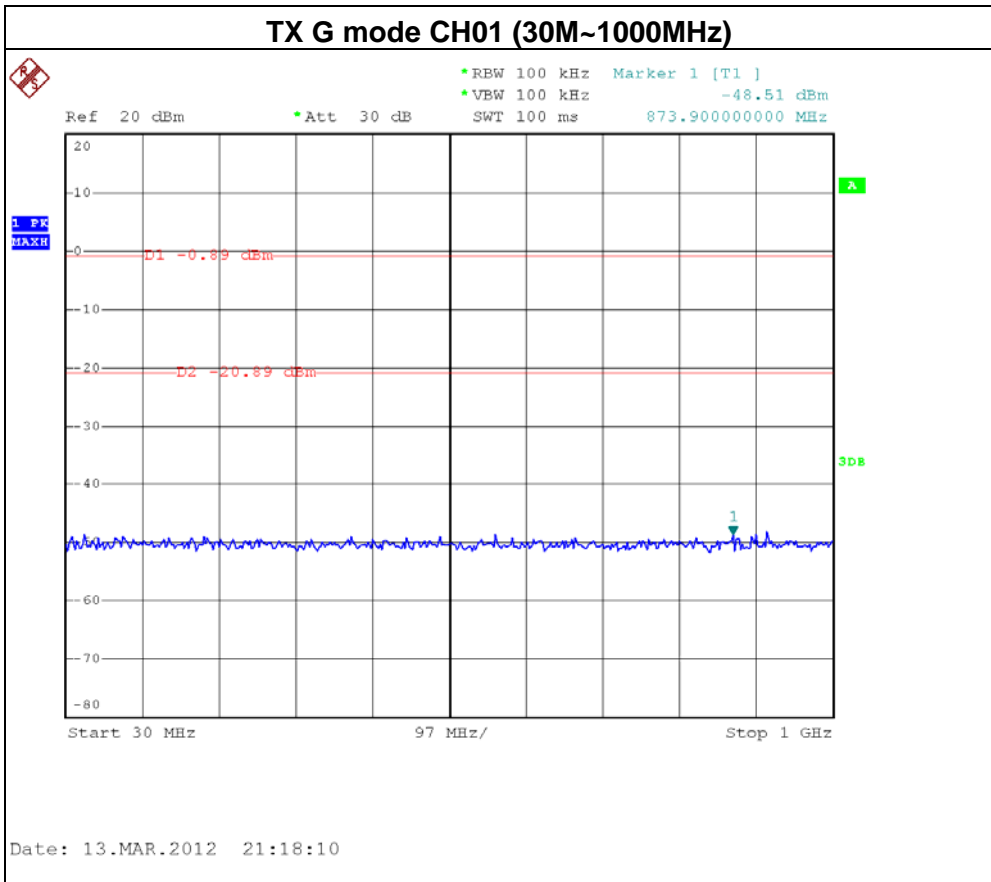
Channel of Worst Data: CH01			
The max. radio frequency power in any 100kHz bandwidth within the frequency band		The max. radio frequency power in any 100 kHz bandwidth outside the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
2400.00	-38.74	2483.50	-43.88
Result			
In any 100kHz 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 level of the desired power.			

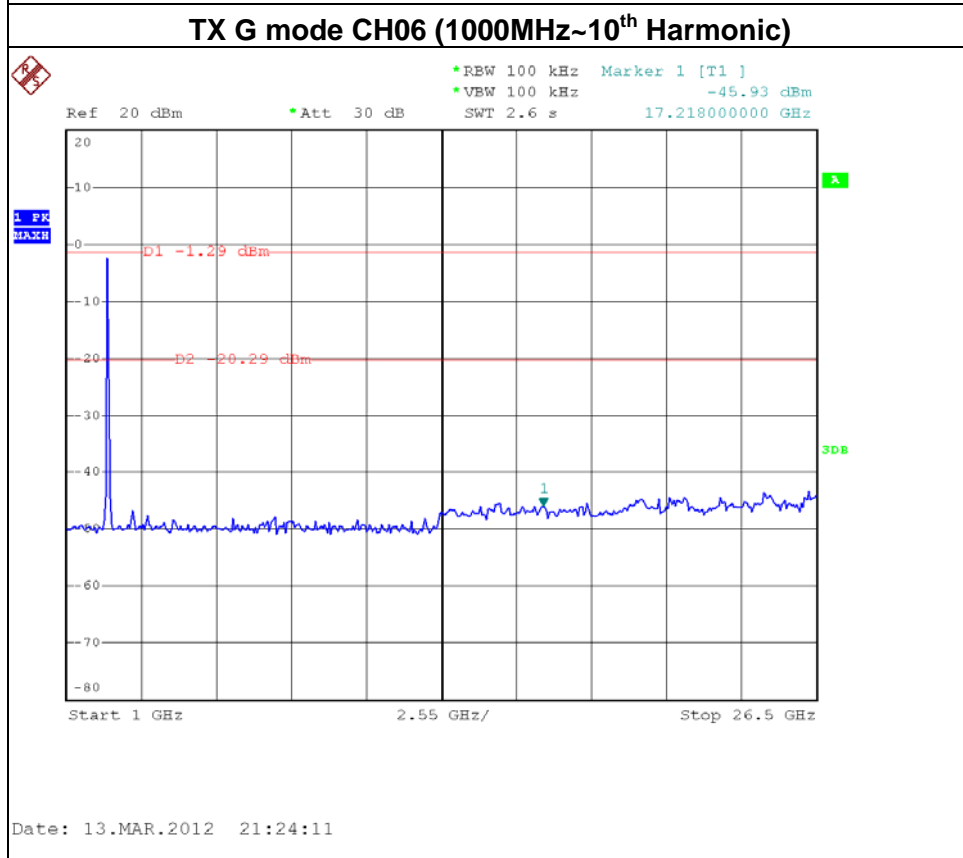
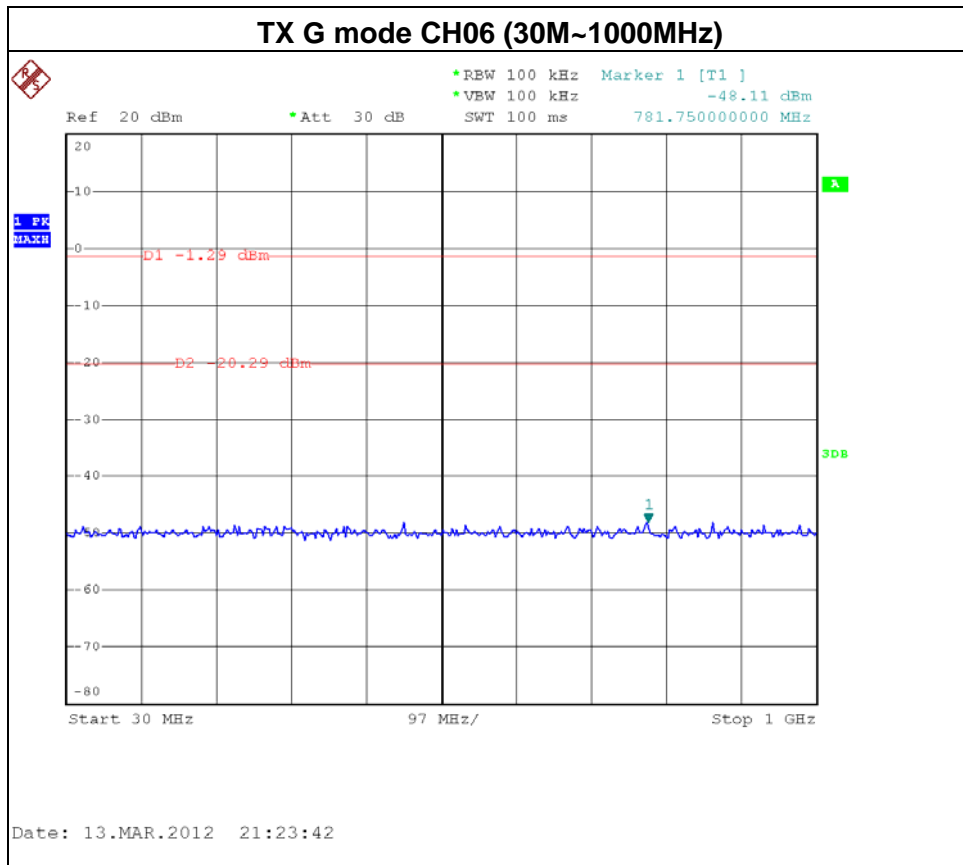


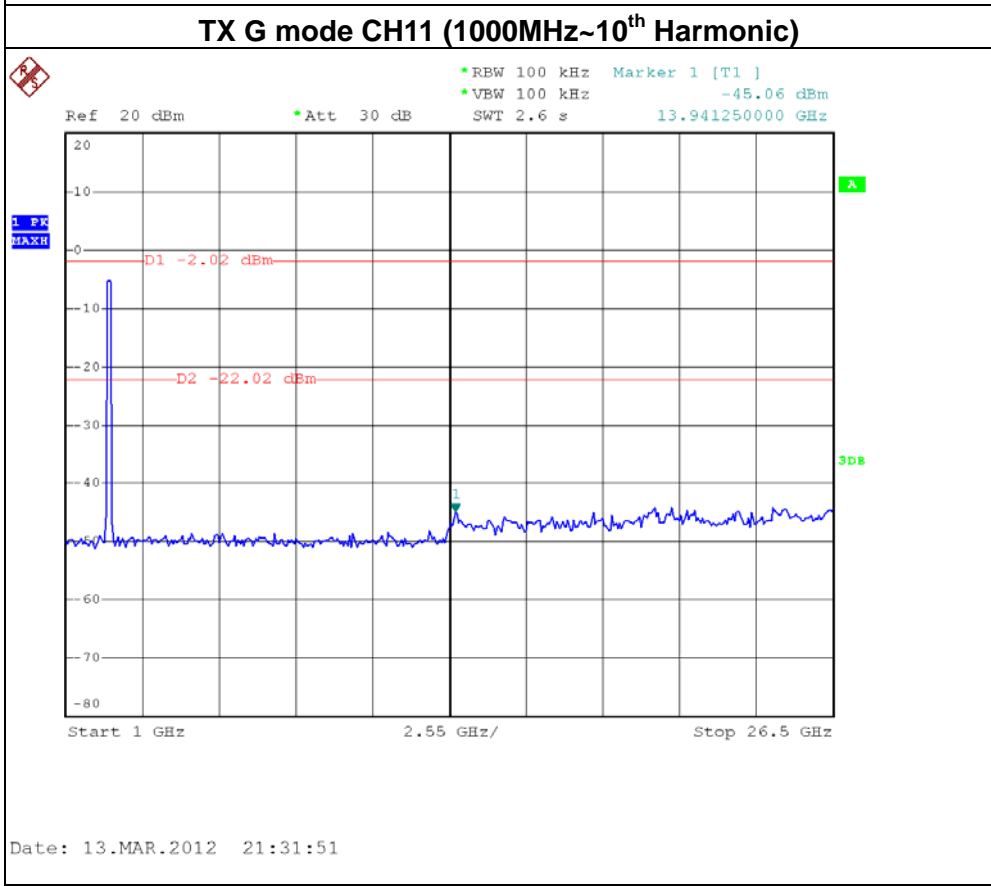
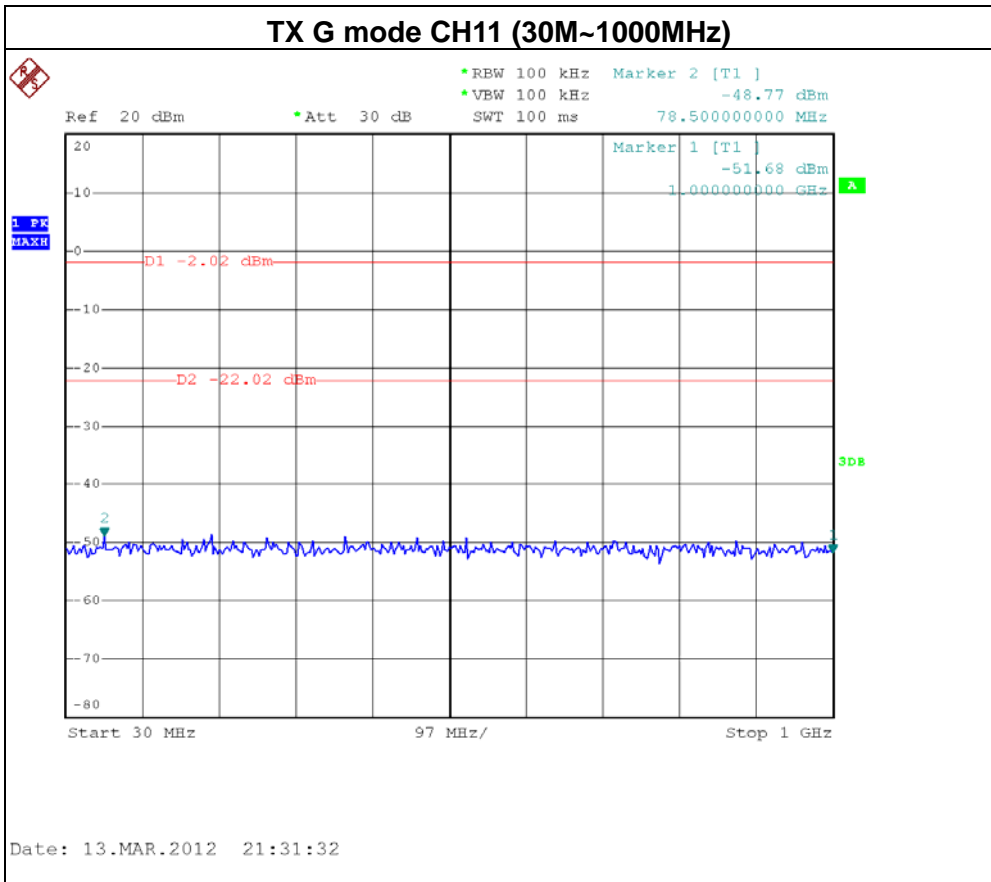
Date: 13.MAR.2012 21:17:12



Date: 13.MAR.2012 21:30:57









EUT :	Home Gateway	Model Name :	HG532e
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE / CH01, CH06 , CH11		

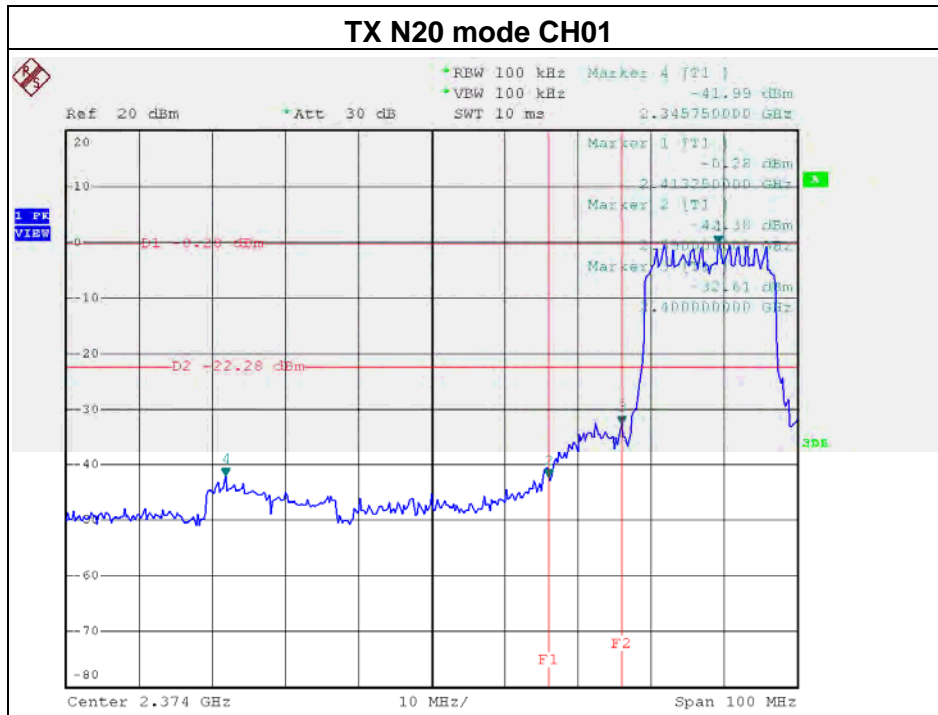
Channel of Worst Data: CH01

The max. radio frequency power in any 100kHz bandwidth within the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
2400.00	-32.61	2483.50	-42.50

