



Neutron Engineering Inc.

# FCC Radio Test Report

## FCC ID: XCNC210400A

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

**Issued Date** : Oct. 21, 2010  
**Project No.** : 1009C165  
**Equipment** : BCM3380Z D3.0 Wireless eMTA  
**Model Name** : DVW3201B  
**Applicant** : Ubee Interactive Corp.  
**Address** : 6F-9, No.38, Taiyuan St. Jhubei City Hsinchu County 302, Taiwan  
**Manufacturer** : Hon Hai Precision Ind. Co., Ltd.  
**Address** : 5th F1-1 Science Based Industrial Park 5 Hsin-An Rd. HsinChu 300 Taiwan

**Tested by:**

Neutron Engineering Inc. EMC Laboratory

**Date of Receipt:** Sep. 20, 2010

**Date of Test:**

Sep. 20, 2010 ~ Oct. 20, 2010

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### **Limitation**

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## 1. CERTIFICATION

Equipment : BCM3380Z D3.0 Wireless eMTA

Brand Name : Ubee

Model Name : DVW3201B

Applicant : Ubee Interactive Corp.

Factory : 1. Hon Fu Jin Precision Industry (ShenZhen) Co., Ltd.

2. Ambit Microsystems (Shanghai) Ltd.

1. No.2, 2<sup>nd</sup> Donghuan Road, 10<sup>th</sup> Yousong Industrial District, Longhua Town,  
Baoan, Shenzhen, Guang Dong, China

Address : 2. No.1925, Nanle Road Songjiang Export Processing Zone, Shanghai Chia,  
Post code:201613

Date of Test : Sep. 20, 2010 ~ Oct. 20, 2010

Test Item : ENGINEERING SAMPLE

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

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

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. NEI-FCCP-1-1009C165) 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	
	15.247(d)	Radiated Spurious Emission Limit:Table 15.209/15.205	PASS	
	15.247(e)	Power Spectral Density	PASS	
	15.203	Antenna Requirement	PASS	
	1.1307 1.1310 2.1091 2.1093	RF Exposure Compliance	PASS	

**NOTE:**

- (1) " N/A" denotes test is not applicable in this Test Report
- (2) This test report covers EUT radio function only. Its receive function testing is covered in another DOC test report: NEI-FCCE-1-1009C165.
- (3) Test result included in this report is only for the Modular approval  
2.4G Band ~11b/g/n(HT20/HT40) and 5G Band ~11a(Band IV)/11n(HT20/HT40) part of the product.
- (4) Its radio function 802.11a(Band I) and 5G Band~ 802.11n(HT20/HT40)- testing is covered in another test report: NEI-FCCP-2-1009C165



**2.1 TEST FACILITY**

The test facilities used to collect the test data in this report is **CB03/DG-C03** 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-C03	CISPR	150 KHz ~ 30MHz	1.94	

B. Radiated Measurement :

Test Site	Method	Measurement Frequency Range	Ant. H / V	U , (dB)	NOTE
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	BCM3380Z D3.0 Wireless eMTA	
Brand Name	Ubee	
Model Name	DVW3201B	
OEM Brand/Model Name	N/A	
Model Difference	N/A	
Product Description	The EUT is a BCM3380Z D3.0 Wireless eMTA Extension Cradle.	
	Operation Frequency:	802.11b/g/n: 2412-2462MHz 802.11a/n: 5725-5850MHz
	Modulation Type:	802.11b:CCK, DQPSK, DBPSK 802.11a/g:OFDM 802.11n:OFDM( 2 TX & 2 RX )
	Bit Rate of Transmitter	802.11b: 11/5.5/2/1 Mbps 802.11a/g: 54/48/36/24/18/12/9/6 Mbps 802.11n(HT20) up to 150 Mbps 802.11n(HT40) up to 300 Mbps
	Number of Channel	Please see Note 2.
	Antenna Designation:	Please see Note 3.
	Antenna Gain(Peak)	
	Peak Power(Max):	Please see Note 5.
	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 Host system	
Power Rating	I/P AC 120V/60Hz O/P DC 3.3V	
Connecting I/O Port(s)	Please refer to the User's Manual	
Products Covered	N/A	
EUT Modification(s)	N/A	

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)
<b>01</b>	<b>2412</b>	<b>04</b>	<b>2427</b>	<b>07</b>	<b>2442</b>	<b>10</b>	<b>2457</b>
<b>02</b>	<b>2417</b>	<b>05</b>	<b>2432</b>	<b>08</b>	<b>2447</b>	<b>11</b>	<b>2462</b>
<b>03</b>	<b>2422</b>	<b>06</b>	<b>2437</b>	<b>09</b>	<b>2452</b>		

- CH 149, CH 153, CH 157, CH 161, CH 165 for 802.11a, 802.11n(20MHz)  
 CH 151, CH 159 for 802.11n(40MHz)

**Channel List**

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
<b>149</b>	<b>5745</b>	<b>157</b>	<b>5785</b>	<b>165</b>	<b>5825</b>
<b>151</b>	<b>5755</b>	<b>159</b>	<b>5795</b>		
<b>153</b>	<b>5765</b>	<b>161</b>	<b>5805</b>		

- 3 . Table for Filed Antenna (@2.4~2.5GHz/4.9~5.825GHz)

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	WHA YU	C107-510733-A	Metal PIFA	U.FL	4.1dB@2.4G 4.1dB@5G
2	WHA YU	C107-510734-A	Metal PIFA	U.FL	4.1dB@2.4G 4.4dB@5G

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

Operating Mode TX Mode	1TX	2TX
	802.11b -2.4G Band	V (ANT1)
802.11g -2.4G Band	V (ANT1 or ANT2)	-
802.11a -5G Band IV	V (ANT1 or ANT2)	
802.11n(20MHz) -2.4G/5G Band	-	V (ANT1 & ANT2)
802.11n(40MHz) -2.4G/5G Band	-	V (ANT1 & ANT2)

- 5

For 2.4 GHz Band		For 5 GHz Band	
Modulation Type	Max. Peak Power (dBm)	Modulation Type	Max. Peak Power (dBm)
802.11b	22.82	802.11a	16.89
802.11g	19.55	802.11n(20MHz)	20.04
802.11n(20MHz)	21.18	802.11n(40MHz)	18.40
802.11n(40MHz)	20.29		



**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	WIFI Link
Mode 2	TX B MODE CHANNEL 01//06/11 (ANT1)
Mode 3	TX G MODE CHANNEL 01/06/11 (ANT1)
Mode 4	TX N-20MHZ MODE CHANNEL 01/06/11 (ANT1+2)
Mode 5	TX N-40MHZ MODE CHANNEL 03/06/09 (ANT1+2)
Mode 6	802.11a/CH0149, CH153, CH165 (ANT2 )
Mode 7	802.11n/20M/ CH0149, CH153, CH165 (ANT1+2)
Mode 8	802.11n/40M/CH151, CH159 (ANT1+2)

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 1	WIFI Link

For Radiated Test	
Final Test Mode	Description
Mode 2	TX B MODE CHANNEL 01//06/11 (ANT1)
Mode 3	TX G MODE CHANNEL 01/06/11 (ANT1)
Mode 4	TX N-20MHZ MODE CHANNEL 01/06/11 (ANT1+2)
Mode 5	TX N-40MHZ MODE CHANNEL 03/06/09 (ANT1+2)
Mode 6	802.11a/CH0149, CH157, CH165 (ANT2 )
Mode 7	802.11n/20M/ CH0149, CH157, CH165 (ANT1+2)
Mode 8	802.11n/40M/CH151, CH159 (ANT1+2)

Note:

(1) The measurements are performed at the highest, middle, lowest available channels.



**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

**2.4G BAND**

Test software Version	Test Program: DOS Commands		
Frequency	2412 MHz	2437 MHz	2462 MHz
IEEE 802.11b DSSS	46	46	46
IEEE 802.11g OFDM	52	52	52

Test software Version	Test Program: DOS Commands		
Frequency (MHz)	2412 MHz	2442 MHz	2472 MHz
IEEE 802.11n (20MHz)	46	46	46
Frequency (MHz)	2422 MHz	2437 MHz	2452 MHz
IEEE 802.11n (40MHz)	40	40	40

**5G BAND**

Test software Version	Test Program: DOS Commands		
Frequency	5745 MHz	5785 MHz	5825 MHz
IEEE 802.11a OFDM	40	40	40

Test software Version	Test Program: DOS Commands		
Frequency (MHz)	5745 MHz	5785 MHz	5825 MHz
IEEE 802.11n (20MHz)	40	40	40
Frequency (MHz)	5755 MHz		5795 MHz
IEEE 802.11n (40MHz)	36		36

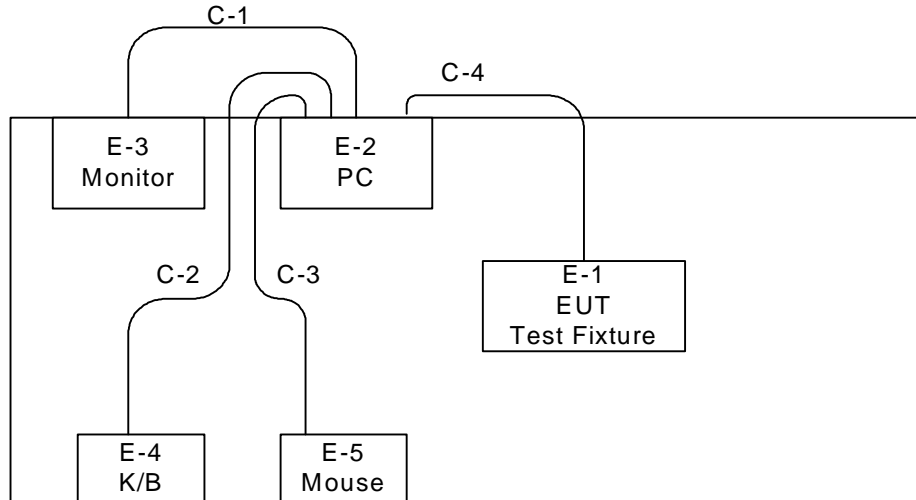
- (1) During the output power test, all data rates have been investigated and the highest output powers were recorded are as follows:  
 802.11b mode: DBPSK (1Mbps)  
 802.11a/g mode: OFDM (6Mbps)  
 802.11n HT20/HT40 mode : MCS8 (6Mbps)  
 For radiated emission tests, the highest output powers were set for final test.



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

#### Modular Approval of Radiated:

The EUT was tested as an external module installed in a test jig board connected to a host Laptop PC.



- C-1: D-SUB Cable
- C-2: USB Cable
- C-3: USB Cable
- C-4: DATA Cable



**3.5 DESCRIPTION OF SUPPORT UNITS**

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

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.	Note
E-1	BCM3380Z D3.0 Wireless eMTAExtension Cradle	Ubee	DVW3201BH	XCNC210400A	N/A	EUT
E-2	PC	Lenovo	H2510	DOC	SS07999198	
E-3	LCD monitor	Dell	E177FPc	DOC	CNOFJ179-641 80-6AG-1WNS	
E-4	Keyboard	Lenovo	LJ4000U	DOC	OL0758492501 446	
E-5	Mouse	Lenovo	MO28UOL	DOC	23-122591	

Item	Shielded Type	Ferrite Core	Length	Note
C-1	YES	YES	1.8M	
C-2	YES	NO	1.8M	
C-3	YES	NO	1.8M	
C-4	NO	NO	0.5M	

Note:

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



**4. EMC EMISSION TEST**

**4.1 CONDUCTED EMISSION MEASUREMENT**

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

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

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

Note:

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

**4.1.2 MEASUREMENT INSTRUMENTS LIST AND SETTING**

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	LISN	EMCO	3816/2	00052765	May.26.2011
2	LISN	Rolf Heine	NNB-2-16Z	99044	May.26.2011
3	50Ω Terminator	SHX	TF2-3G-A	08122901	May.26.2011
4	Transient Limiter	Agilent	11947A	3107A03668	May.26.2011
5	Test Cable	N/A	C-06_C03	N/A	Mar.31.2011
6	EMI TEST RECEIVER	R&S	ESCS30	8333641017	May.27.2011

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

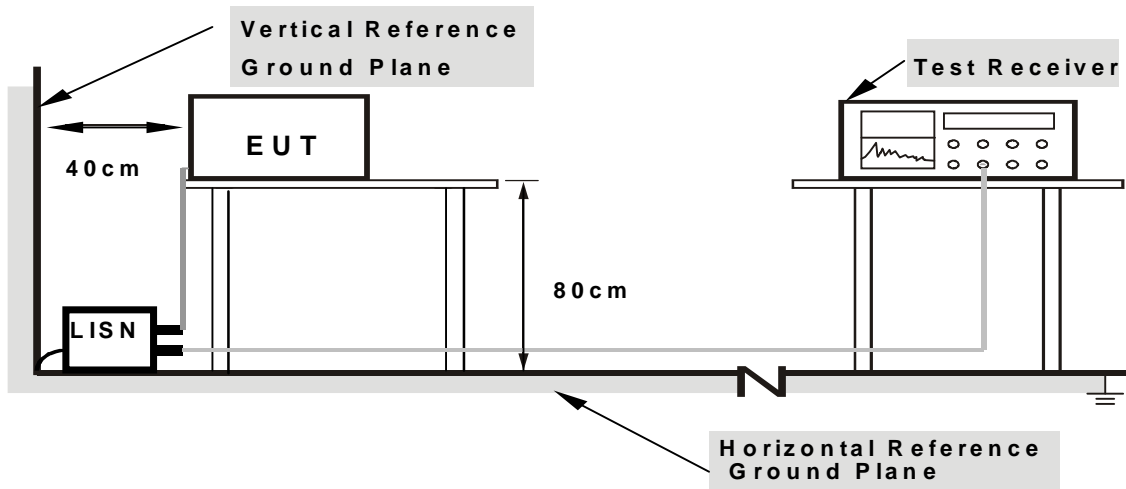
**4.1.3 TEST PROCEDURE**

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

**4.1.4 DEVIATION FROM TEST STANDARD**

No deviation

**4.1.5 TEST SETUP**



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

**4.1.6 EUT OPERATING CONDITIONS**

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

The EUT was programmed to be in continuously transmitting mode.



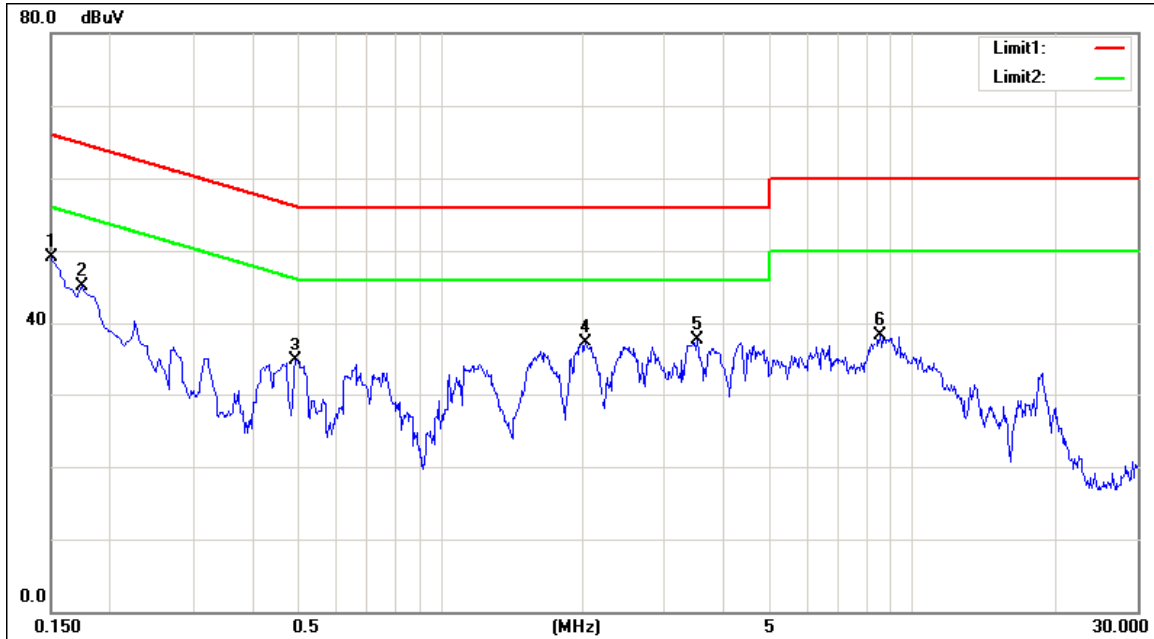
**4.1.7 TEST RESULTS**

EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	26 °C	Relative Humidity :	54 %
Pressure :	1010hPa	Test Power :	AC 120V/60Hz
Test Mode :	WIFI Link		

Freq. (MHz)	Terminal L/N	Measured(dBuV)		Limits(dBuV)		Margin (dB)	Note
		QP-Mode	AV-Mode	QP-Mode	AV-Mode		
0.15	Line	49.04	*	66.00	56.00	-16.96	(QP)
0.17	Line	45.03	*	64.77	54.77	-19.74	(QP)
0.49	Line	34.67	*	56.10	46.10	-21.43	(QP)
2.03	Line	37.38	*	56.00	46.00	-18.62	(QP)
3.51	Line	37.62	*	56.00	46.00	-18.38	(QP)
8.55	Line	38.40	*	60.00	50.00	-21.60	(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.





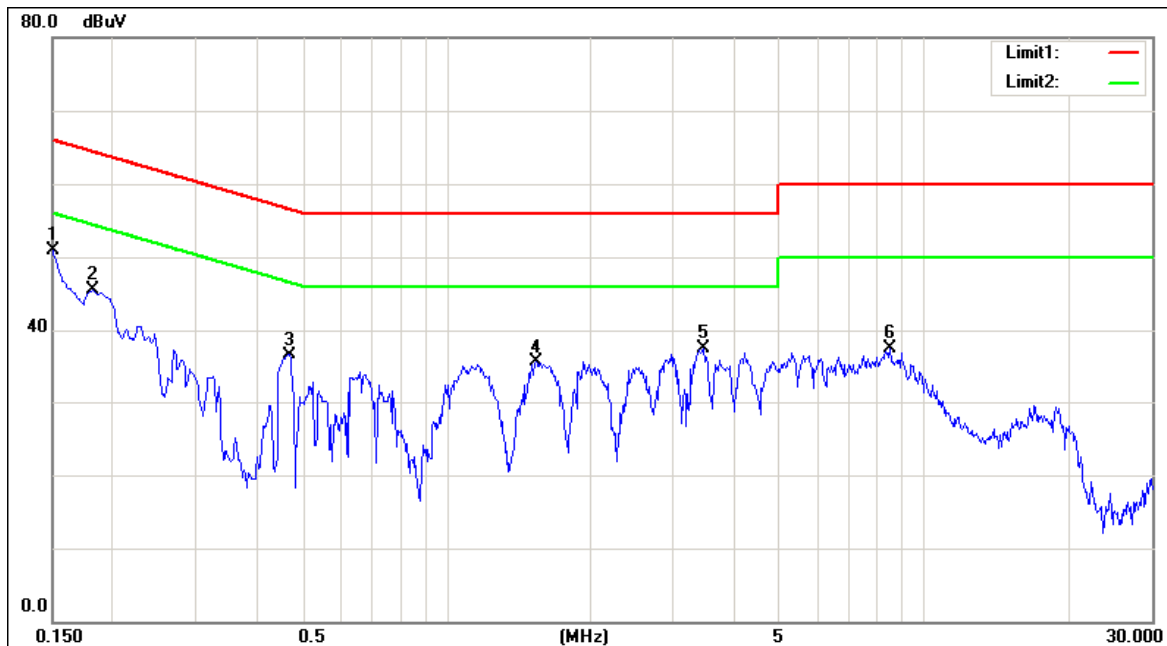


EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	26 °C	Relative Humidity :	54 %
Pressure :	1010hPa	Test Power :	AC 120V/60Hz
Test Mode :	WIFI Link		

Freq. (MHz)	Terminal L/N	Measured(dBuV)		Limits(dBuV)		Margin (dB)	Note
		QP-Mode	AV-Mode	QP-Mode	AV-Mode		
0.15	Neutral	50.91	*	66.00	56.00	-15.09	(QP)
0.18	Neutral	45.48	*	64.39	54.39	-18.91	(QP)
0.47	Neutral	36.49	*	56.51	46.51	-20.02	(QP)
1.54	Neutral	35.58	*	56.00	46.00	-20.42	(QP)
3.49	Neutral	37.51	*	56.00	46.00	-18.49	(QP)
8.51	Neutral	37.50	*	60.00	50.00	-22.50	(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	Triple Loop Antenna	R&S	HFH2-Z2	830749/020	May.27.2011
2	Bi-log Antenna	Schwarzbeck	VULB9160	9160-3232	May.26.2011
3	Horn Antenna	ETS	3115	00075789	May.12.2011
4	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170340	Dec.16.2010
5	Amplifier	HP	8447D	2944A09673	May.26.2011
6	Amplifier	Agilent	8449B	3008A02274	May.26.2011
7	Amplifier	EMC	EMC2654045	980039	Aug.12.2011
8	Test Receiver	R&S	ESCI	100895	May.26.2011
9	Spectrum Analyzer	R&S	FSP 40	100185	Nov.27.2010
10	Test Cable	N/A	C-01_CB03	N/A	Jul.05.2011
11	Test Cable	HUBER+SUHNER	SUCOFLEX_8 m	313794/4	Apr.12.2011
12	Controller	CT	SC100	N/A	N/A

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

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

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



#### **4.2.3 TEST PROCEDURE**

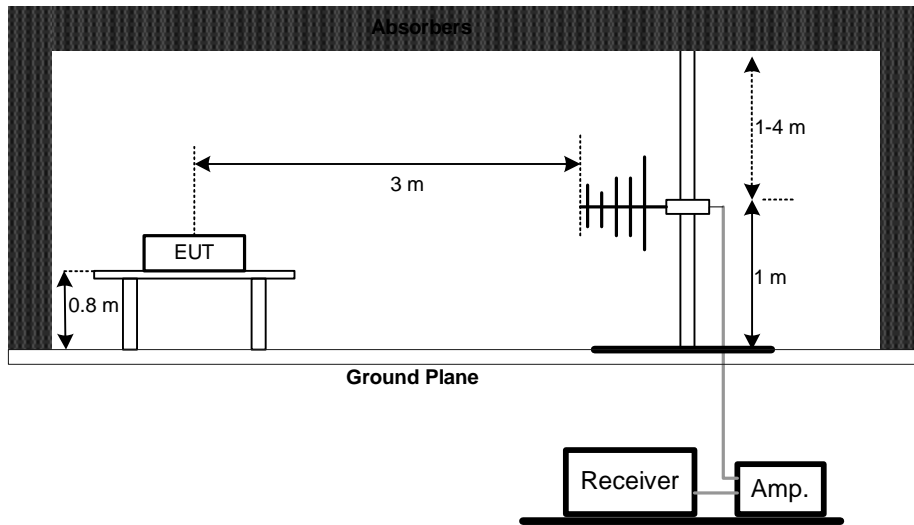
- a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated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

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

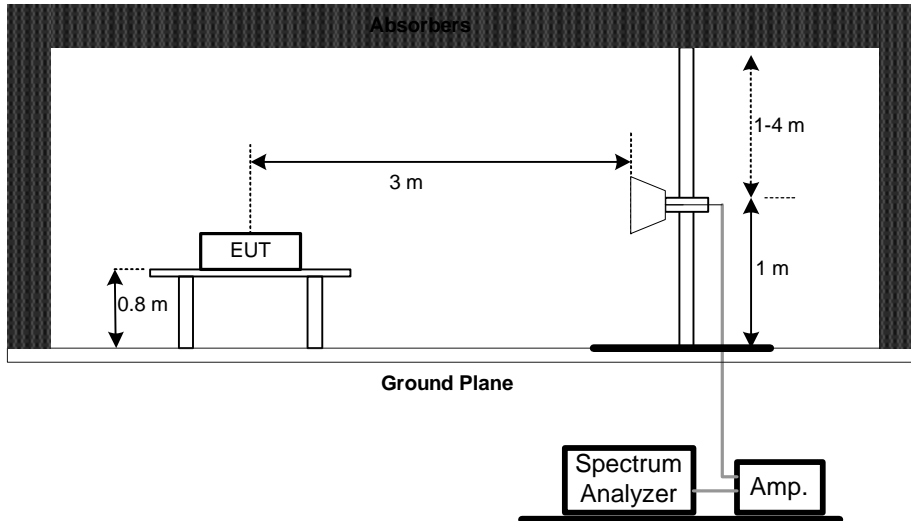
No deviation

**4.2.5 TEST SETUP**

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



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



**4.2.6 EUT OPERATING CONDITIONS**

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



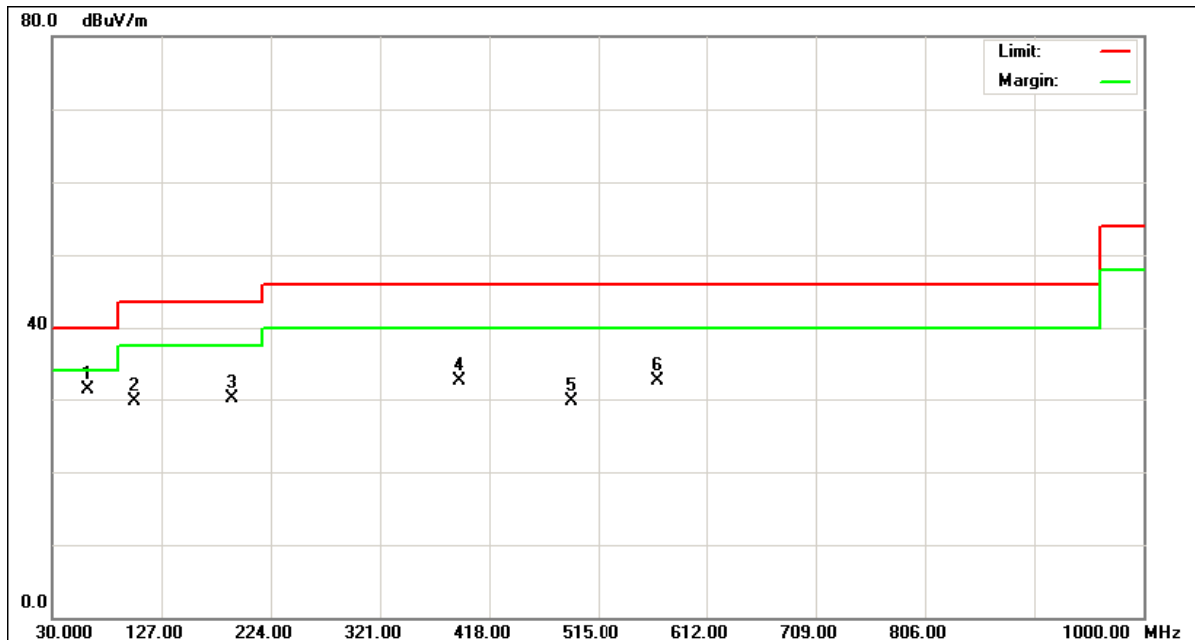
**4.2.7 TEST RESULTS (BETWEEN 30 – 1000 MHZ)**

EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	26 °C	Relative Humidity :	57 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE 2412MHz		

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
59.99	V	47.27	-16.02	31.25	40.00	- 8.75	
101.46	V	45.31	-15.66	29.65	43.50	- 13.85	
187.96	V	42.60	-12.46	30.14	43.50	- 13.36	
389.97	V	40.93	-8.41	32.52	46.00	- 13.48	
489.99	V	35.82	-6.16	29.66	46.00	- 16.34	
568.24	V	36.84	-4.26	32.58	46.00	- 13.42	

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 ◦



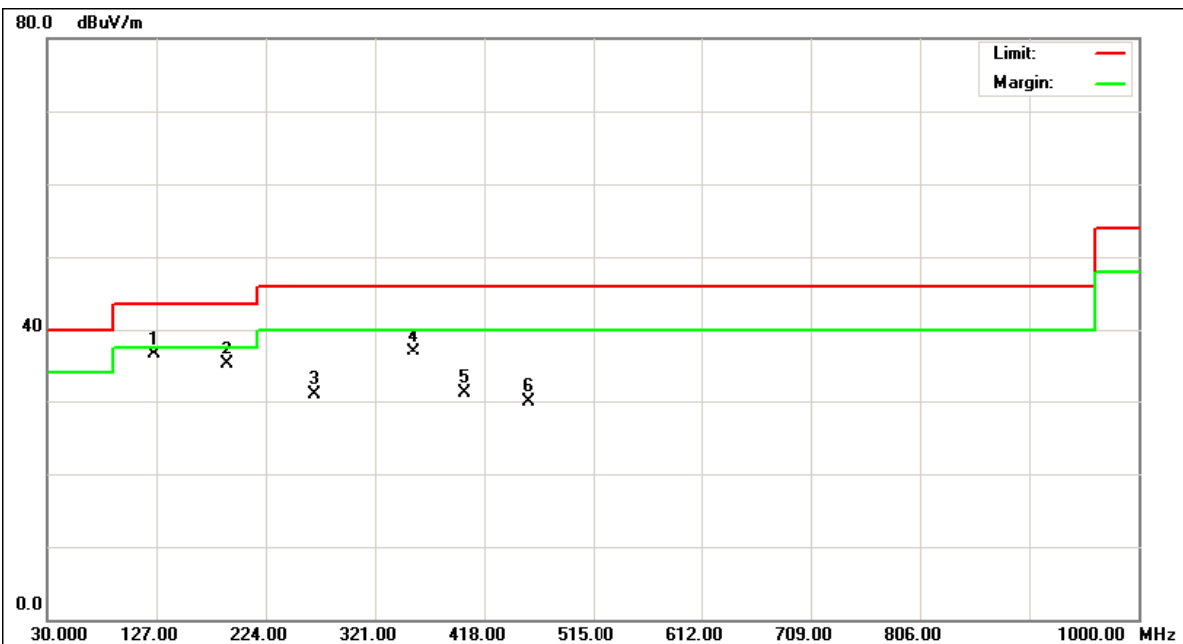


EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	26 °C	Relative Humidity :	57 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE 2412MHz		

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
123.65	H	49.56	-13.06	36.50	43.50	- 7.00	
187.99	H	47.57	-12.46	35.11	43.50	- 8.39	
265.83	H	41.69	-10.70	30.99	46.00	- 15.01	
354.44	H	45.72	-8.85	36.87	46.00	- 9.13	
399.98	H	39.41	-8.28	31.13	46.00	- 14.87	
456.52	H	37.06	-7.09	29.97	46.00	- 16.03	

**Remark :**

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





**4.2.8 TEST RESULTS (ABOVE 1000 MHZ) -2.4G BAND**

EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B 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	22.60	13.07	31.61	54.21	44.68	74.00	54.00	X/E
<b>2411.60</b>	<b>V</b>	<b>67.63</b>	<b>62.60</b>	<b>31.58</b>	<b>99.21</b>	<b>94.18</b>			<b>X/F</b>
4824.03	V	42.31	34.64	5.65	47.96	40.29	74.00	54.00	X/H

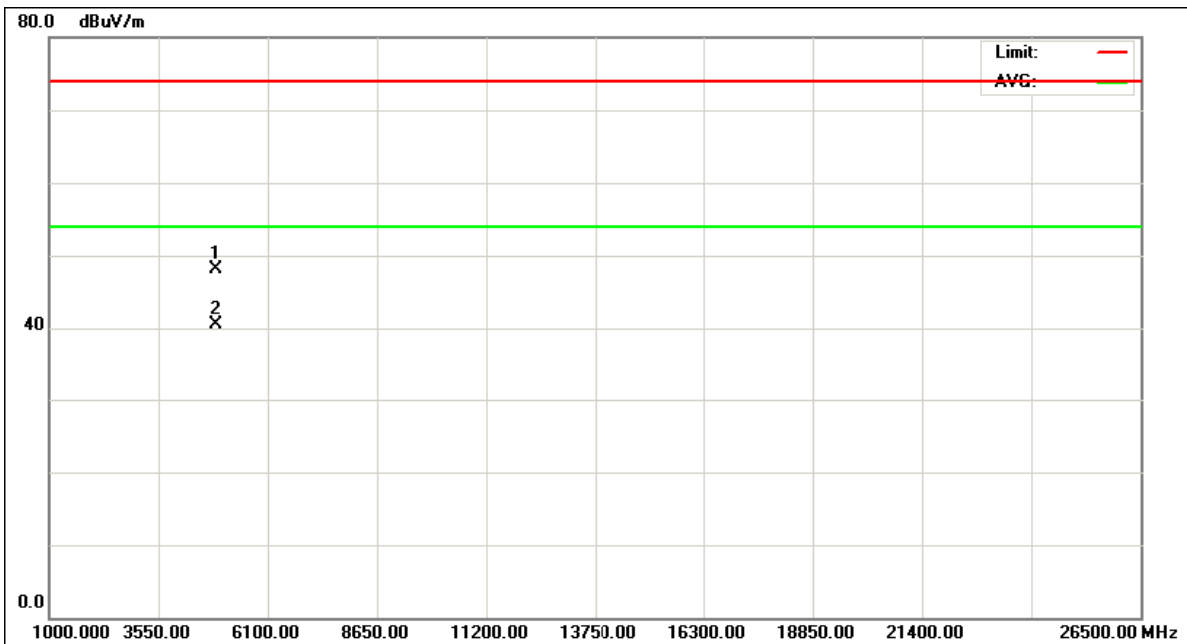
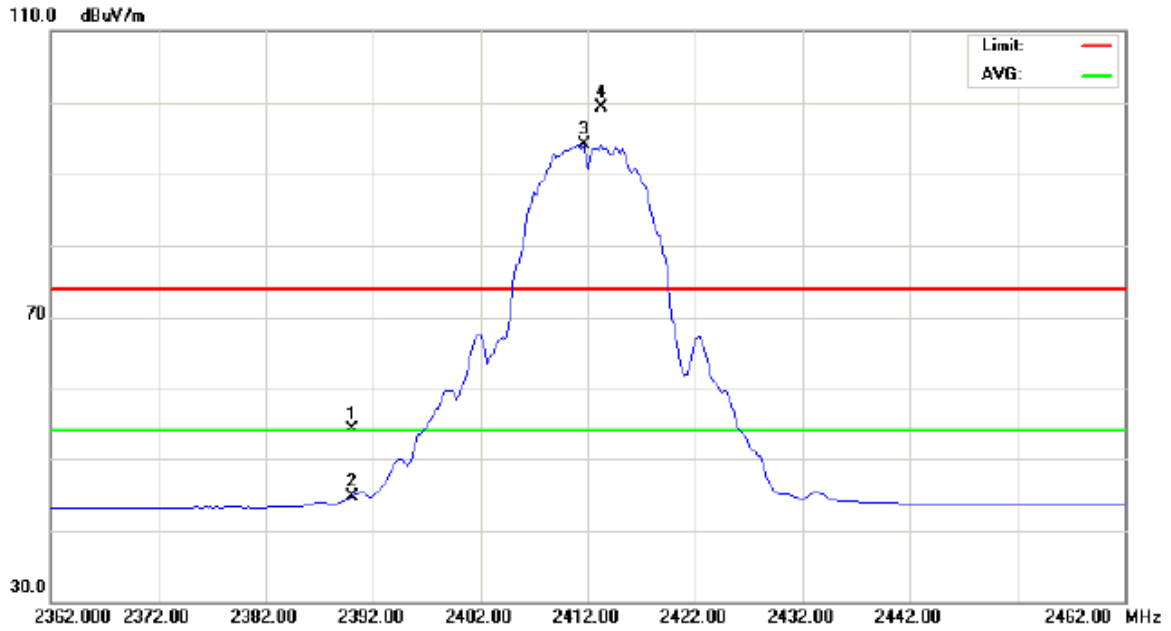
Remark :

- (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 :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE 2412MHz		

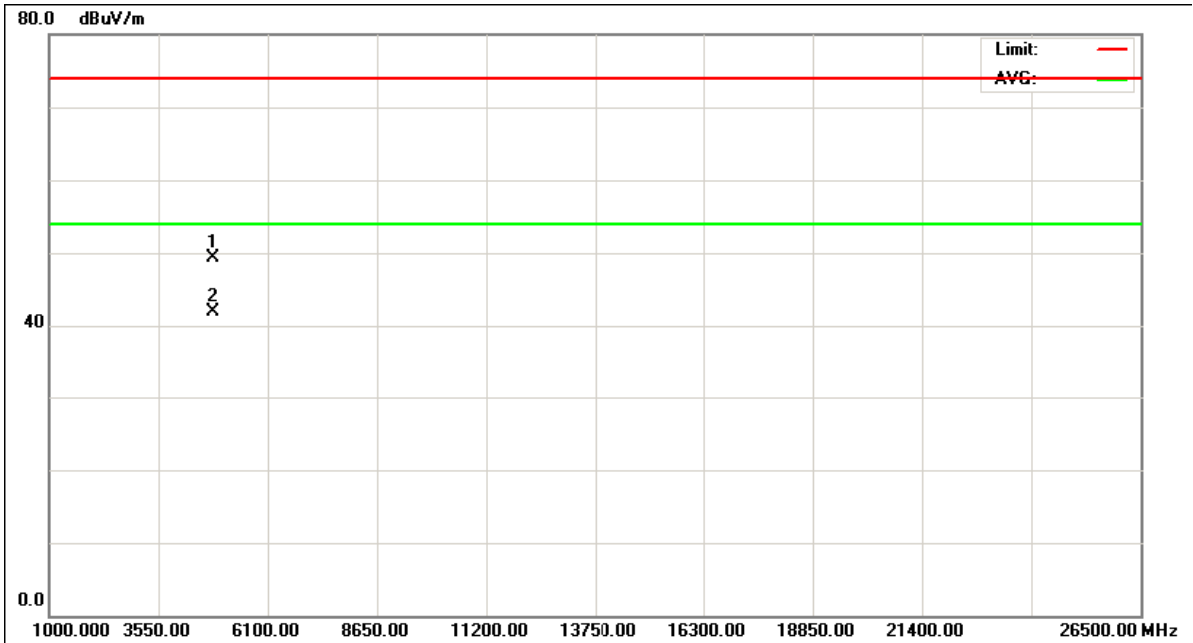
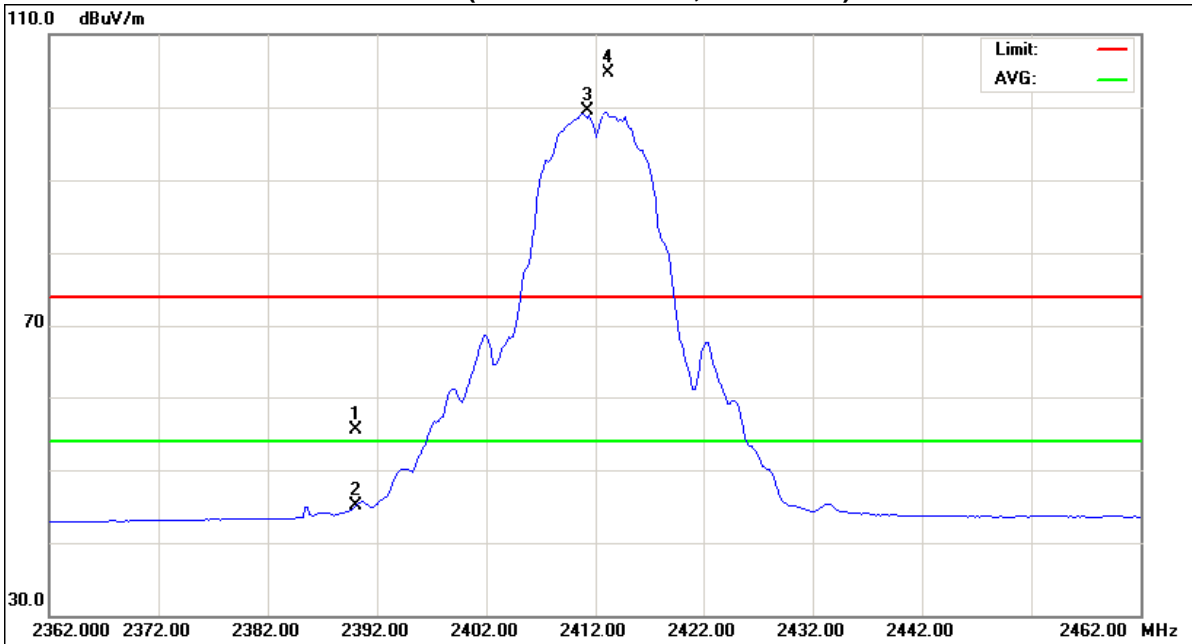
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
2390.00	H	23.85	13.49	31.61	55.46	45.10	74.00	54.00	X/E
<b>2413.20</b>	<b>H</b>	<b>73.11</b>	<b>67.99</b>	<b>31.58</b>	<b>104.69</b>	<b>99.58</b>			<b>X/F</b>
4824.27	H	43.59	36.23	5.66	49.25	41.89	74.00	54.00	X/H

Remark :

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



TX CH01 (Above 1000 MHz, Horizontal)





EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE 2437MHz		

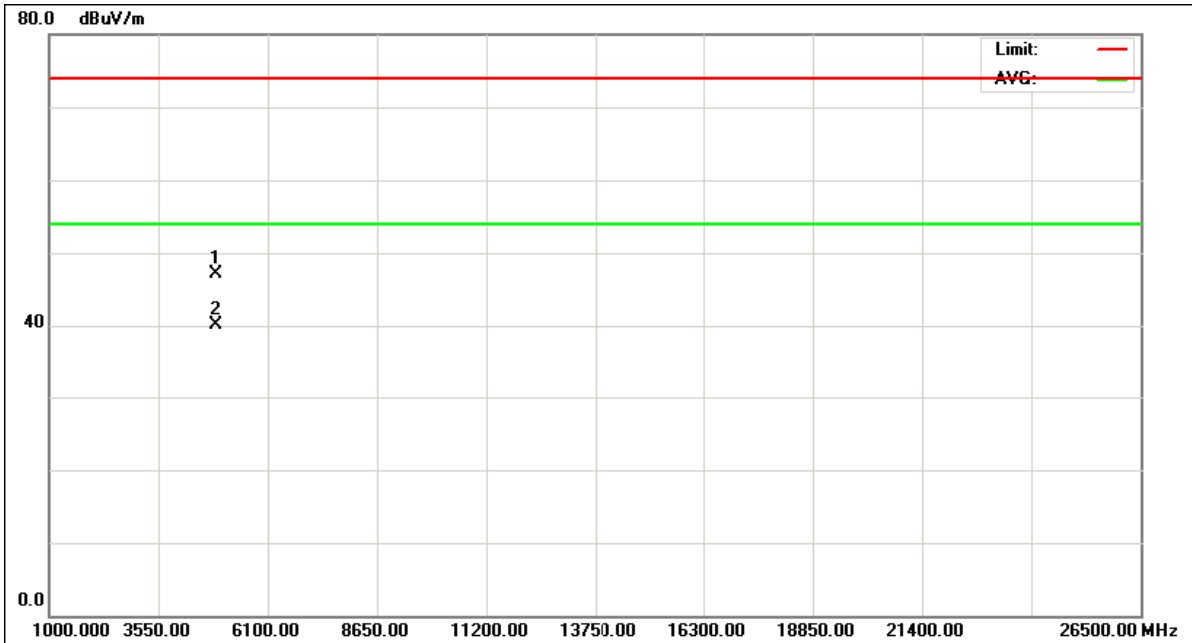
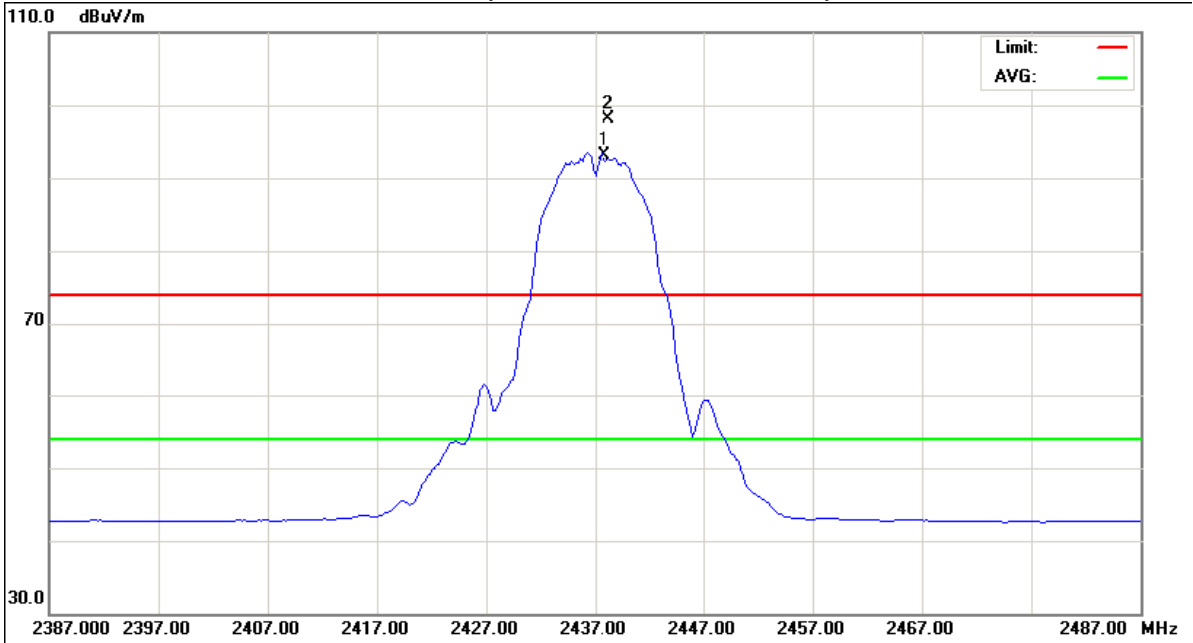
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
<b>2438.20</b>	<b>V</b>	<b>66.63</b>	<b>61.46</b>	<b>31.55</b>	<b>98.18</b>	<b>93.01</b>			<b>X/F</b>
4874.59	V	41.16	34.27	5.85	47.01	40.12	74.00	54.00	X/H

**Remark :**

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



TX CH06 (Above 1000 MHz, Vertical)





EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE 2437MHz		

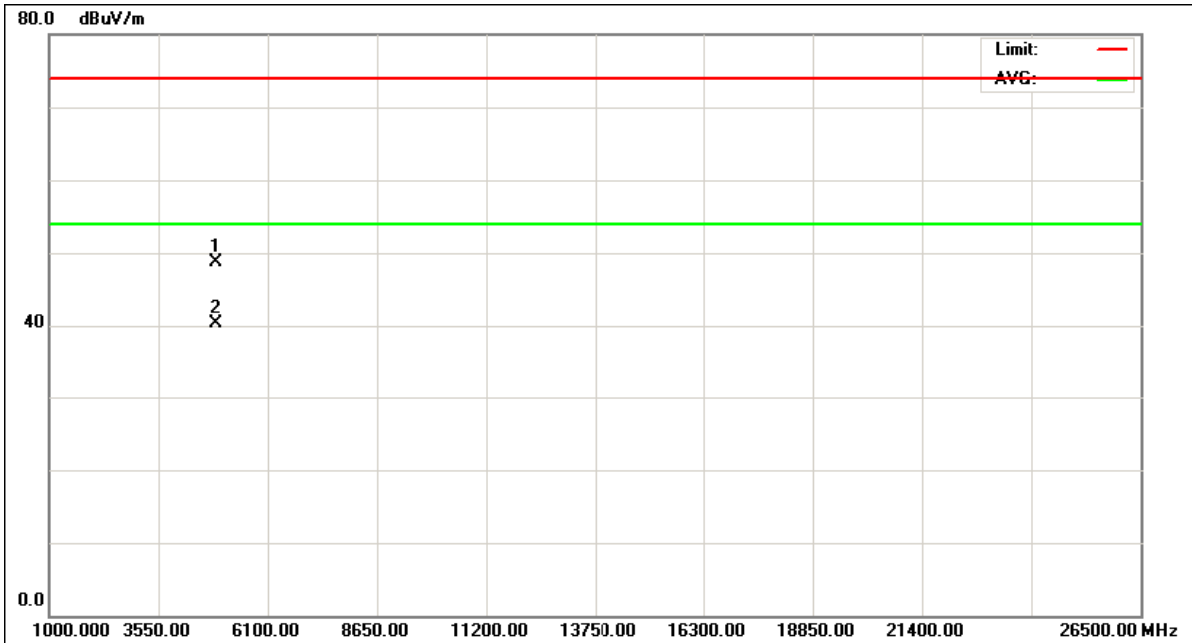
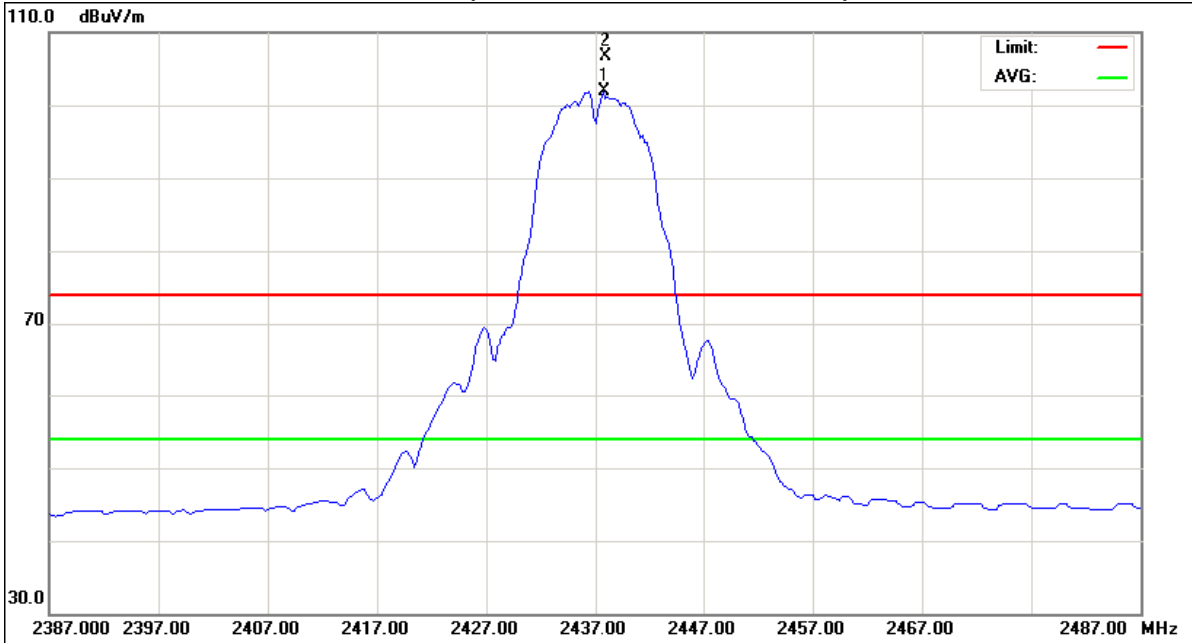
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
<b>2438.00</b>	<b>H</b>	<b>75.20</b>	<b>70.30</b>	<b>31.55</b>	<b>106.75</b>	<b>101.85</b>			<b>X/F</b>
4873.67	H	42.76	34.51	5.85	48.61	40.36	74.00	54.00	X/H

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 :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE 2462MHz		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
<b>2463.00</b>	<b>V</b>	<b>64.54</b>	<b>59.55</b>	<b>31.53</b>	<b>96.06</b>	<b>91.08</b>			<b>X/F</b>
2483.50	V	22.19	11.50	31.50	53.69	43.00	74.00	54.00	X/E
4924.99	V	43.28	34.52	6.04	49.32	40.56	74.00	54.00	X/H

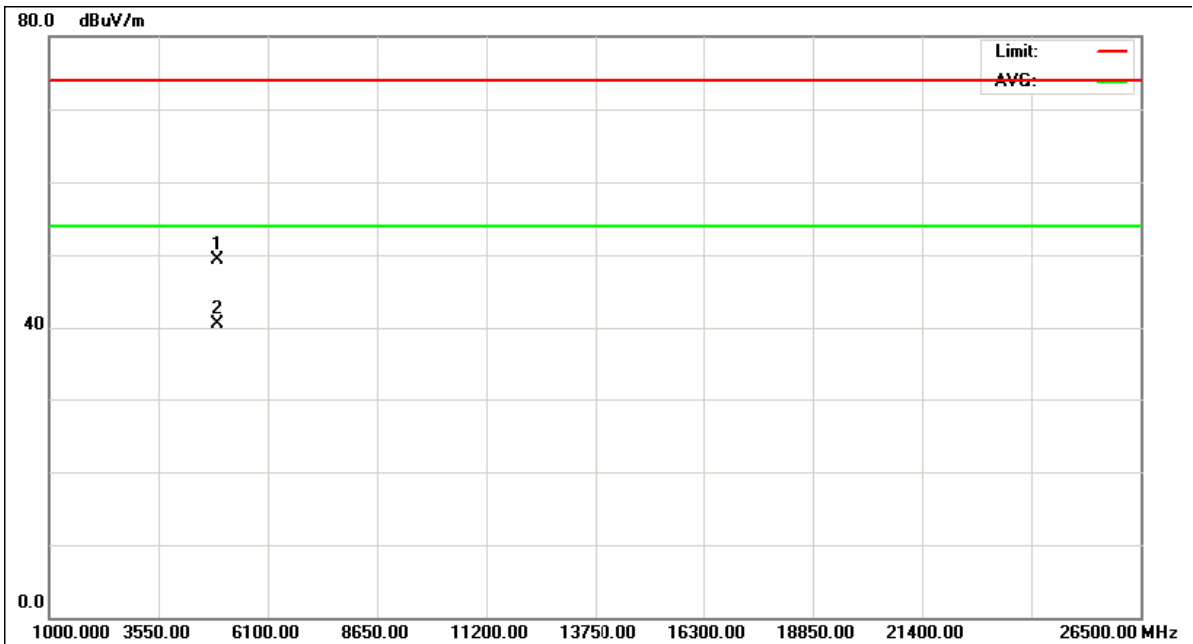
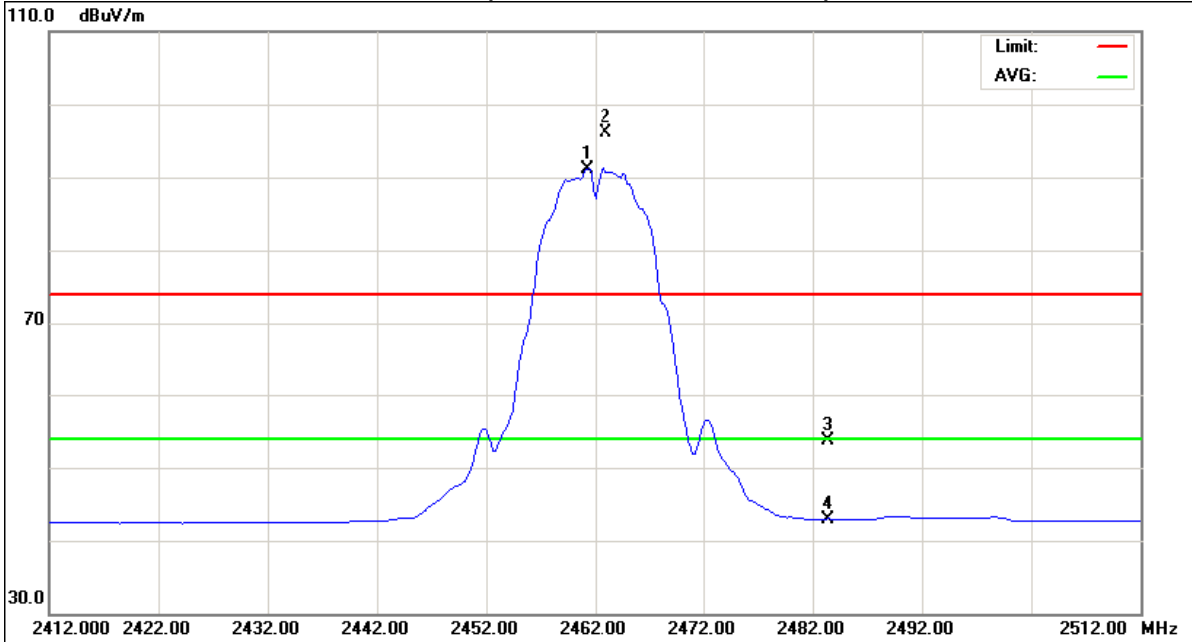
Remark :

- (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 :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE 2462MHz		

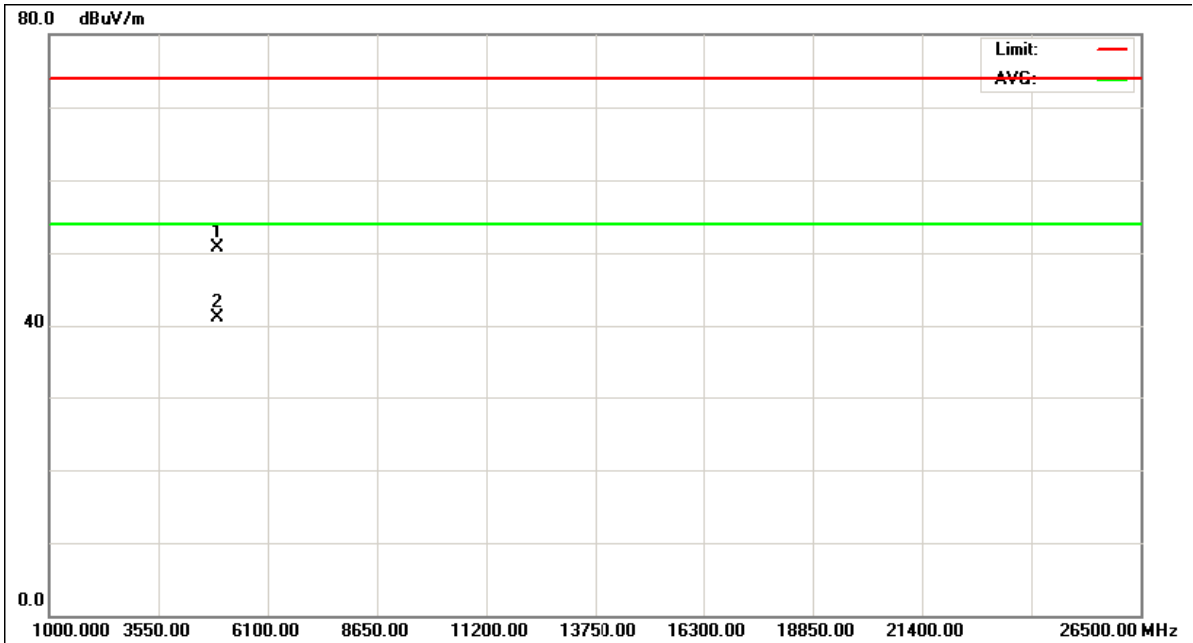
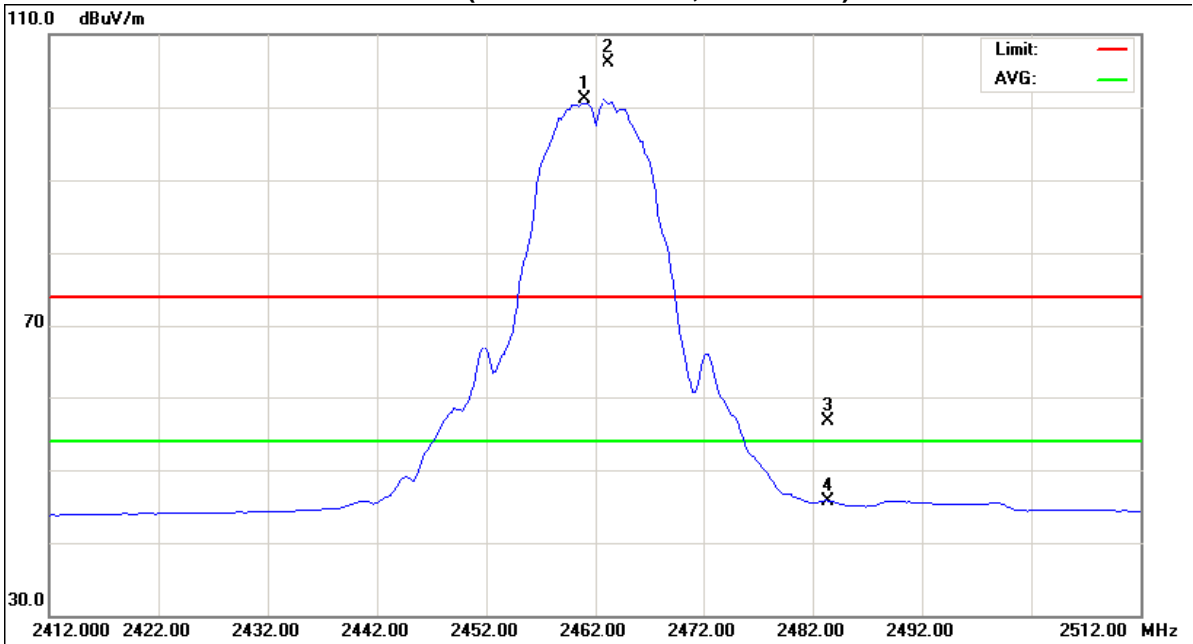
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
<b>2463.20</b>	<b>H</b>	<b>74.59</b>	<b>69.62</b>	<b>31.52</b>	<b>106.11</b>	<b>101.15</b>			<b>X/F</b>
2483.50	H	25.18	14.26	31.50	56.68	45.76	74.00	54.00	X/E
4923.50	H	44.68	35.07	6.03	50.71	41.10	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 :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX G MODE 2412MHz		

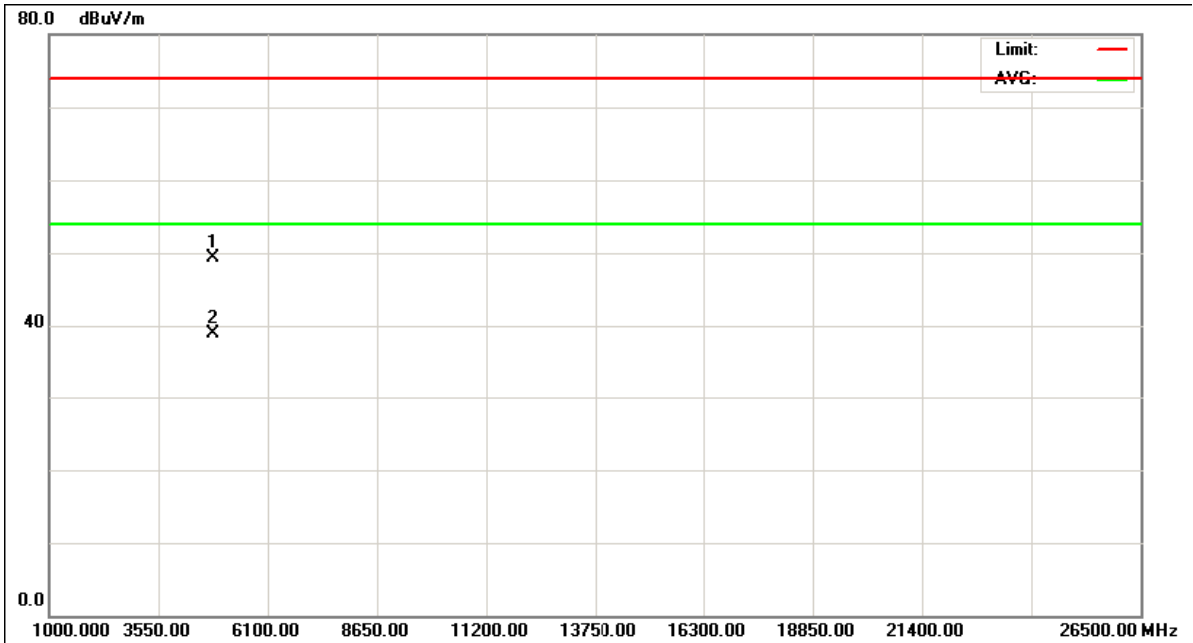
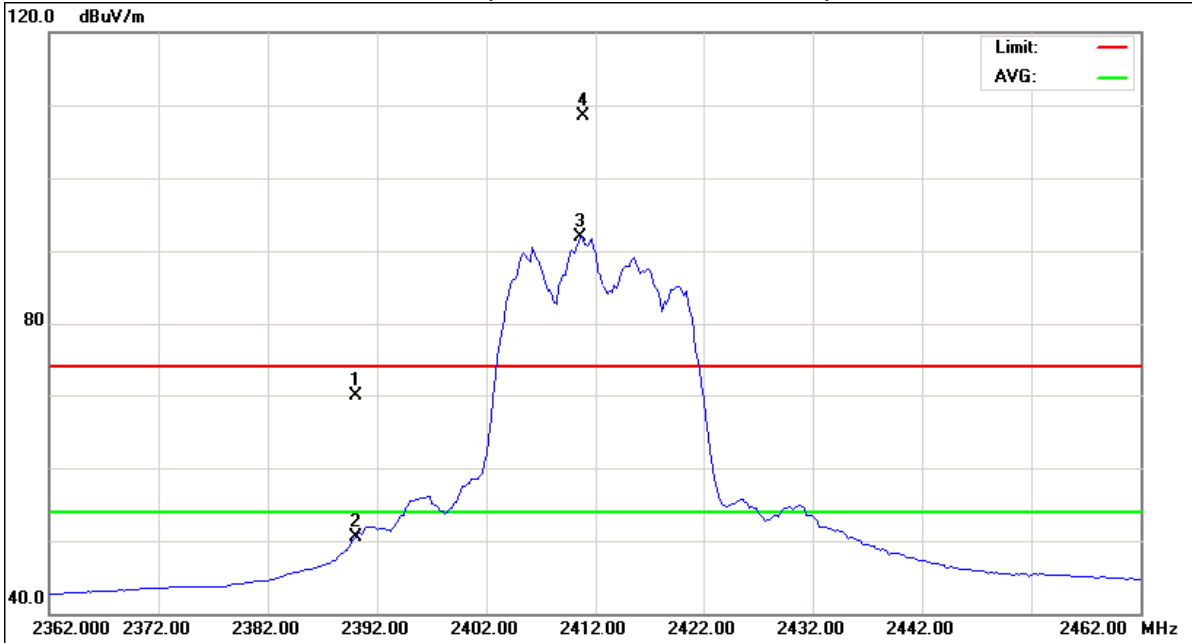
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
2390.00	V	38.82	19.48	31.08	69.90	50.56	74.00	54.00	X/E
<b>2410.80</b>	<b>V</b>	<b>77.41</b>	<b>60.93</b>	<b>31.07</b>	<b>108.48</b>	<b>92.00</b>			<b>X/F</b>
4824.25	V	43.74	33.17	5.66	49.40	38.83	74.00	54.00	X/H

Remark :

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



TX CH01 (Above 1000 MHz, Vertical)





EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX G MODE 2412MHz		

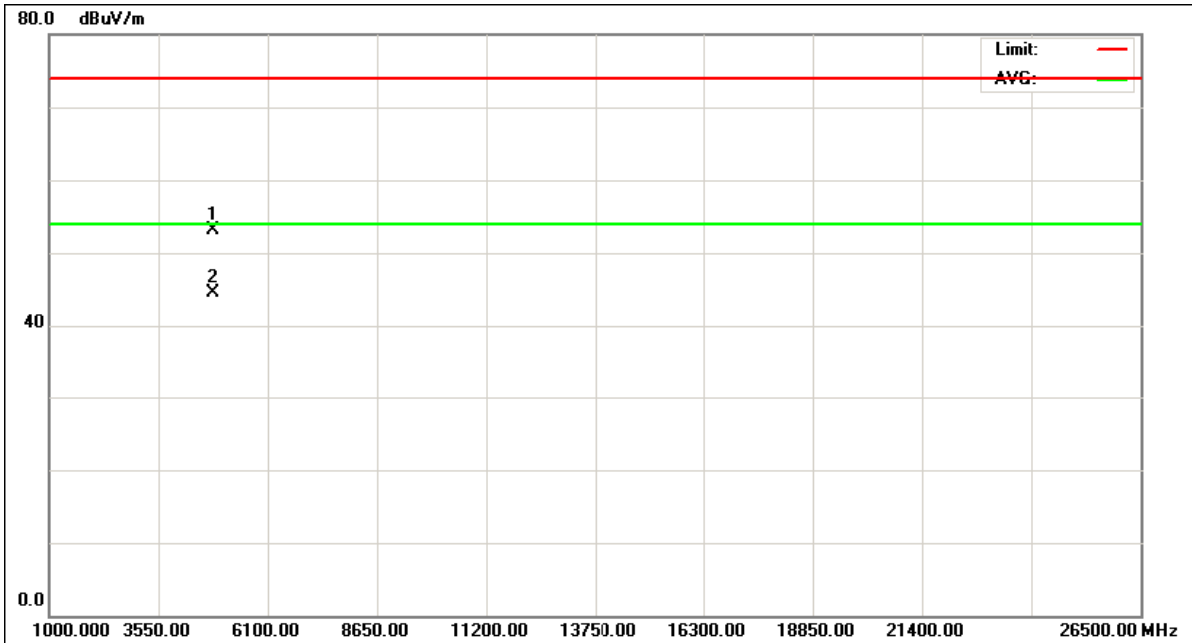
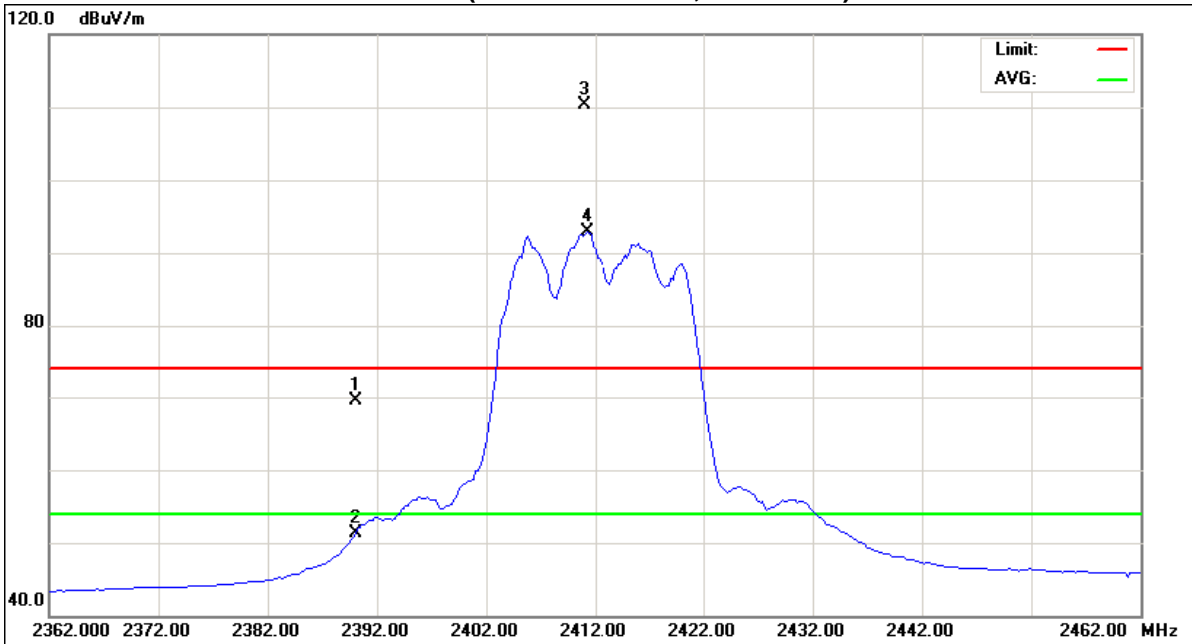
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
2390.00	H	38.44	20.16	31.08	69.52	51.24	74.00	54.00	X/E
<b>2411.00</b>	<b>H</b>	<b>79.21</b>	<b>61.92</b>	<b>31.07</b>	<b>110.28</b>	<b>92.99</b>			<b>X/F</b>
4824.16	H	47.51	38.86	5.66	53.17	44.52	74.00	54.00	X/H

Remark :

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



TX CH01 (Above 1000 MHz, Horizontal)





EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °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>2435.80</b>	<b>V</b>	<b>79.23</b>	<b>62.14</b>	<b>31.06</b>	<b>110.29</b>	<b>93.20</b>			<b>X/F</b>
4874.19	V	42.49	33.97	5.85	48.34	39.82	74.00	54.00	X/H

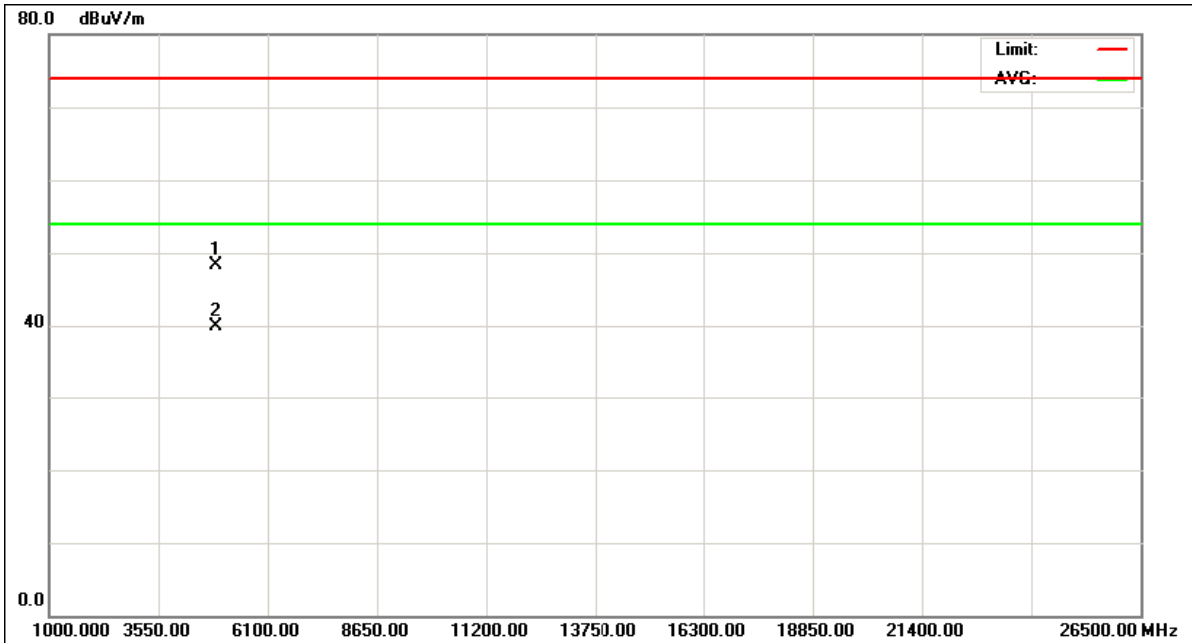
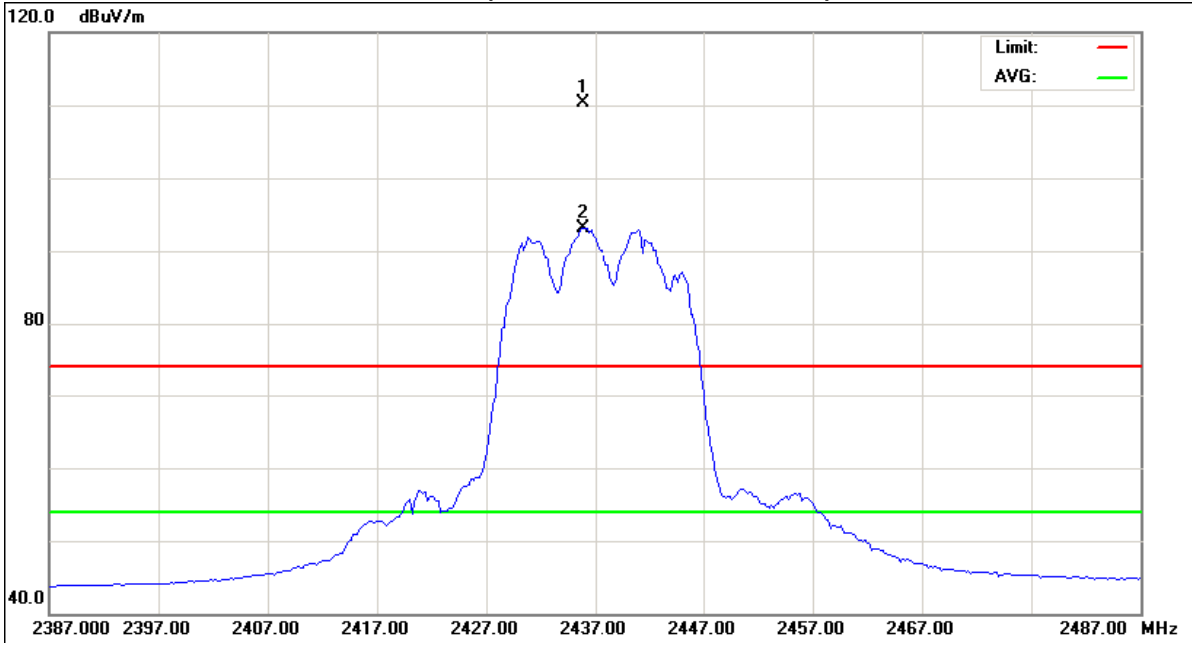
**Remark :**