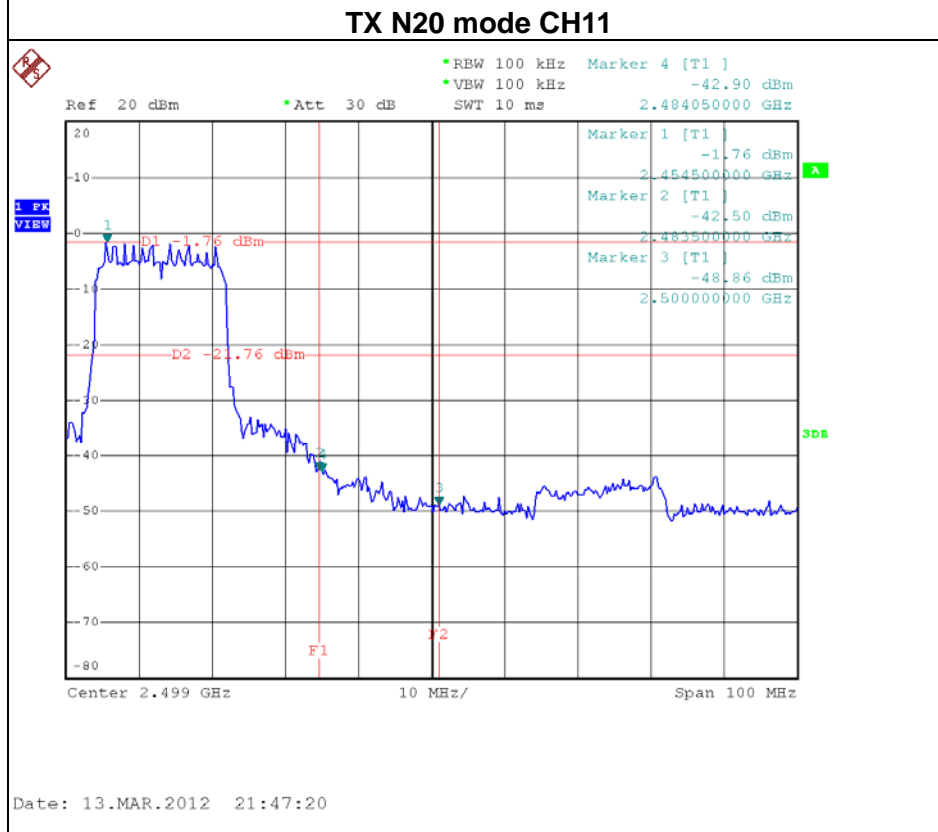
Result

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 level of the desired power.





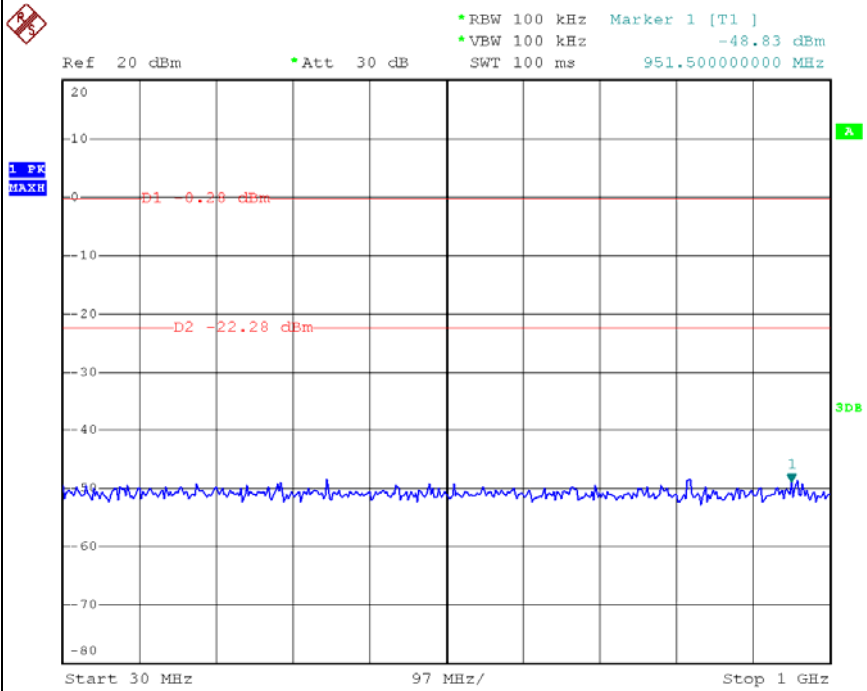
Date: 13.MAR.2012 21:38:26



Date: 13.MAR.2012 21:47:20

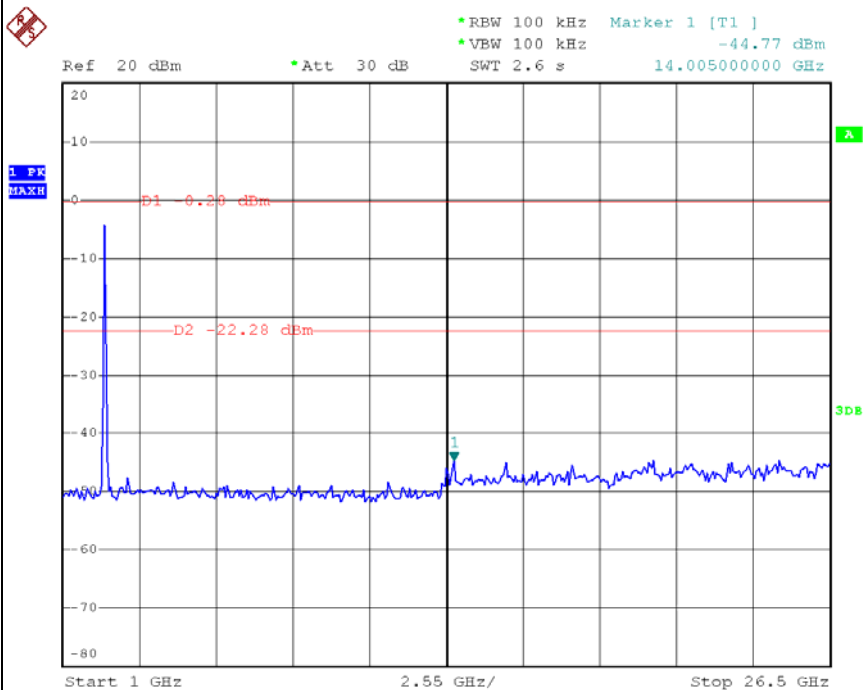


### TX N20 mode CH01 (30M~1000MHz)

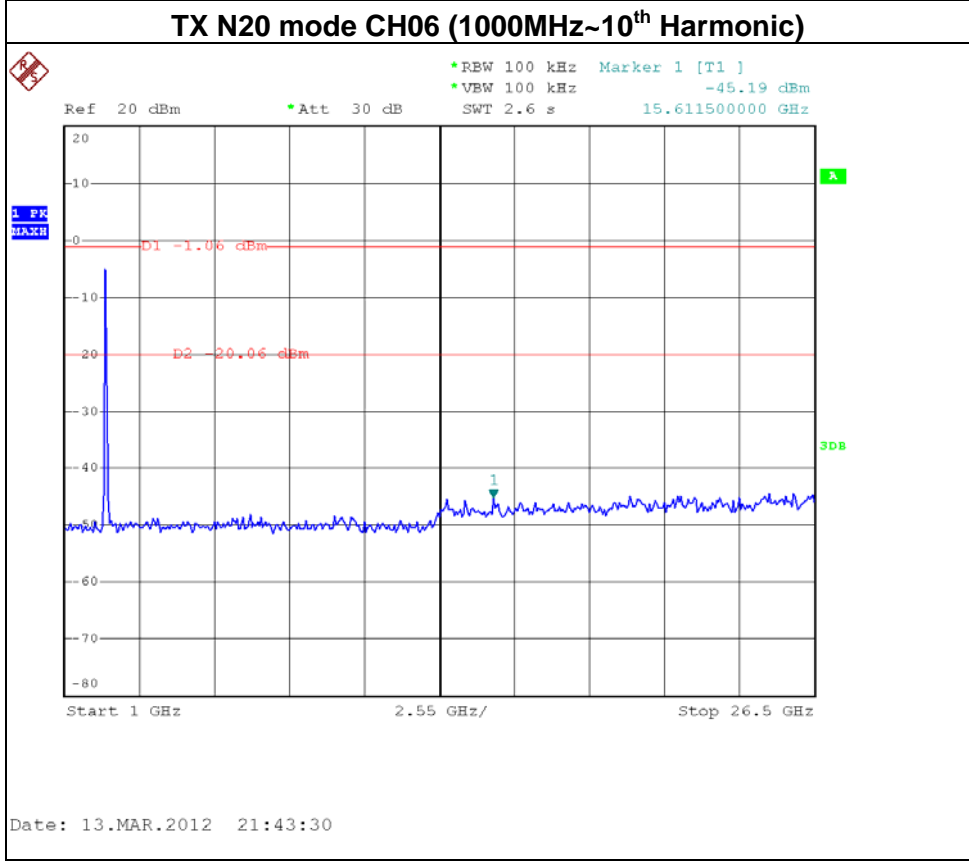
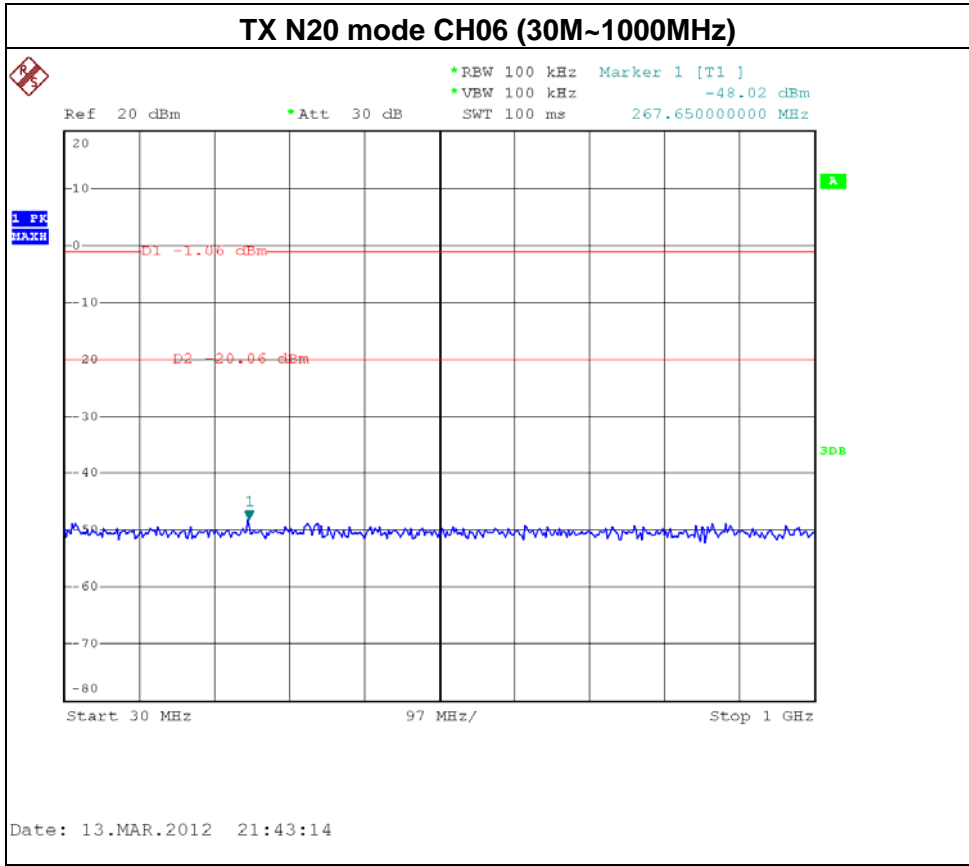


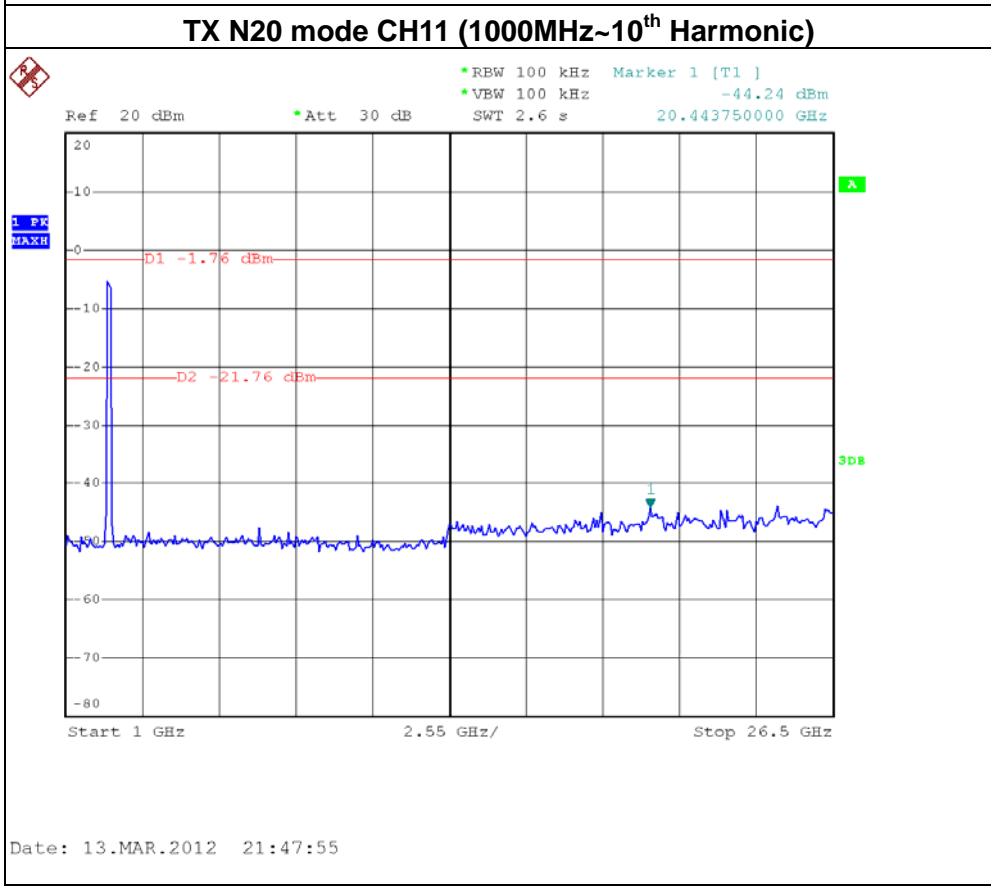
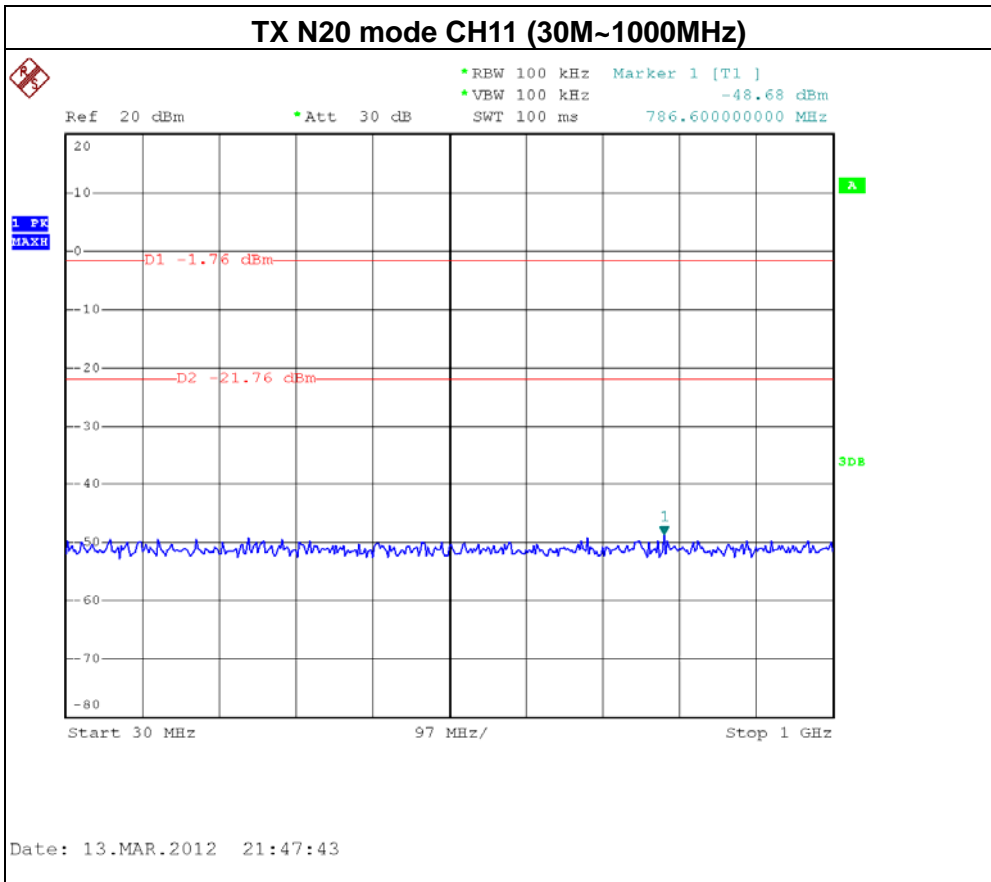
Date: 13.MAR.2012 21:38:55