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





TX CH06 (Above 1000 MHz, Vertical)





EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX G MODE 2437MHz		

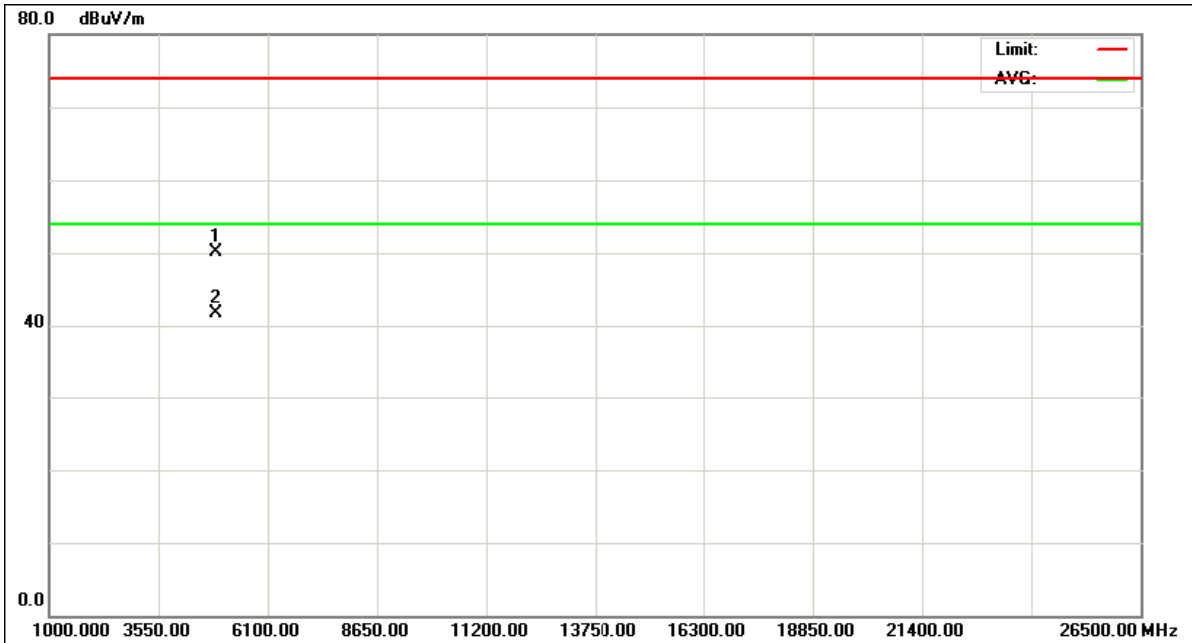
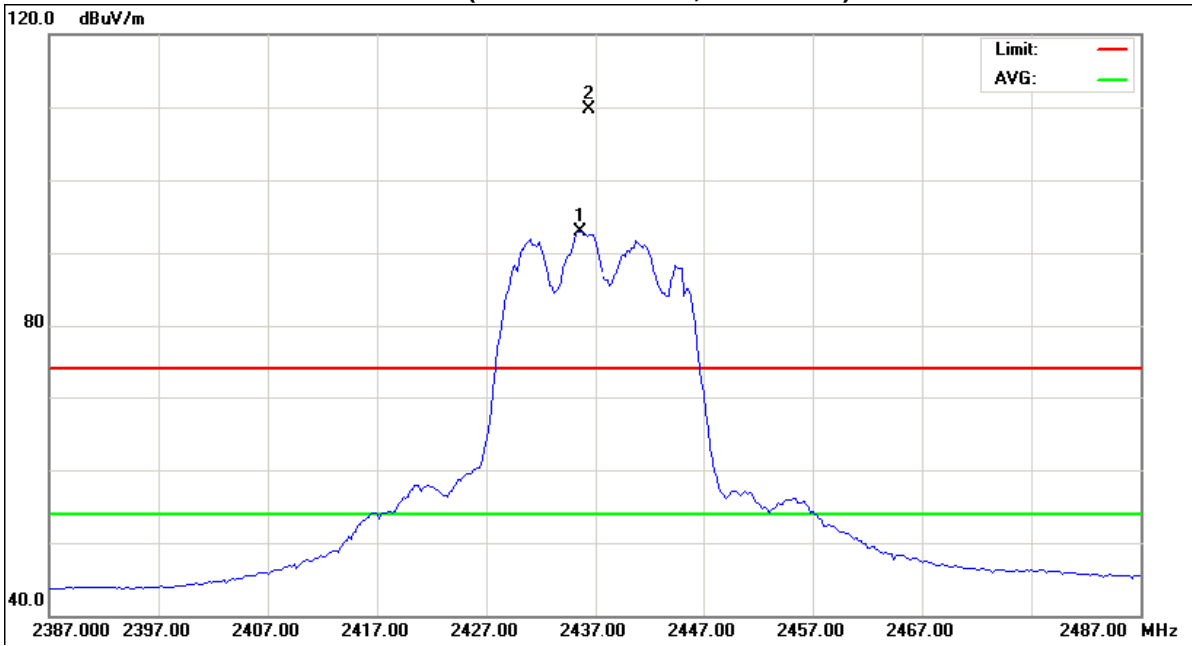
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
<b>2436.40</b>	<b>H</b>	<b>78.65</b>	<b>61.82</b>	<b>31.06</b>	<b>109.71</b>	<b>92.88</b>			<b>X/F</b>
4873.72	H	44.21	35.76	5.85	50.06	41.61	74.00	54.00	X/H

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 :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX G MODE 2462MHz		

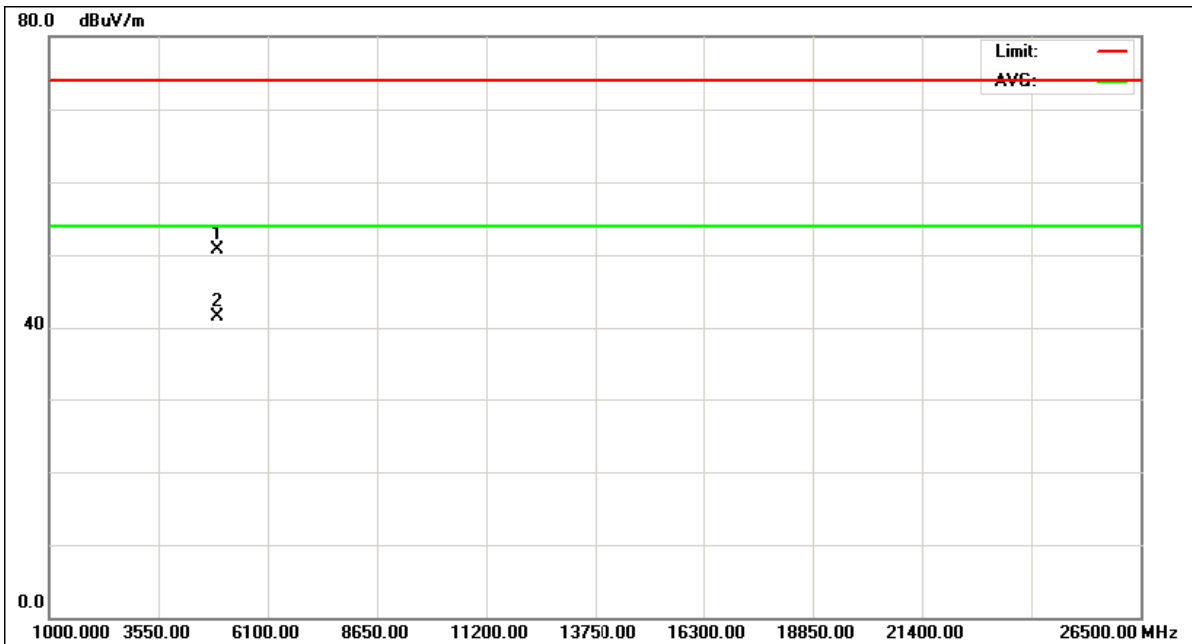
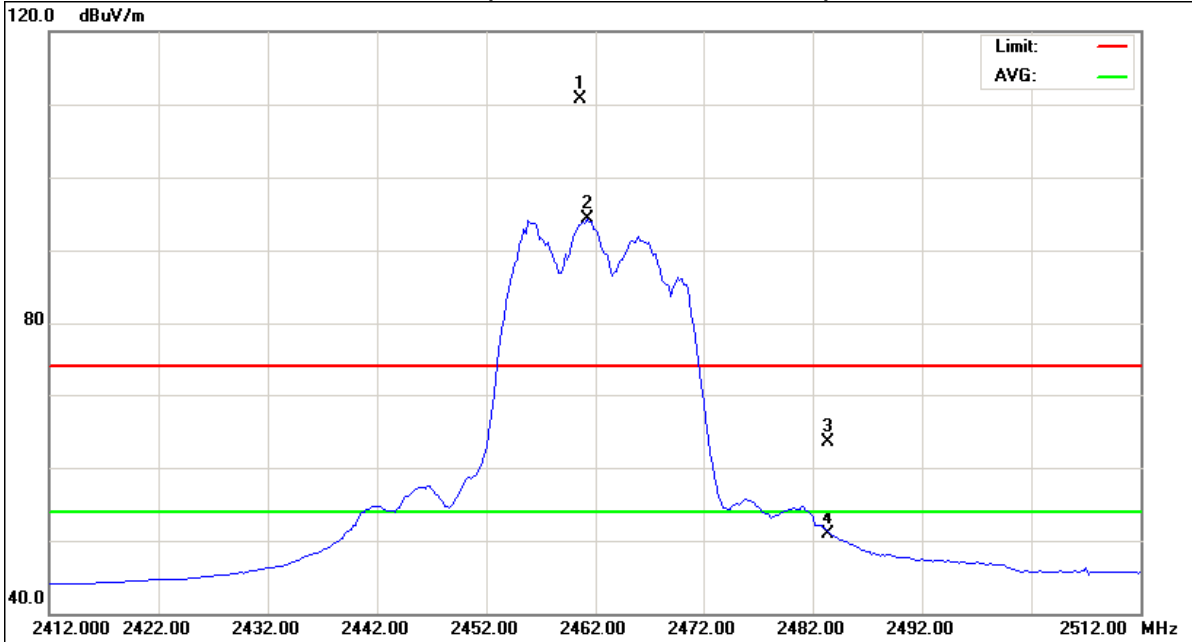
Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
<b>2460.60</b>	<b>V</b>	<b>79.65</b>	<b>63.22</b>	<b>31.04</b>	<b>110.69</b>	<b>94.26</b>			<b>X/F</b>
2483.50	V	32.44	19.82	31.03	63.47	50.85	74.00	54.00	X/E
4923.75	V	44.76	35.49	6.04	50.8	41.53	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 :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX G MODE 2462MHz		

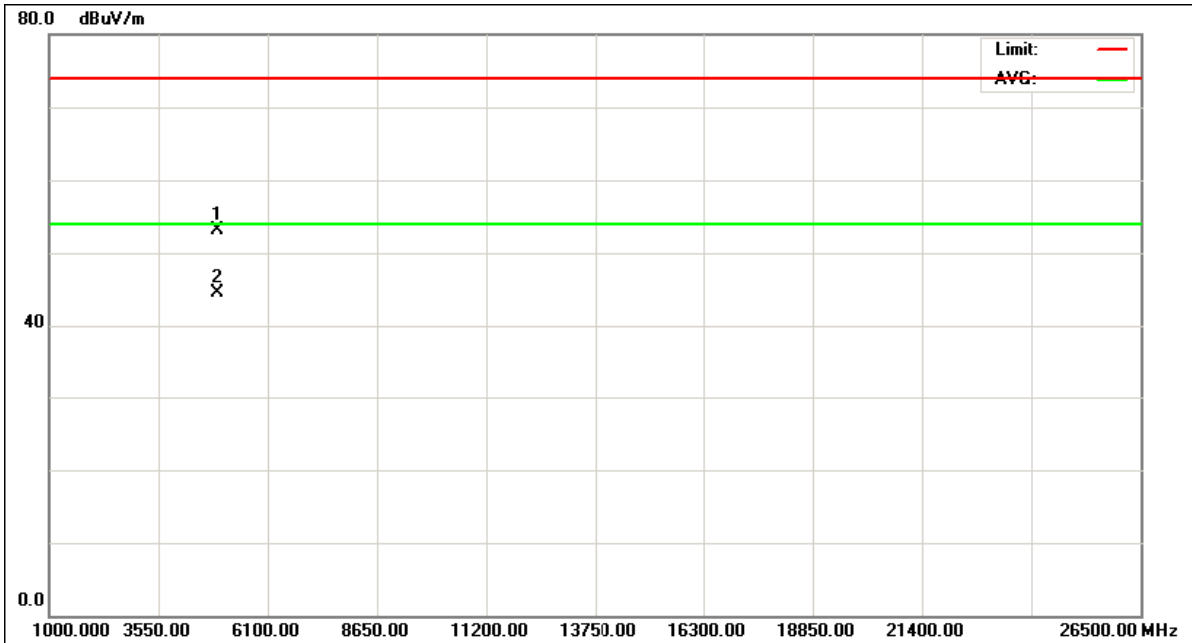
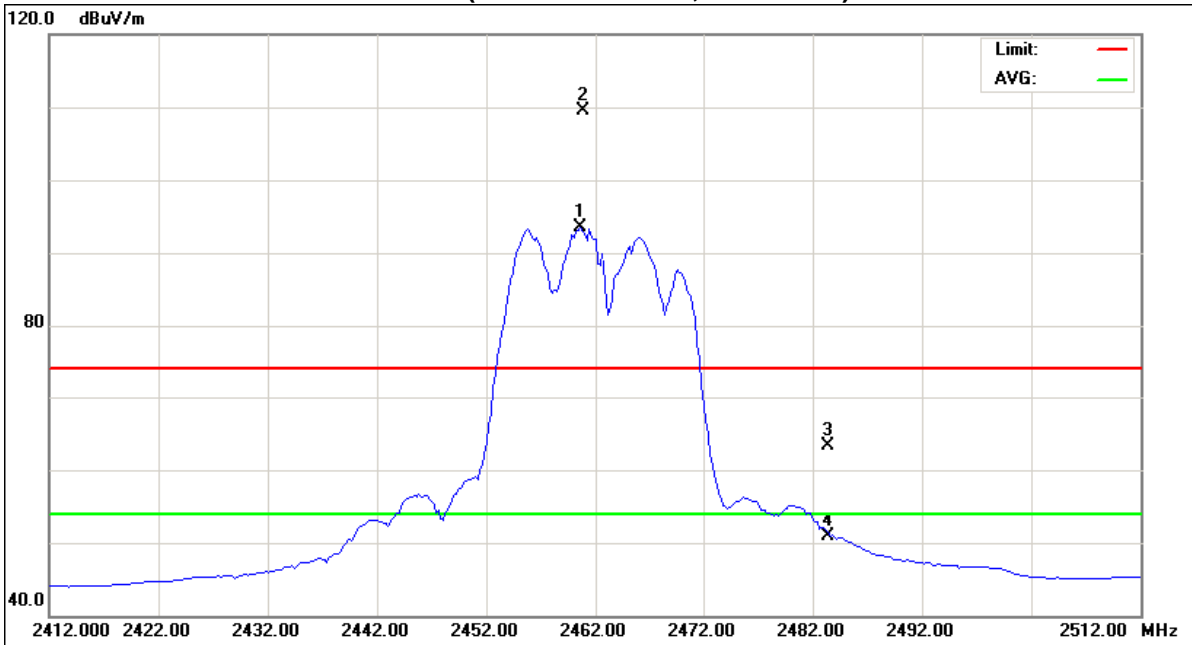
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
<b>2460.80</b>	<b>H</b>	<b>78.38</b>	<b>62.39</b>	<b>31.04</b>	<b>109.42</b>	<b>93.43</b>			<b>X/F</b>
2483.50	H	32.33	19.96	31.03	63.36	50.99	74.00	54.00	X/E
4923.55	H	47.16	38.49	6.03	53.19	44.52	74.00	54.00	X/H

**Remark :**

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



TX CH11 (Above 1000 MHz, Horizontal)





EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M 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	30.04	14.03	31.61	61.65	45.64	74.00	54.00	X/E
<b>2406.60</b>	<b>V</b>	<b>59.74</b>	<b>44.01</b>	<b>31.60</b>	<b>91.34</b>	<b>75.61</b>			<b>X/F</b>
4824.71	V	43.57	35.19	5.66	49.23	40.85	74.00	54.00	X/H

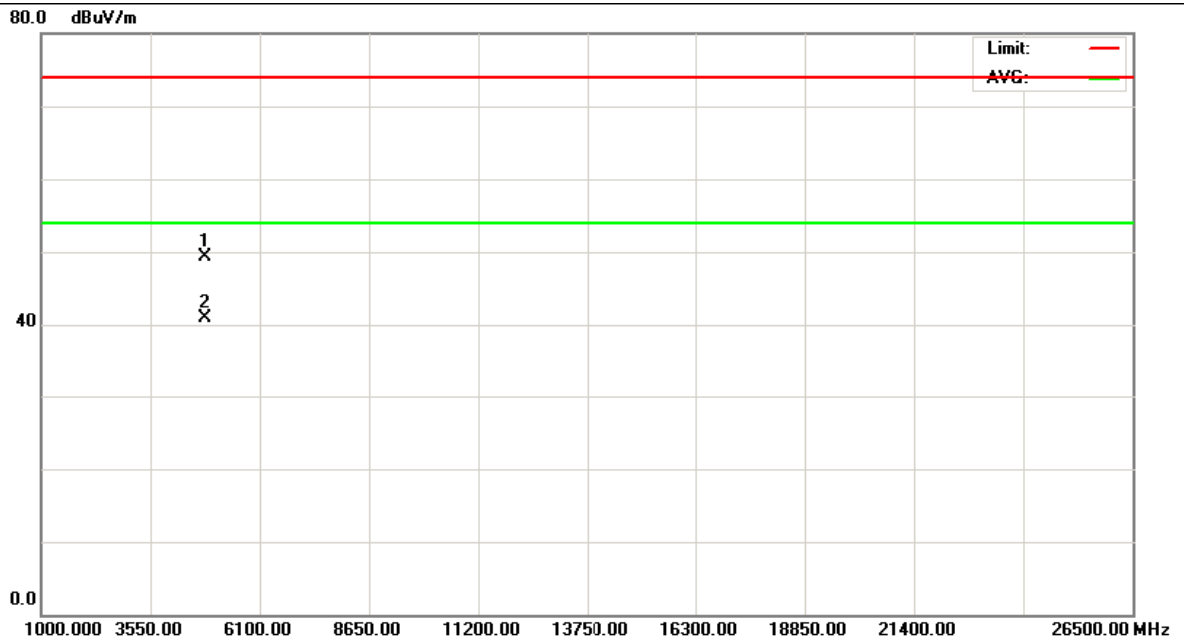
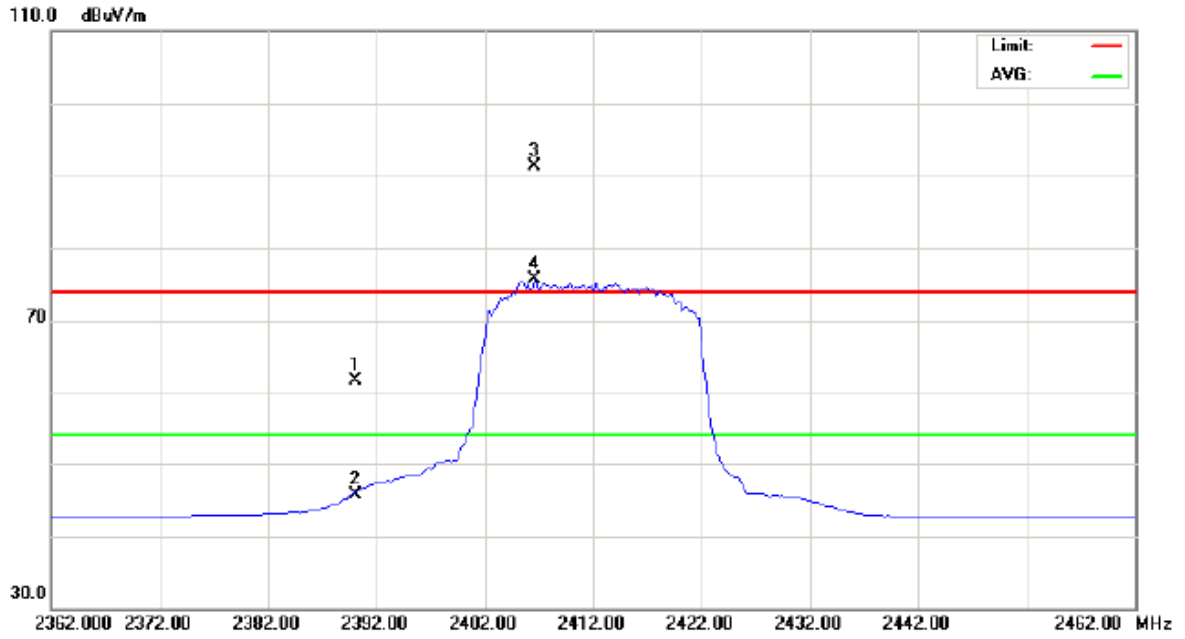
Remark :

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





TX CH01 (Above 1000 MHz, Vertical)





EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE 2412MHz		

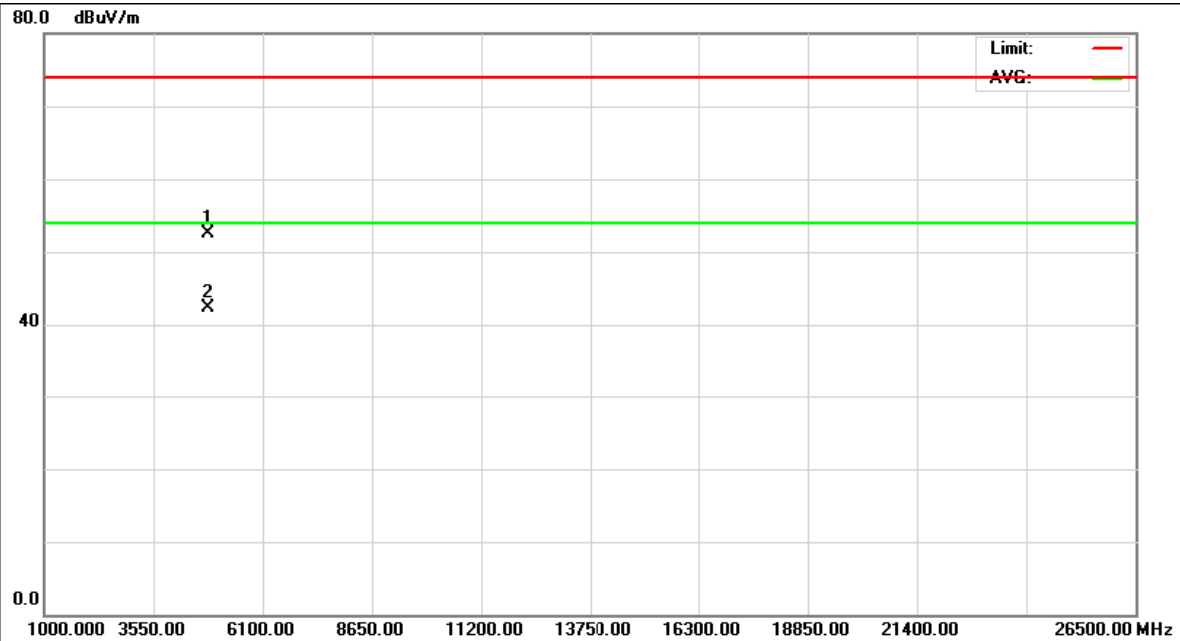
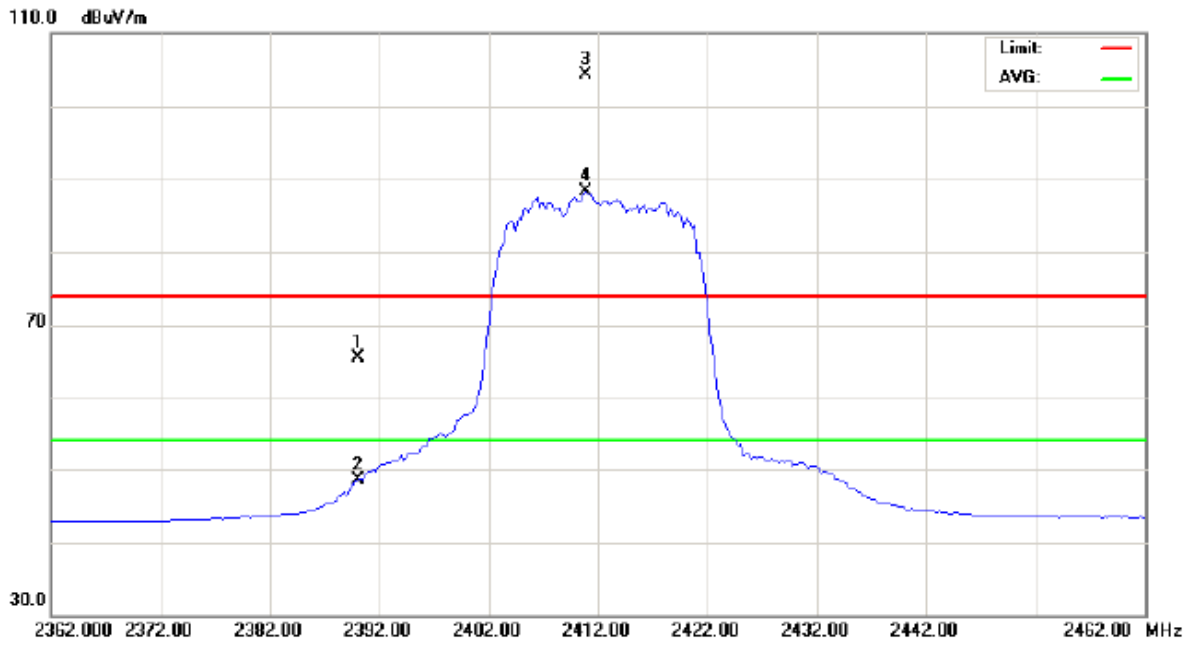
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
2390.00	H	33.98	16.93	31.61	65.59	48.54	74.00	54.00	X/E
<b>2410.80</b>	<b>H</b>	<b>72.62</b>	<b>56.63</b>	<b>31.59</b>	<b>104.21</b>	<b>88.22</b>			<b>X/F</b>
4823.90	H	46.87	36.56	5.66	52.53	42.22	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 CH01 (Above 1000 MHz, Horizontal)





EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE 2437MHz		

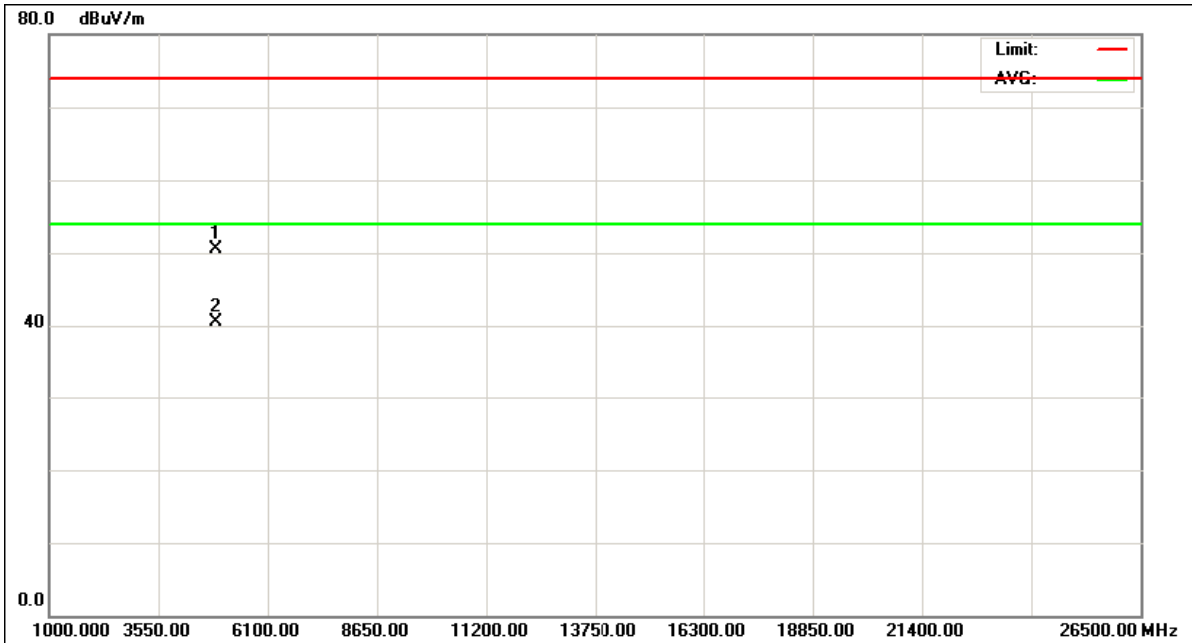
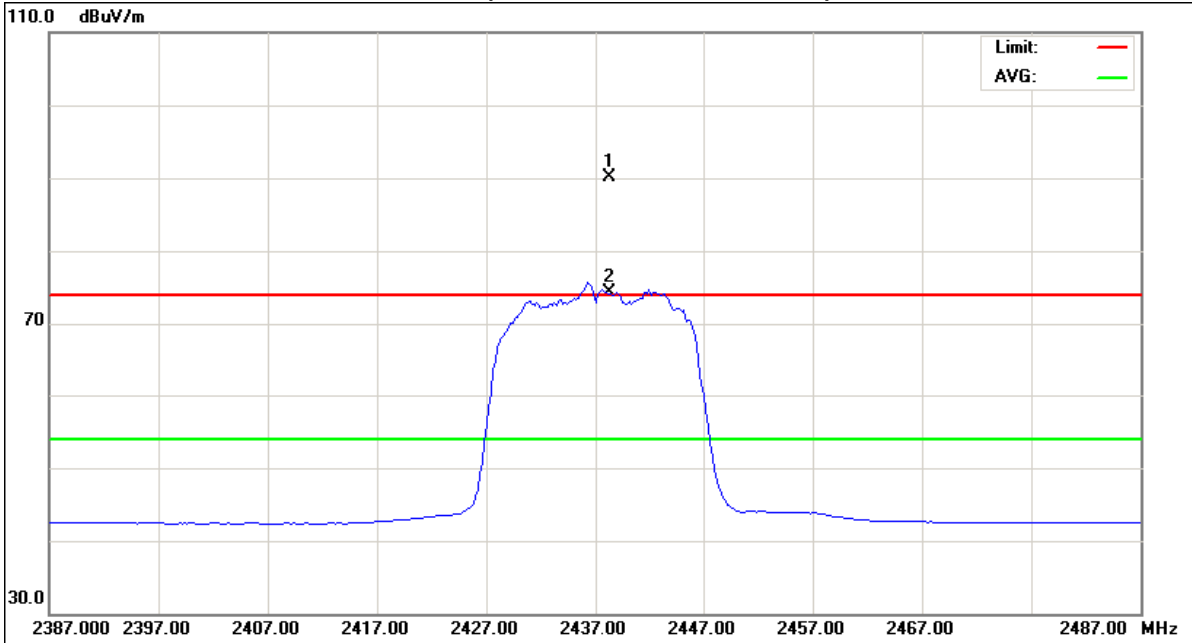
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
<b>2438.40</b>	<b>V</b>	<b>58.58</b>	<b>42.76</b>	<b>31.55</b>	<b>90.13</b>	<b>74.31</b>			<b>X/F</b>
4873.92	V	44.59	34.71	5.85	50.44	40.56	74.00	54.00	X/H

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 :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE 2437MHz		

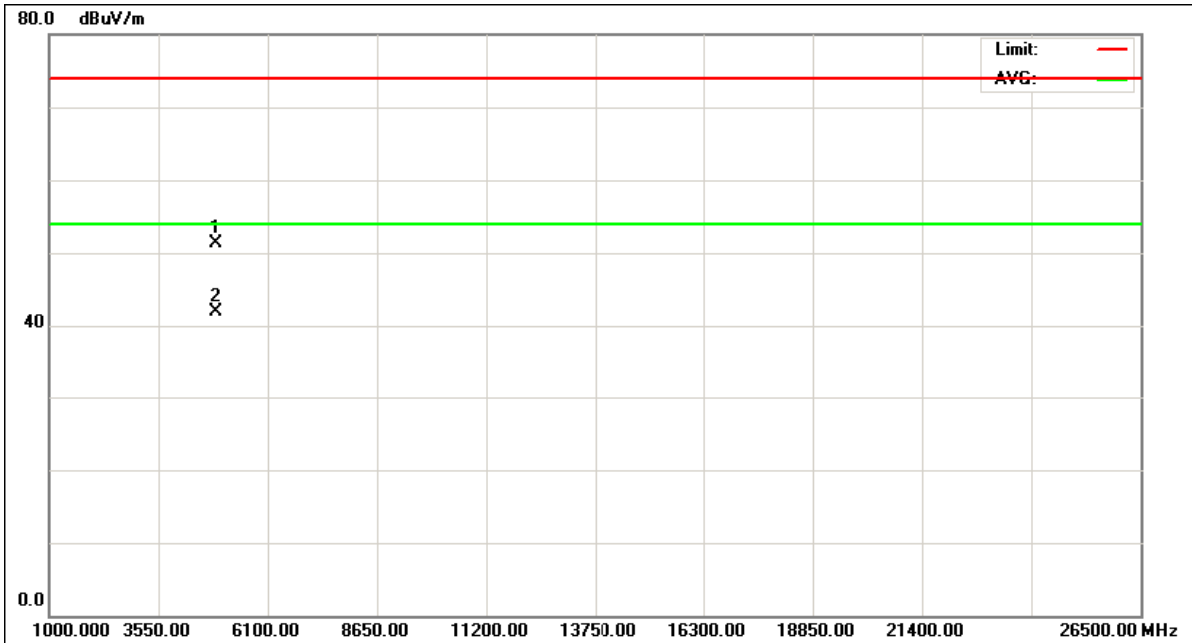
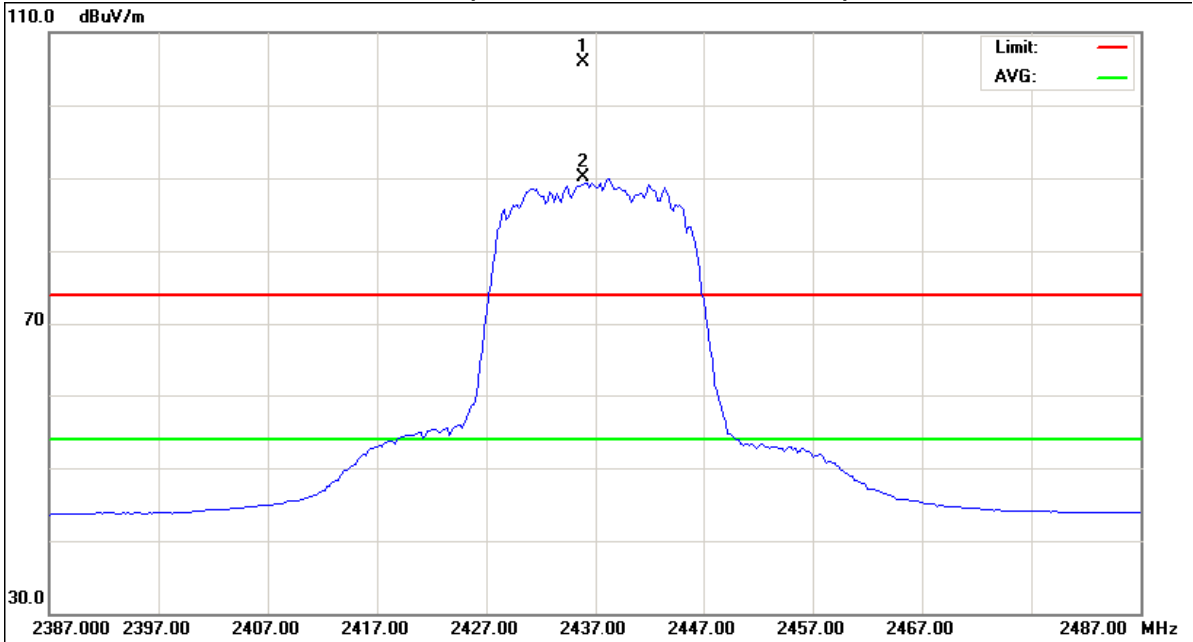
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
<b>2435.80</b>	<b>H</b>	<b>74.26</b>	<b>58.61</b>	<b>31.56</b>	<b>105.82</b>	<b>90.17</b>			<b>X/F</b>
4874.52	H	45.36	36.13	5.85	51.21	41.98	74.00	54.00	X/H

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 :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE 2462MHz		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
<b>2461.60</b>	<b>V</b>	<b>60.11</b>	<b>44.07</b>	<b>31.53</b>	<b>91.64</b>	<b>75.59</b>			<b>X/F</b>
2483.50	V	23.16	11.54	31.50	54.66	43.04	74.00	54.00	X/E
4923.83	V	43.67	33.19	6.04	49.71	39.23	74.00	54.00	X/H

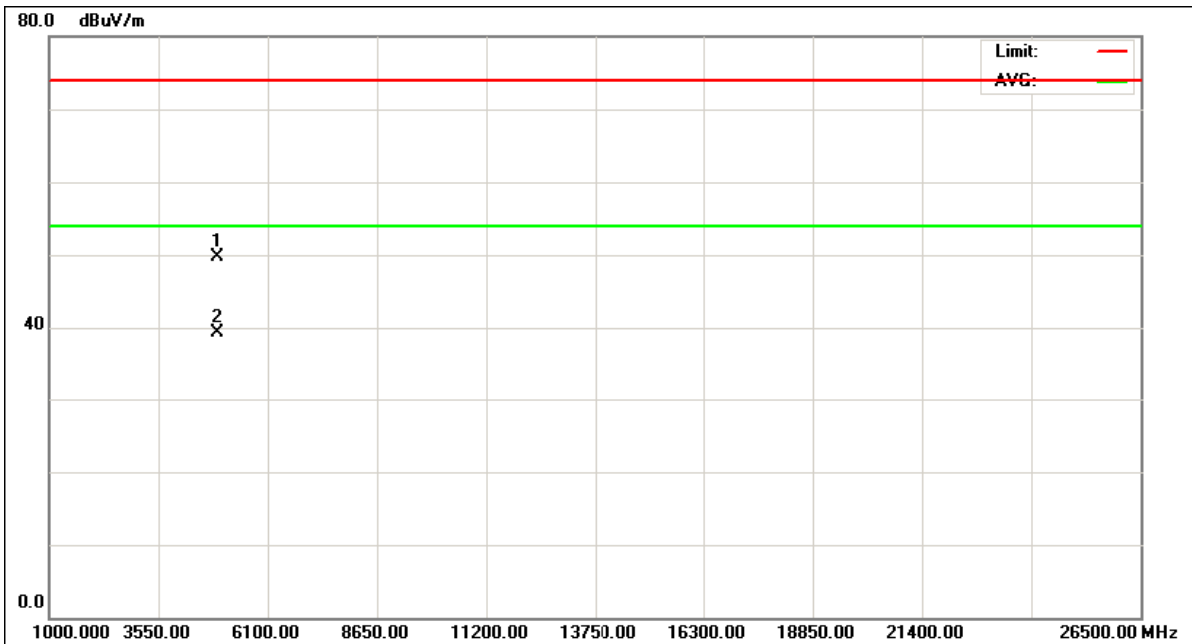
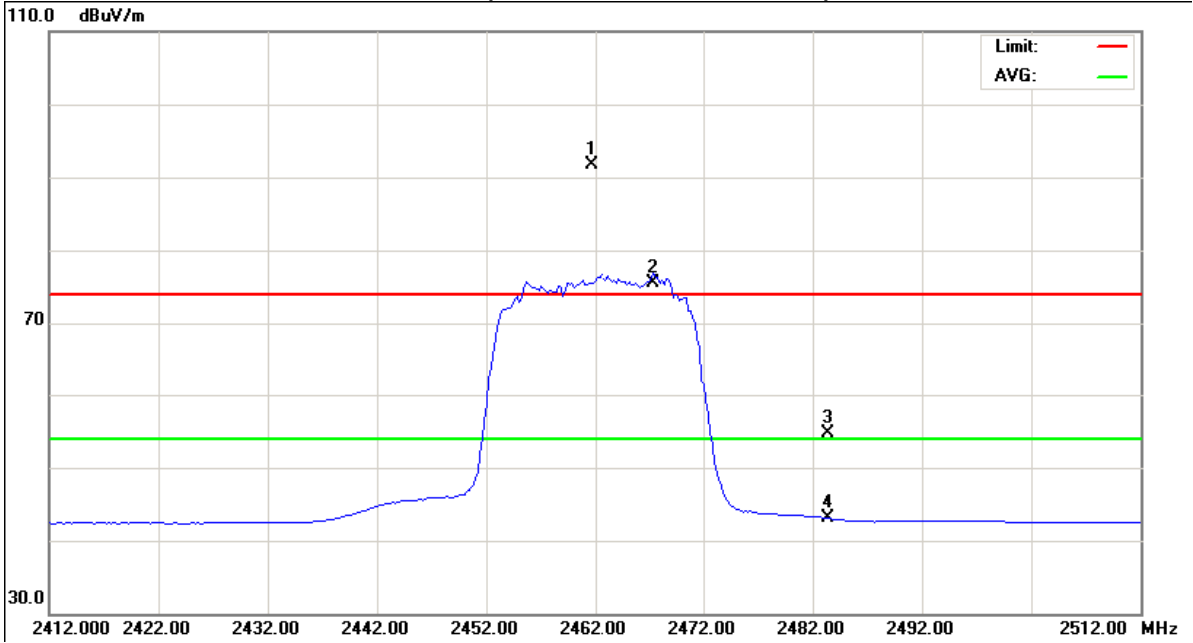
Remark :

- (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 :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE 2462MHz		

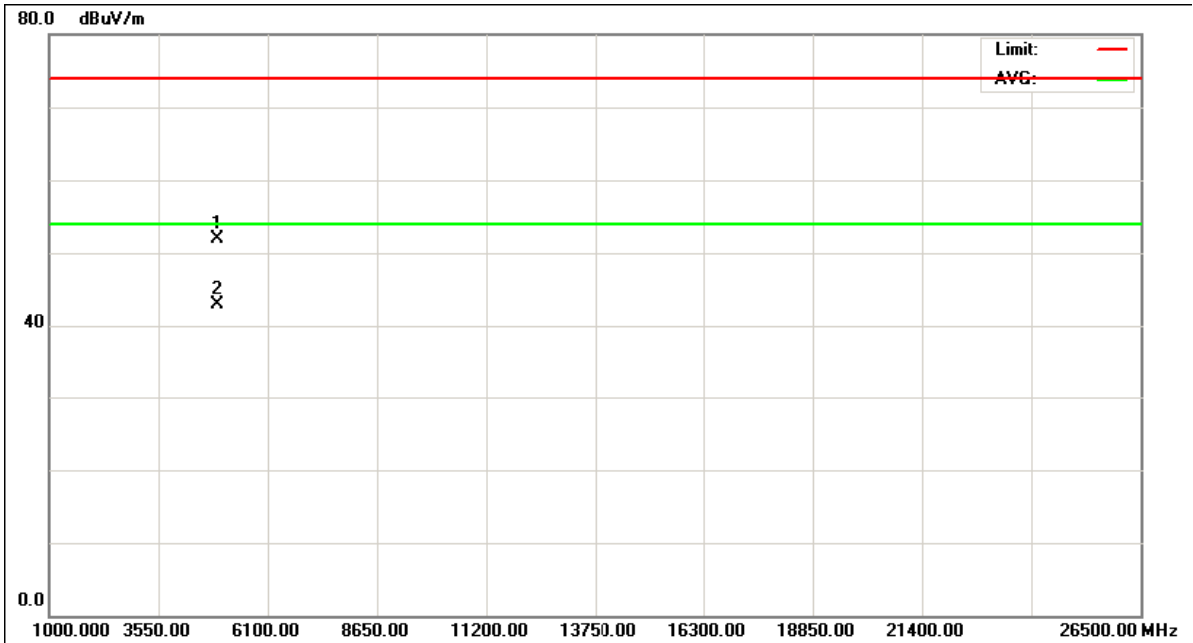
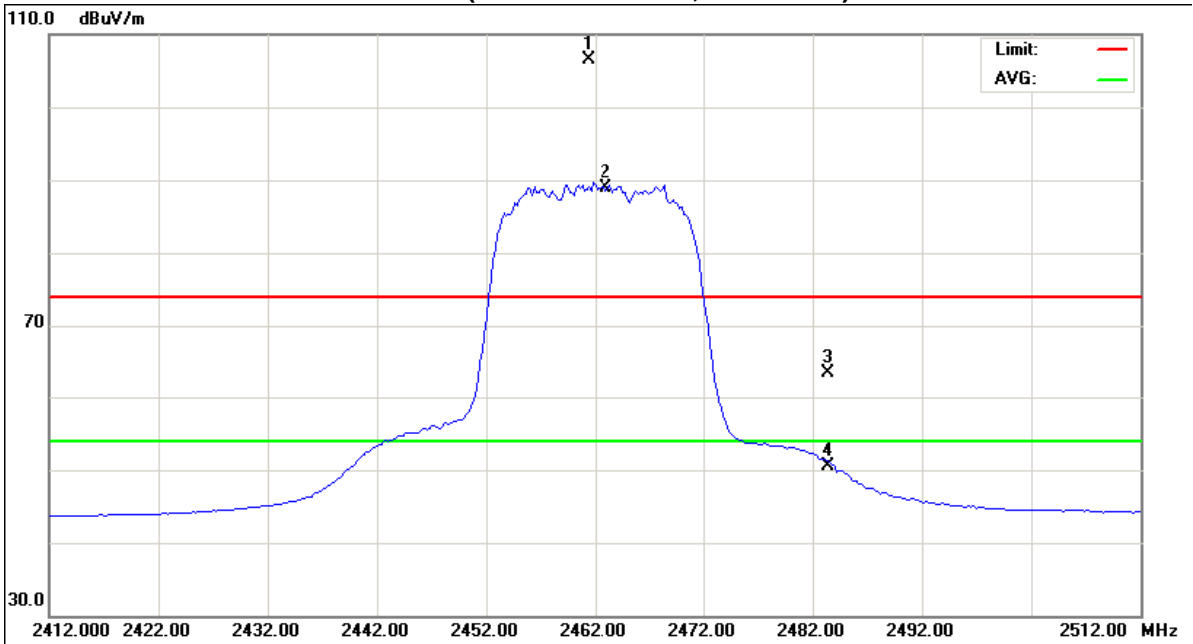
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
<b>2461.40</b>	<b>H</b>	<b>74.97</b>	<b>57.43</b>	<b>31.53</b>	<b>106.50</b>	<b>88.95</b>			<b>X/F</b>
2483.50	H	31.84	18.99	31.50	63.34	50.49	74.00	54.00	X/E
4924.30	H	45.89	36.77	6.04	51.93	42.81	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 :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-40M MODE 2422MHz		

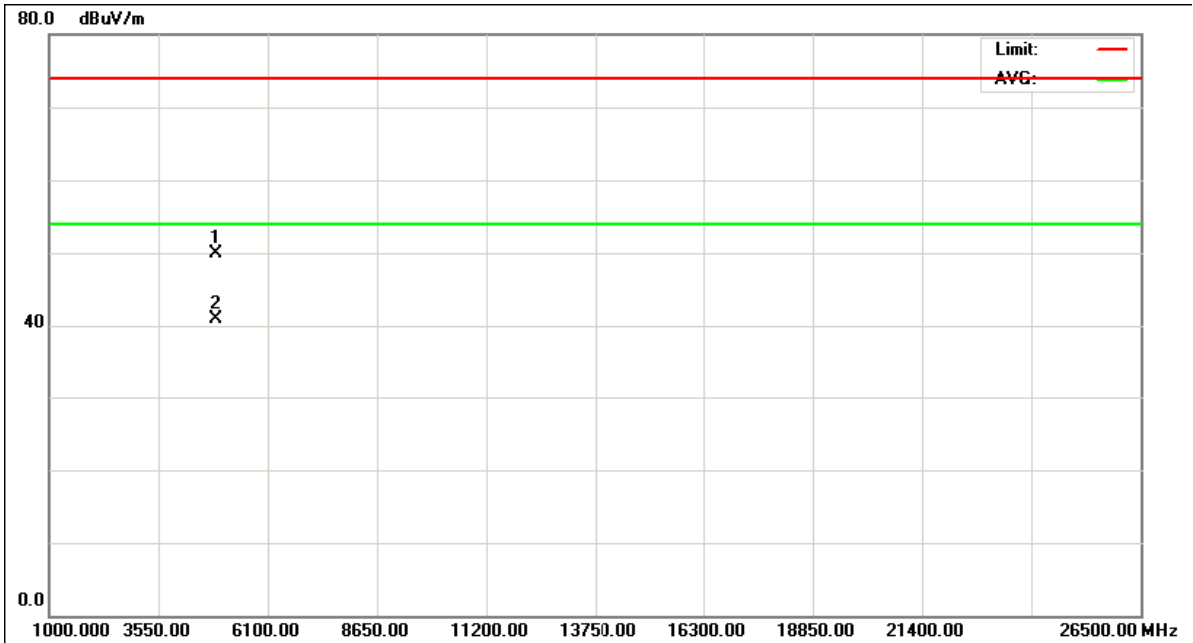
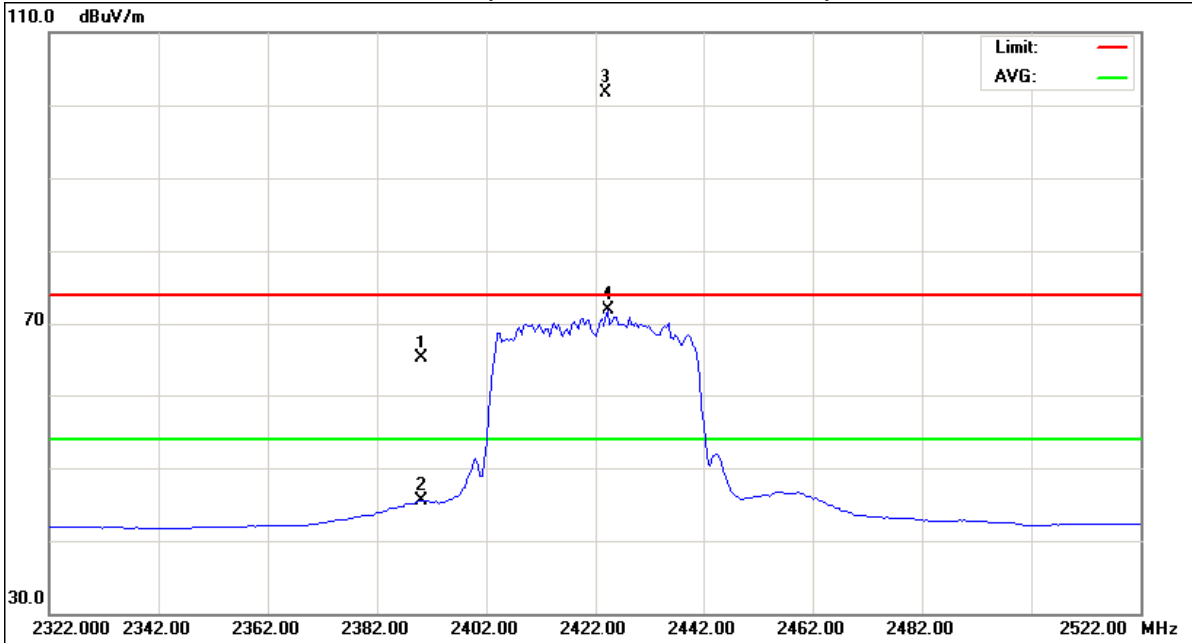
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
2390.00	V	33.94	14.36	31.08	65.02	45.44	74.00	54.00	X/E
<b>2424.00</b>	<b>V</b>	<b>70.60</b>	<b>40.84</b>	<b>31.06</b>	<b>101.66</b>	<b>71.90</b>			<b>X/F</b>
4843.59	V	44.24	35.17	5.74	49.98	40.91	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 :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-40M MODE 2422MHz		

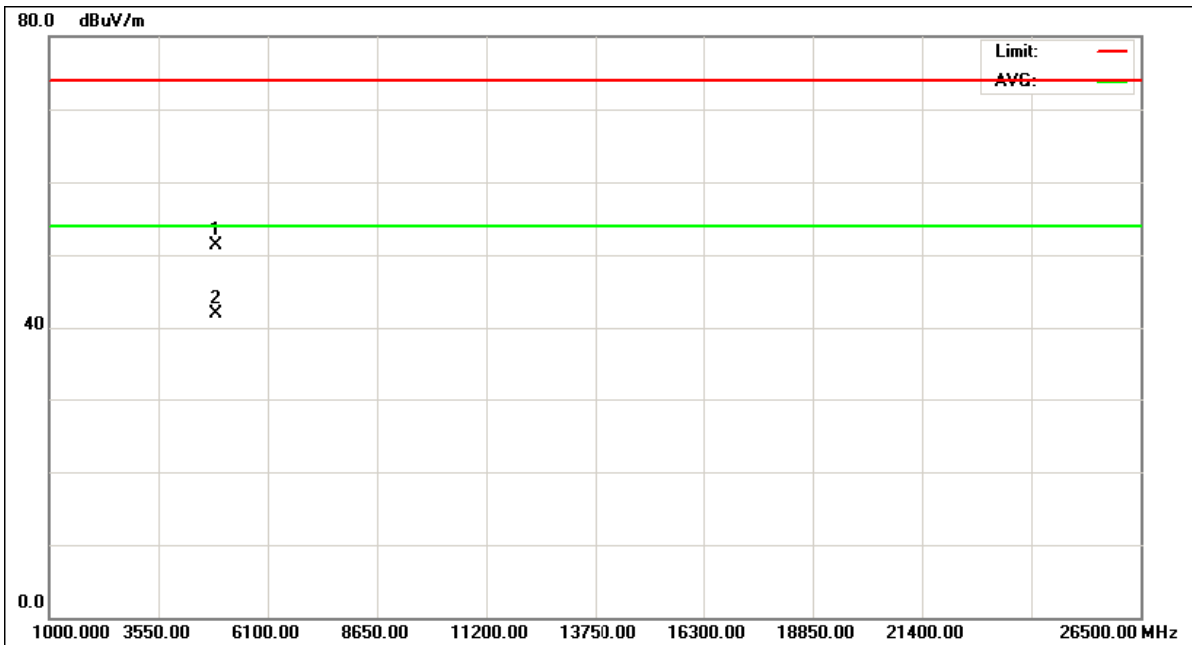
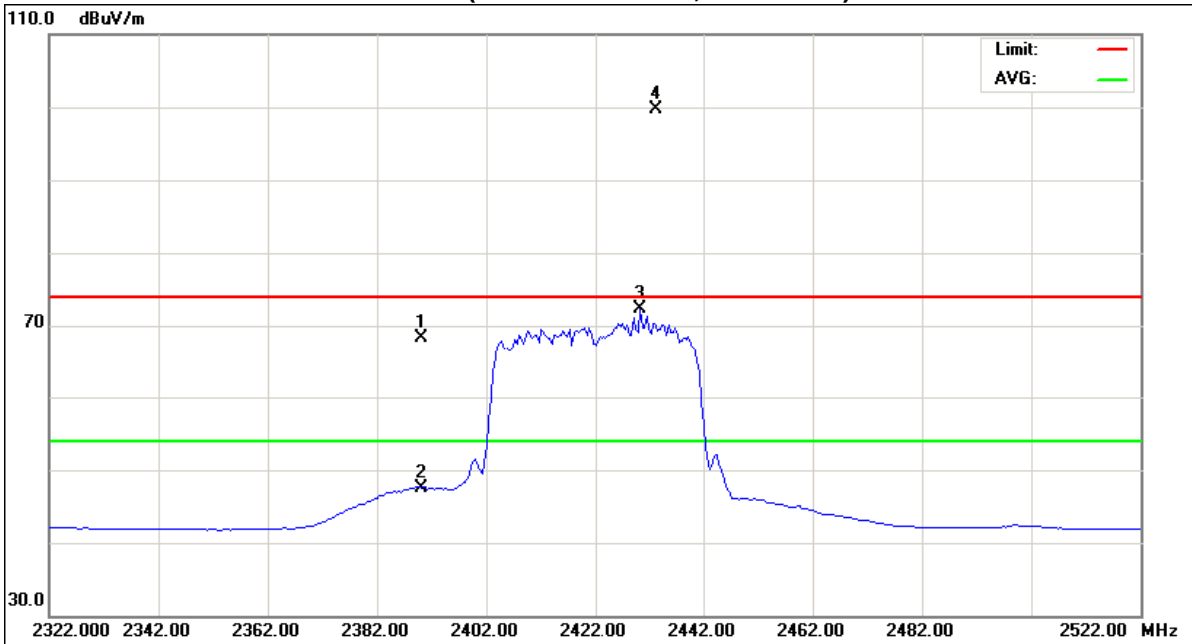
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
2390.00	H	37.25	16.45	31.08	68.33	47.53	74.00	54.00	X/E
<b>2433.20</b>	<b>H</b>	<b>68.58</b>	<b>41.23</b>	<b>31.05</b>	<b>99.63</b>	<b>72.29</b>			<b>X/F</b>
4843.81	H	45.57	36.19	5.74	51.31	41.93	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 :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °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>2439.00</b>	<b>V</b>	<b>72.32</b>	<b>42.91</b>	<b>31.05</b>	<b>103.37</b>	<b>73.96</b>			<b>X/F</b>
4874.53	V	41.75	32.07	5.85	47.60	37.92	74.00	54.00	X/H

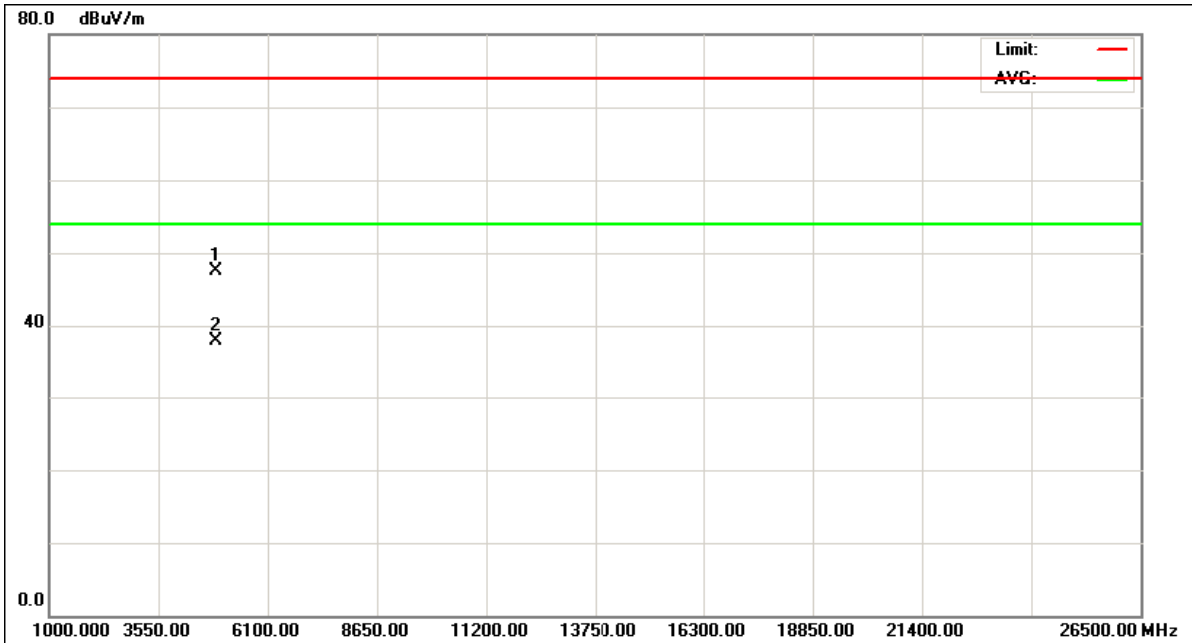
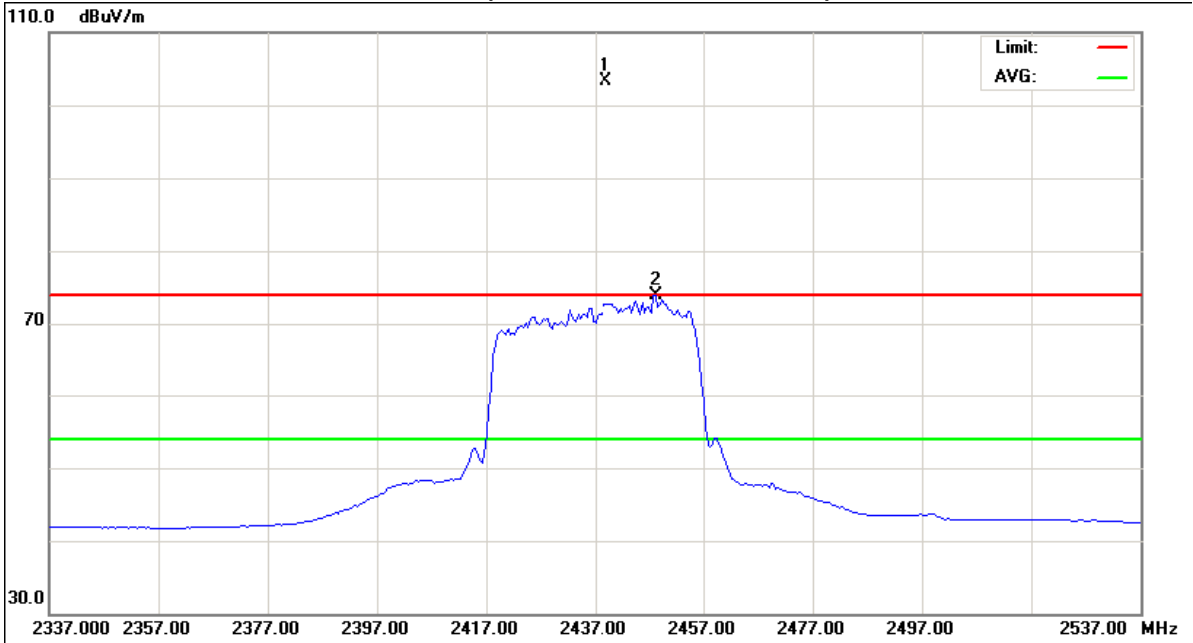
**Remark :**

- (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 :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-40M MODE 2437MHz		

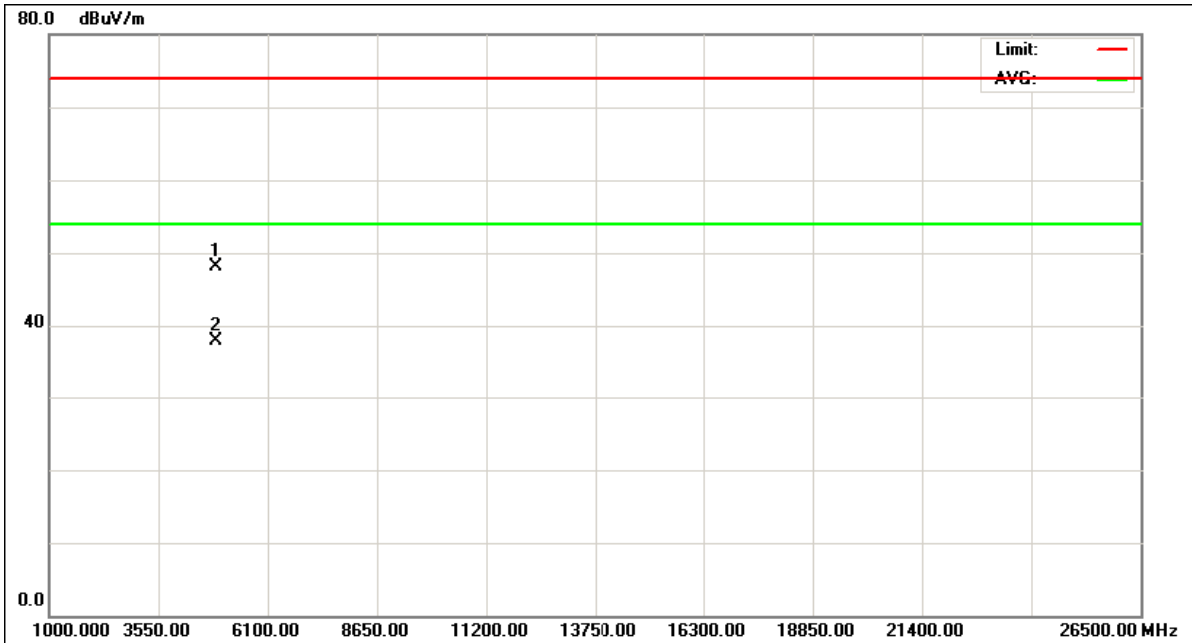
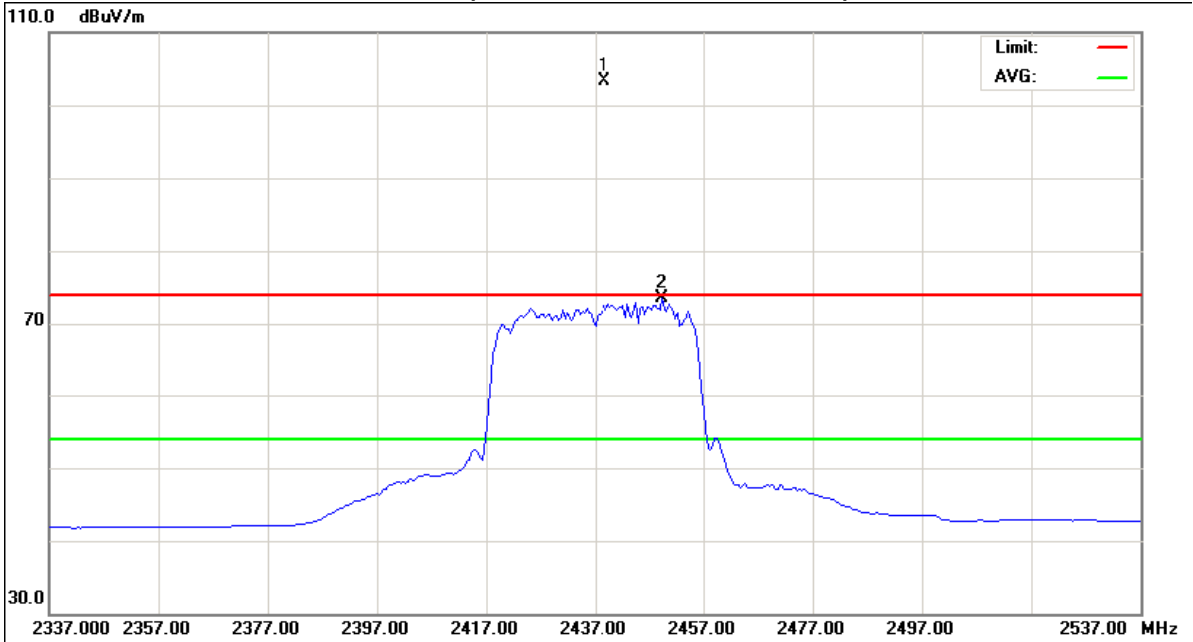
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
<b>2438.60</b>	<b>H</b>	<b>72.35</b>	<b>42.50</b>	<b>31.05</b>	<b>103.40</b>	<b>73.55</b>			<b>X/F</b>
4873.69	H	42.33	32.15	5.85	48.18	38.00	74.00	54.00	X/H

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 :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-40M MODE 2452MHz		

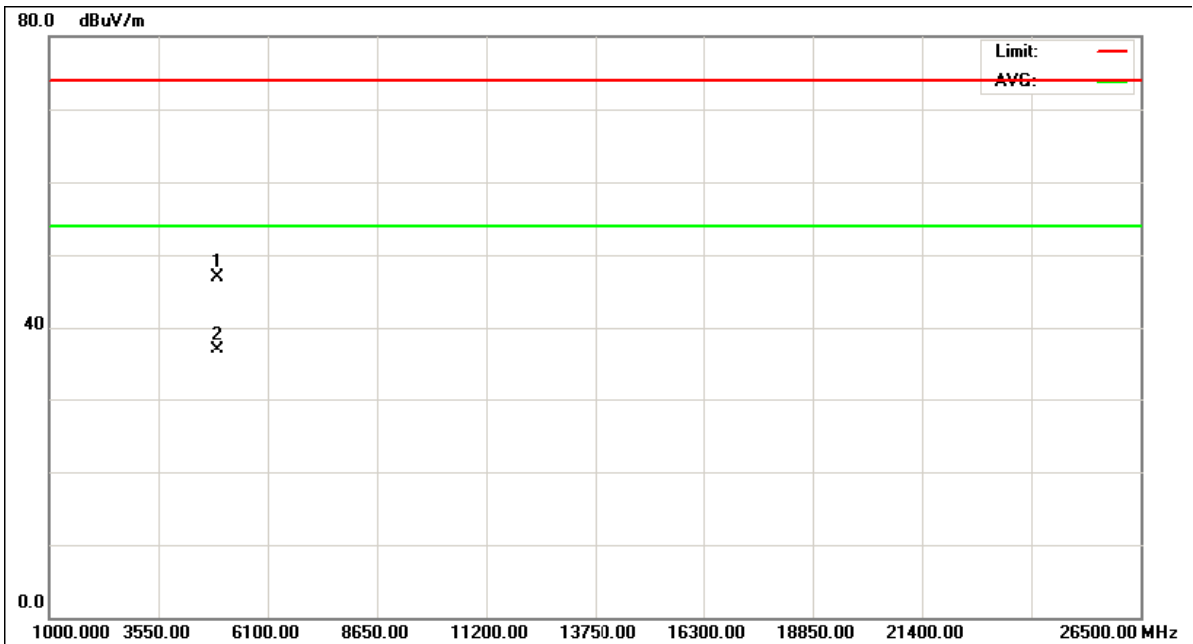
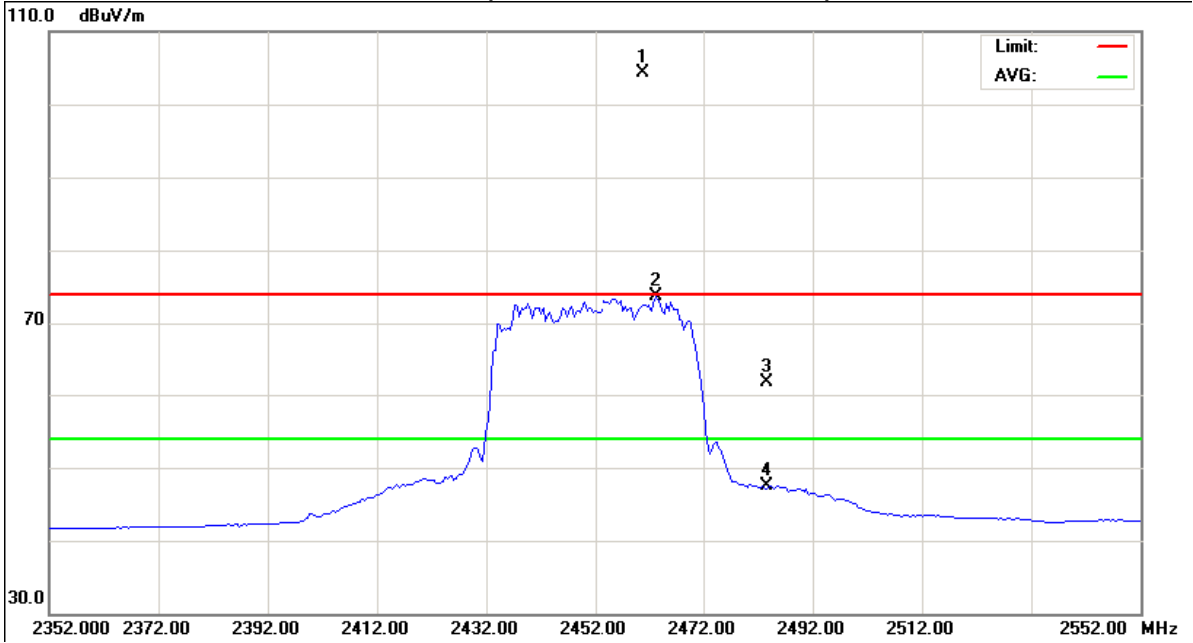
Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
<b>2460.80</b>	<b>V</b>	<b>73.30</b>	<b>42.58</b>	<b>31.04</b>	<b>104.34</b>	<b>73.62</b>			<b>X/F</b>
2483.50	V	30.61	16.48	31.03	61.64	47.51	74.00	54.00	X/E
4904.03	V	40.95	31.03	5.95	46.9	36.98	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 :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-40M MODE 2452MHz		

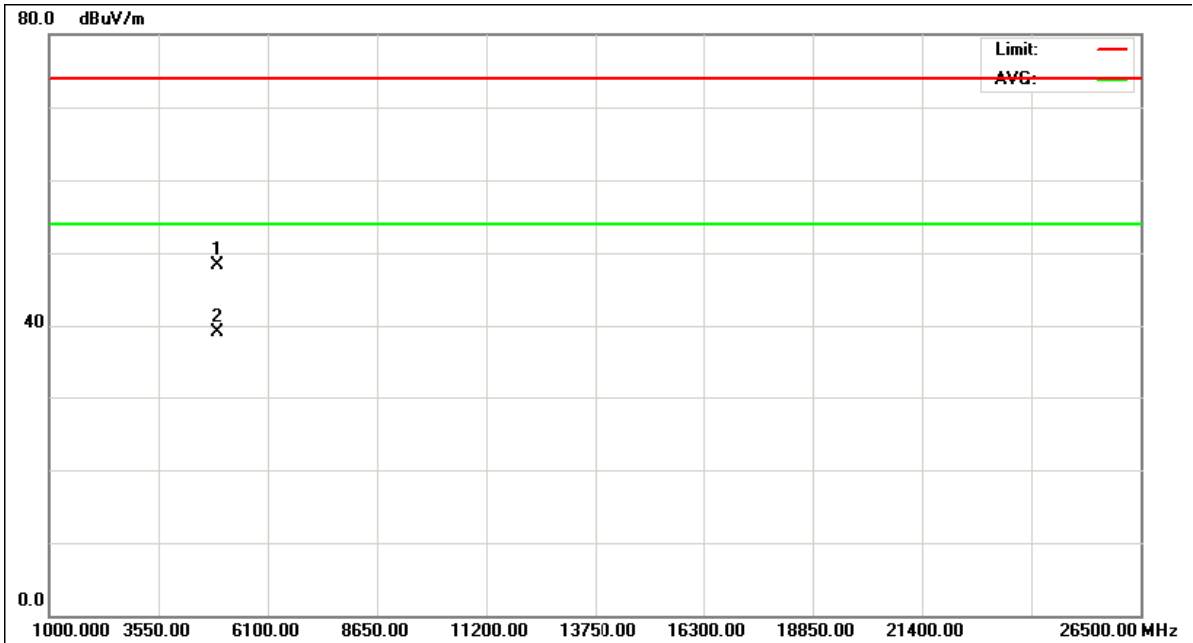
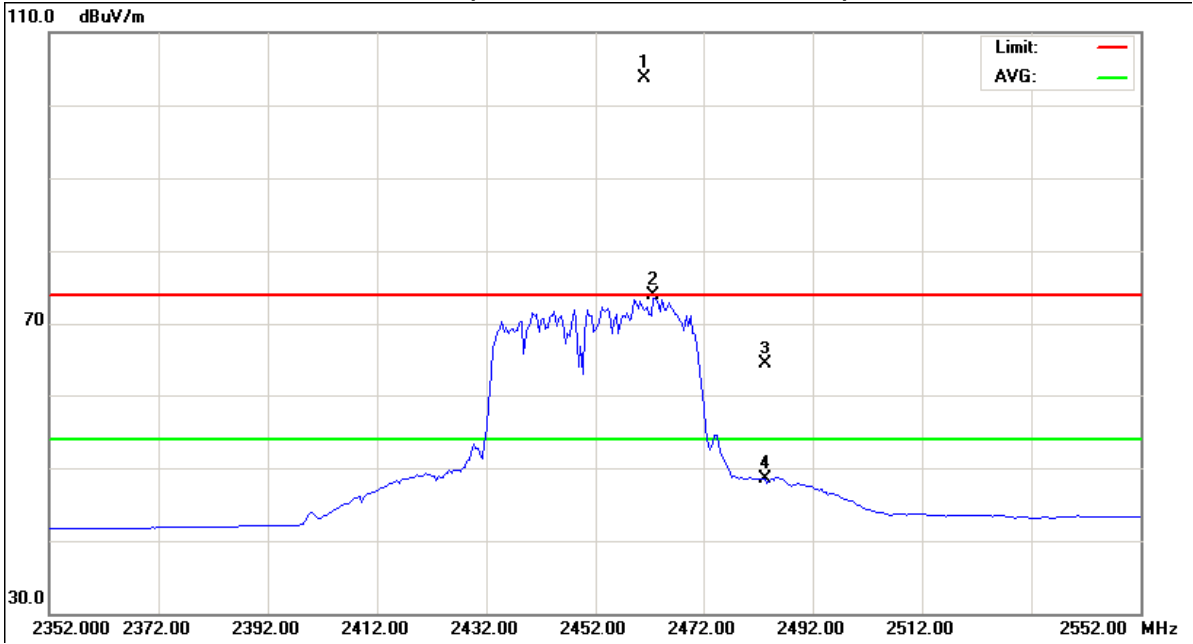
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
<b>2461.20</b>	<b>H</b>	<b>72.70</b>	<b>42.92</b>	<b>31.04</b>	<b>103.74</b>	<b>73.96</b>			<b>X/F</b>
2483.50	H	33.19	17.51	31.03	64.22	48.54	74.00	54.00	X/E
4904.53	H	42.31	33.06	5.96	48.27	39.02	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)