### TX N20 mode CH01 (1000MHz~10<sup>th</sup> Harmonic)



Date: 13.MAR.2012 21:39:07





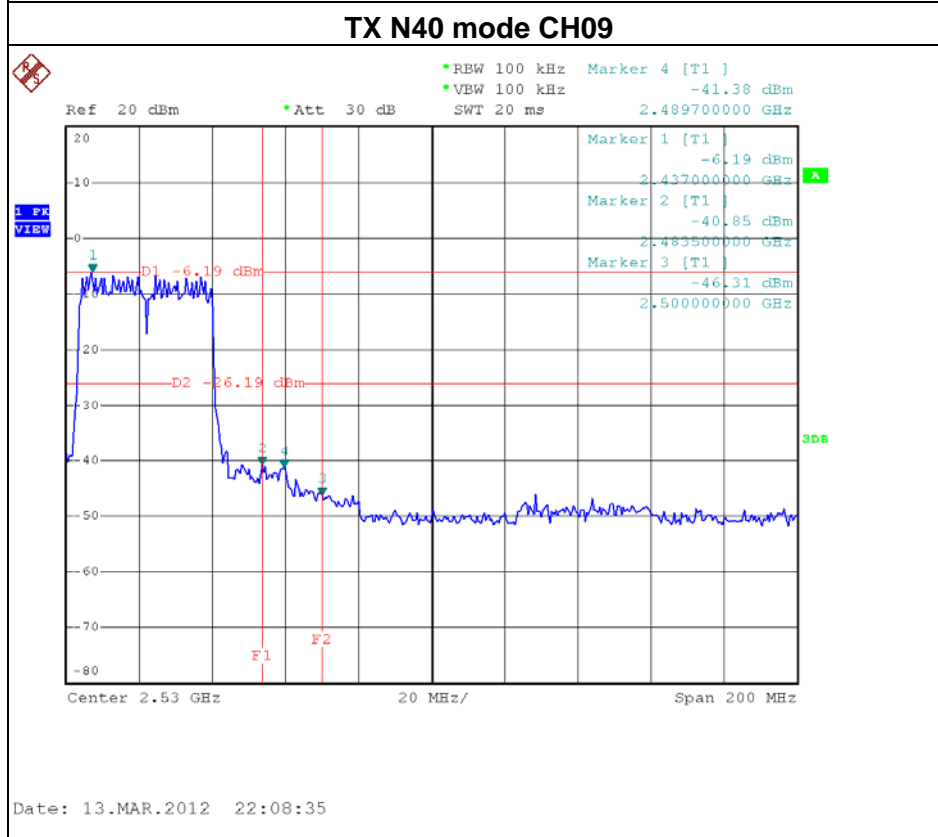
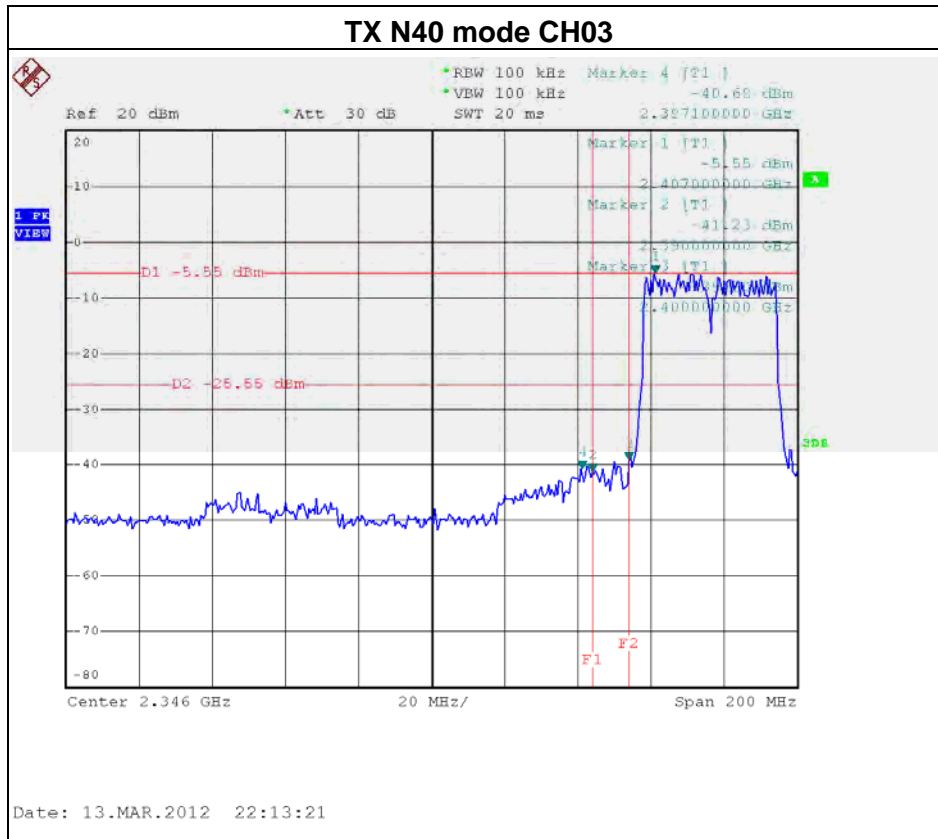


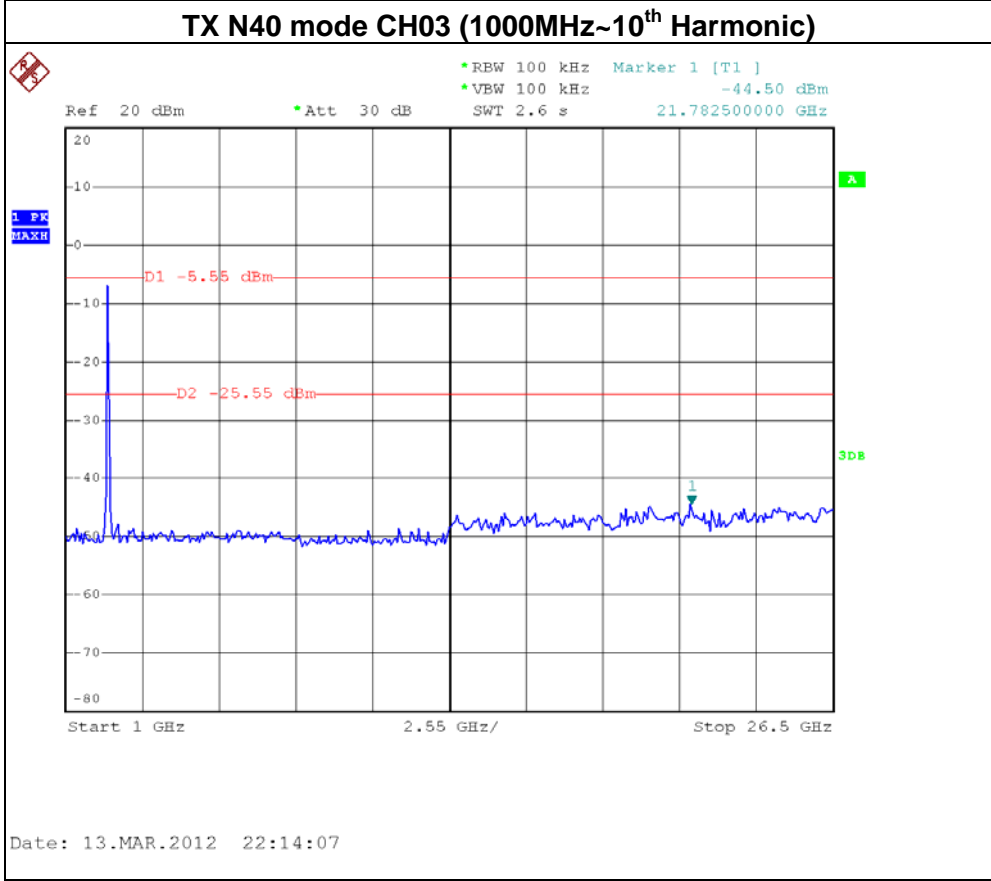
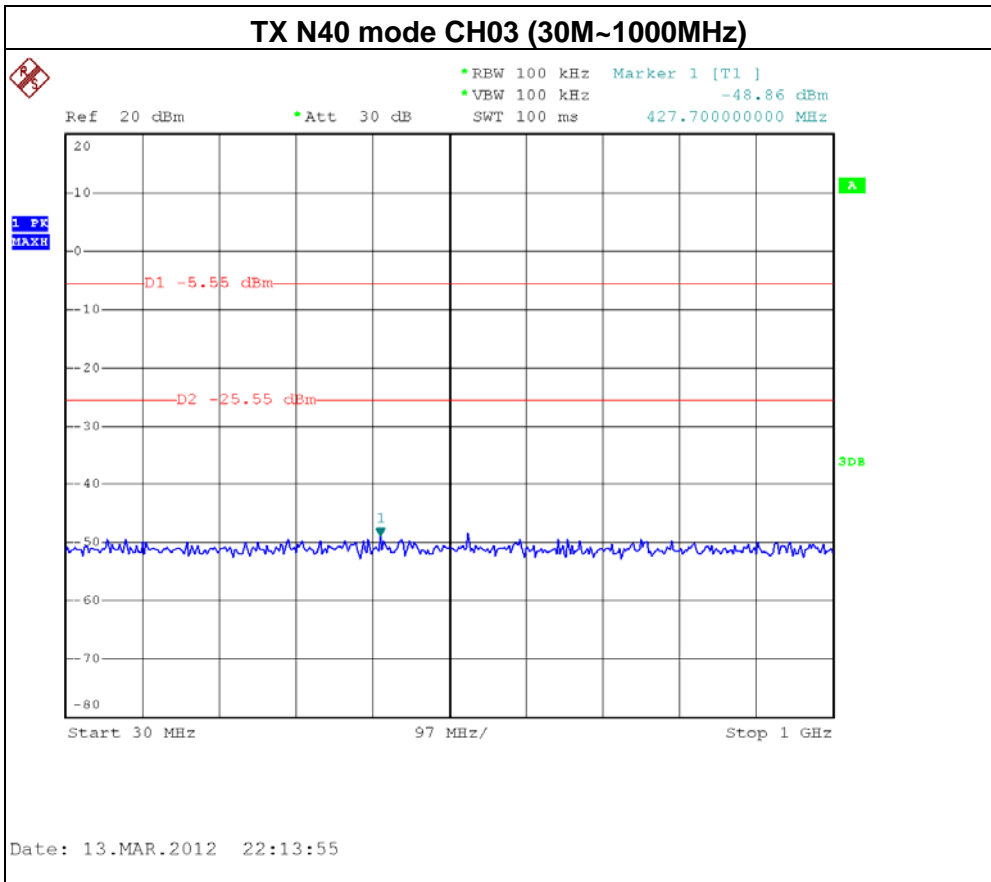
EUT :	Home Gateway	Model Name :	HG532e
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-40M MODE /CH03, CH06, CH09 – ANT1		

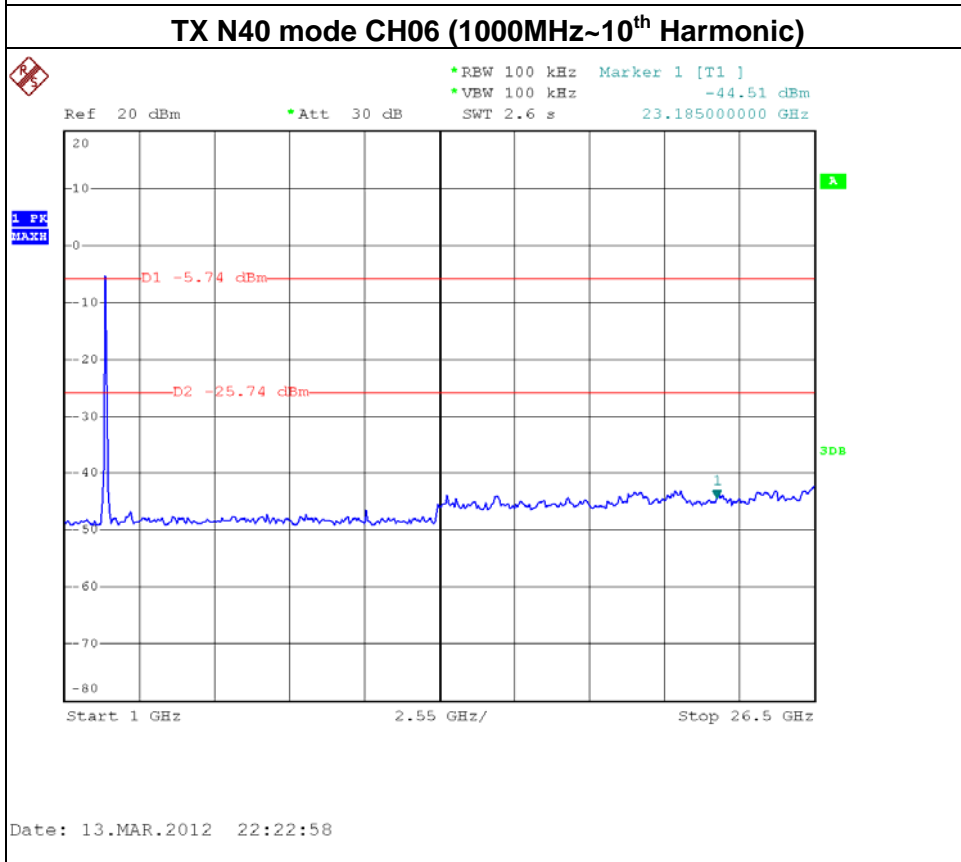
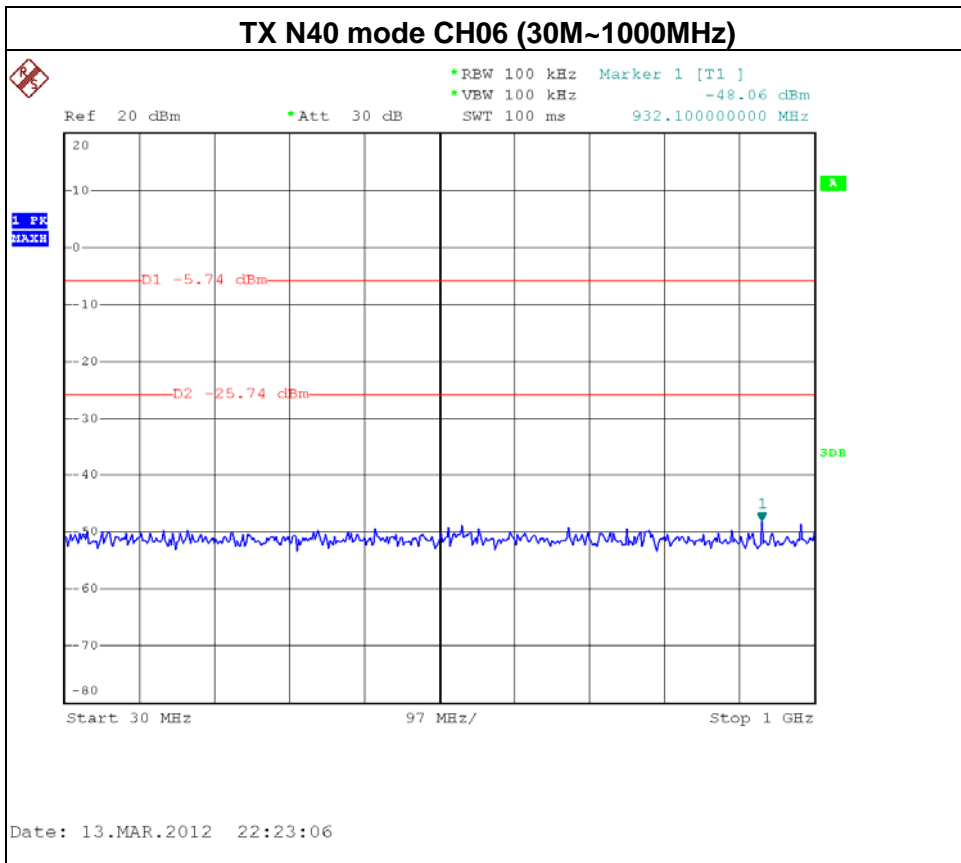
Channel of Worst Data: CH03			
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
2400.00	-39.20	2483.50	-40.85

**Result**

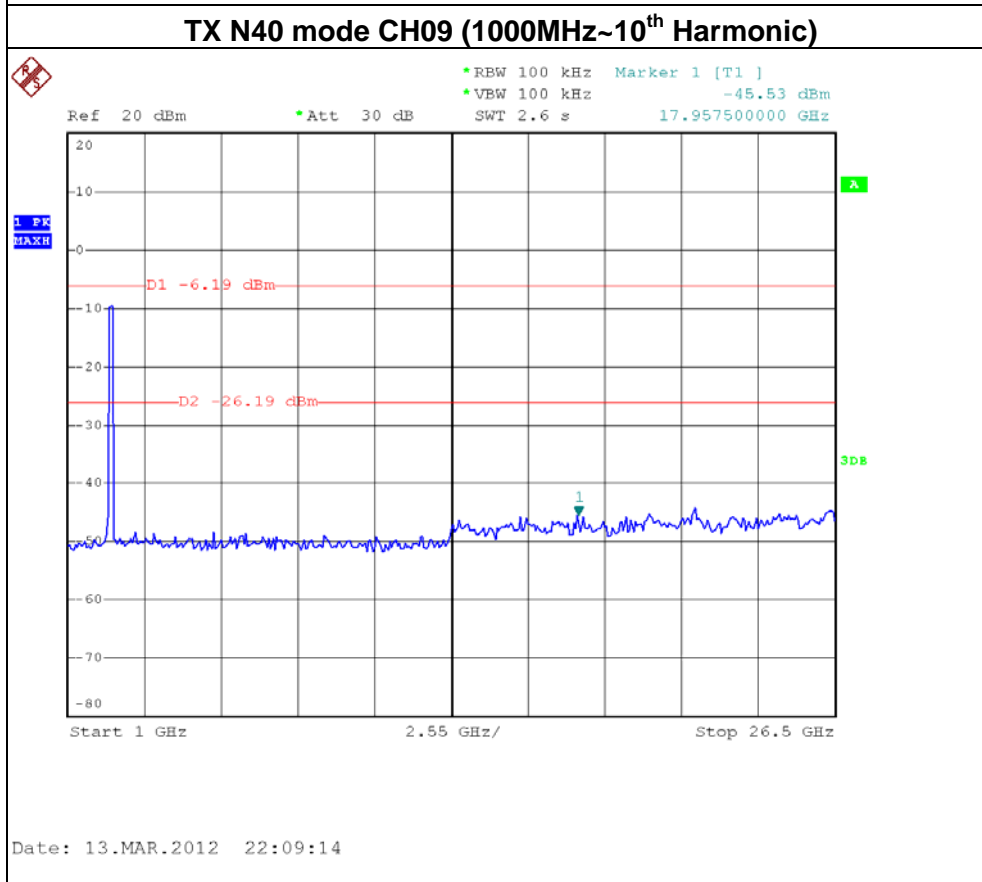
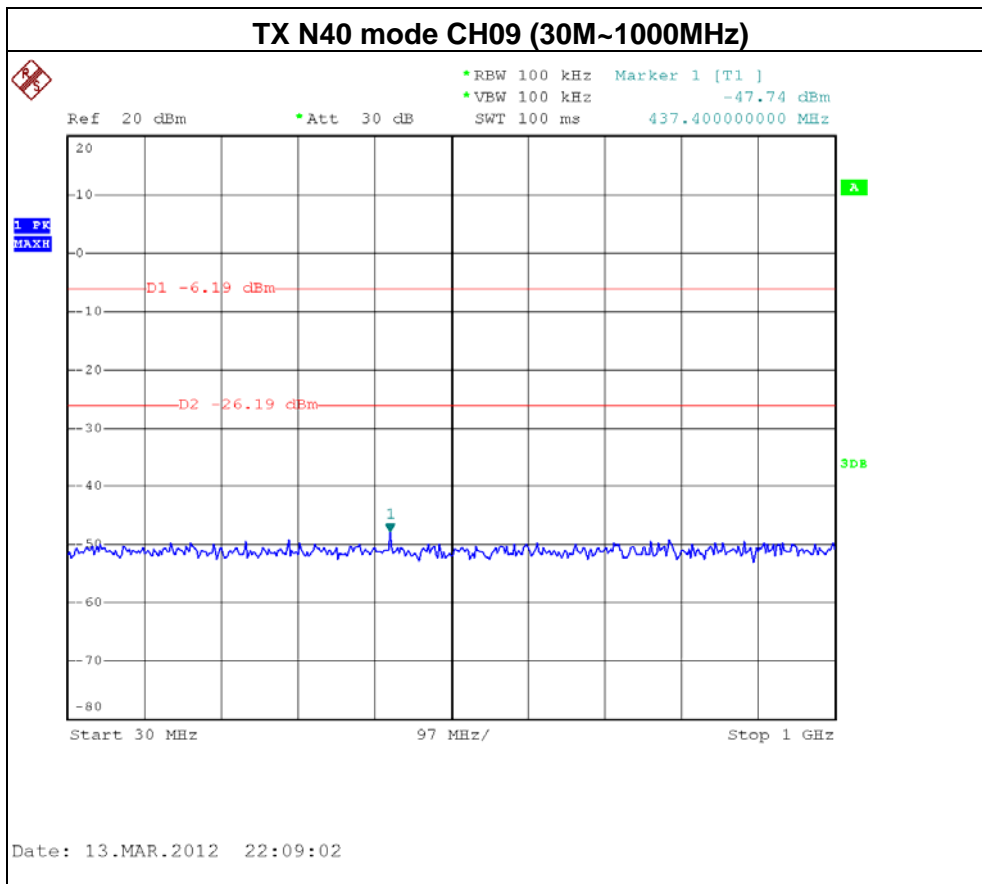
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.







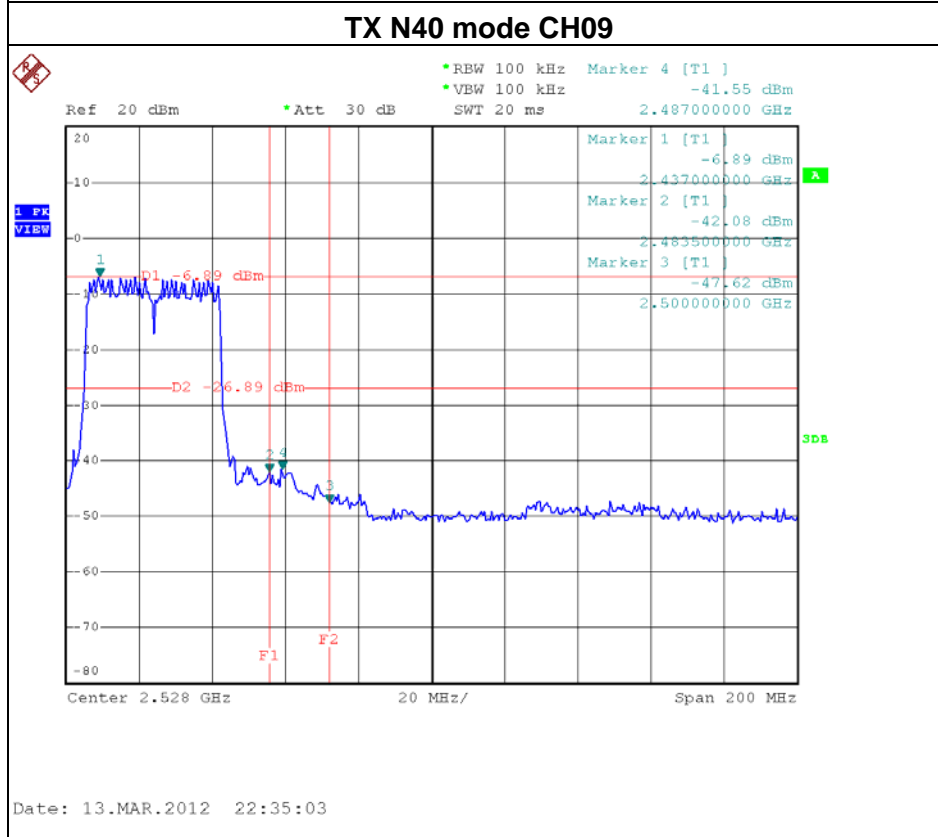
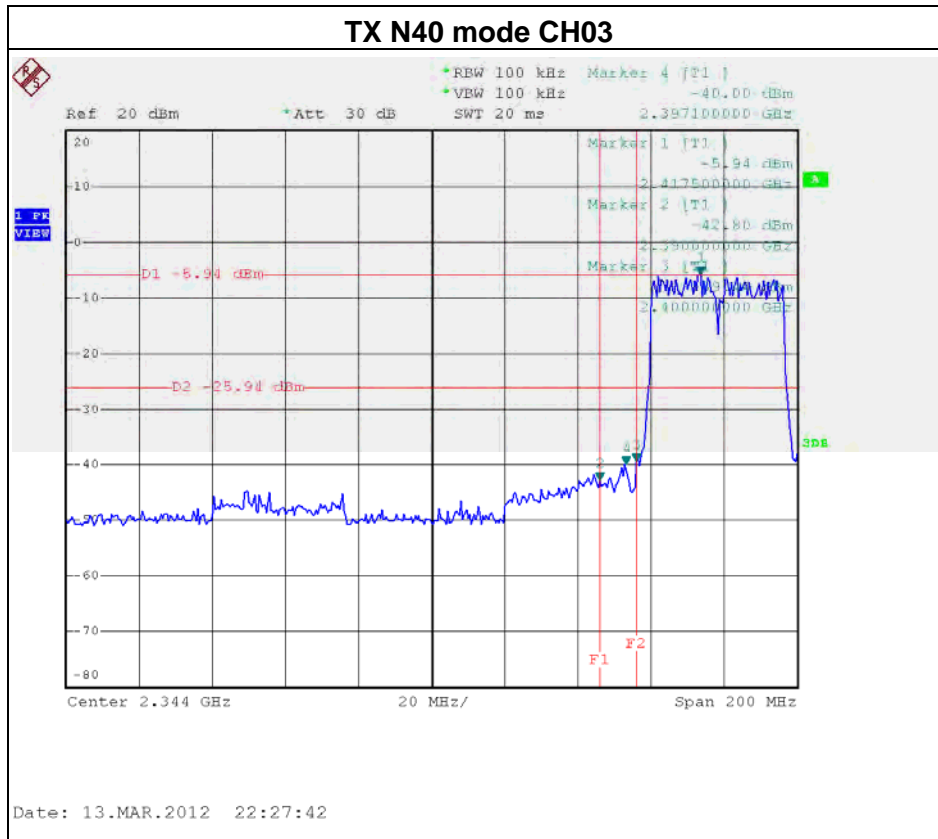






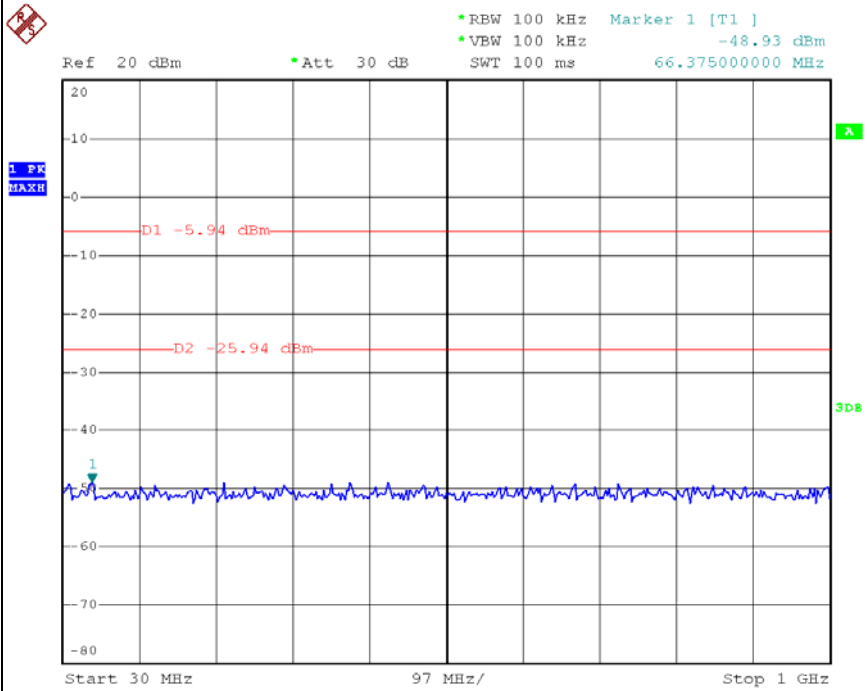
EUT :	Home Gateway	Model Name :	HG532e
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-40M MODE /CH03, CH06, CH09 – ANT2		

Channel of Worst Data: CH03			
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)
2400.00	-39.44	2487.00	-41.55
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 level of the desired power.			