**4.2.9 TEST RESULTS (ABOVE 1000 MHZ) -5G BAND**

EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX 11a MODE 5745MHz		

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)	
5725.00	V	33.61	17.00	40.48	74.09	57.48	80.00	60.00	X/E
<b>5745.60</b>	<b>V</b>	<b>66.56</b>	<b>53.63</b>	<b>40.48</b>	<b>107.04</b>	<b>94.11</b>			<b>X/F</b>
11490.89	V	43.59	34.31	16.19	59.78	50.50	80.00	60.00	X/H

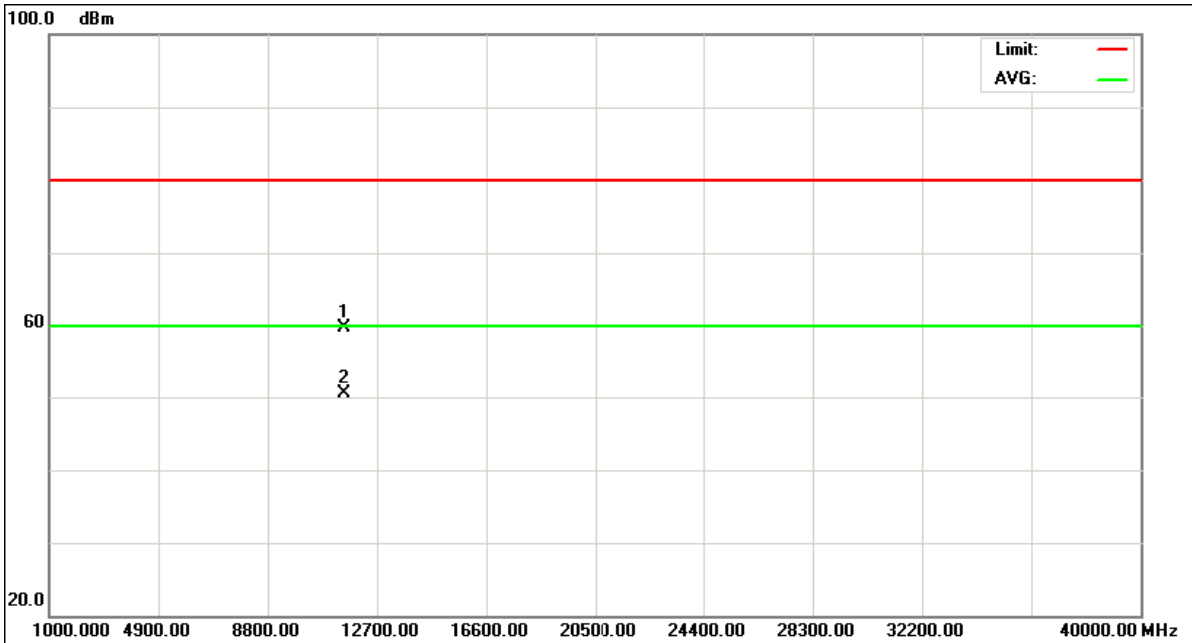
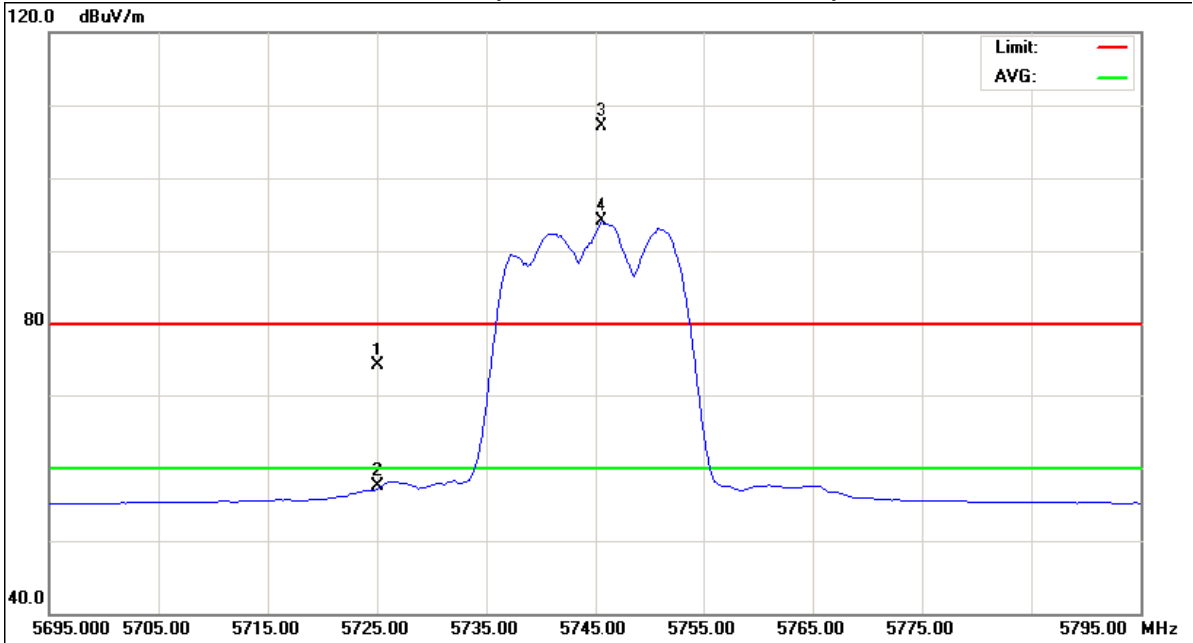
Remark :

- (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
- (8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m  
Distance extrapolation factor = 20 log (3m/1.5m) dB ;  
Limit line = specific limits (dBuV) + 6 dB
- (9) The signal of 15-40GHz is lower than the limit 20dB. So the test date of this frequency does not place on the test report.





TX CH149 (Above 1000 MHz, Vertical)





EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX 11a MODE 5745MHz		

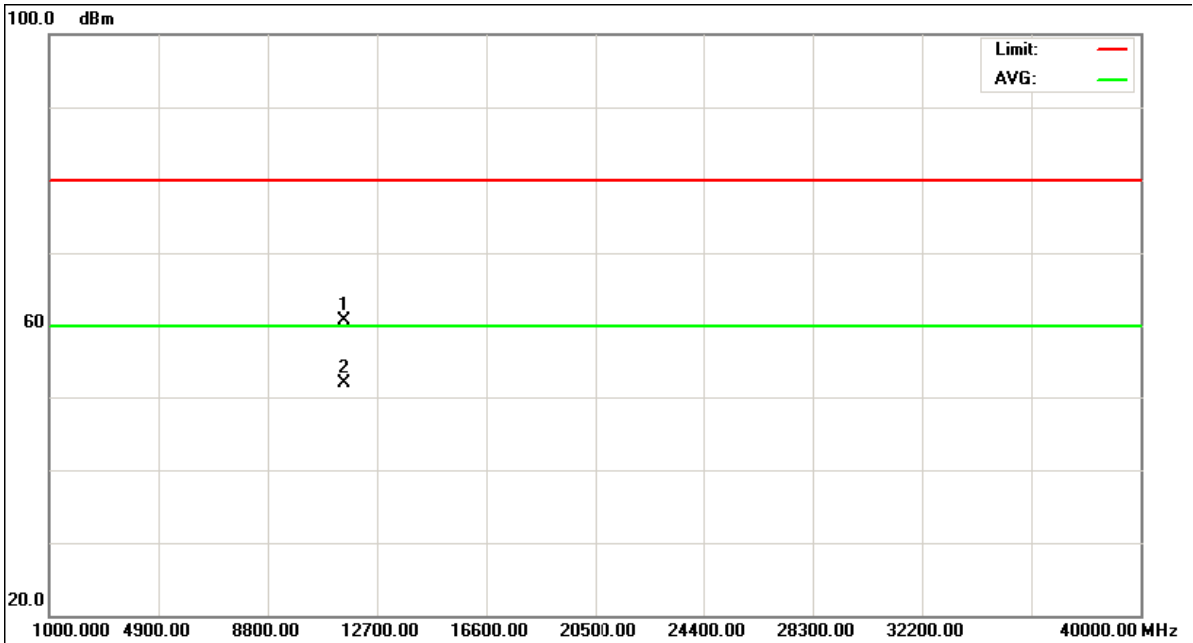
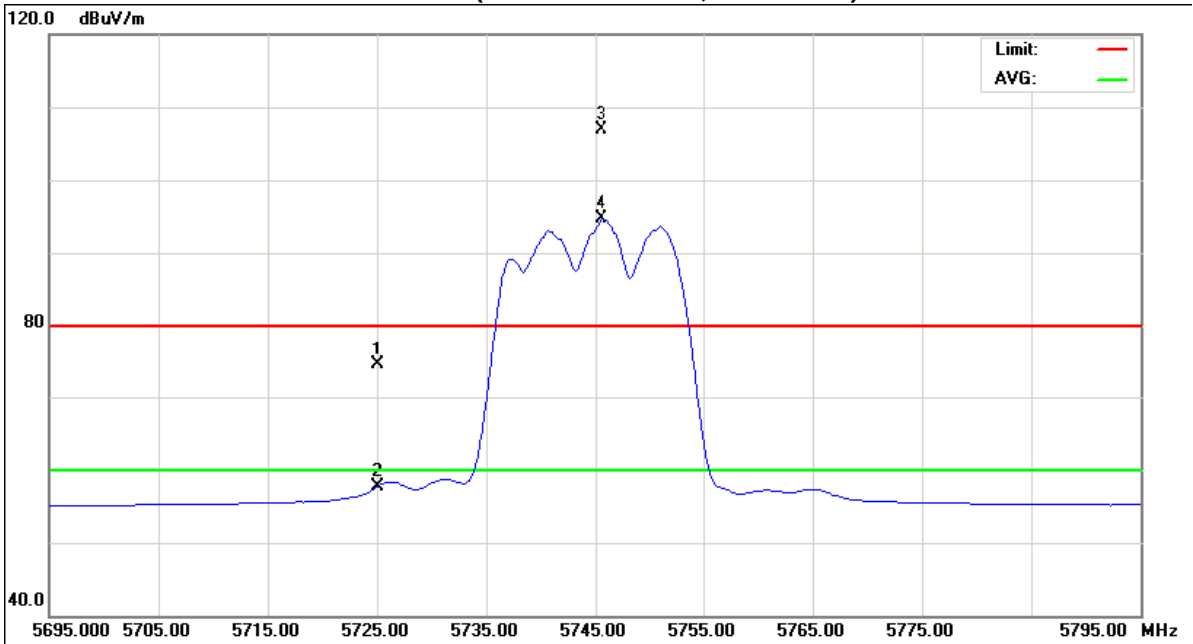
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
5725.00	H	34.11	17.17	40.48	74.59	57.65	80.00	60.00	X/E
<b>5745.60</b>	<b>H</b>	<b>66.35</b>	<b>54.14</b>	<b>40.48</b>	<b>106.83</b>	<b>94.62</b>			<b>X/F</b>
11489.79	H	44.58	35.68	16.18	60.76	51.86	80.00	60.00	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
- (8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m  
Distance extrapolation factor = 20 log (3m/1.5m) dB ;  
Limit line = specific limits (dBuV) + 6 dB
- (9) The signal of 15-40GHz is lower than the limit 20dB. So the test date of this frequency does not place on the test report.



TX CH149 (Above 1000 MHz, Horizontal)





EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX 11a MODE 5785MHz		

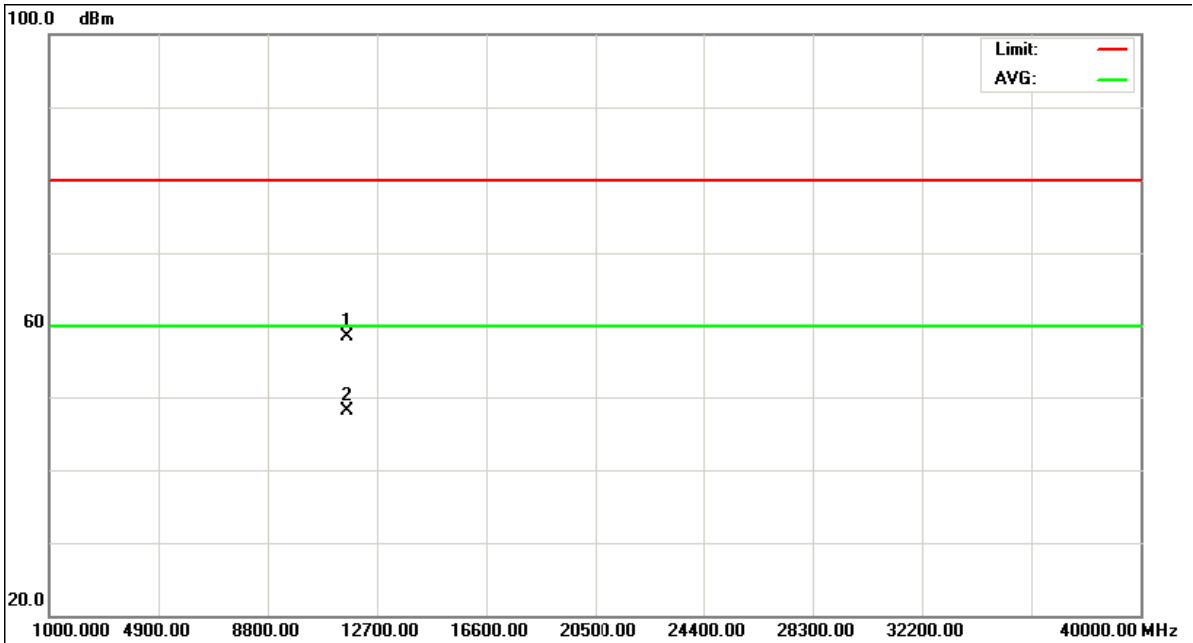
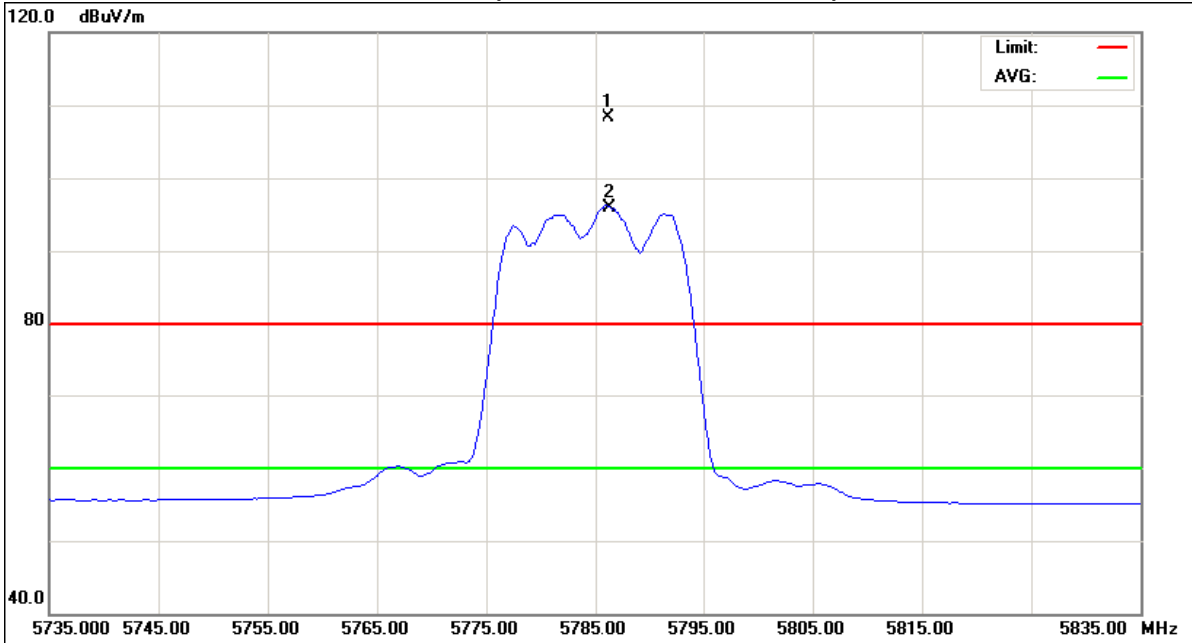
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
<b>5783.20</b>	<b>V</b>	<b>67.77</b>	<b>55.37</b>	<b>40.50</b>	<b>108.27</b>	<b>95.87</b>			<b>X/F</b>
11571.10	V	42.68	32.19	15.85	58.53	48.04	80.00	60.00	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
- (8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m  
Distance extrapolation factor = 20 log (3m/1.5m) dB ;  
Limit line = specific limits (dBuV) + 6 dB
- (9) The signal of 15-40GHz is lower than the limit 20dB. So the test date of this frequency does not place on the test report.



TX CH157 (Above 1000 MHz, Vertical)





EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX 11a MODE 5785MHz		

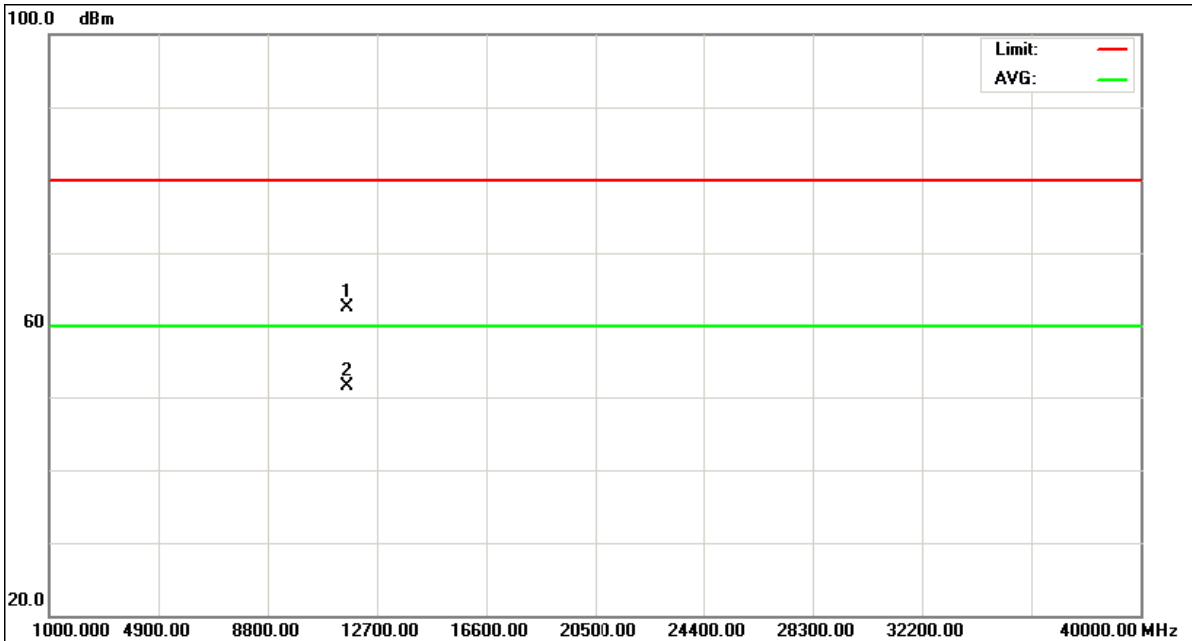
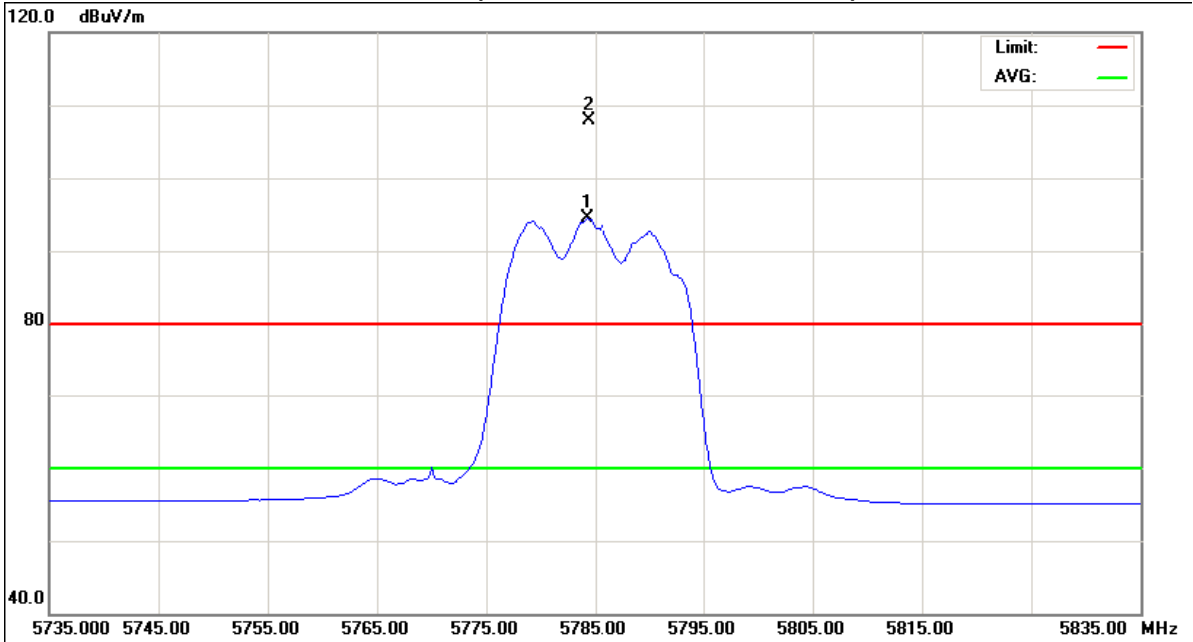
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
<b>5784.40</b>	<b>H</b>	<b>67.41</b>	<b>54.00</b>	<b>40.50</b>	<b>107.91</b>	<b>94.50</b>			<b>X/F</b>
11570.62	H	46.59	35.71	15.85	62.44	51.56	80.00	60.00	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 CH157 (Above 1000 MHz, Horizontal)





EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX 11a MODE 5825MHz		

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>5826.60</b>	<b>V</b>	<b>70.23</b>	<b>57.40</b>	<b>40.52</b>	<b>110.75</b>	<b>97.92</b>			<b>X/F</b>
5850.00	V	26.38	15.21	40.52	66.90	55.73	80.00	60.00	X/E
11651.20	V	45.12	34.83	15.39	60.51	50.22	80.00	60.00	X/H

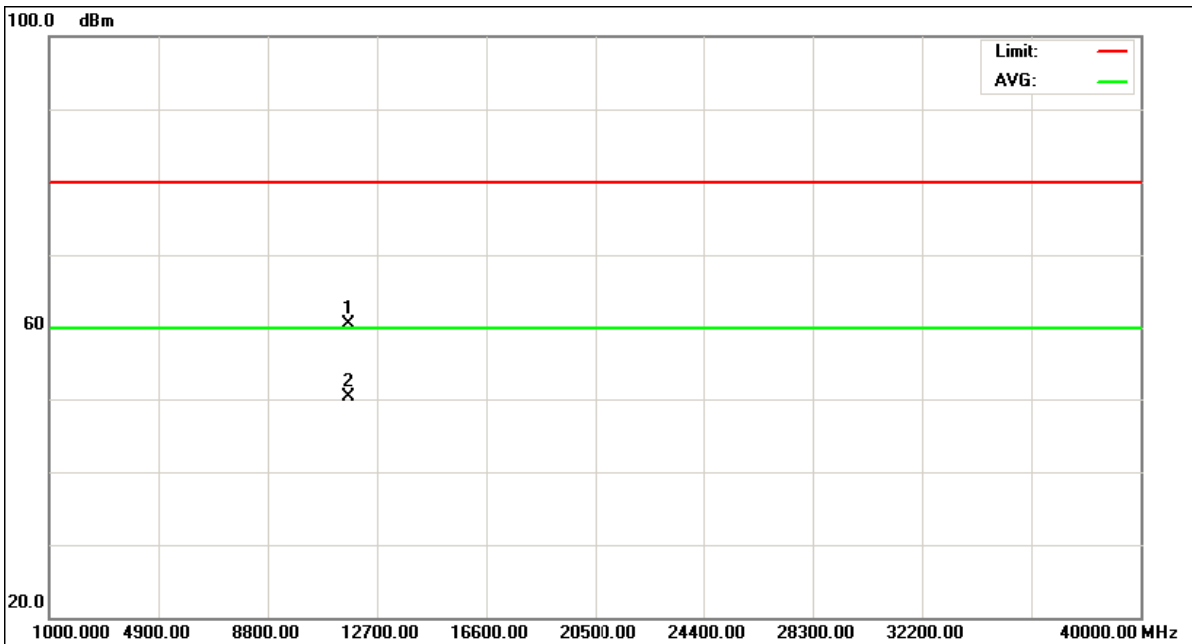
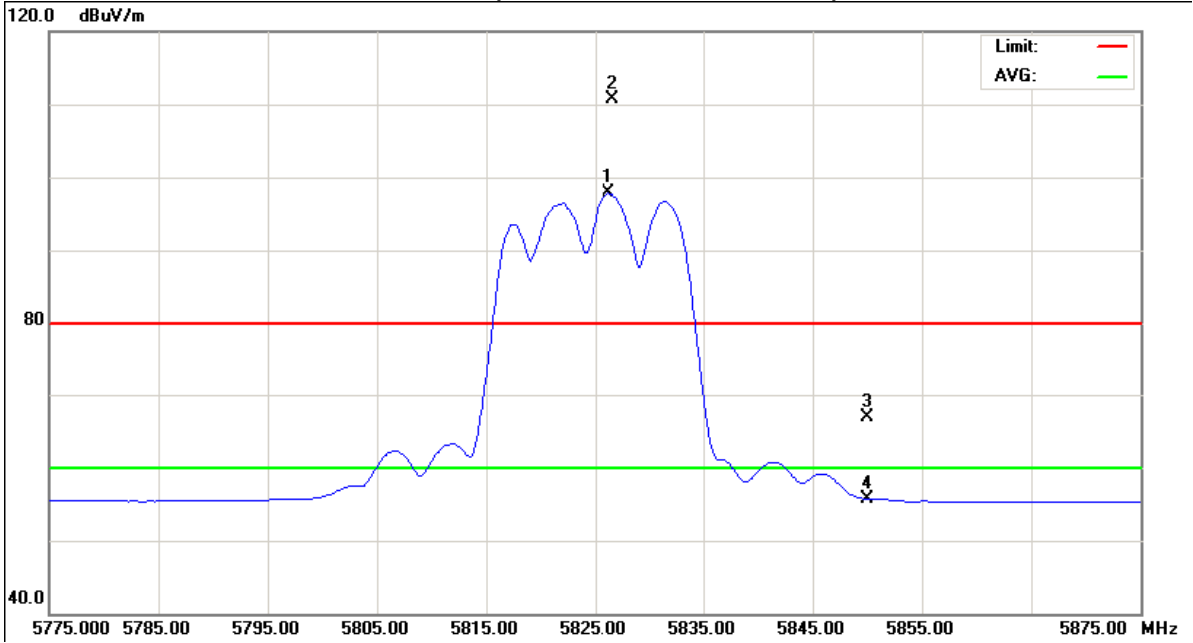
Remark :

- (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
- (8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m  
Distance extrapolation factor = 20 log (3m/1.5m) dB ;  
Limit line = specific limits (dBuV) + 6 dB
- (9) The signal of 15-40GHz is lower than the limit 20dB. So the test date of this frequency does not place on the test report.





TX CH165 (Above 1000 MHz, Vertical)





EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX 11a MODE 5825MHz		

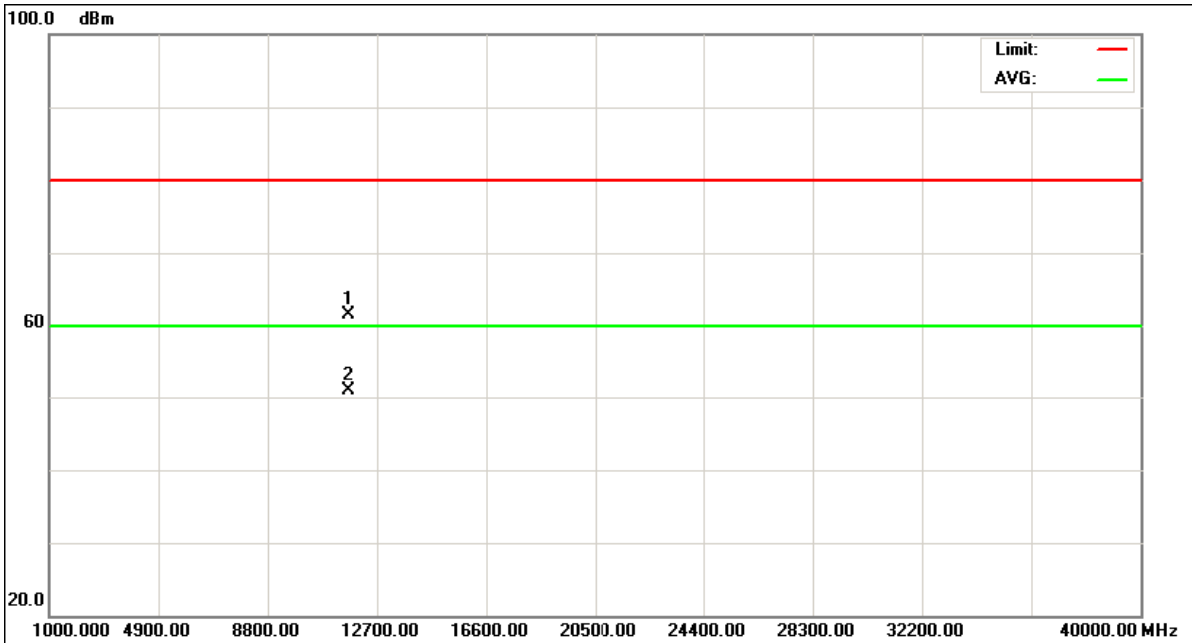
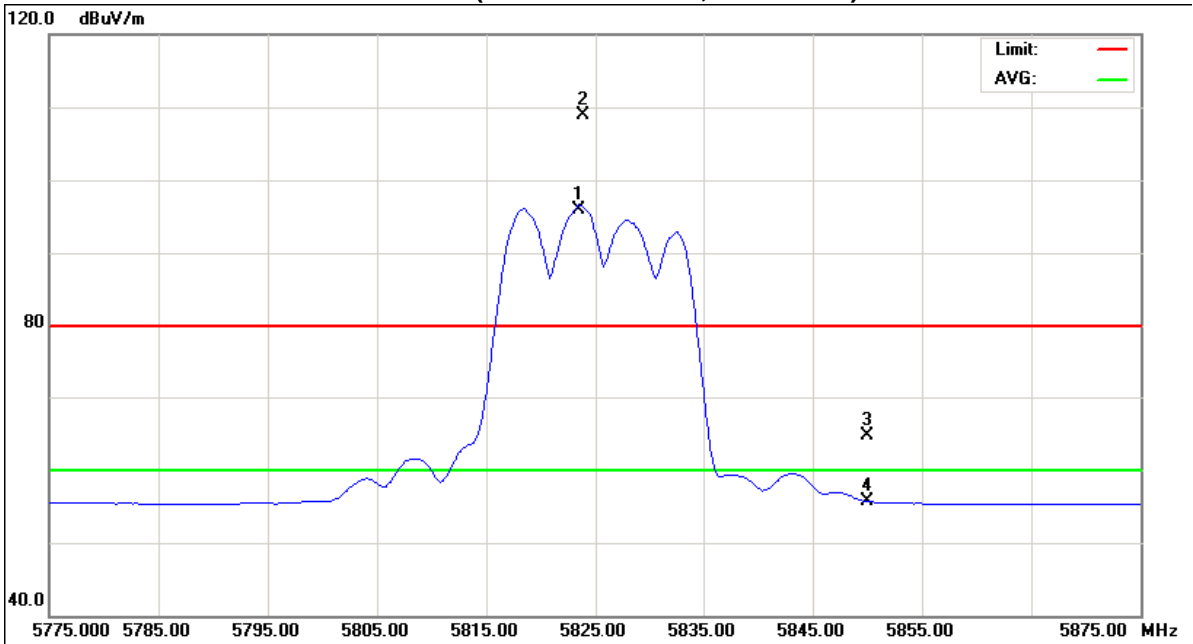
Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
<b>5823.80</b>	<b>H</b>	<b>68.38</b>	<b>55.45</b>	<b>40.51</b>	<b>108.89</b>	<b>95.96</b>			<b>X/F</b>
5850.00	H	24.14	15.13	40.52	64.66	55.65	80.00	60.00	X/E
11650.48	H	46.10	35.49	15.40	61.50	50.89	80.00	60.00	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
- (8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m  
 Distance extrapolation factor = 20 log (3m/1.5m) dB ;  
 Limit line = specific limits (dBuV) + 6 dB
- (9) The signal of 15-40GHz is lower than the limit 20dB. So the test date of this frequency does not place on the test report.



TX CH165 (Above 1000 MHz, Horizontal)





EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE 5745MHz		

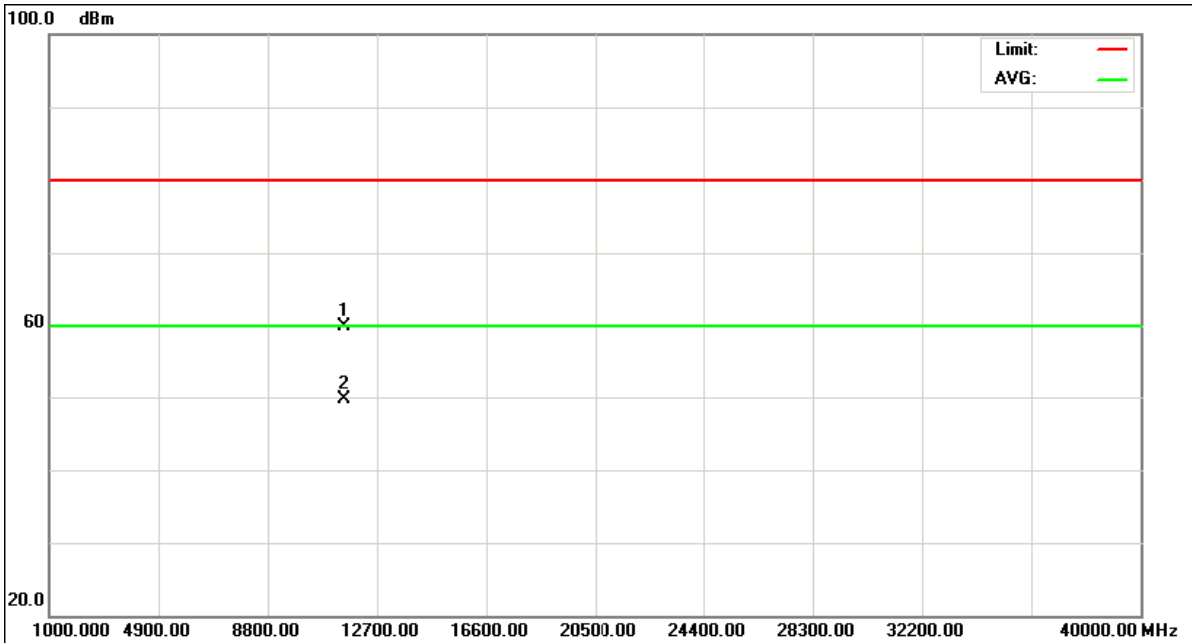
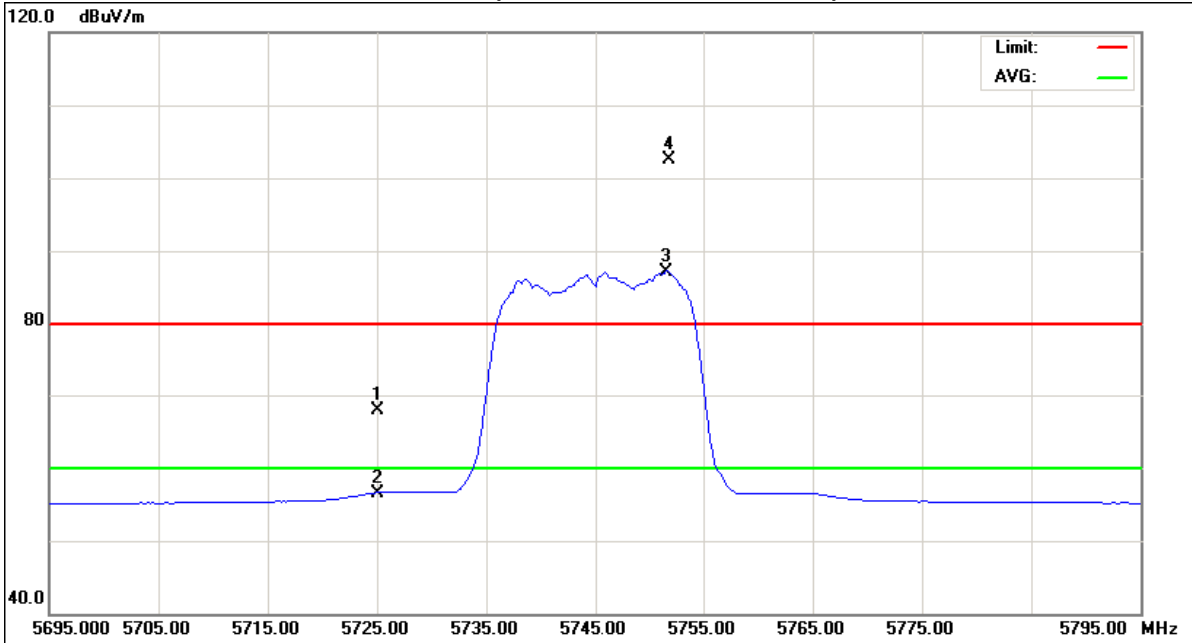
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
5725.00	V	27.50	16.08	40.48	67.98	56.56	80.00	60.00	X/E
<b>5751.80</b>	<b>V</b>	<b>62.01</b>	<b>46.59</b>	<b>40.49</b>	<b>102.50</b>	<b>87.08</b>			<b>X/F</b>
11490.63	V	43.64	33.50	16.19	59.83	49.69	80.00	60.00	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
- (8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m  
Distance extrapolation factor = 20 log (3m/1.5m) dB ;  
Limit line = specific limits (dBuV) + 6 dB
- (9) The signal of 15-40GHz is lower than the limit 20dB. So the test date of this frequency does not place on the test report.



TX CH149 (Above 1000 MHz, Vertical)





EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE 5745MHz		

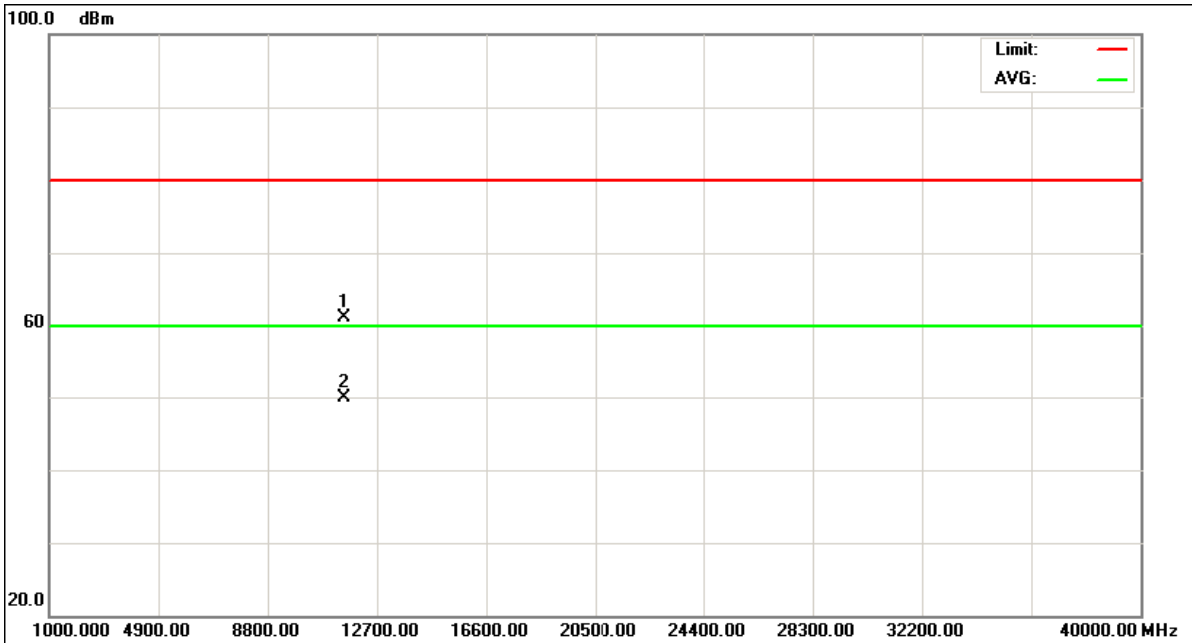
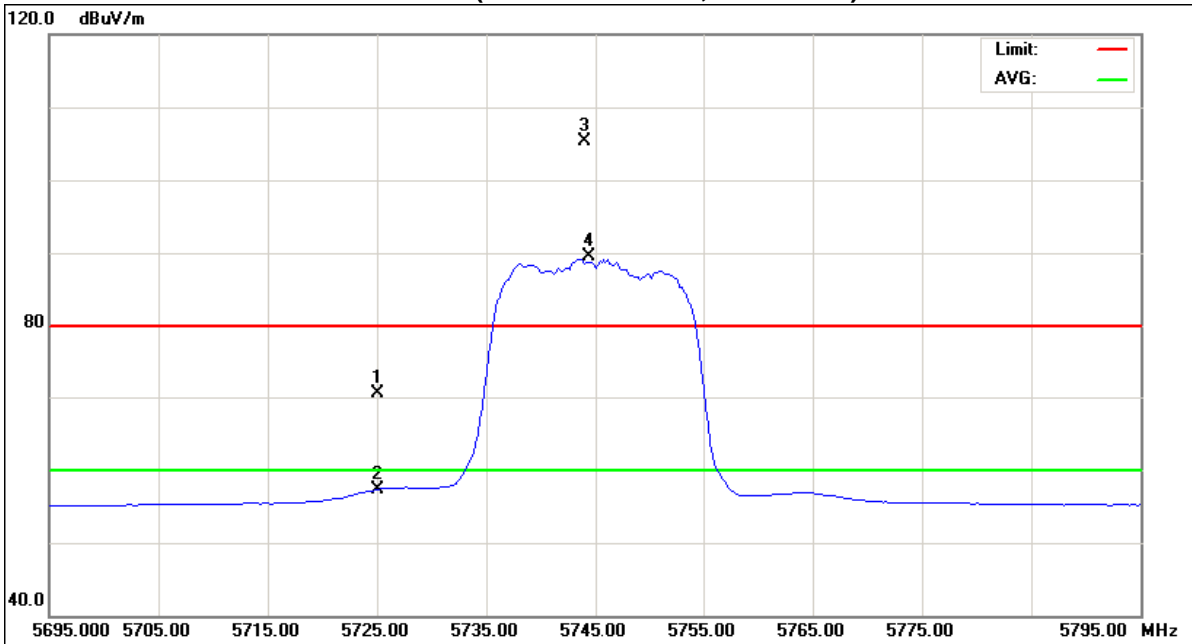
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
5725.00	H	30.03	16.86	40.48	70.51	57.34	80.00	60.00	X/E
<b>5744.00</b>	<b>H</b>	<b>64.84</b>	<b>48.95</b>	<b>40.48</b>	<b>105.32</b>	<b>89.43</b>			<b>X/F</b>
11488.90	H	44.83	33.69	16.18	61.01	49.87	80.00	60.00	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
- (8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m  
Distance extrapolation factor = 20 log (3m/1.5m) dB ;  
Limit line = specific limits (dBuV) + 6 dB
- (9) The signal of 15-40GHz is lower than the limit 20dB. So the test date of this frequency does not place on the test report.



TX CH149 (Above 1000 MHz, Horizontal)





EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE 5785MHz		

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>5784.60</b>	<b>V</b>	<b>70.13</b>	<b>51.85</b>	<b>40.50</b>	<b>110.63</b>	<b>92.35</b>			<b>X/F</b>
11570.31	V	42.09	31.54	15.86	57.95	47.40	80.00	60.00	X/H

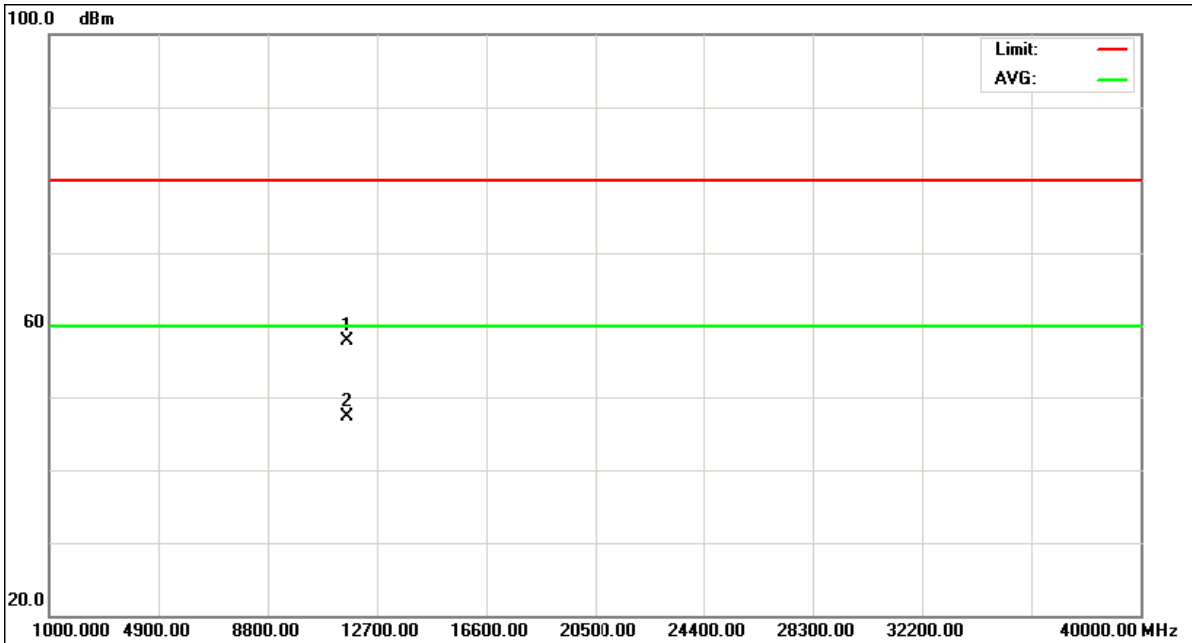
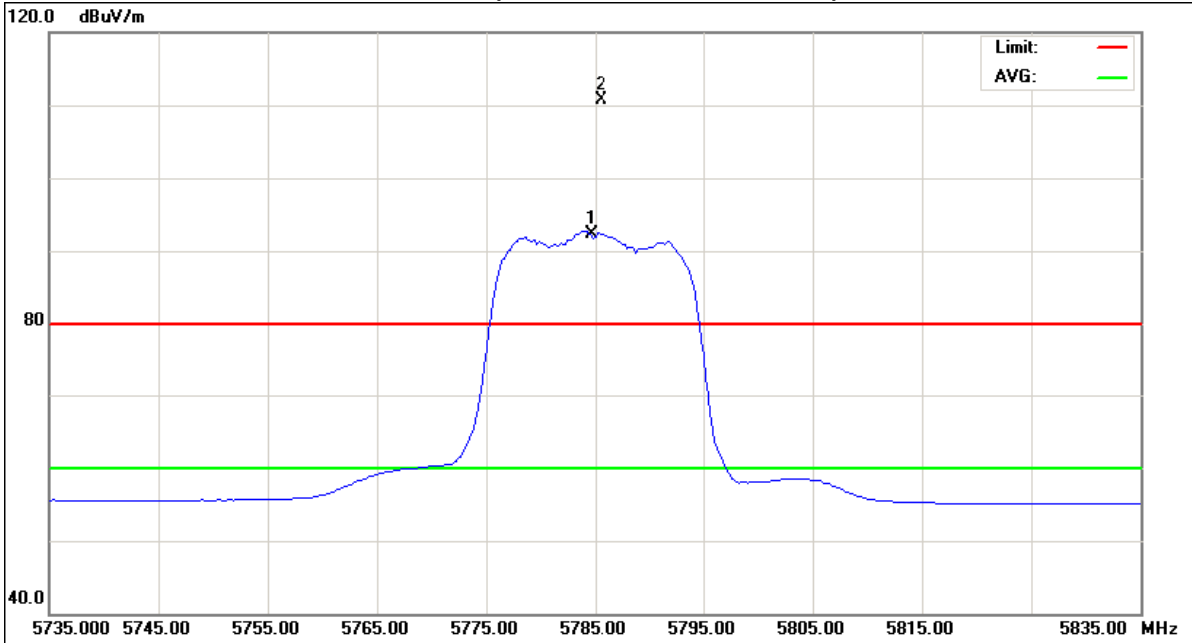
**Remark :**

- (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
- (8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m  
Distance extrapolation factor = 20 log (3m/1.5m) dB ;  
Limit line = specific limits (dBuV) + 6 dB
- (9) The signal of 15-40GHz is lower than the limit 20dB. So the test date of this frequency does not place on the test report.





TX CH157 (Above 1000 MHz, Vertical)





EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE 5785MHz		

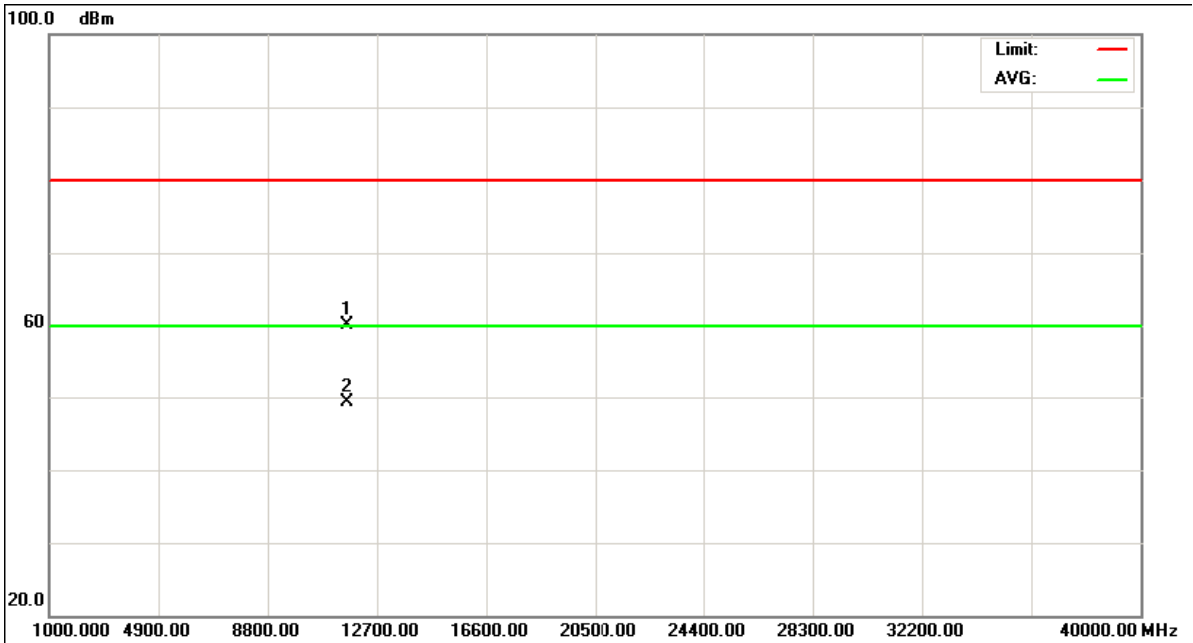
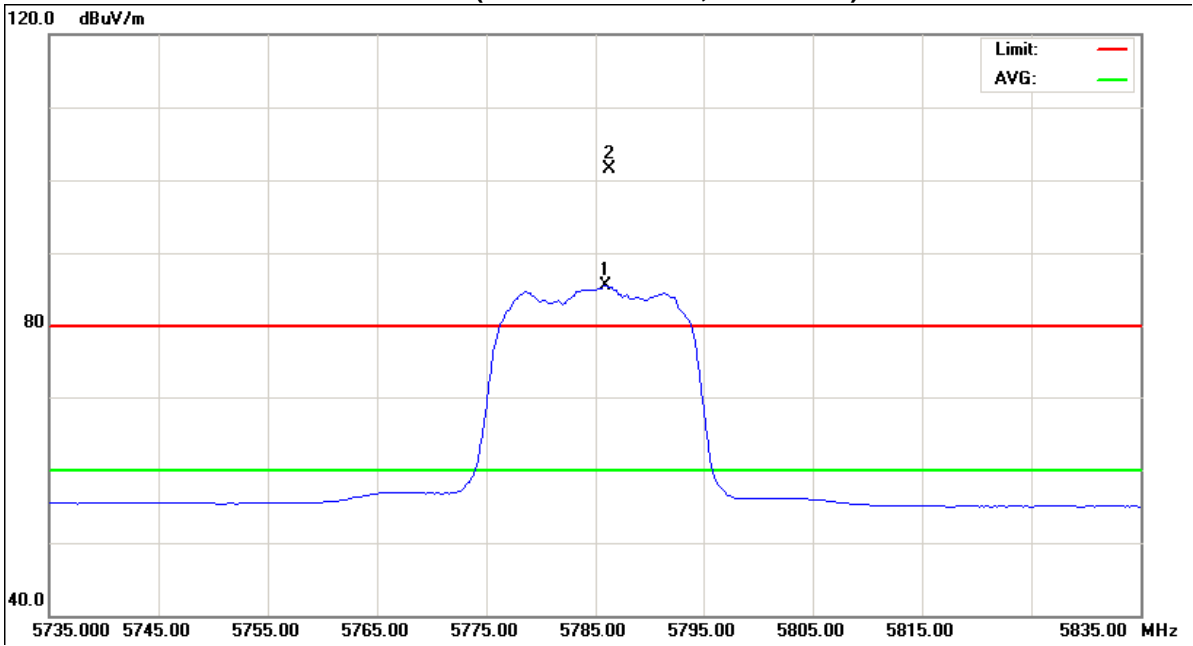
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
<b>5786.40</b>	<b>H</b>	<b>60.97</b>	<b>44.94</b>	<b>40.50</b>	<b>101.47</b>	<b>85.44</b>			<b>X/F</b>
11570.45	H	44.17	33.44	15.86	60.03	49.30	80.00	60.00	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
- (8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m  
Distance extrapolation factor = 20 log (3m/1.5m) dB ;  
Limit line = specific limits (dBuV) + 6 dB
- (9) The signal of 15-40GHz is lower than the limit 20dB. So the test date of this frequency does not place on the test report.



TX CH157 (Above 1000 MHz, Horizontal)





EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE 5825MHz		

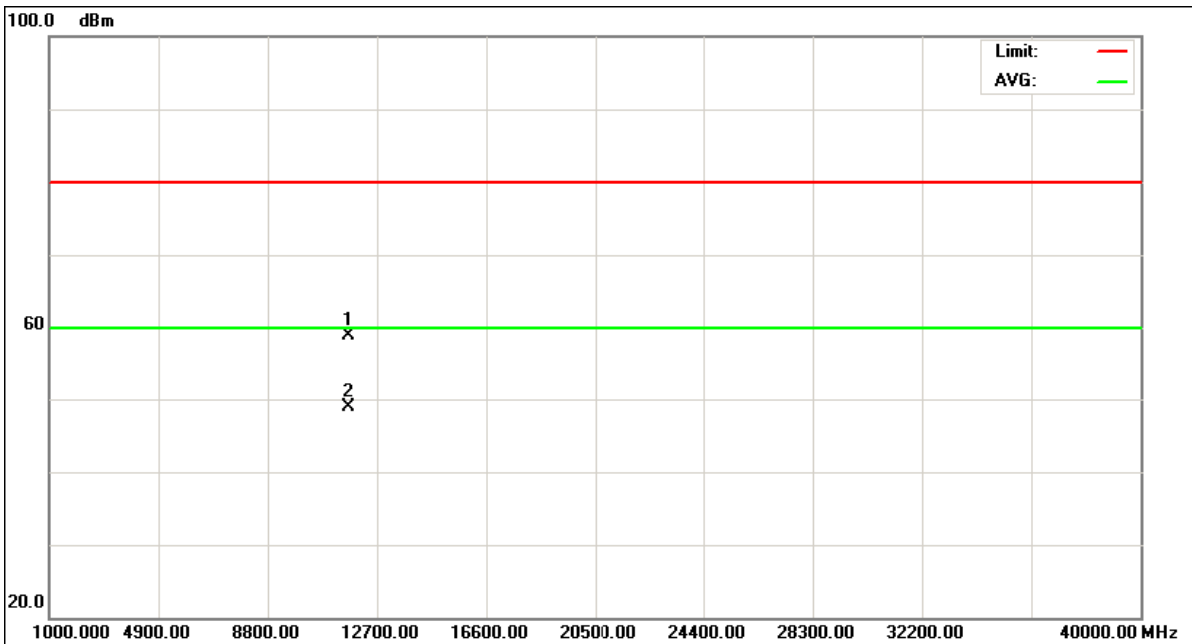
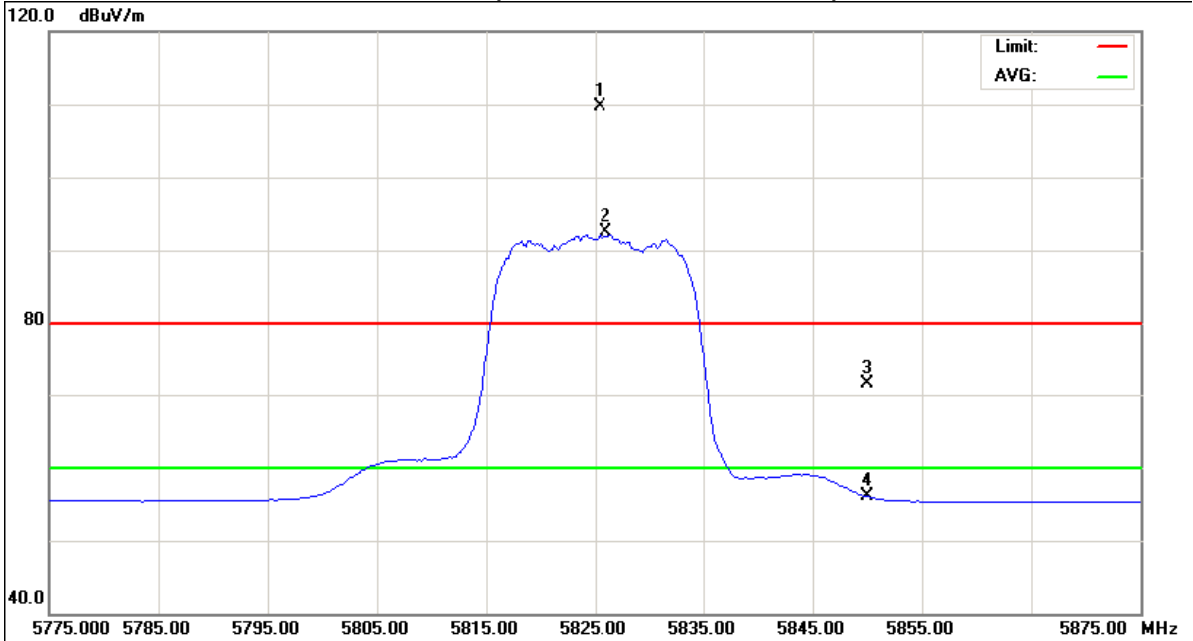
Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
<b>5825.40</b>	<b>V</b>	<b>69.09</b>	<b>51.99</b>	<b>40.52</b>	<b>109.61</b>	<b>92.51</b>			<b>X/F</b>
5850.00	V	30.88	15.51	40.52	71.40	56.03	80.00	60.00	X/E
11652.65	V	43.58	33.55	15.38	58.96	48.93	80.00	60.00	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
- (8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m  
Distance extrapolation factor = 20 log (3m/1.5m) dB ;  
Limit line = specific limits (dBuV) + 6 dB
- (9) The signal of 15-40GHz is lower than the limit 20dB. So the test date of this frequency does not place on the test report.



TX CH165 (Above 1000 MHz, Vertical)





EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE 5825MHz		

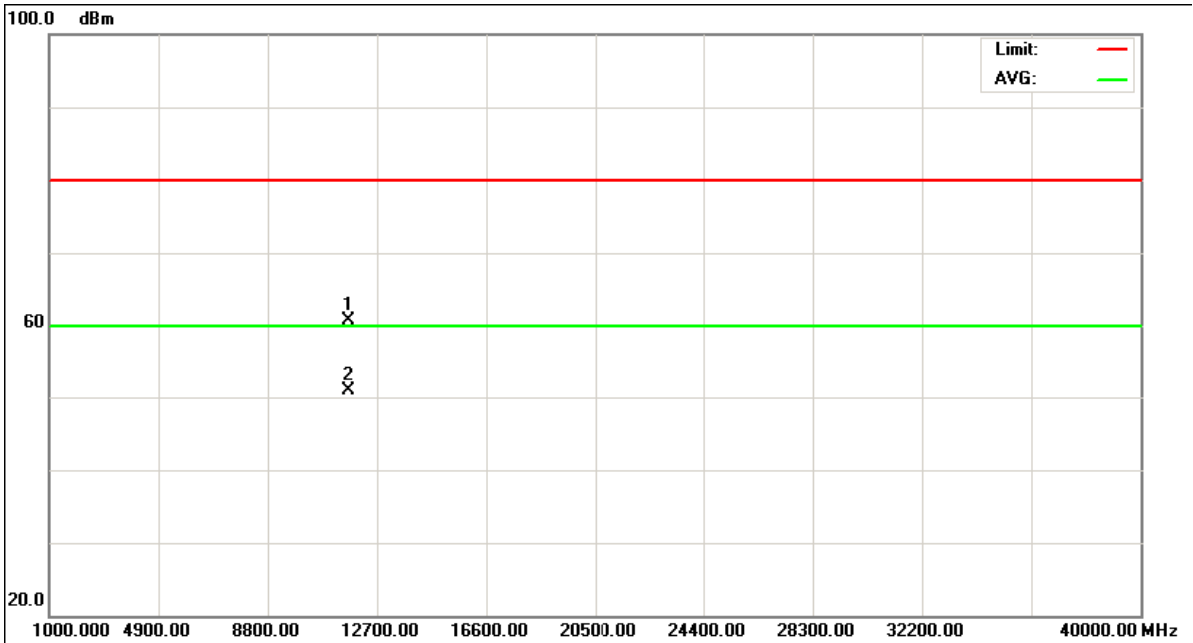
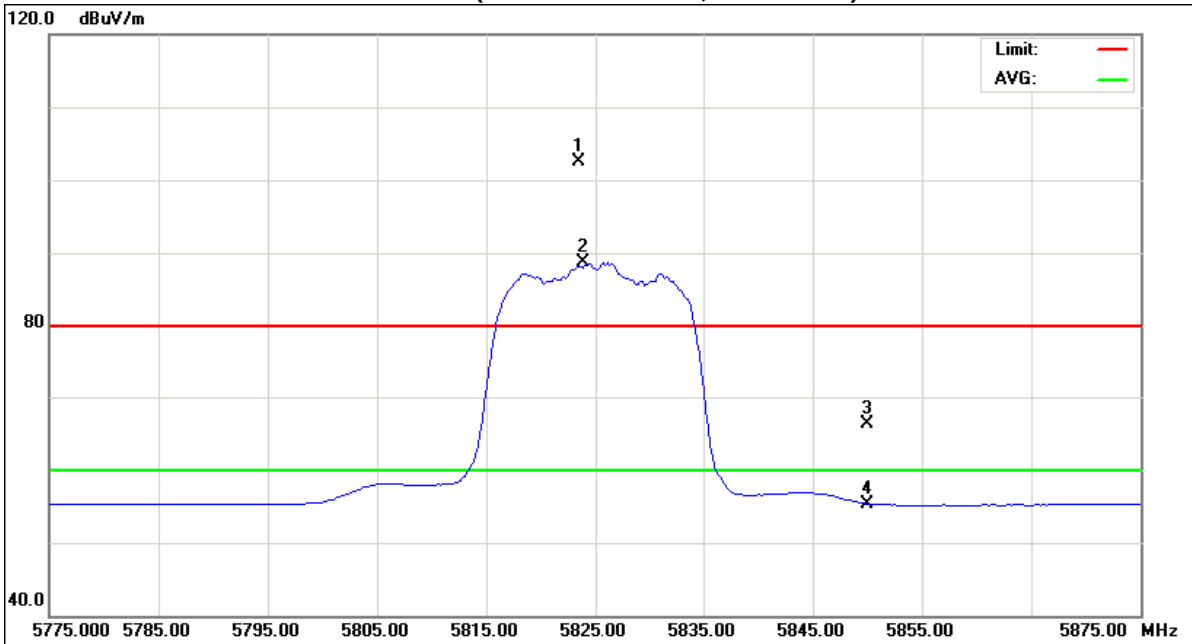
Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
<b>5823.40</b>	<b>H</b>	<b>61.93</b>	<b>48.16</b>	<b>40.51</b>	<b>102.44</b>	<b>88.67</b>			<b>X/F</b>
5850.00	H	25.73	14.85	40.52	66.25	55.37	80.00	60.00	X/E
11648.90	H	45.31	35.40	15.41	60.72	52.81	80.00	60.00	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
- (8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m  
Distance extrapolation factor =  $20 \log (3m/1.5m)$  dB ;  
Limit line = specific limits (dBuV) + 6 dB
- (9) The signal of 15-40GHz is lower than the limit 20dB. So the test date of this frequency does not place on the test report.



TX CH165 (Above 1000 MHz, Horizontal)





EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-40M MODE 5755MHz		

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)	
5725.00	V	35.98	17.23	40.48	76.46	57.71	80.00	60.00	X/E
<b>5751.80</b>	<b>V</b>	<b>63.55</b>	<b>44.09</b>	<b>40.48</b>	<b>104.04</b>	<b>84.58</b>			<b>X/F</b>
11508.52	V	43.58	32.11	16.20	59.78	48.31	80.00	60.00	X/H

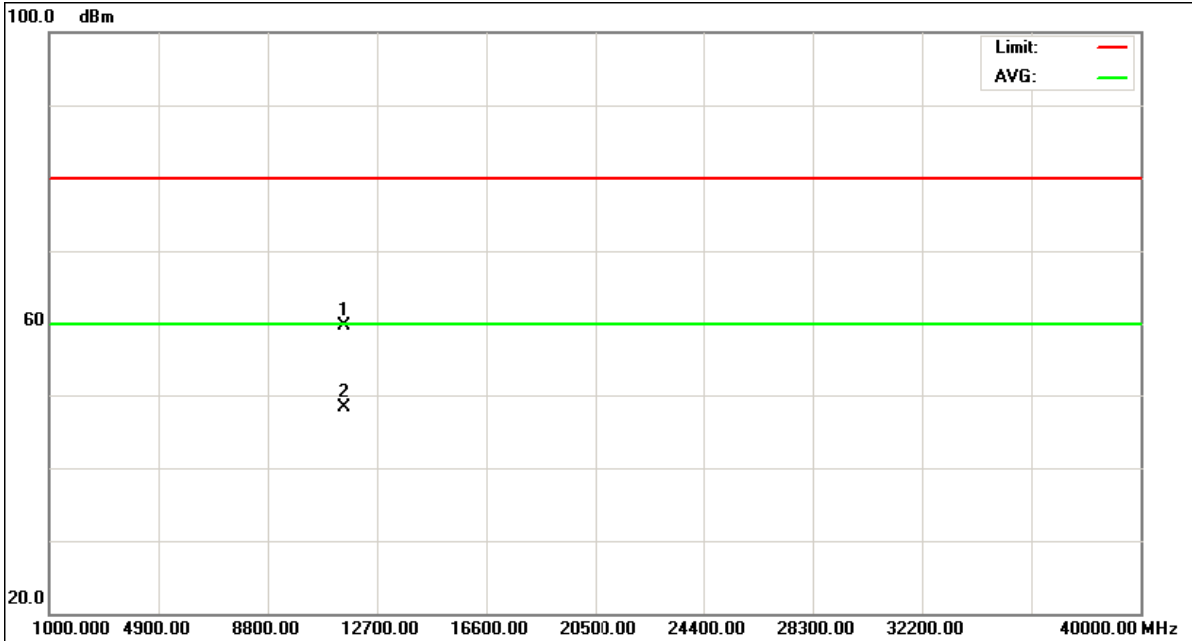
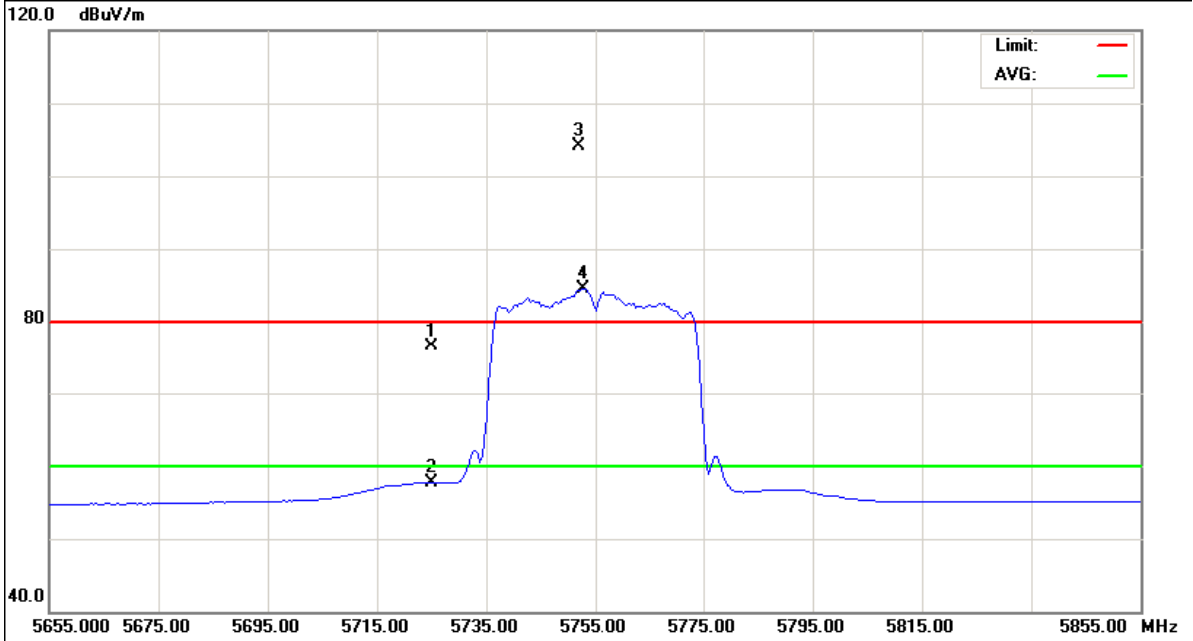
Remark :

- (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
- (8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m  
Distance extrapolation factor = 20 log (3m/1.5m) dB ;  
Limit line = specific limits (dBuV) + 6 dB
- (9) The signal of 15-40GHz is lower than the limit 20dB. So the test date of this frequency does not place on the test report.





TX CH151 (Above 1000 MHz, Vertical)





EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-40M MODE 5755MHz		

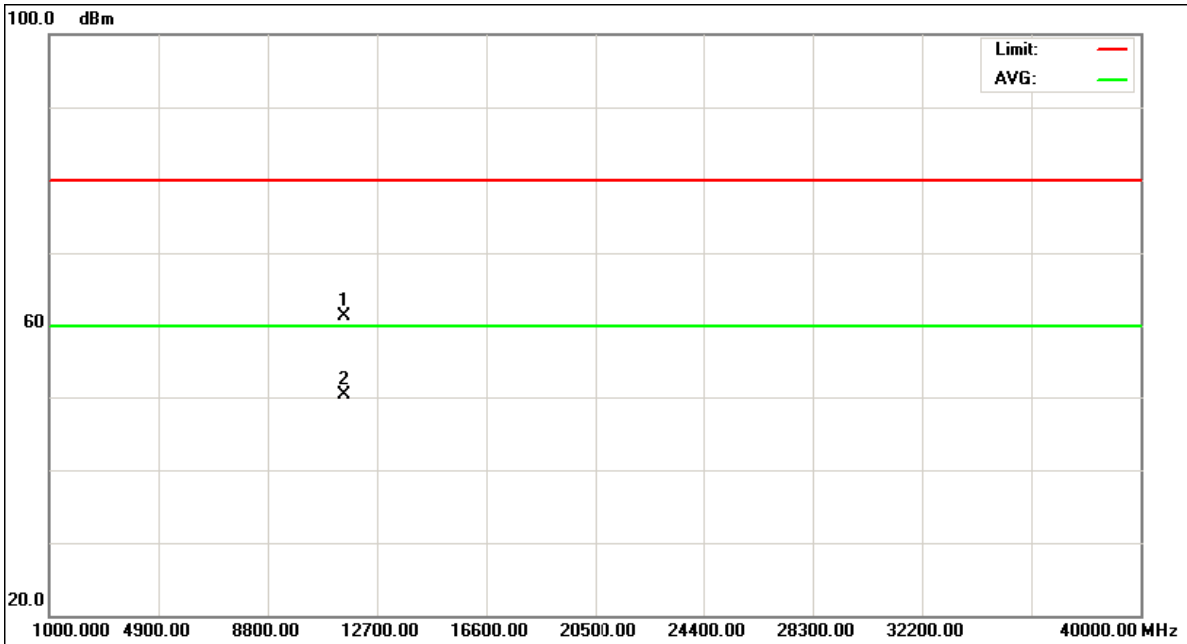
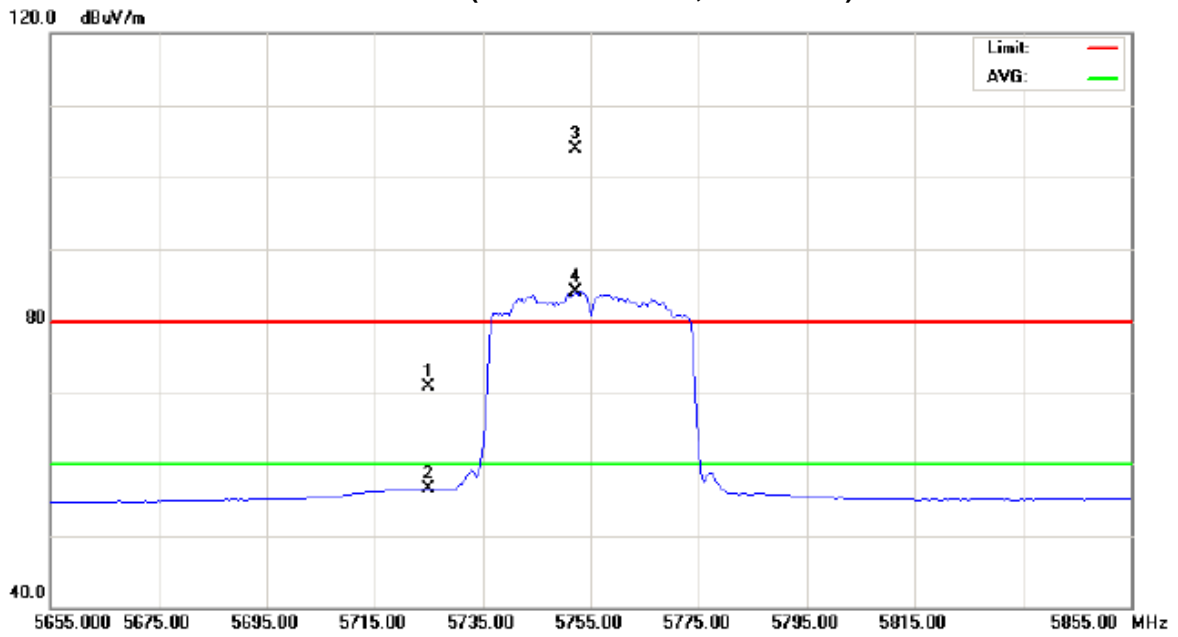
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
5725.00	H	30.45	15.98	40.48	70.93	56.46	80.00	60.00	X/E
<b>5752.20</b>	<b>H</b>	<b>63.38</b>	<b>43.63</b>	<b>40.49</b>	<b>103.87</b>	<b>84.12</b>			<b>X/F</b>
11510.50	H	45.19	34.21	16.19	61.38	50.40	80.00	60.00	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
- (8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m  
Distance extrapolation factor = 20 log (3m/1.5m) dB ;  
Limit line = specific limits (dBuV) + 6 dB
- (9) The signal of 15-40GHz is lower than the limit 20dB. So the test date of this frequency does not place on the test report.