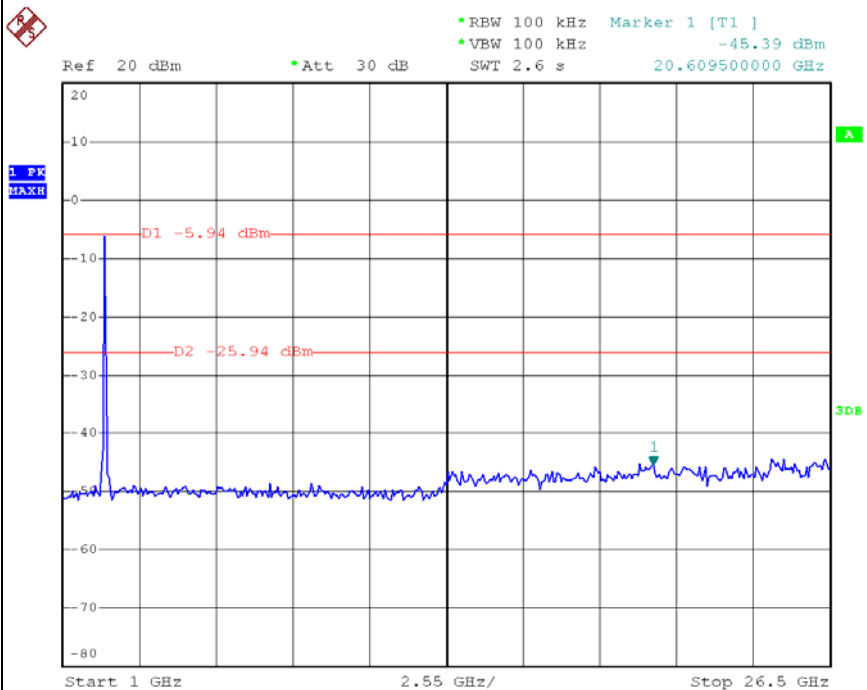


### TX N40 mode CH03 (30M~1000MHz)

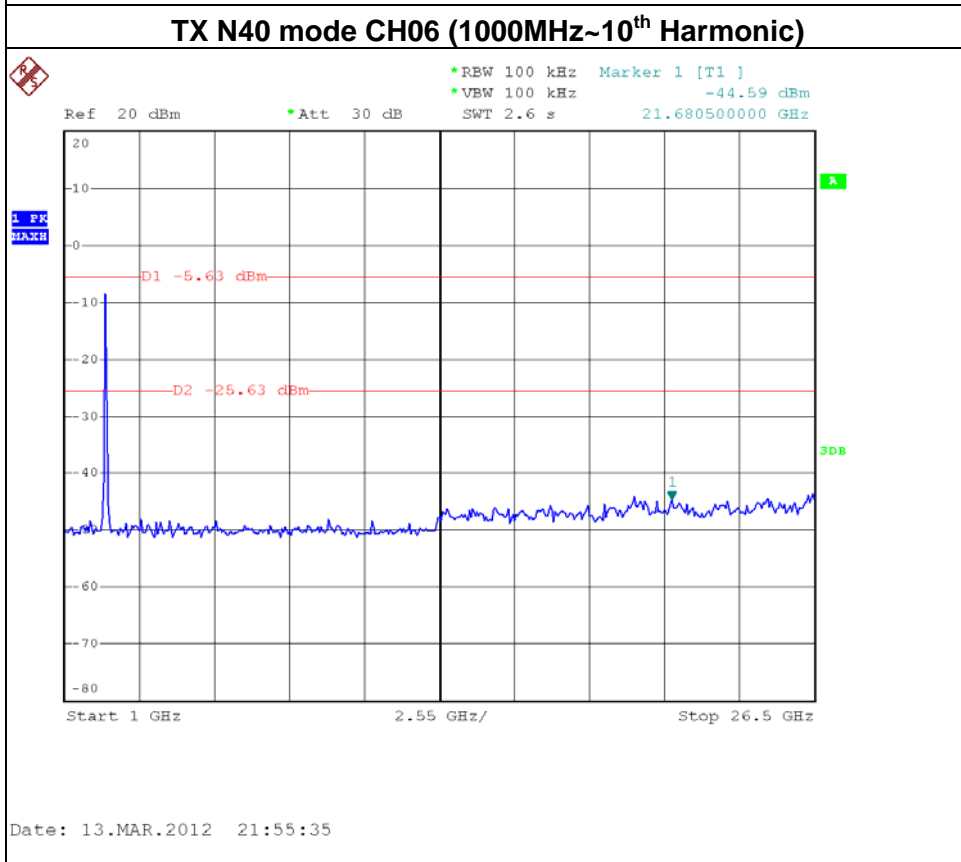
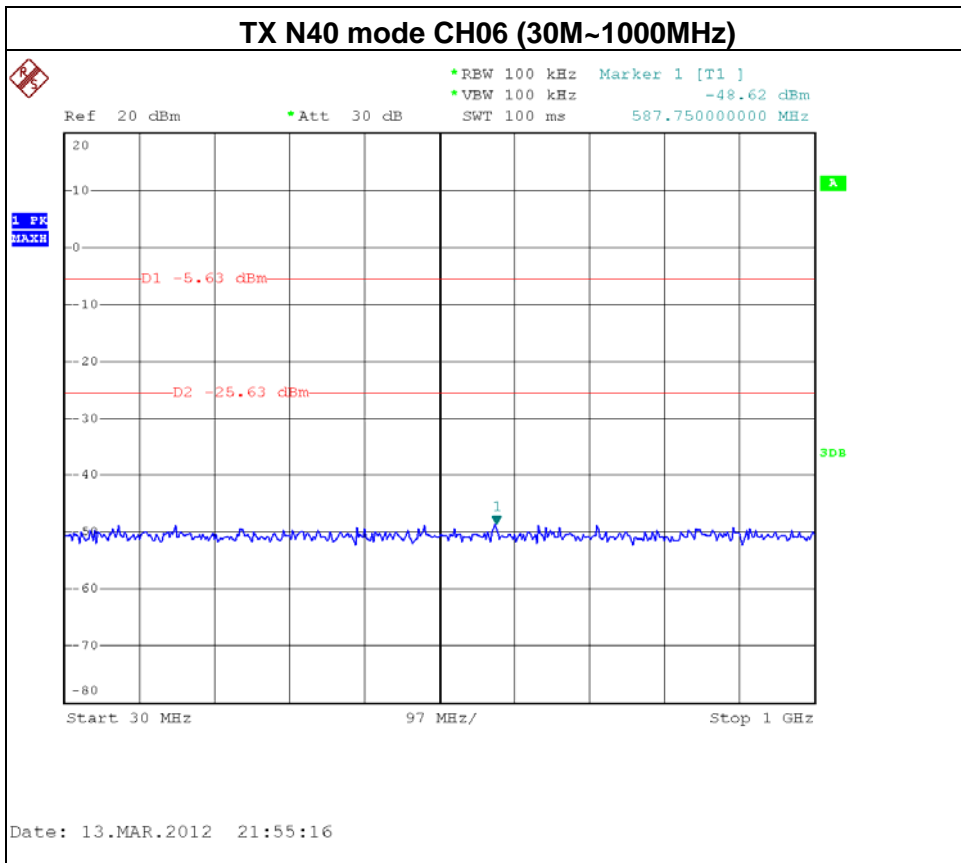


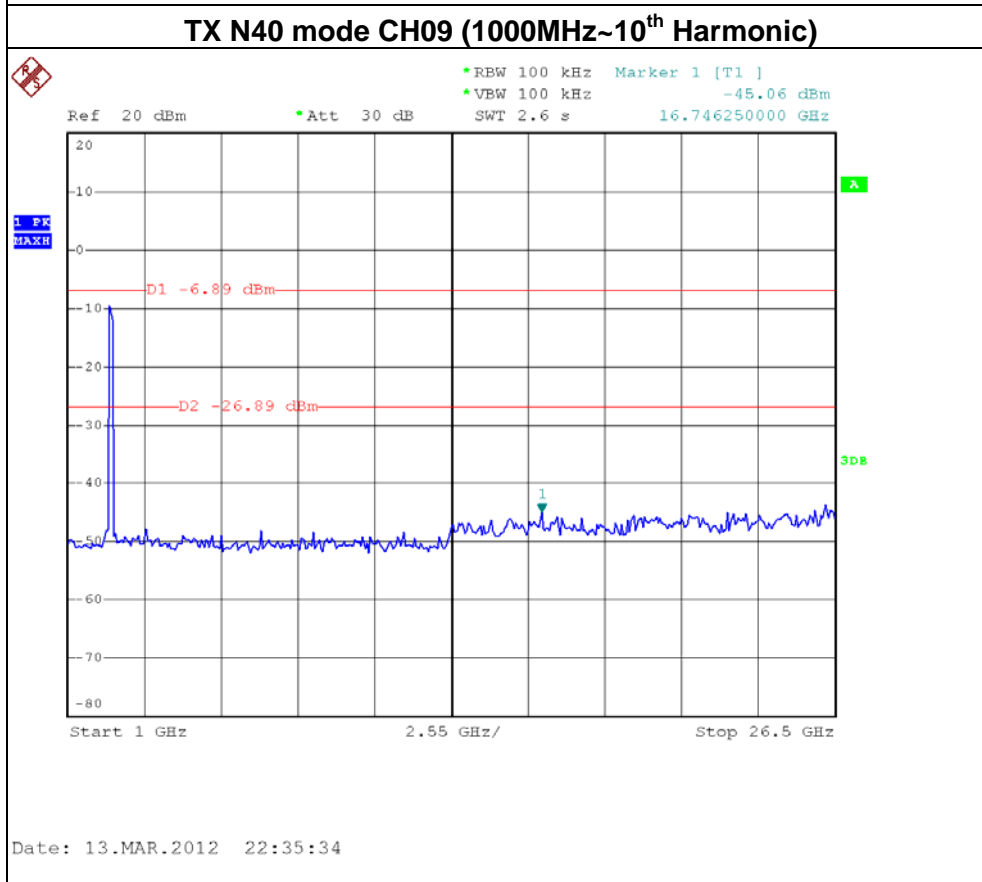
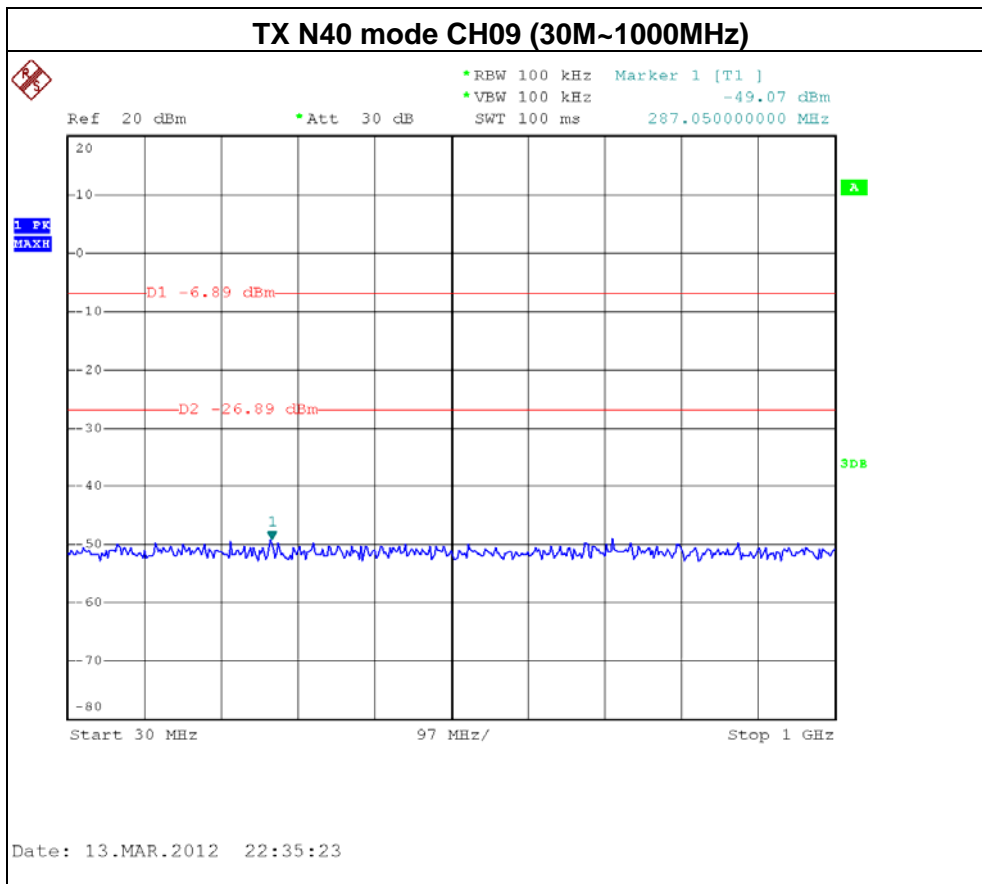
Date: 13.MAR.2012 22:28:07

### TX N40 mode CH03 (1000MHz~10<sup>th</sup> Harmonic)



Date: 13.MAR.2012 22:28:21







## 8. POWER SPECTRAL DENSITY TEST

### 8.1 Applied procedures / limit

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(e)	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.25.2012

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

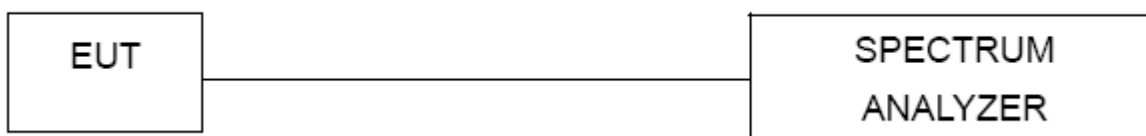
### 8.1.2 TEST PROCEDURE

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

### 8.1.3 DEVIATION FROM STANDARD

No deviation.

### 8.1.4 TEST SETUP



### 8.1.5 EUT OPERATION CONDITIONS

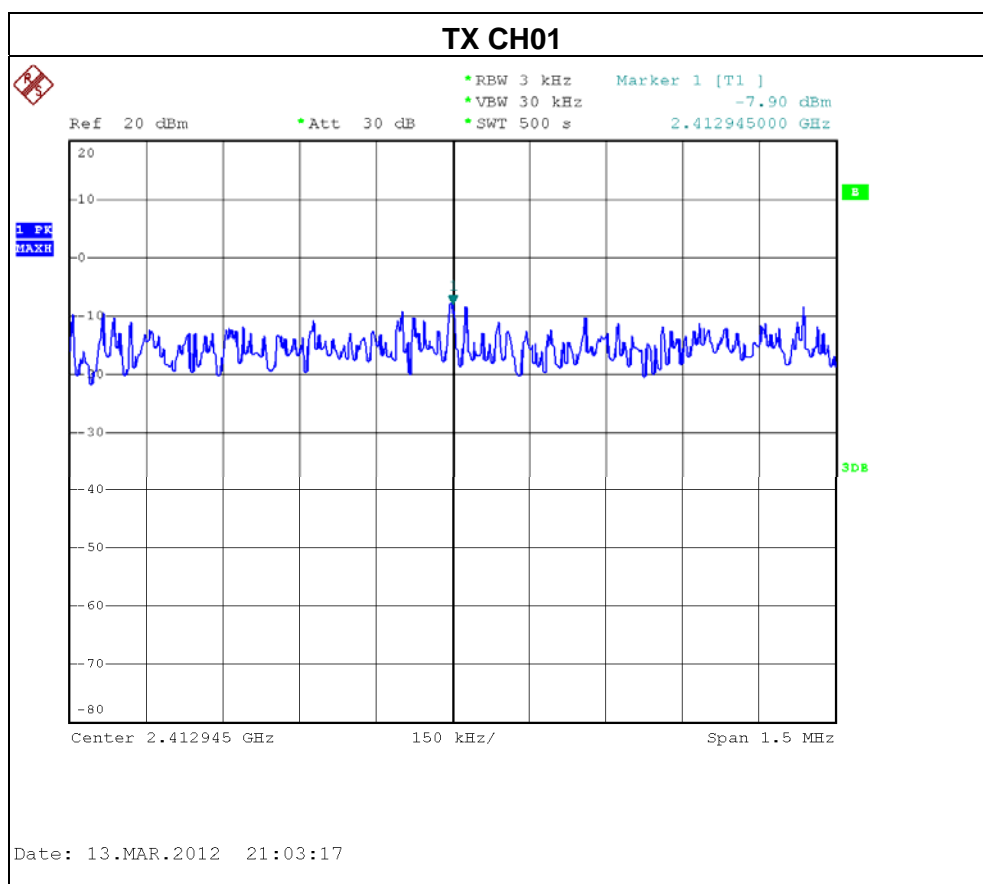
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.



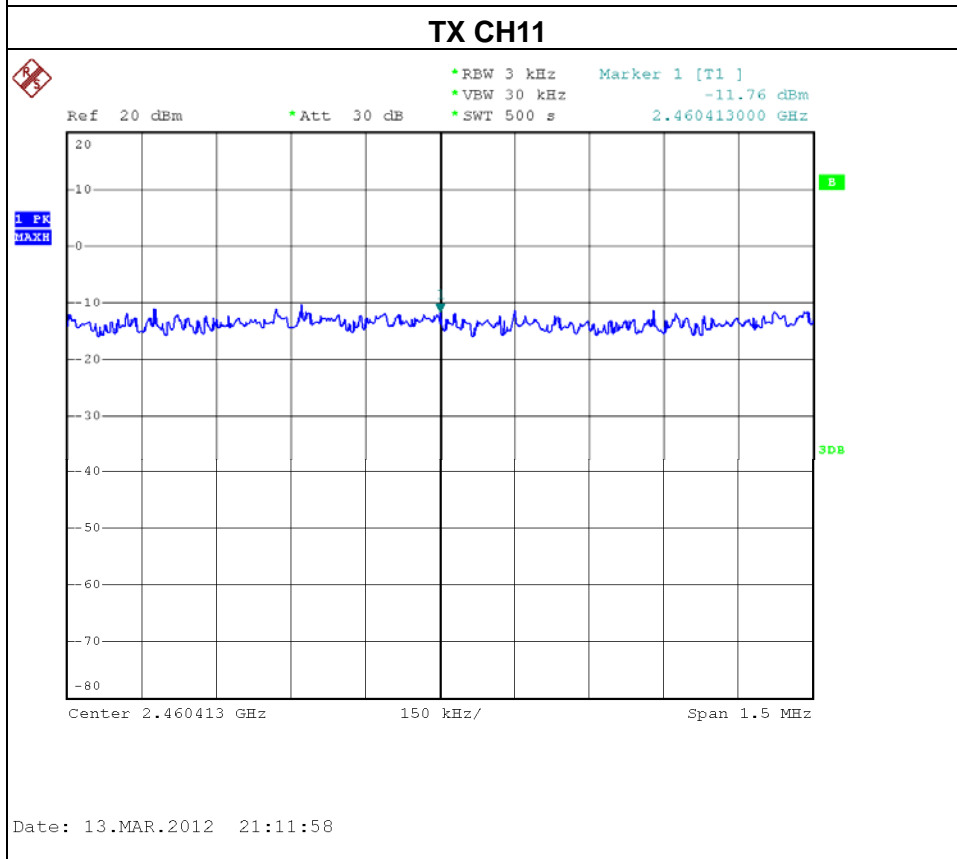
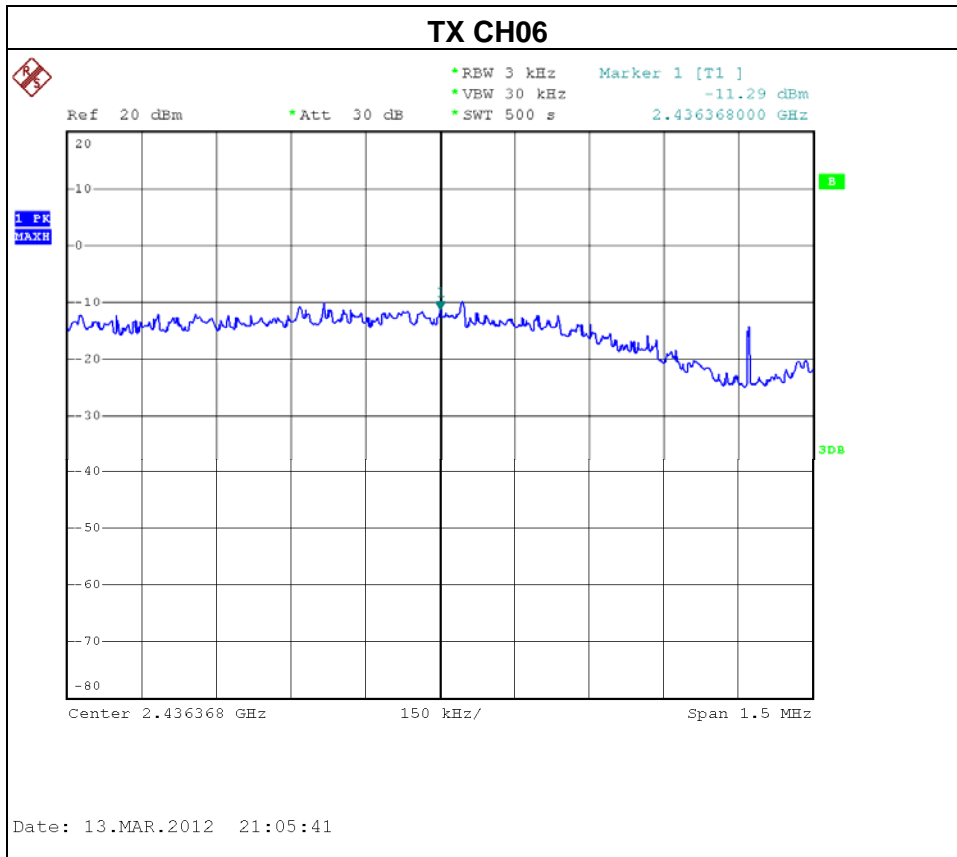
**8.1.6 TEST RESULTS**

EUT :	Home Gateway	Model Name :	HG532e
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE /CH01, CH06, CH11		

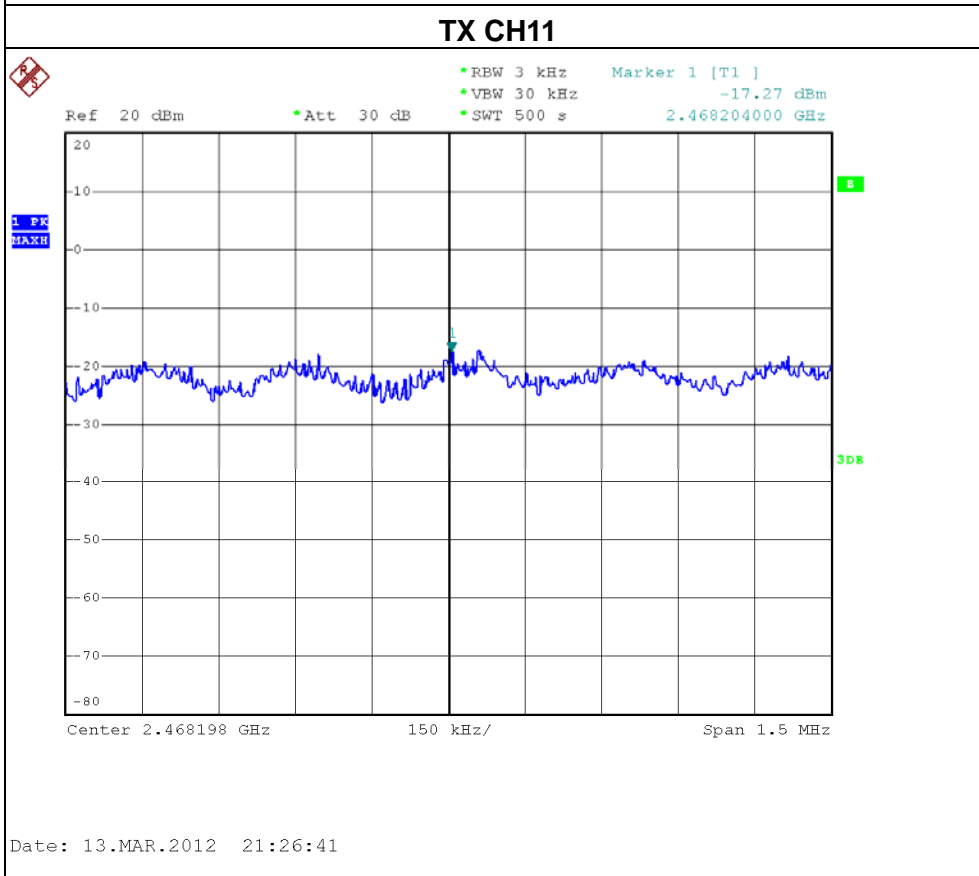
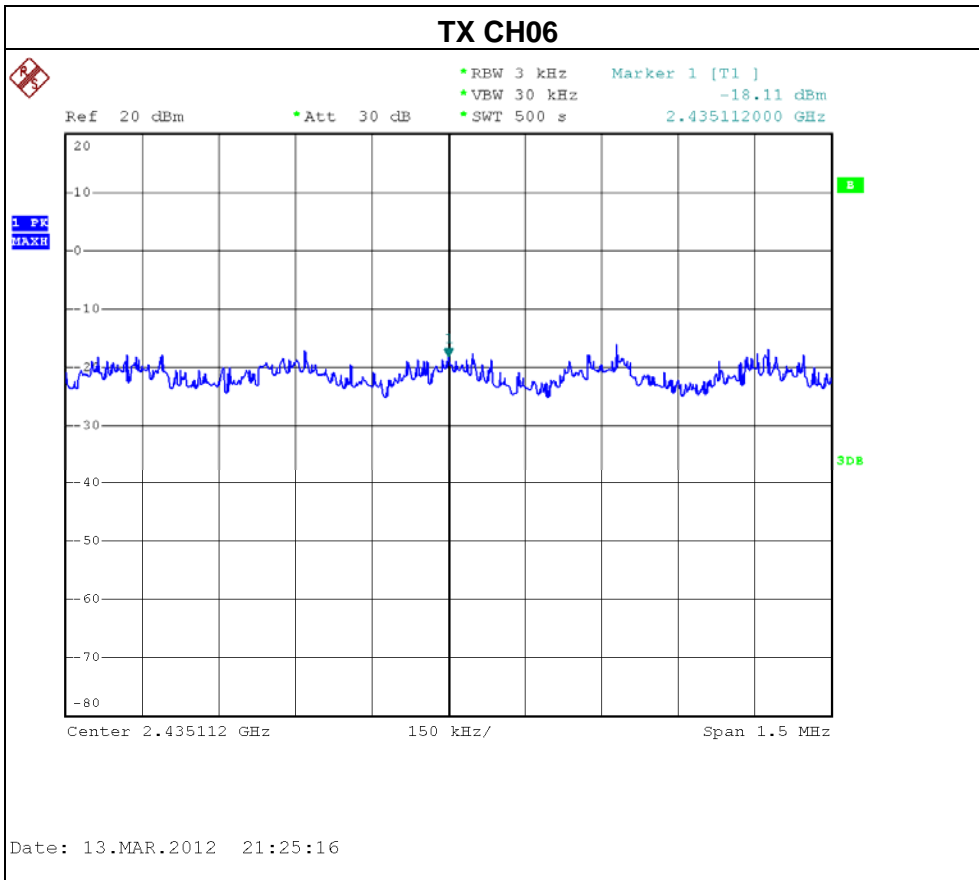
Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH01	2412 MHz	-7.90	8
CH06	2437 MHz	-11.29	8
CH11	2462 MHz	-11.76	8







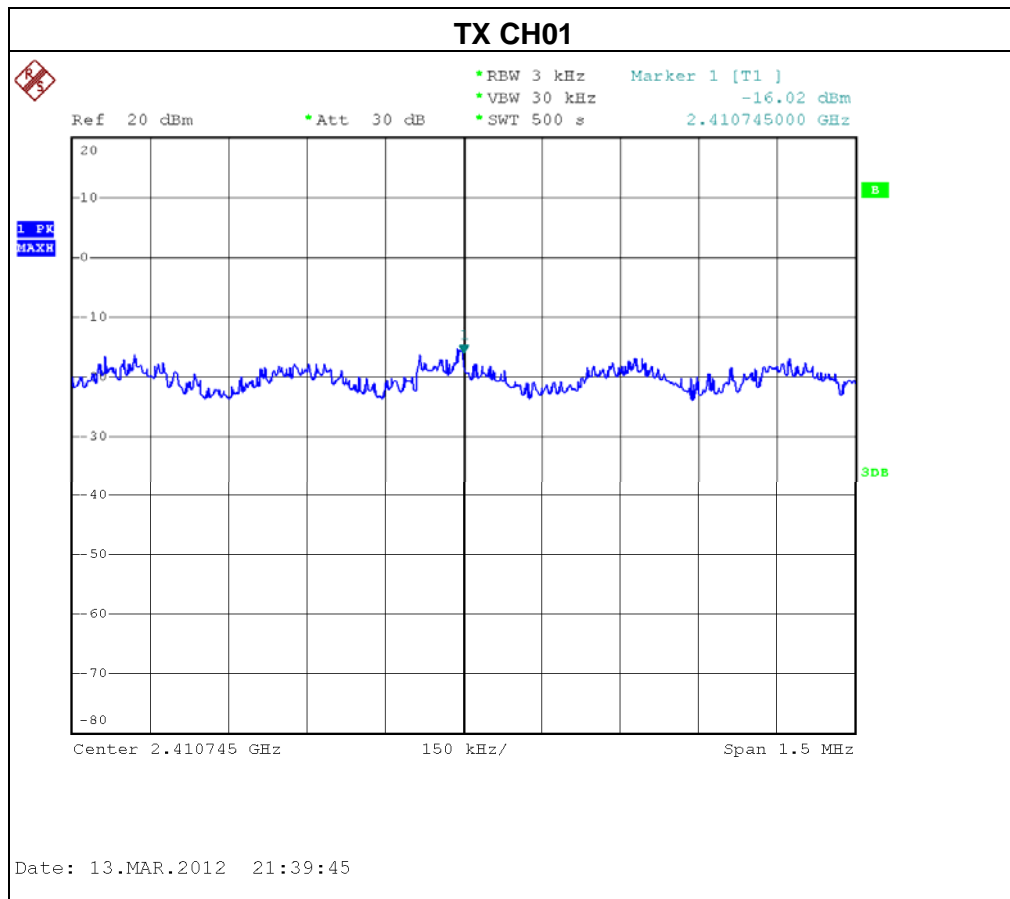






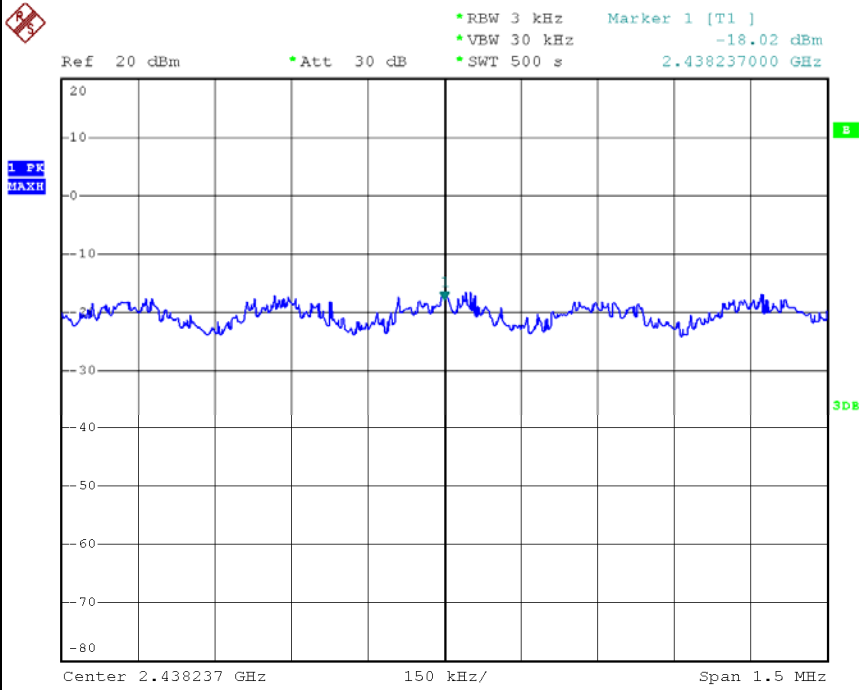
EUT :	Home Gateway	Model Name :	HG532e
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N MODE-20MHz /CH01, CH06, CH11		

Test Channel	Frequency (MHz)	Power density (dBm)	LIMIT (dBm)	PASS/FAIL
CH01	2412	-16.02	8	PASS
CH06	2437	-18.02	8	PASS
CH11	2462	-15.00	8	PASS