TX CH151 (Above 1000 MHz, Horizontal)





EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-40M MODE 5795MHz		

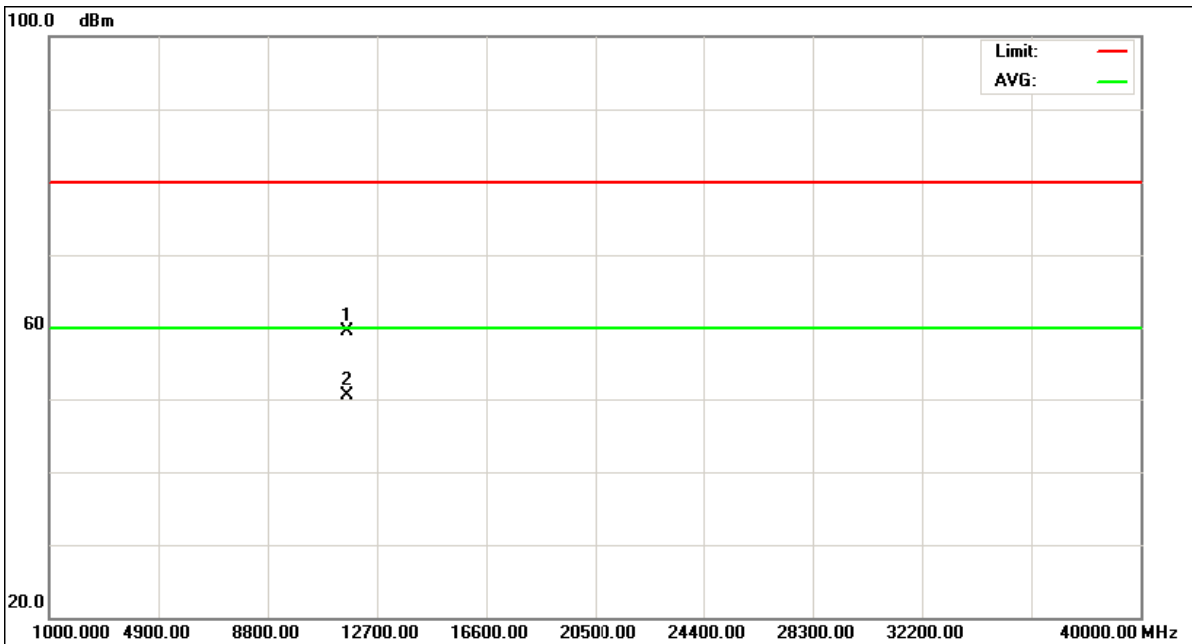
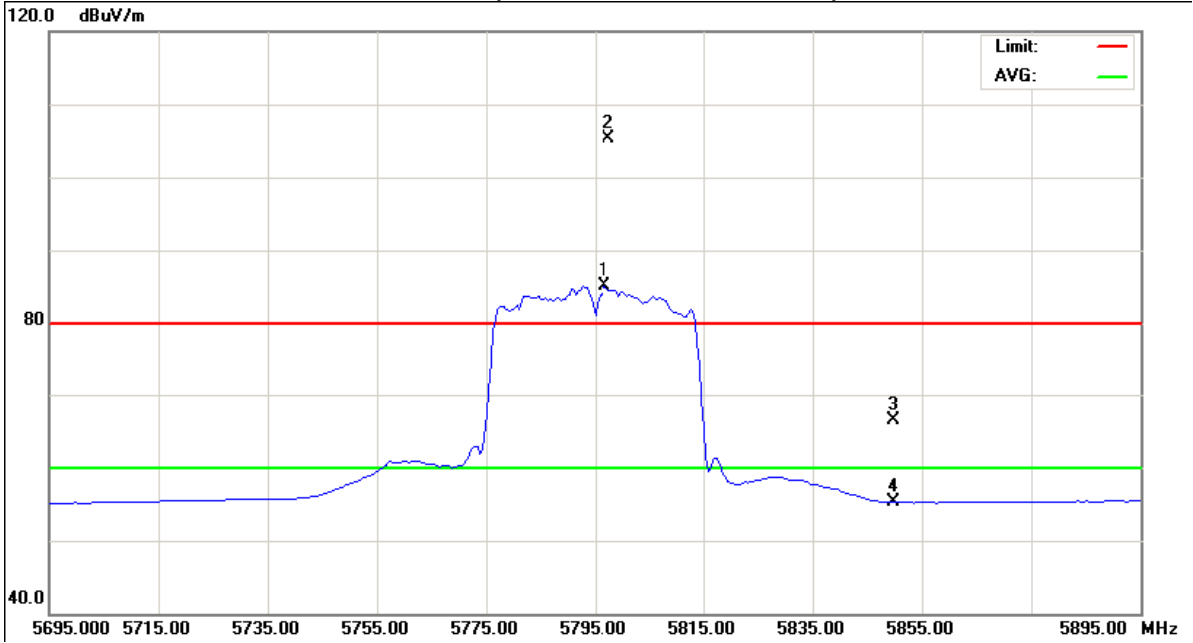
Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
<b>5797.40</b>	<b>V</b>	<b>64.78</b>	<b>44.64</b>	<b>40.50</b>	<b>105.28</b>	<b>85.14</b>			<b>X/F</b>
5850.00	V	26.08	14.71	40.52	66.60	55.23	80.00	60.00	X/E
11591.01	V	43.67	34.72	15.74	59.41	50.46	80.00	60.00	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
- (8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m  
Distance extrapolation factor = 20 log (3m/1.5m) dB ;  
Limit line = specific limits (dBuV) + 6 dB
- (9) The signal of 15-40GHz is lower than the limit 20dB. So the test date of this frequency does not place on the test report.



TX CH159 (Above 1000 MHz, Vertical)





EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	23 °C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-40M MODE 5795MHz		

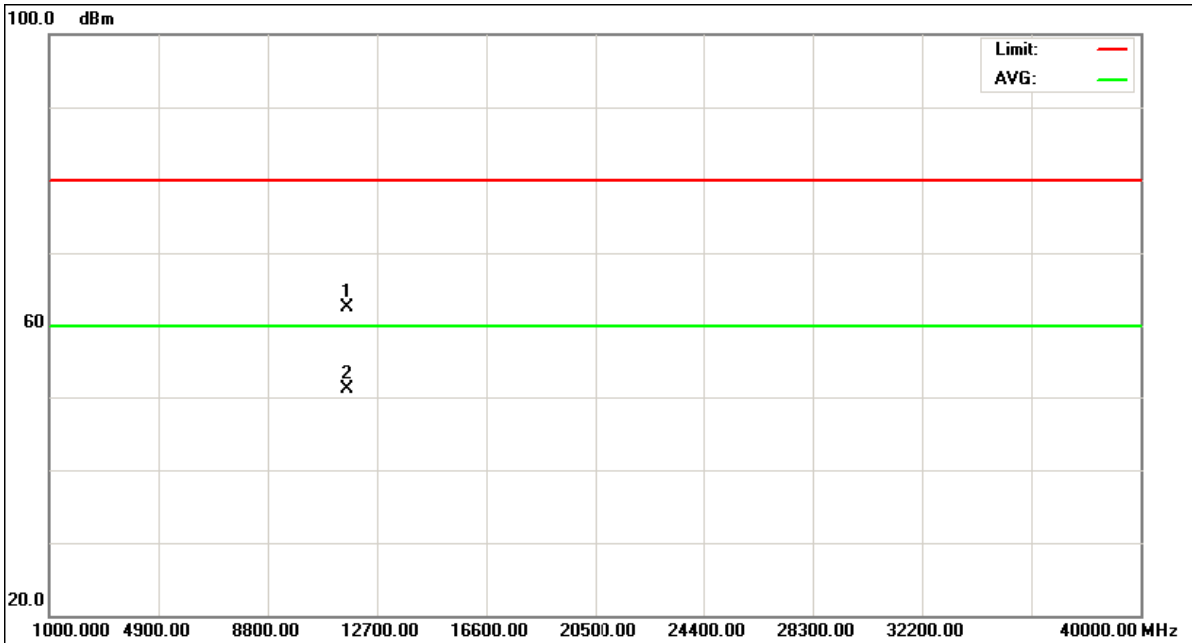
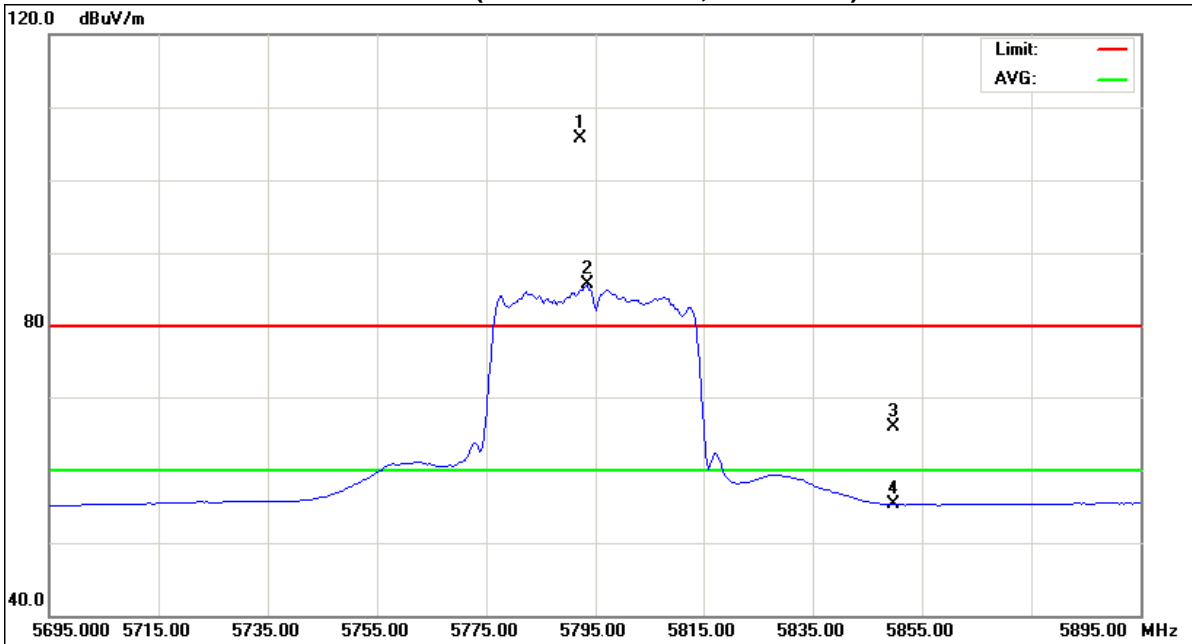
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
<b>5792.20</b>	<b>H</b>	<b>65.22</b>	<b>45.24</b>	<b>40.50</b>	<b>105.72</b>	<b>85.74</b>			<b>X/F</b>
5850.00	H	25.36	14.75	40.52	65.88	55.27	80.00	60.00	X/E
11590.18	H	46.79	35.34	15.74	62.53	51.08	80.00	60.00	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
- (8) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m  
Distance extrapolation factor =  $20 \log (3m/1.5m)$  dB ;  
Limit line = specific limits (dBuV) + 6 dB
- (9) The signal of 15-40GHz is lower than the limit 20dB. So the test date of this frequency does not place on the test report.



TX CH159 (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	>= 500KHz (6dB bandwidth)	2400-2483.5 5725~5825	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	100129	Jan. 05, 2011

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

**5.1.2 TEST PROCEDURE**

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- b. Spectrum Setting : RBW= 100KHz, VBW=100KHz, Sweep time = 20 ms.

**5.1.3 DEVIATION FROM STANDARD**

No deviation.





#### 5.1.4 TEST SETUP



#### 5.1.5 EUT OPERATION CONDITIONS

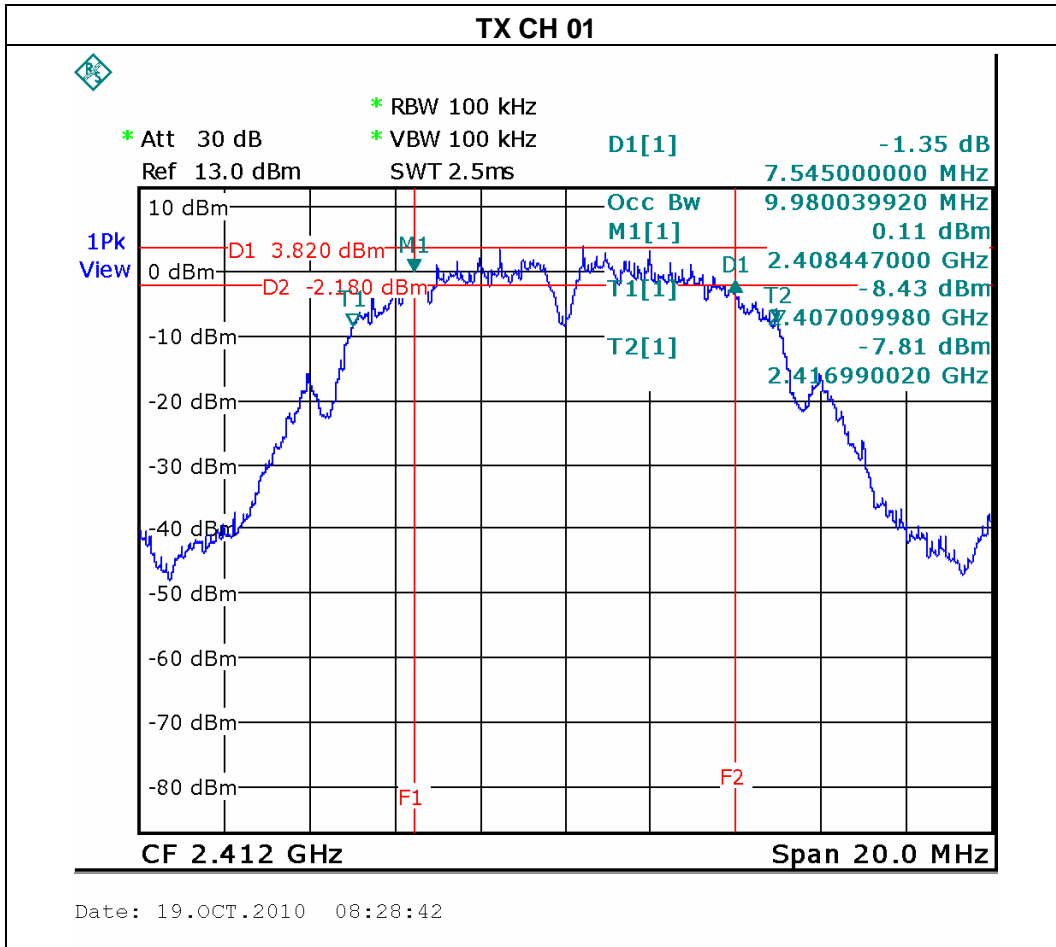
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

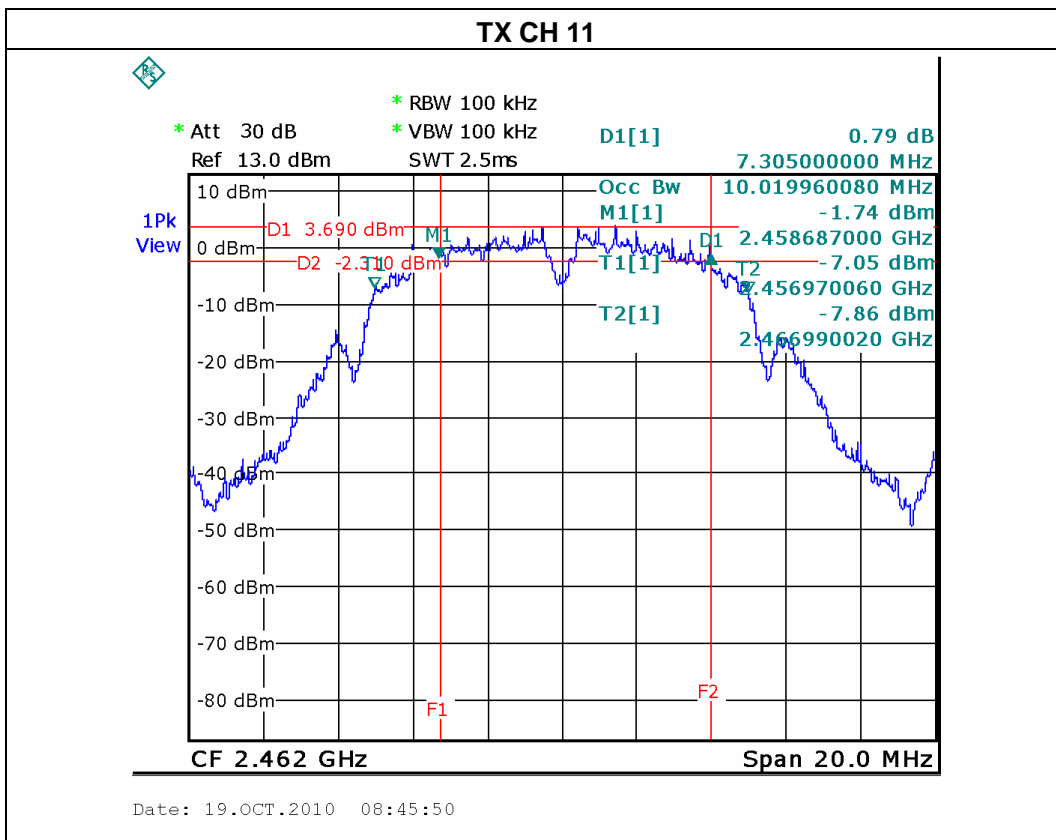
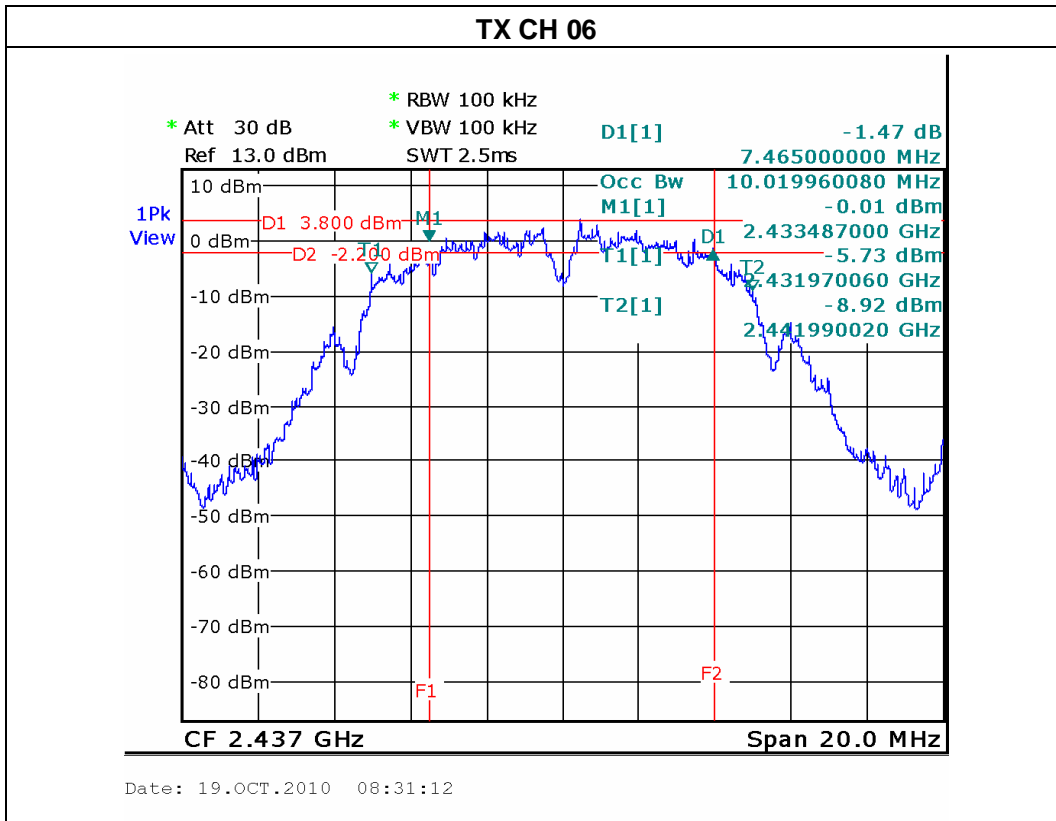


**5.1.6 TEST RESULTS-2.4G BAND**

EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
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)	99% Occupied BW (MHz)	LIMIT (MHz)
CH01	2412	7.55	9.98	>=500KHz
CH06	2437	7.47	10.02	>=500KHz
CH11	2462	7.31	10.02	>=500KHz

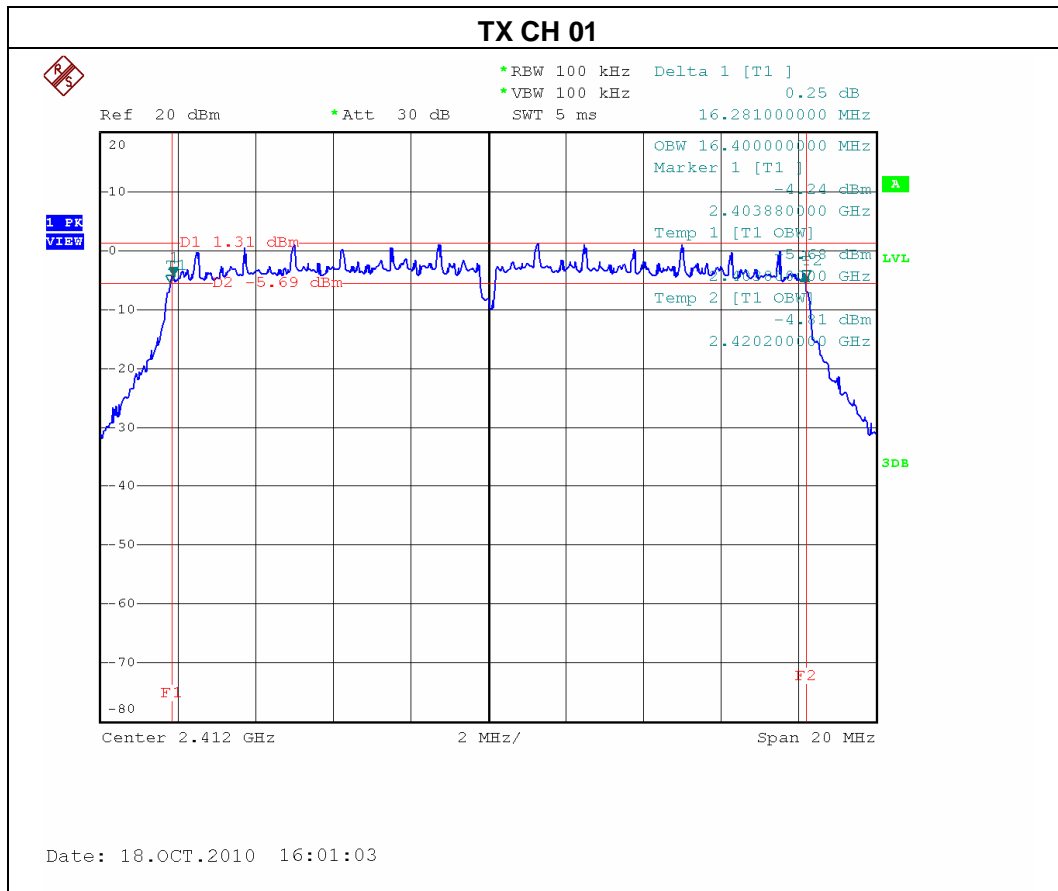


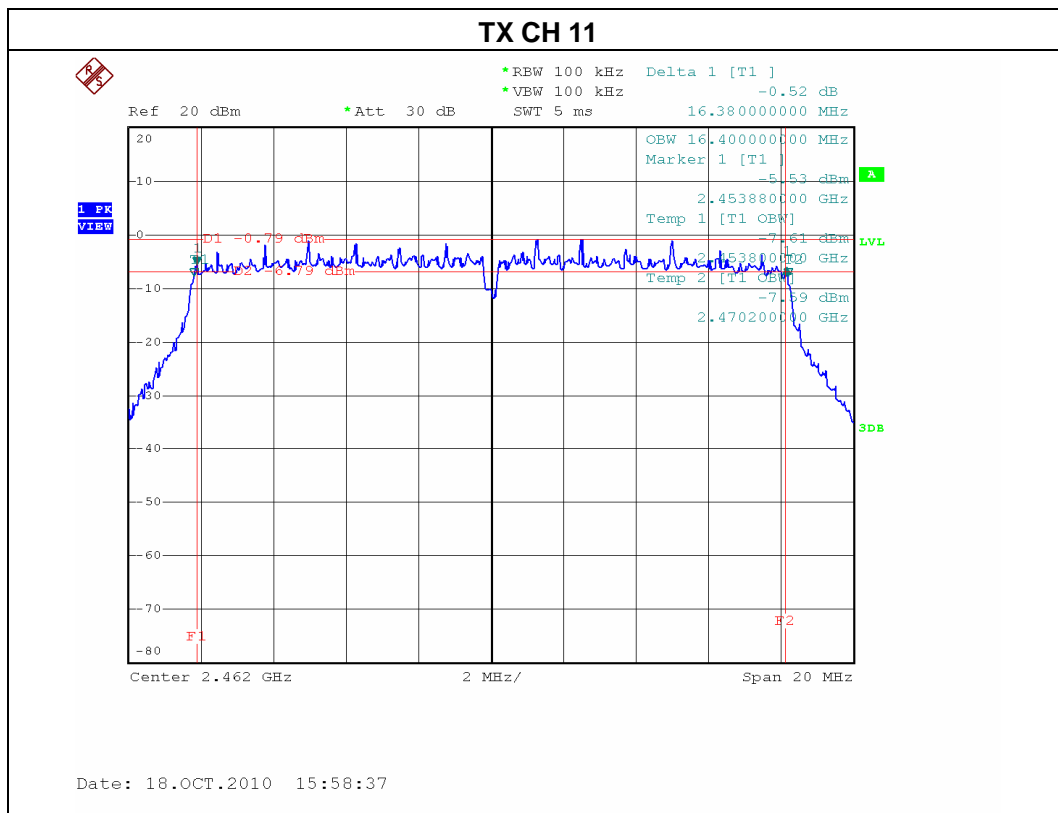
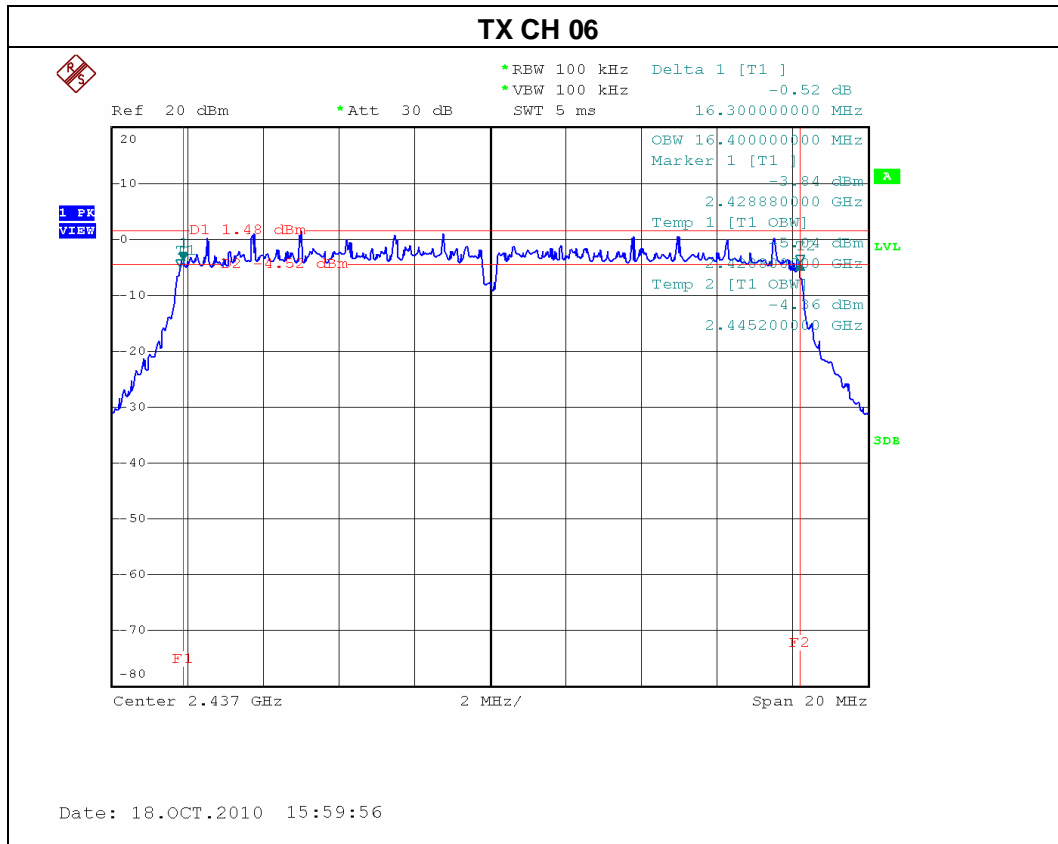




EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX G MODE /CH01, CH06, CH11		

Test Channel	Frequency (MHz)	Bandwidth (MHz)	99% Occupied BW (MHz)	LIMIT (MHz)
CH01	2412	16.28	16.40	>=500KHz
CH06	2437	16.30	16.40	>=500KHz
CH11	2462	16.38	16.40	>=500KHz

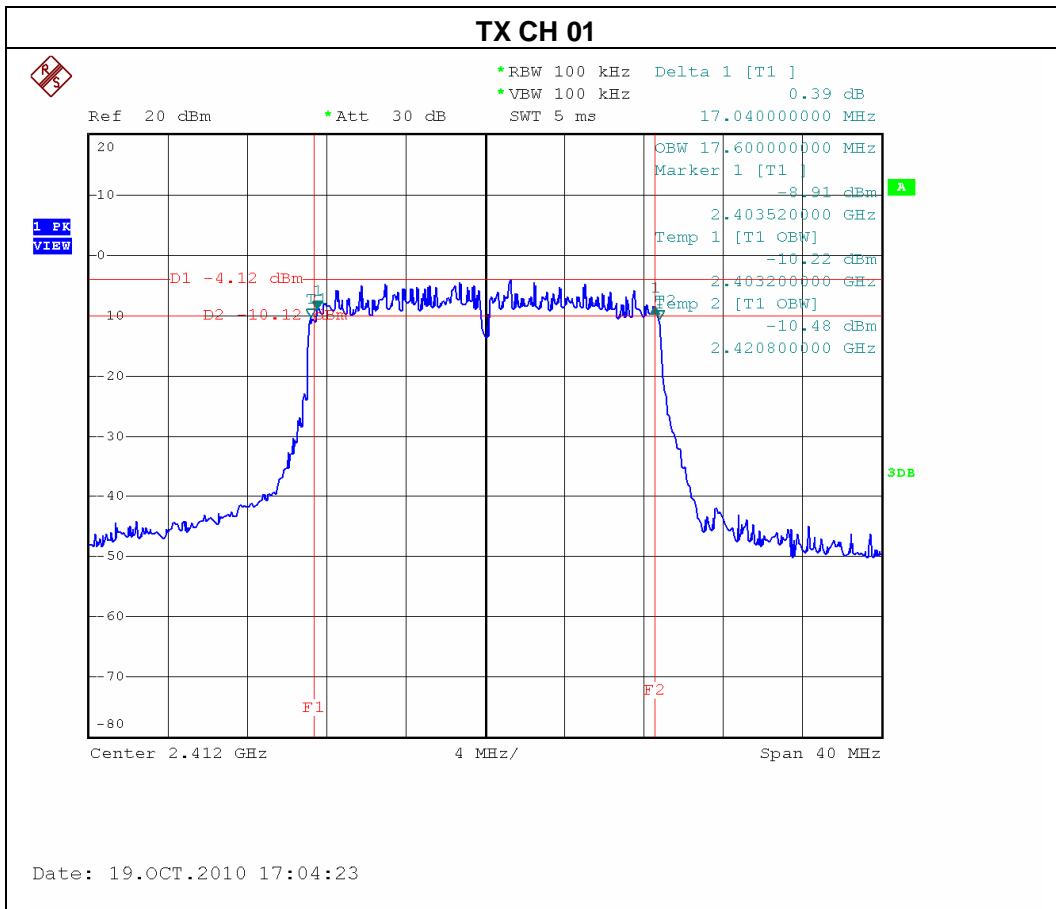


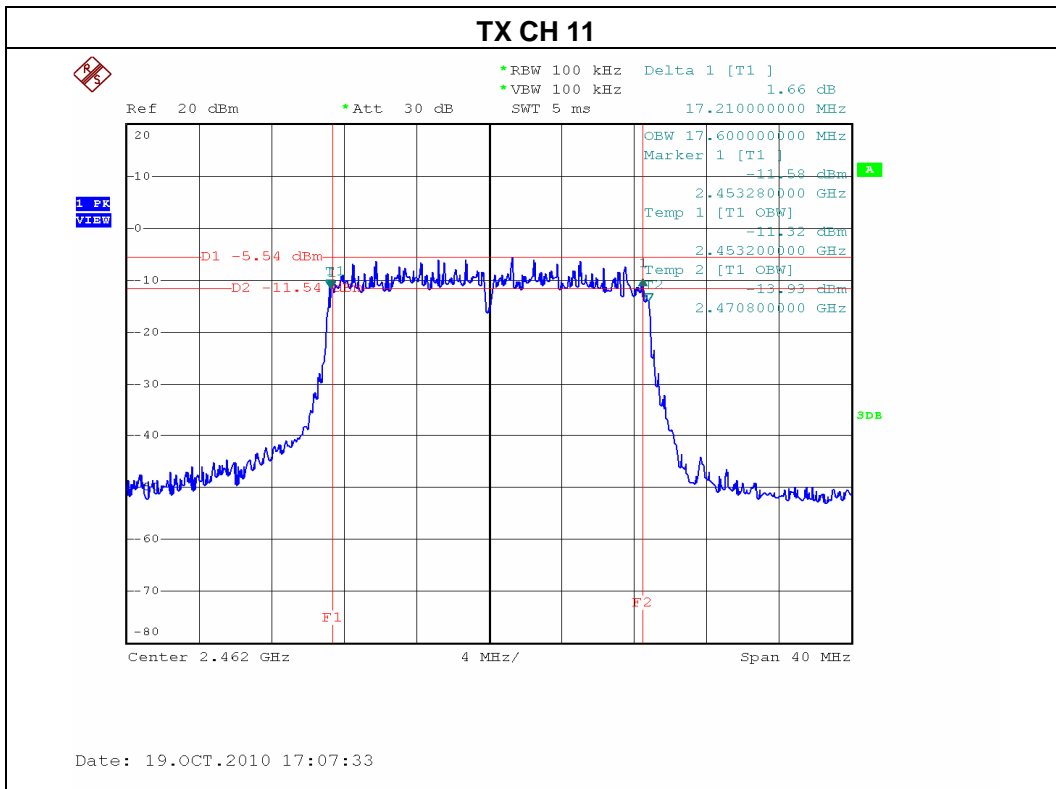
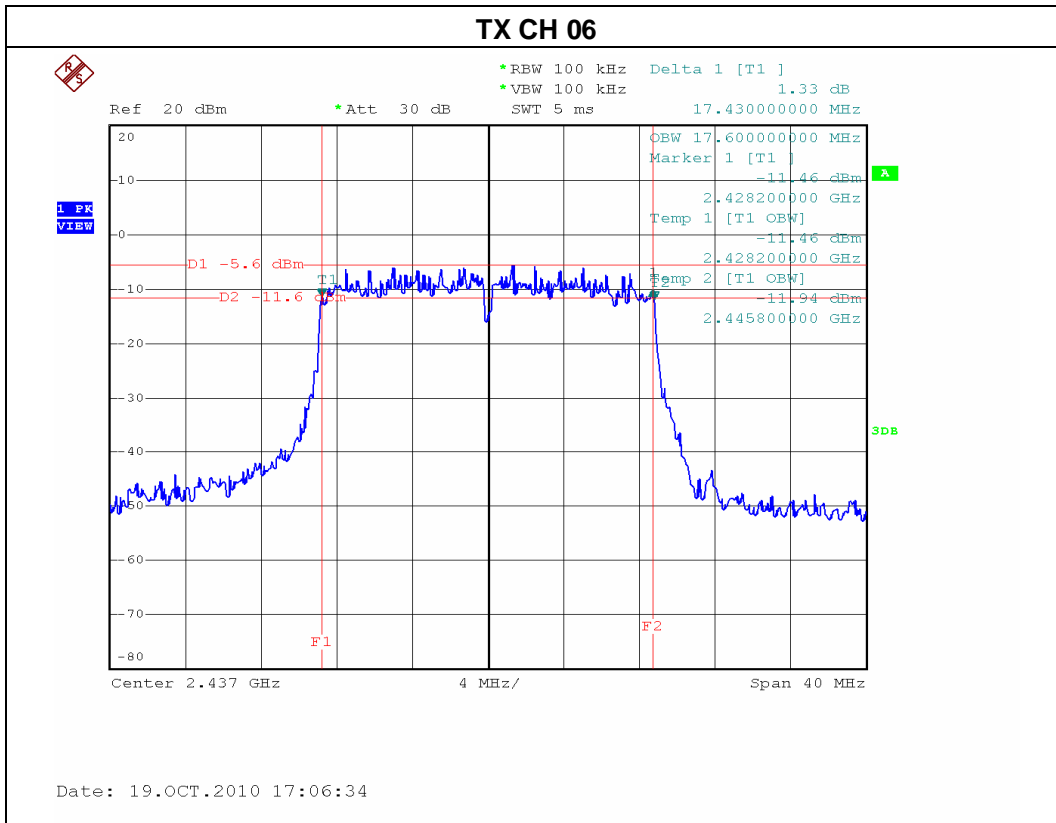




EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE /CH01, CH06, CH11		

Test Channel	Frequency (MHz)	Bandwidth (MHz)	99% Occupied BW (MHz)	LIMIT (MHz)
CH01	2412	17.04	17.60	>=500KHz
CH06	2437	17.43	17.60	>=500KHz
CH11	2462	17.21	17.60	>=500KHz