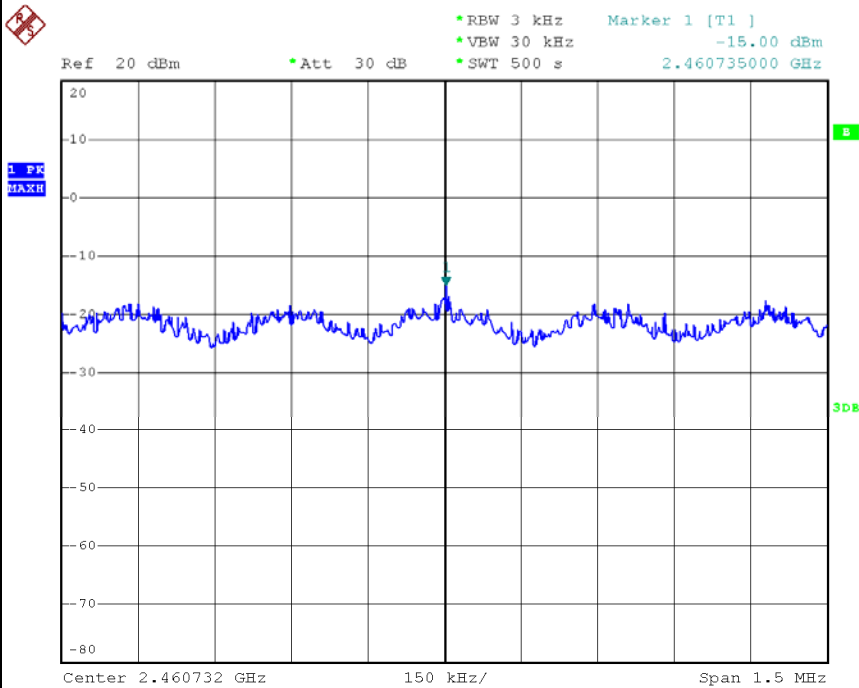


### TX CH06



Date: 13.MAR.2012 21:41:16

### TX CH11

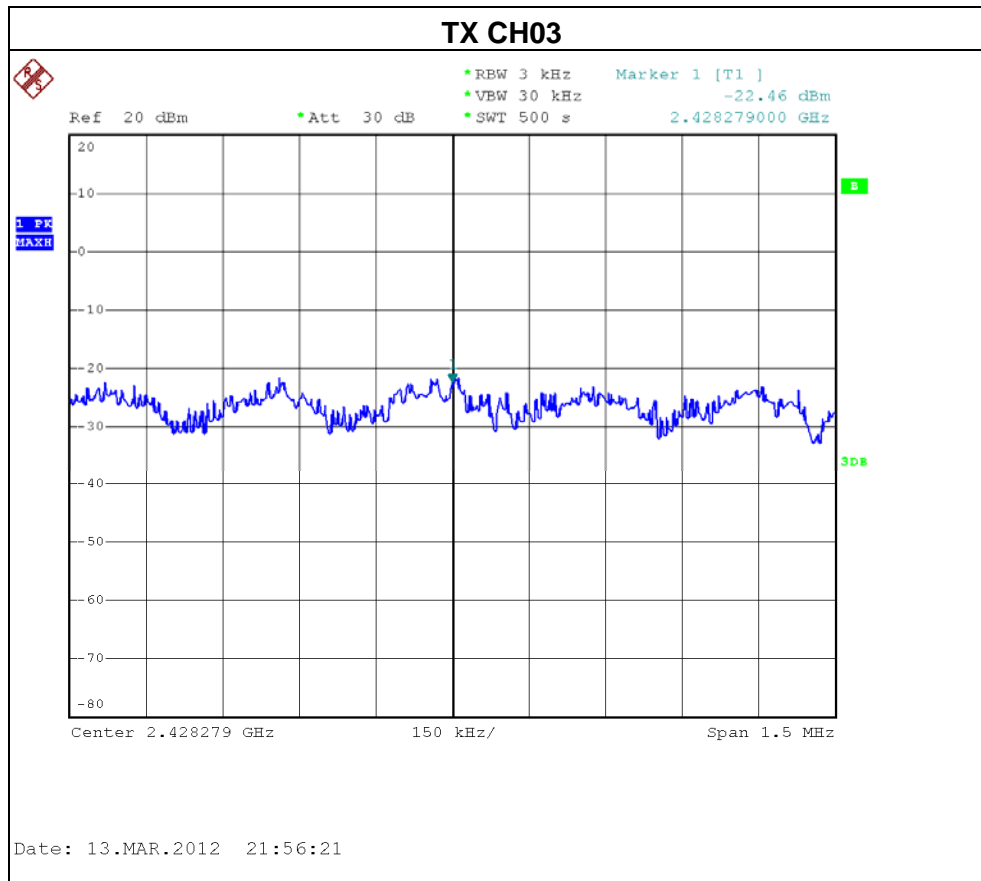


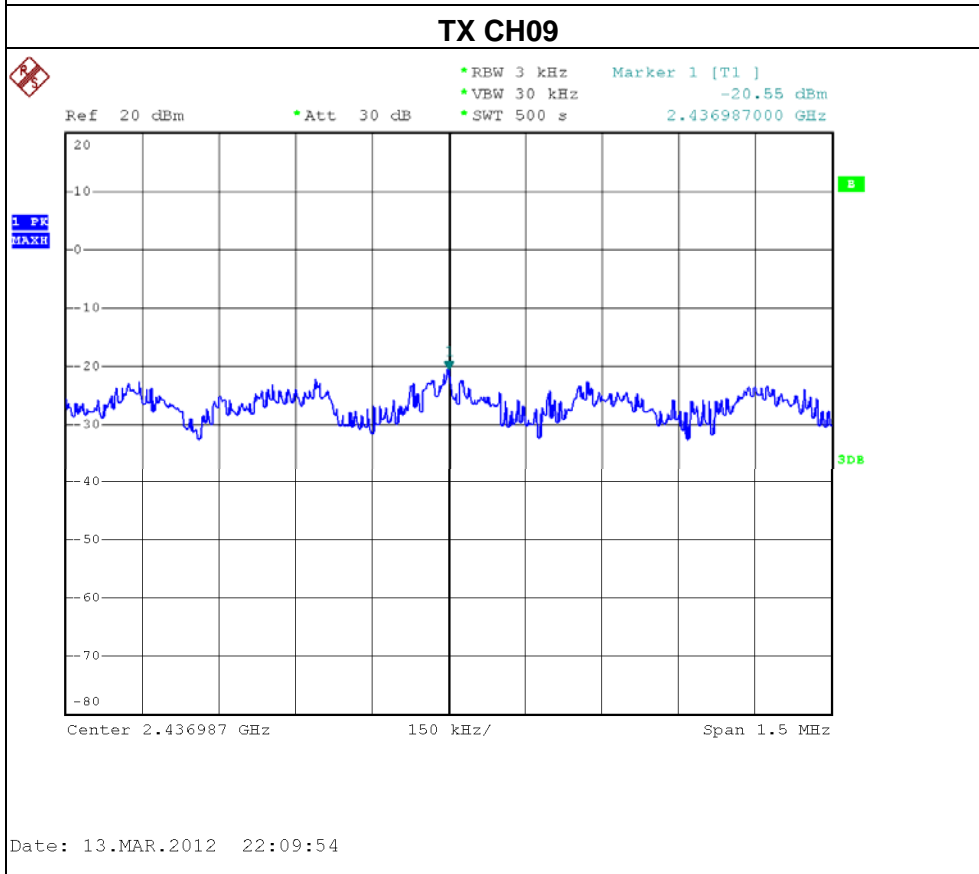
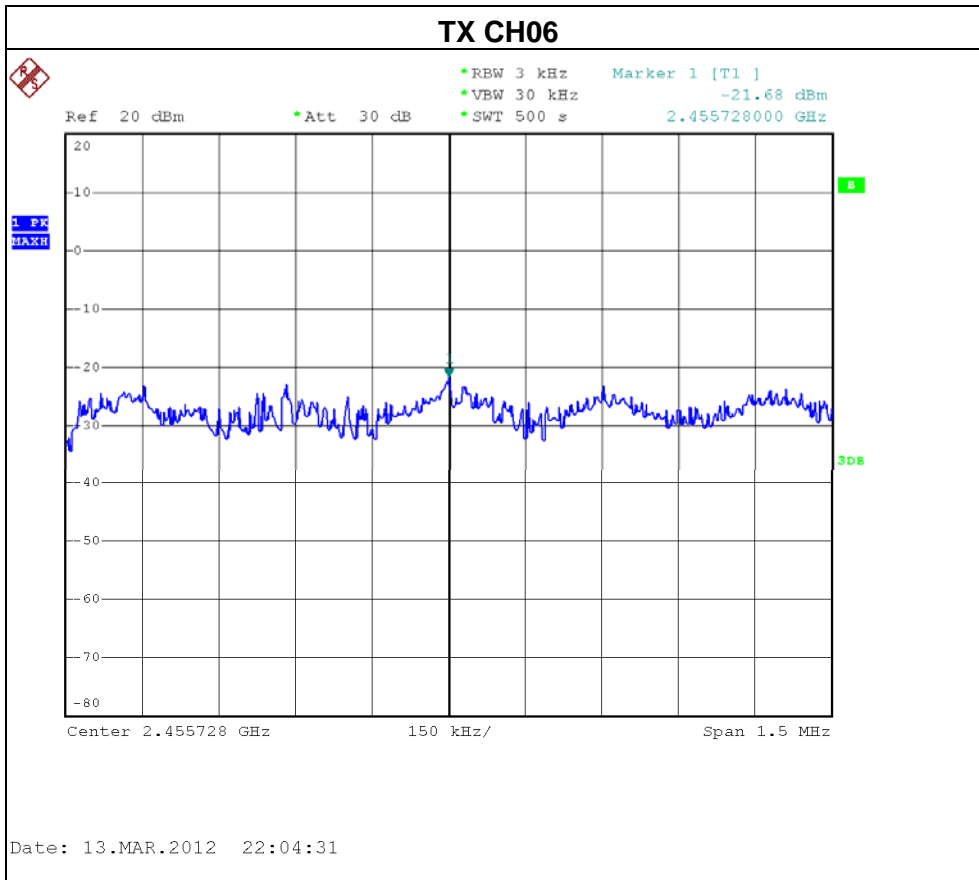
Date: 13.MAR.2012 21:49:10



EUT :	Home Gateway	Model Name :	HG532e
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N MODE-40MHz /CH03, CH06, CH09 – ANT1		

Test Channel	Frequency (MHz)	Power density (dBm)	LIMIT (dBm)	PASS/FAIL
CH03	2422	-22.46	8	PASS
CH06	2437	-21.68	8	PASS
CH09	2452	-20.55	8	PASS

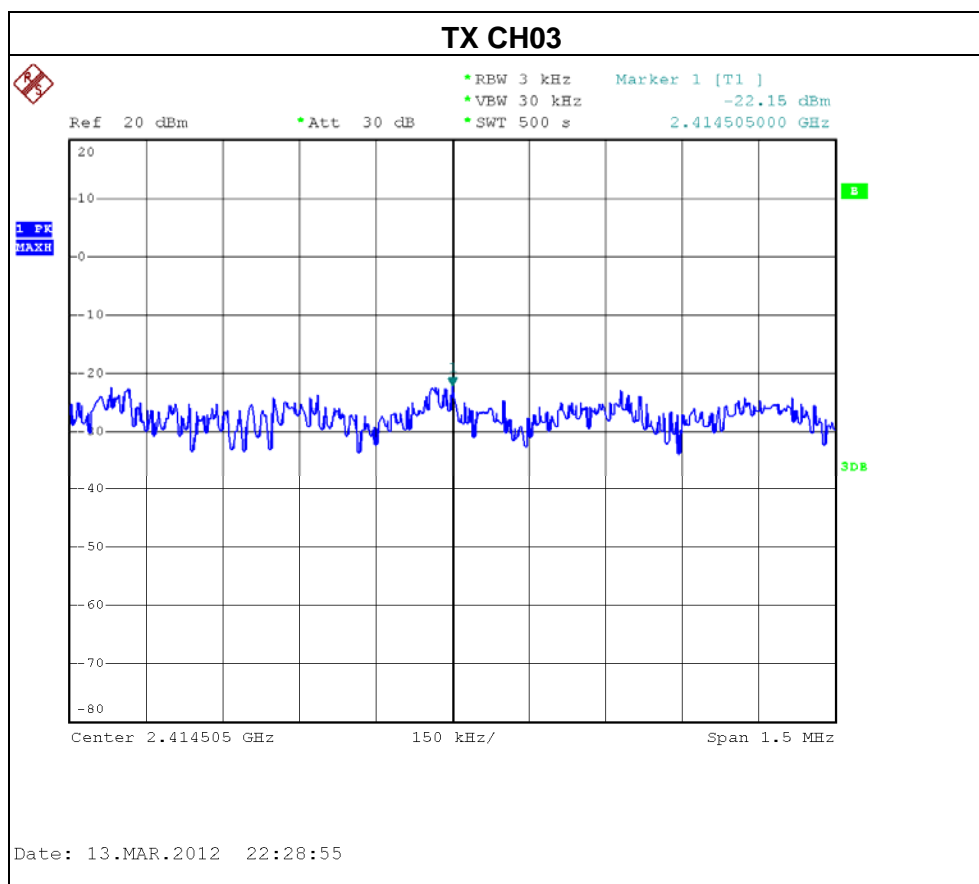




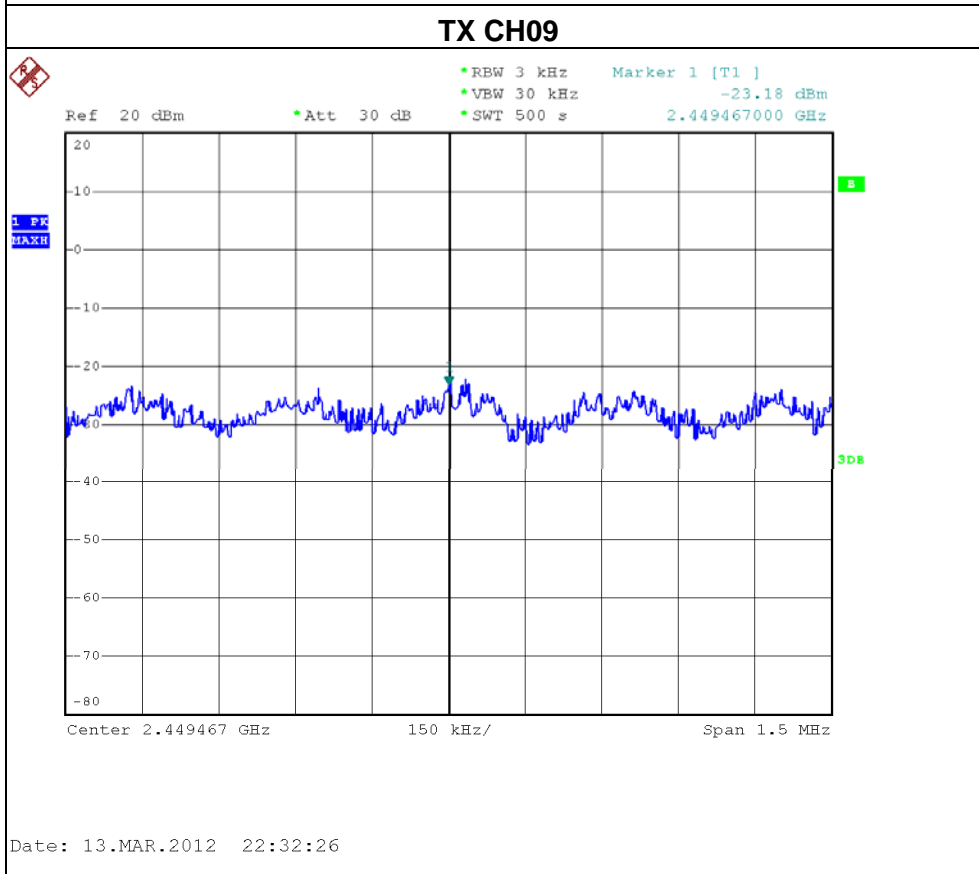
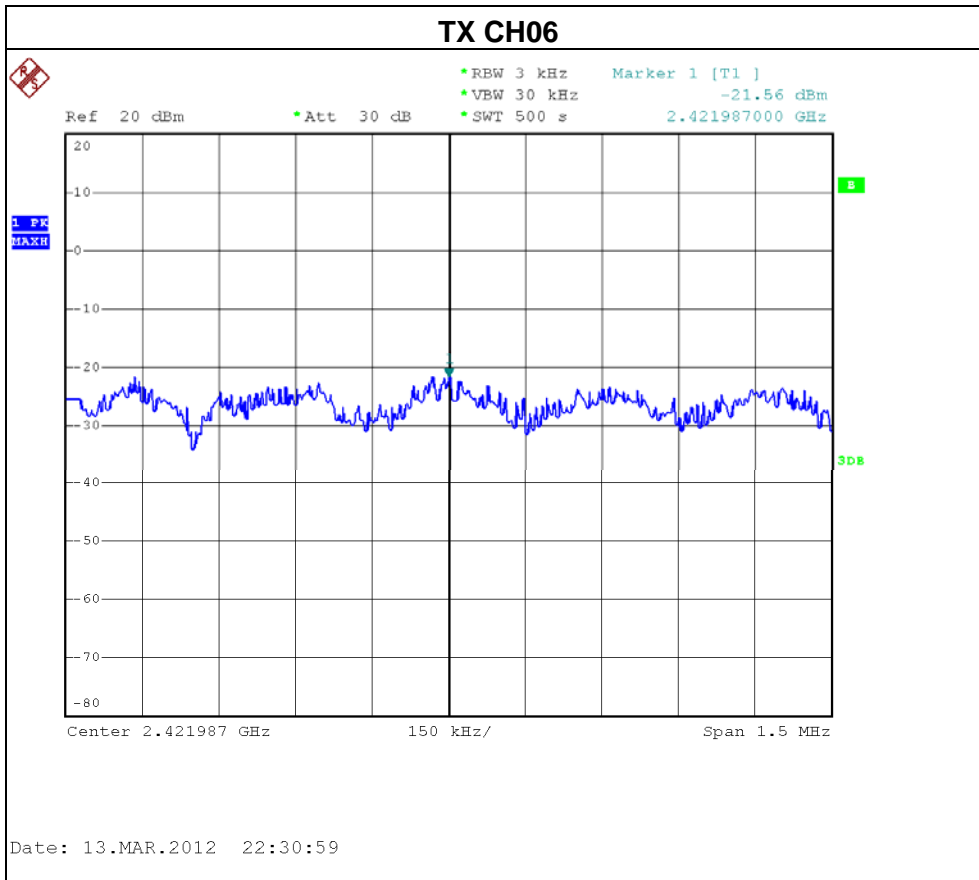


EUT :	Home Gateway	Model Name :	HG532e
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N MODE-40MHz /CH03, CH06, CH09 – ANT2		

Test Channel	Frequency (MHz)	Power density (dBm)	LIMIT (dBm)	PASS/FAIL
CH03	2422	-22.15	8	PASS
CH06	2437	-21.56	8	PASS
CH09	2452	-23.18	8	PASS









EUT :	Home Gateway	Model Name :	HG532e
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N MODE-40MHz /CH03, CH06, CH09 - ANT1+ ANT2		

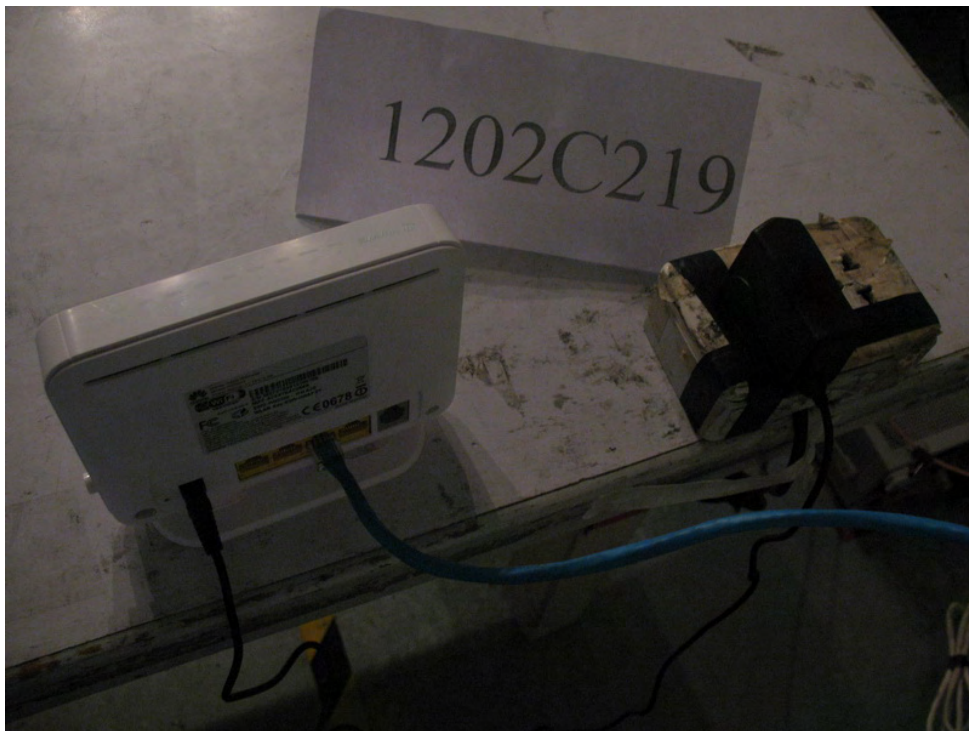
**Maximum Power density**

Test Channel	Frequency (MHz)	Power density (dBm)	LIMIT (dBm)	PASS/FAIL
CH03	2422 MHz	-19.29	8	PASS
CH06	2437 MHz	-18.61	8	PASS
CH09	2452 MHz	-18.66	8	PASS



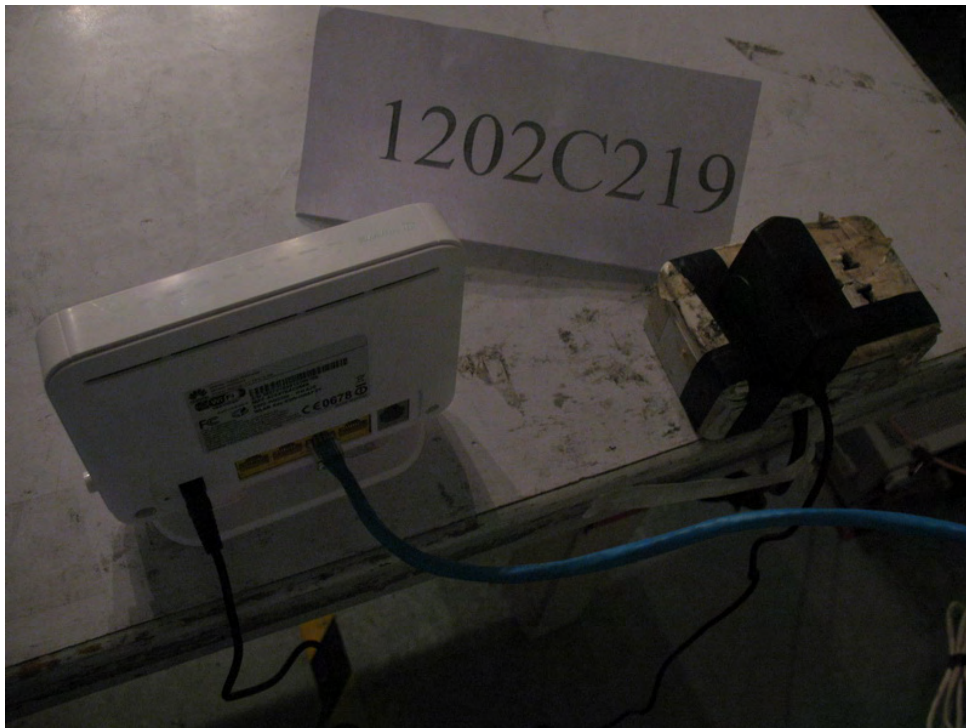
**9. EUT TEST PHOTO**

**Conducted Measurement Photos  
Normal Link - Adapter (S/N: UEAABC2100191)**



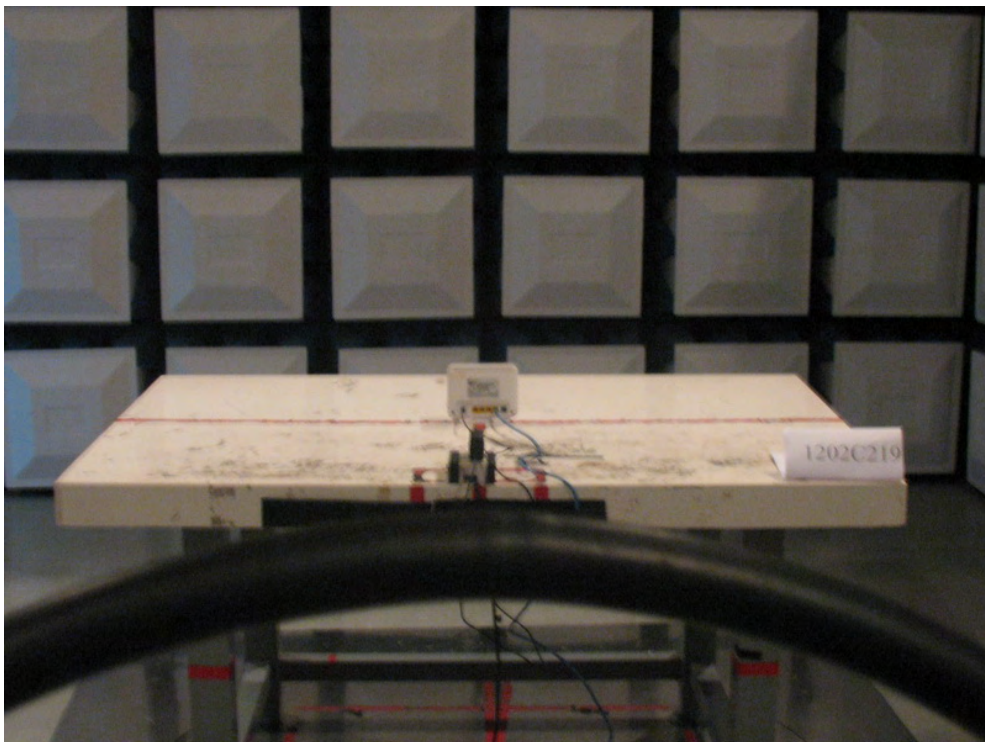
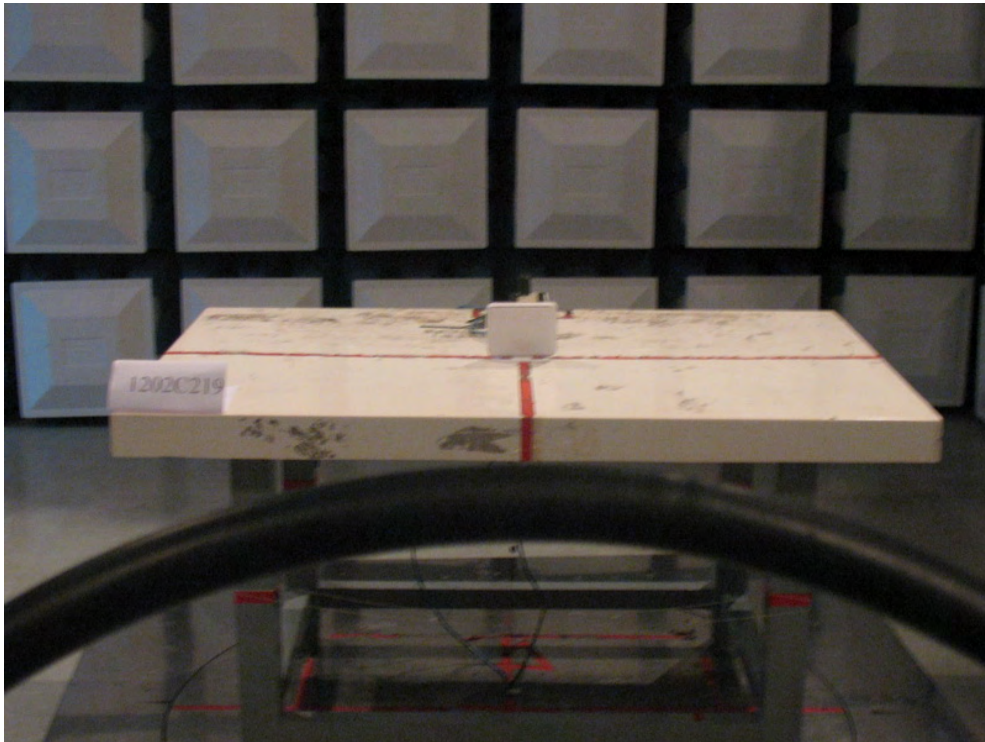


**Conducted Measurement Photos  
Normal Link - Adapter (S/N: XQHC21804987)**

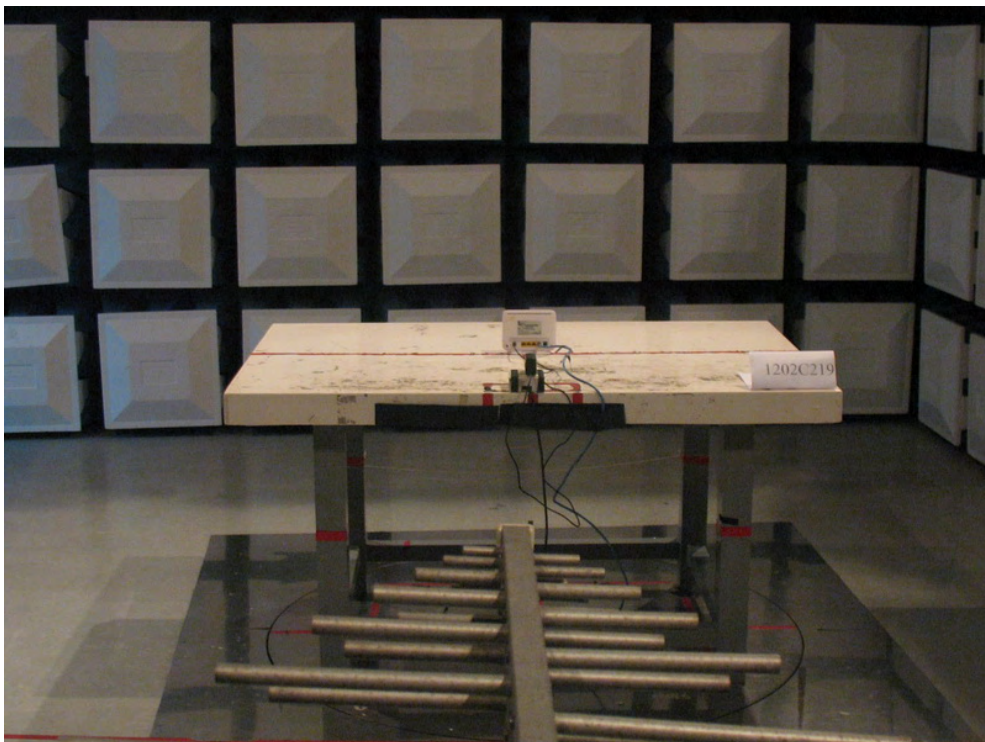
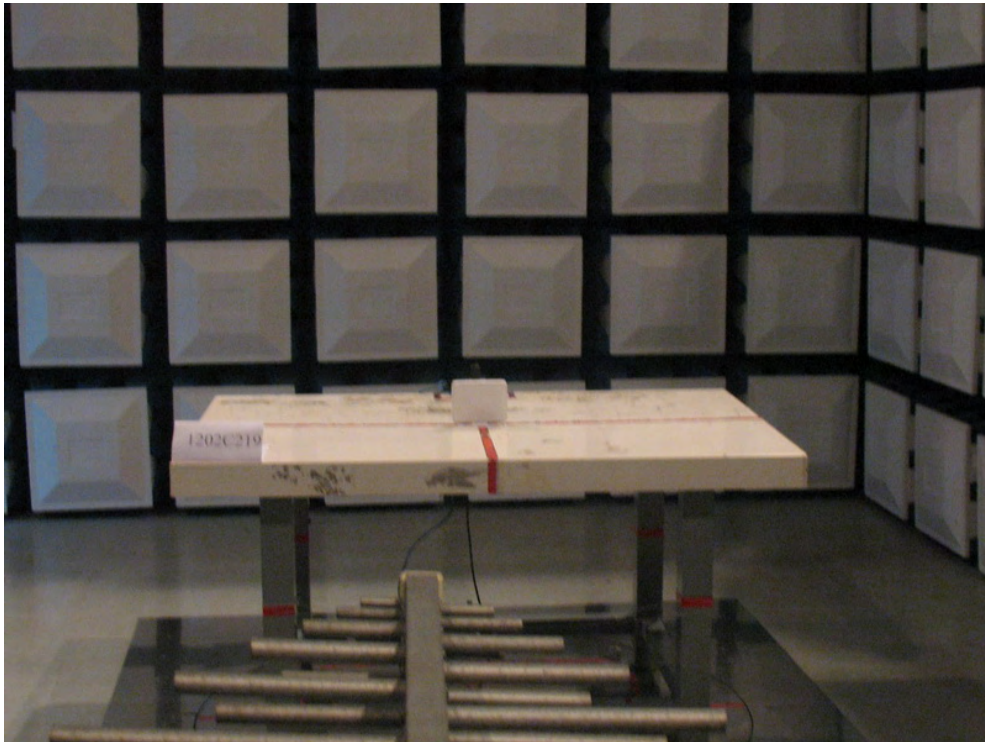




**Radiated Measurement Photos  
9KHz~30MHz**



**Radiated Measurement Photos  
30MHz~1000MHz**





**Radiated Measurement Photos  
Above 1000MHz**