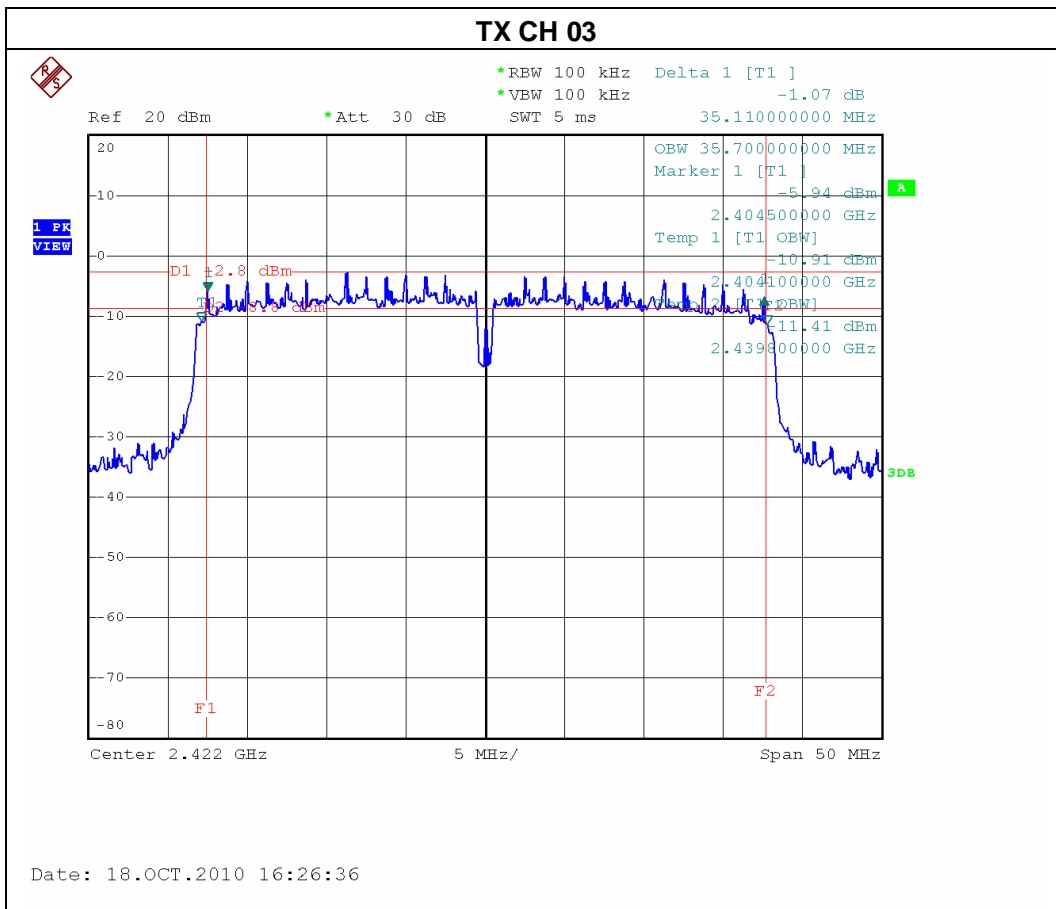




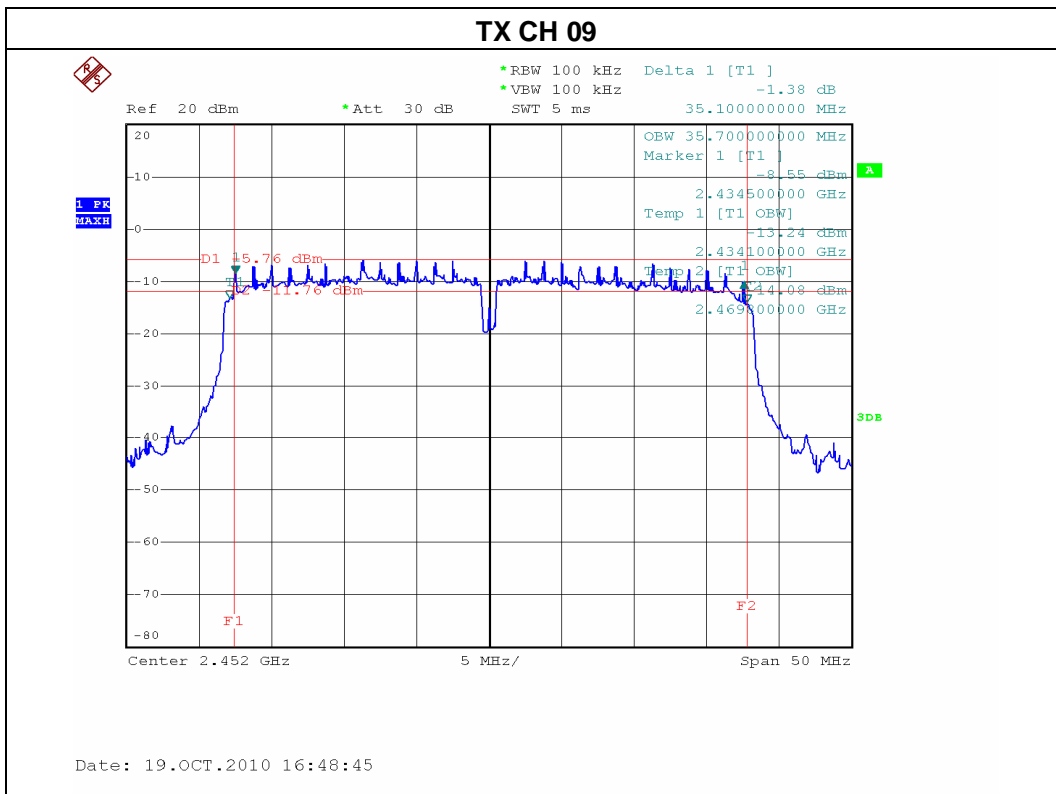
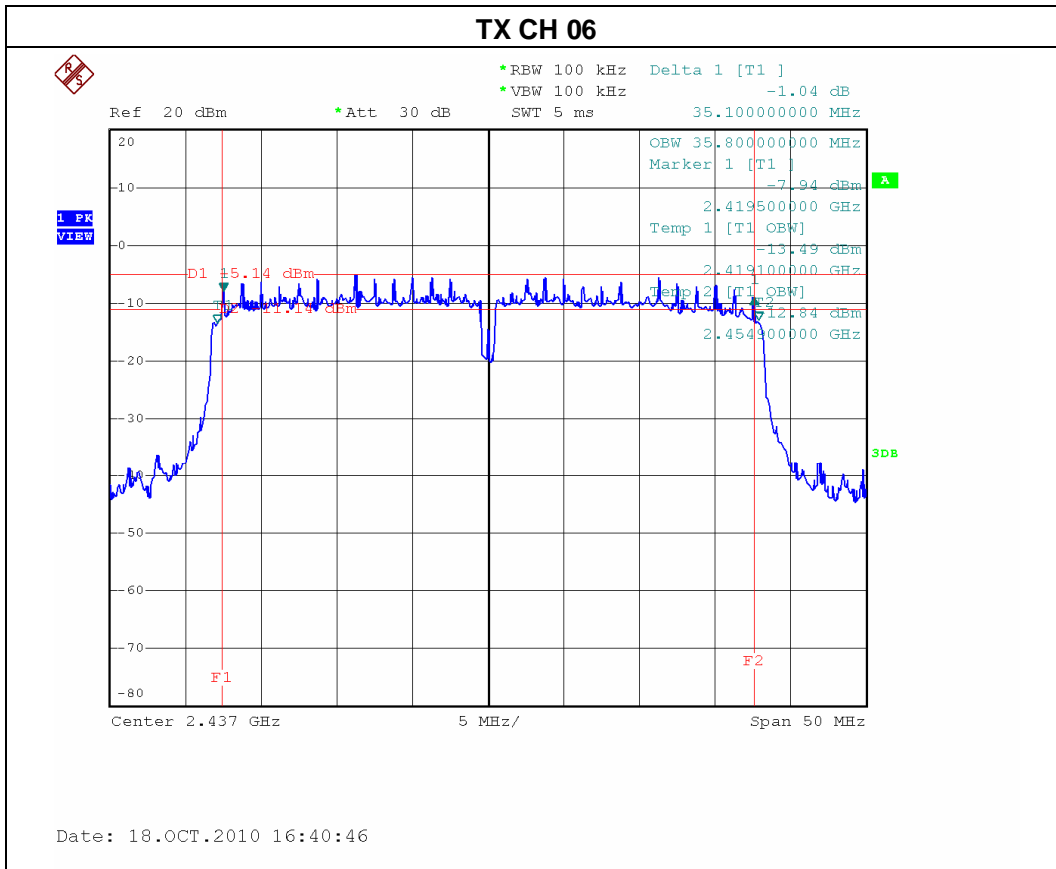


EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-40M MODE /CH03, CH06, CH09		

Test Channel	Frequency (MHz)	Bandwidth (MHz)	99% Occupied BW (MHz)	LIMIT (MHz)
CH03	2422	35.11	35.70	>=500KHz
CH06	2437	35.10	35.80	>=500KHz
CH09	2452	35.10	35.70	>=500KHz





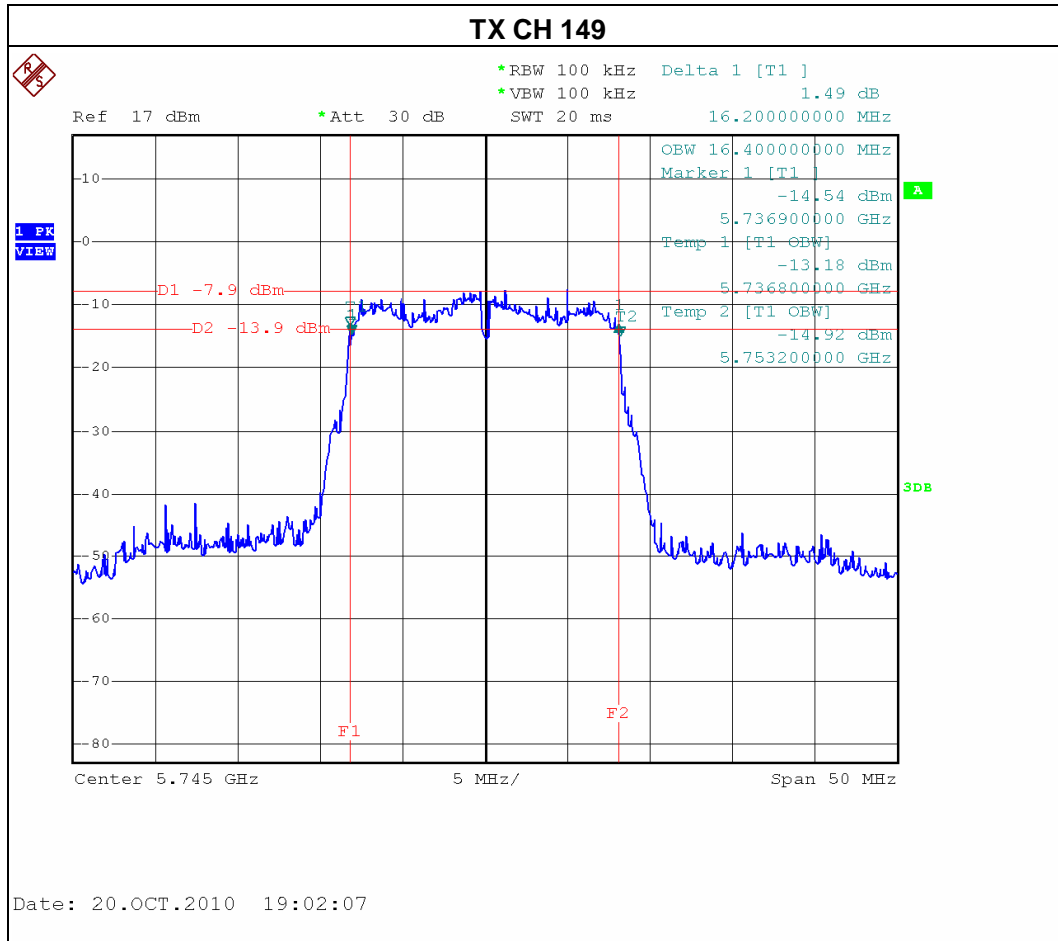


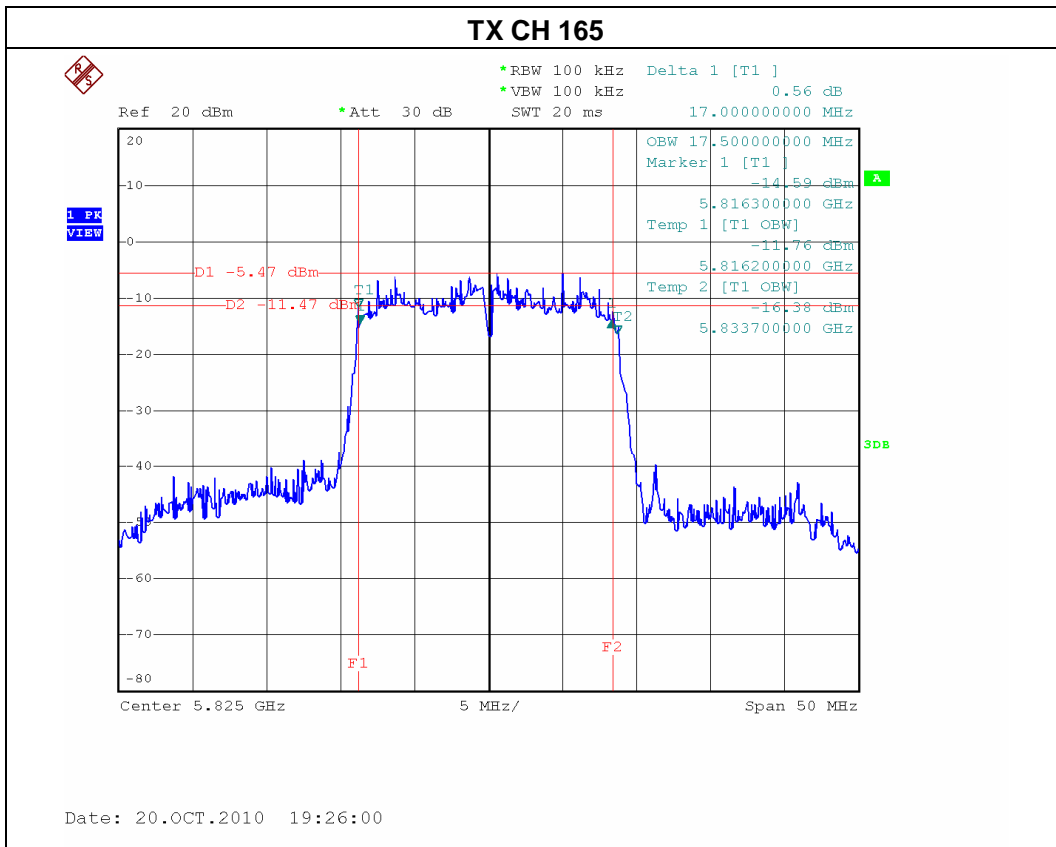
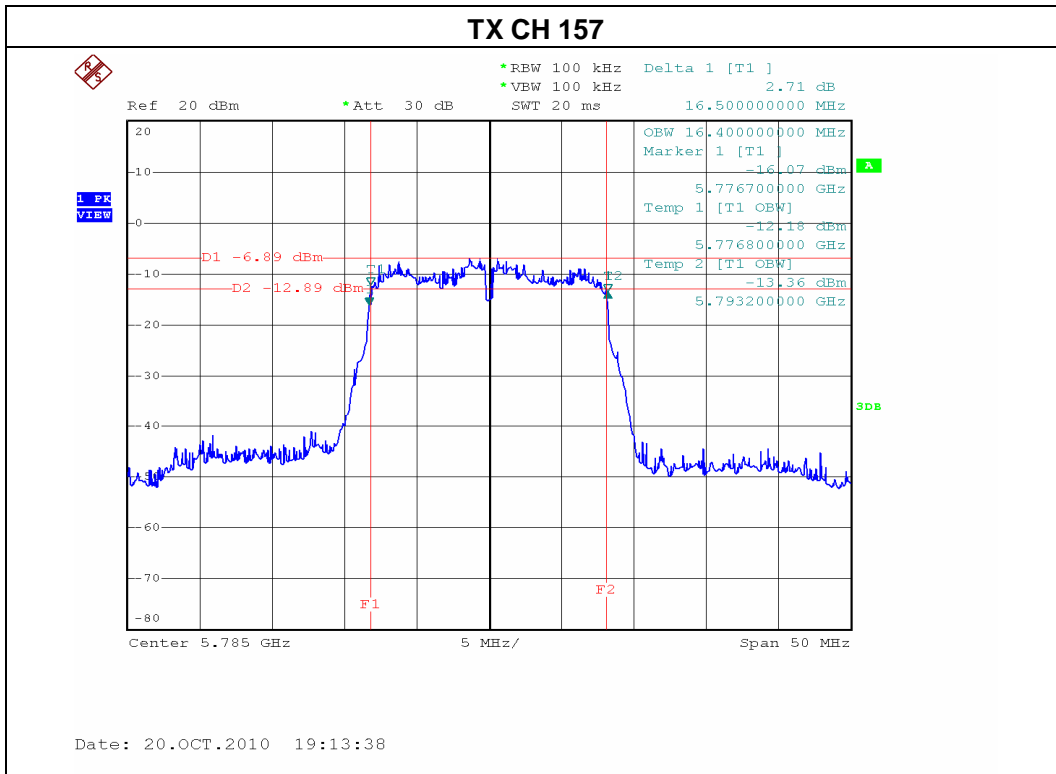


**5.1.7 TEST RESULTS-5G BAND**

EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX 11a MODE /CH149, CH157, CH165		

Test Channel	Frequency (MHz)	Bandwidth (MHz)	99% Occupied BW (MHz)	LIMIT (MHz)
CH149	5745	16.20	16.40	>=500KHz
CH157	5785	16.50	16.40	>=500KHz
CH165	5825	17.00	17.50	>=500KHz

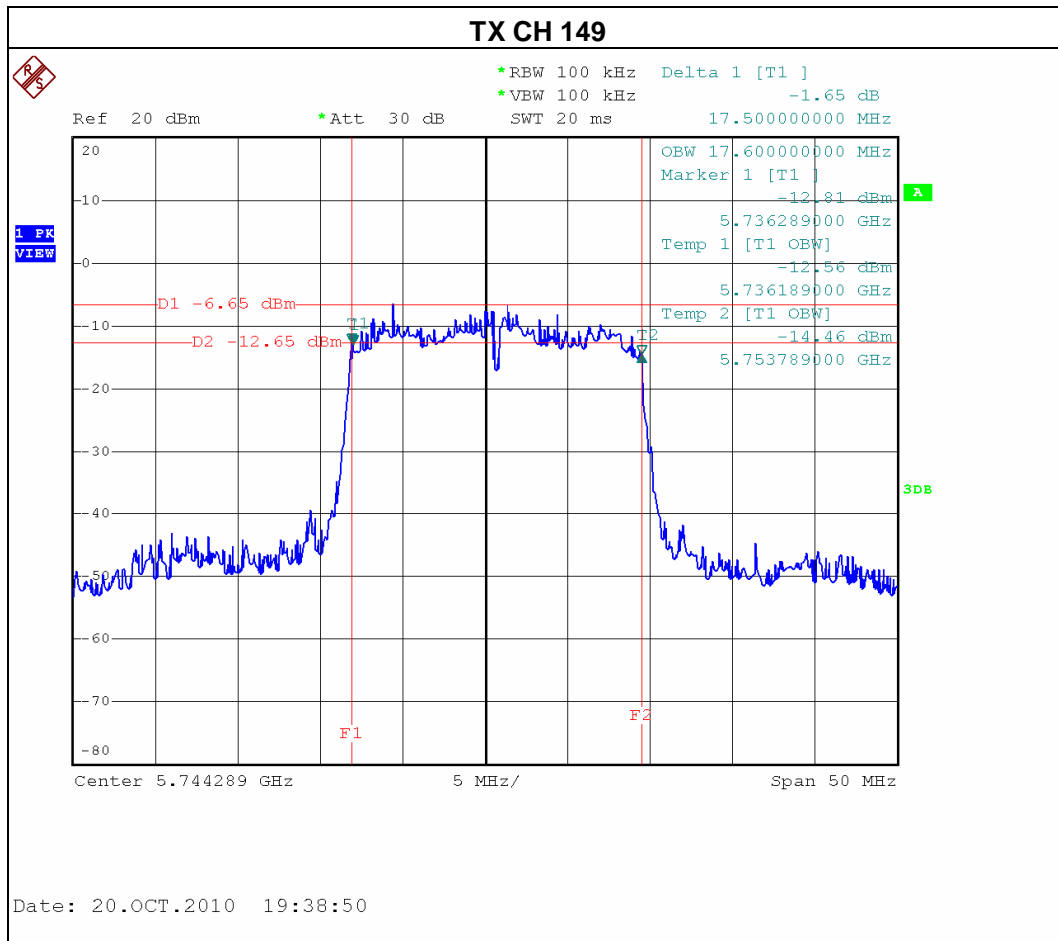


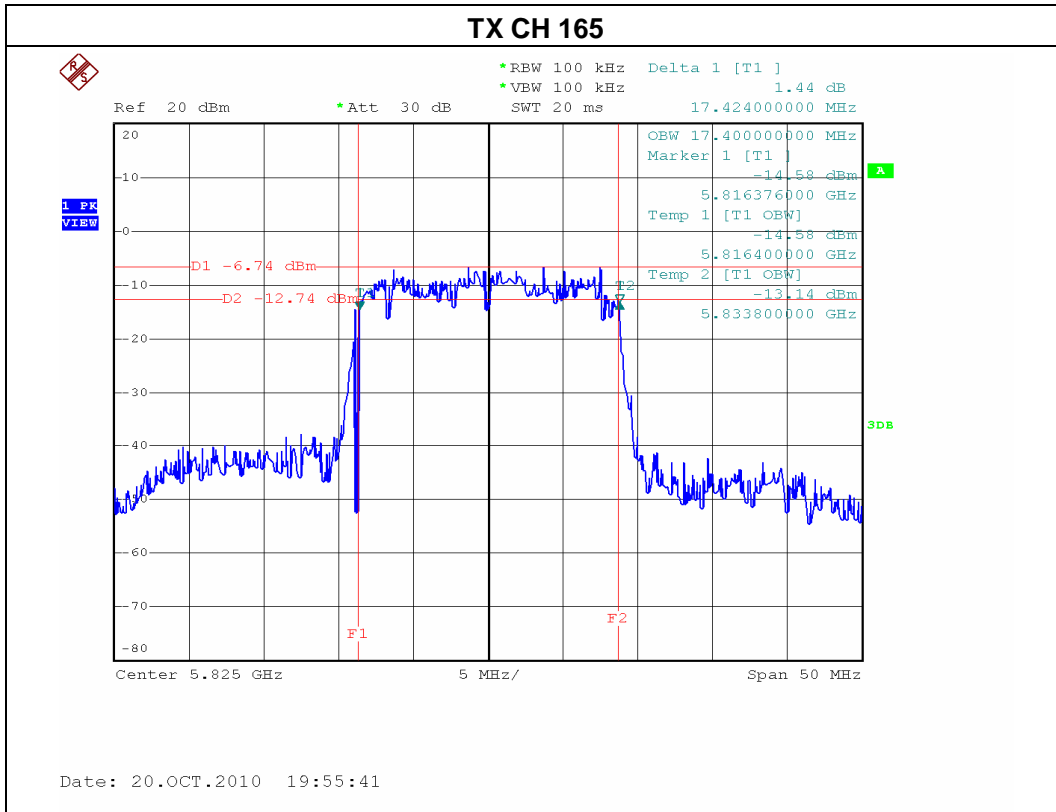
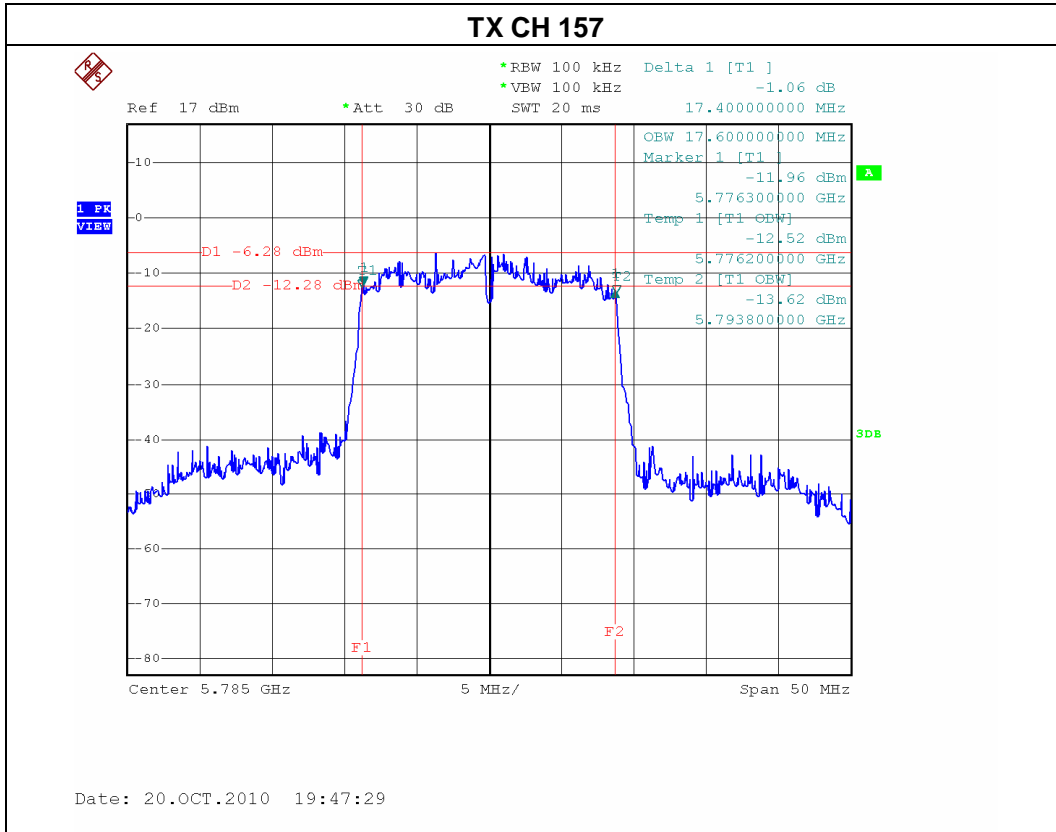




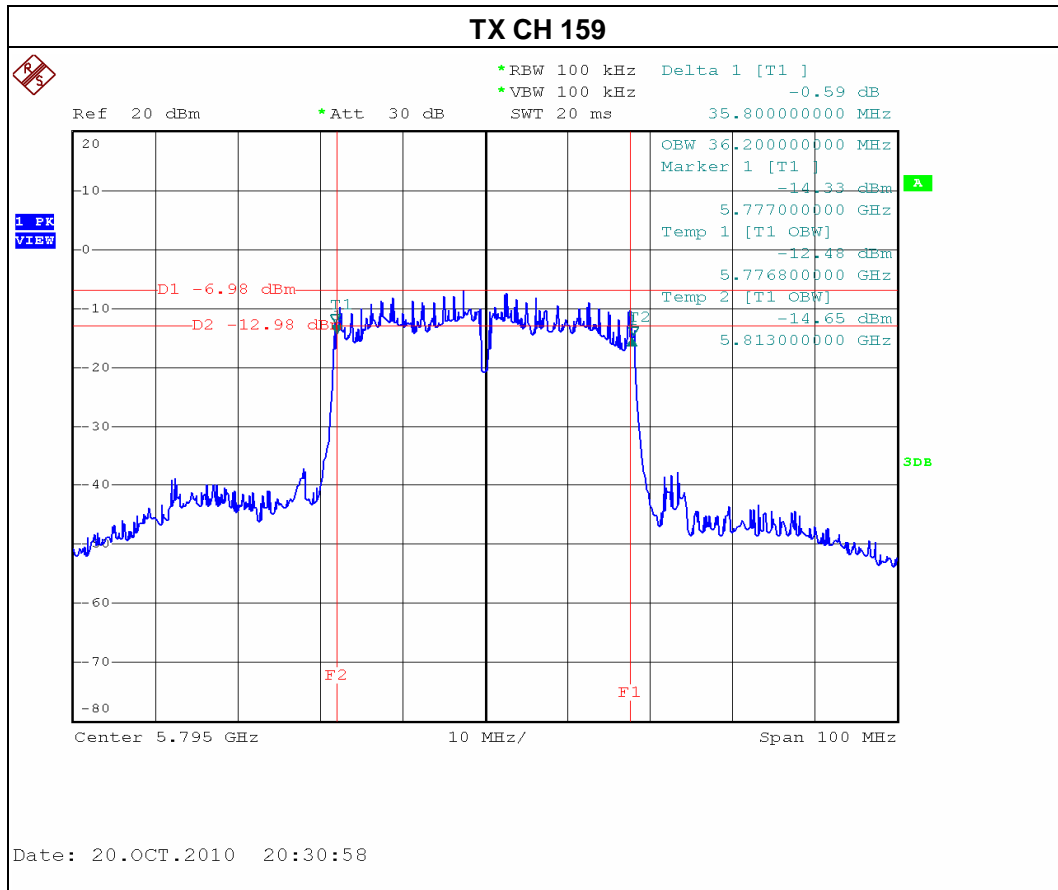
EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE / CH149, CH157, CH165		

Test Channel	Frequency (MHz)	Bandwidth (MHz)	99% Occupied BW (MHz)	LIMIT (MHz)
CH149	5745	17.05	17.60	>=500KHz
CH157	5785	17.40	17.60	>=500KHz
CH165	5825	17.42	17.40	>=500KHz











**6. PEAK 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)	Peak Output Power	1 watt or 30dBm	2400-2483.5 5725~5825	PASS

**Note:**

The maximum effective antenna gain is 7.26 dBi, therefore the limit is 28.9 dBm.

**6.1.1 MEASUREMENT INSTRUMENTS LIST**

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Power Meter	Anritsu	ML2487A	6K00004714	Feb. 10, 2011
2	Power Meter Sensor	Anritsu	MA2491A	34138	Feb. 10, 2011

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 power metter and antenna output port as show in the block diagram below,

**6.1.3 DEVIATION FROM STANDARD**

No deviation.

**6.1.4 TEST SETUP**



**6.1.5 EUT OPERATION CONDITIONS**

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





**6.1.6 TEST RESULTS -2.4G BAND**

EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE /CH01, CH06, CH11		

**Peak Output Power**

Test Channel	Frequency (MHz)	Peak Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH01	2412 MHz	21.47	30	1
CH06	2437 MHz	22.82	30	1
CH11	2462 MHz	20.67	30	1

EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX G MODE /CH01, CH06, CH11		

**Peak Output Power**

Test Channel	Frequency (MHz)	Peak Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH01	2412 MHz	19.55	30	1
CH06	2437 MHz	19.47	30	1
CH11	2462 MHz	19.11	30	1



EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE /CH01, CH06, CH11		

**Peak Output Power**

ANT.1					
Test Channel	Frequency (MHz)	Peak Output Power (dBm) (W)		LIMIT (dBm)	LIMIT (W)
CH01	2412	18.01	0.0632	30	1
CH06	2437	17.99	0.0630	30	1
CH11	2462	18.13	0.0650	30	1

**Peak Output Power**

ANT.2					
Test Channel	Frequency (MHz)	Peak Output Power (dBm) (W)		LIMIT (dBm)	LIMIT (W)
CH01	2412	18.04	0.0637	30	1
CH06	2437	18.13	0.0650	30	1
CH11	2462	18.21	0.0662	30	1

**Peak Output Power**

Total (ANT.1 + ANT.2)					
Test Channel	Frequency (MHz)	Peak Output Power (dBm) (W)		LIMIT (dBm)	LIMIT (W)
CH01	2412	21.04	0.1269	28.9	0.7762
CH06	2437	21.07	0.1280	28.9	0.7762
CH11	2462	21.18	0.1312	28.9	0.7762

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=4.1 dBi. (ANT.1) Antenna Gain=4.1 dBi. (ANT.2)**  
**Directional gain= gain of antenna element+10log(# of TX antenna elements)**
- (3) **EUT is a 2x2 MIMO with each AG=4.1dBi, then the directional gain is =4.1+10log(2)=4.1+3=7.1 dBi (Output power needs to reduce by 1.1 dBi so the highest conducted output power allowed is 28.9dBm.**



EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-40M MODE /CH03, CH06, CH09		

**Peak Output Power**

ANT.1					
Test Channel	Frequency (MHz)	Peak Output Power (dBm) (W)		LIMIT (dBm)	LIMIT (W)
CH03	2422	17.98	0.0628	30	1
CH06	2437	17.65	0.0582	30	1
CH09	2452	17.45	0.0556	30	1

**Peak Output Power**

ANT.2					
Test Channel	Frequency (MHz)	Peak Output Power (dBm) (mW)		LIMIT (dBm)	LIMIT (W)
CH03	2422	16.24	0.0421	30	1
CH06	2437	16.87	0.0486	30	1
CH09	2452	16.55	0.0452	30	1

**Peak Output Power**

Total (ANT.1 + ANT.2)					
Test Channel	Frequency (MHz)	Peak Output Power (dBm) (W)		LIMIT (dBm)	LIMIT (W)
CH03	2422	20.21	0.1049	28.9	0.7762
CH06	2437	20.29	0.1069	28.9	0.7762
CH09	2452	20.03	0.1008	28.9	0.7762

**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=4.1 dBi. (ANT.1) Antenna Gain=4.1 dBi. (ANT.2)  
**Directional gain= gain of antenna element+10log(# of TX antenna elements)**
- (3) EUT is a 2x2 MIMO with each AG=4.1dBi, then the directional gain is  

$$=4.1+10\log(2)=4.1+3=7.1 \text{ dBi}$$
**(Output power needs to reduce by 1.1 dBi so the highest conducted output power allowed is 28.9dBm.**



**6.1.7 TEST RESULTS -5G BAND**

EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX 11a MODE /CH149, CH157, CH165		

**Peak Output Power**

Test Channel	Frequency (MHz)	Peak Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH149	5745 MHz	16.73	30	1
CH157	5785 MHz	16.12	30	1
CH165	5825 MHz	16.89	30	1



EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE /CH149, CH157, CH165		

**Peak Output Power**

ANT.1					
Test Channel	Frequency (MHz)	Peak Output Power (dBm) (W)		LIMIT (dBm)	LIMIT (W)
CH149	5745 MHz	16.46	0.0443	30	1
CH157	5785 MHz	15.93	0.0392	30	1
CH165	5825 MHz	16.95	0.0495	30	1

**Peak Output Power**

ANT.2					
Test Channel	Frequency (MHz)	Peak Output Power (dBm) (W)		LIMIT (dBm)	LIMIT (W)
CH149	5745 MHz	16.04	0.0402	30	1
CH157	5785 MHz	16.79	0.0478	30	1
CH165	5825 MHz	17.11	0.0514	30	1

**Peak Output Power**

Total (ANT.1 + ANT.2)					
Test Channel	Frequency (MHz)	Peak Output Power (dBm) (W)		LIMIT (dBm)	LIMIT (W)
CH149	5745 MHz	19.27	0.0844	28.74	0.7482
CH157	5785 MHz	19.39	0.0869	28.74	0.7482
CH165	5825 MHz	20.04	0.1009	28.74	0.7482

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:**  

$$((\text{dBm}/\text{Chain 1})/10^{\wedge}\text{Log}) + ((\text{dBm}/\text{Chain 2})/10^{\wedge}\text{log}) + ((\text{dBm}/\text{ChainN})/10^{\wedge}\text{log}) =$$
**Combined peak output power in mW.**
- (2) **Antenna Gain=4.1 dBi. (ANT.1) Antenna Gain=4.4 dBi. (ANT.2)**  
**Directional gain= gain of antenna element+10log(# of TX antenna elements)**
- (3) **Sum the Antenna Gain by using the following formula:**  

$$((\text{dBi}/\text{ANT 1})/10^{\wedge}\text{Log}) + ((\text{dBi}/\text{ANT 2})/10^{\wedge}\text{log}) + ((\text{dBi}/\text{ANT N})/10^{\wedge}\text{log}) = 7.26\text{dBi}$$
**(Output power needs to reduce by 1.26 dBi so the highest conducted output power allowed is 28.74dBm.**



EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-40M MODE /CH151, CH159		

**Peak Output Power**

ANT.1					
Test Channel	Frequency (MHz)	Peak Output Power (dBm) (W)		LIMIT (dBm)	LIMIT (W)
CH151	5755	15.09	0.0323	30	1
CH159	5795	15.54	0.0358	30	1

**Peak Output Power**

ANT.2					
Test Channel	Frequency (MHz)	Peak Output Power (dBm) (mW)		LIMIT (dBm)	LIMIT (W)
CH151	5755	15.45	0.0351	30	1
CH159	5795	15.23	0.0333	30	1

**Peak Output Power**

Total (ANT.1 + ANT.2)					
Test Channel	Frequency (MHz)	Peak Output Power (dBm) (W)		LIMIT (dBm)	LIMIT (W)
CH151	5755	18.28	0.0674	28.9	0.7762
CH159	5795	18.40	0.0692	28.9	0.7762

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:  

$$((\text{dBm}/\text{Chain 1})/10^{\text{Log}}) + ((\text{dBm}/\text{Chain 2})/10^{\text{log}}) + ((\text{dBm}/\text{Chain N})/10^{\text{log}}) =$$
 Combined peak output power in mW.
- (2) Antenna Gain=4.1 dBi. (ANT.1) Antenna Gain=4.4 dBi. (ANT.2)  
Directional gain= gain of antenna element+10log(# of TX antenna elements)
- (3) Sum the Antenna Gain by using the following formula:  

$$((\text{dBi}/\text{ANT 1})/10^{\text{Log}}) + ((\text{dBi}/\text{ANT 2})/10^{\text{log}}) + ((\text{dBi}/\text{ANT N})/10^{\text{log}}) = 7.26\text{dBi}$$
 (Output power needs to reduce by 1.26 dBi so the highest conducted output power allowed is 28.74dBm.



**7. ANTENNA CONDUCTED SPURIOUS EMISSION**

**7.1 Applied procedures / limit**

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

Frequencies (MHz)	Field Strength (micovolts/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	100129	Jan. 05, 2011

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.
- c. Measurements are made over the 30 MHz to 26.5 GHz range with the transmitter set to the lowest, middle, and highest channels.(2.4G Band)
- d. Measurements are made over the 30 MHz to 40 GHz range with the transmitter set to the lowest, middle, and highest channels.(5G Band)

**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-2.4G BAND**

EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE /CH01,CH06, CH11		

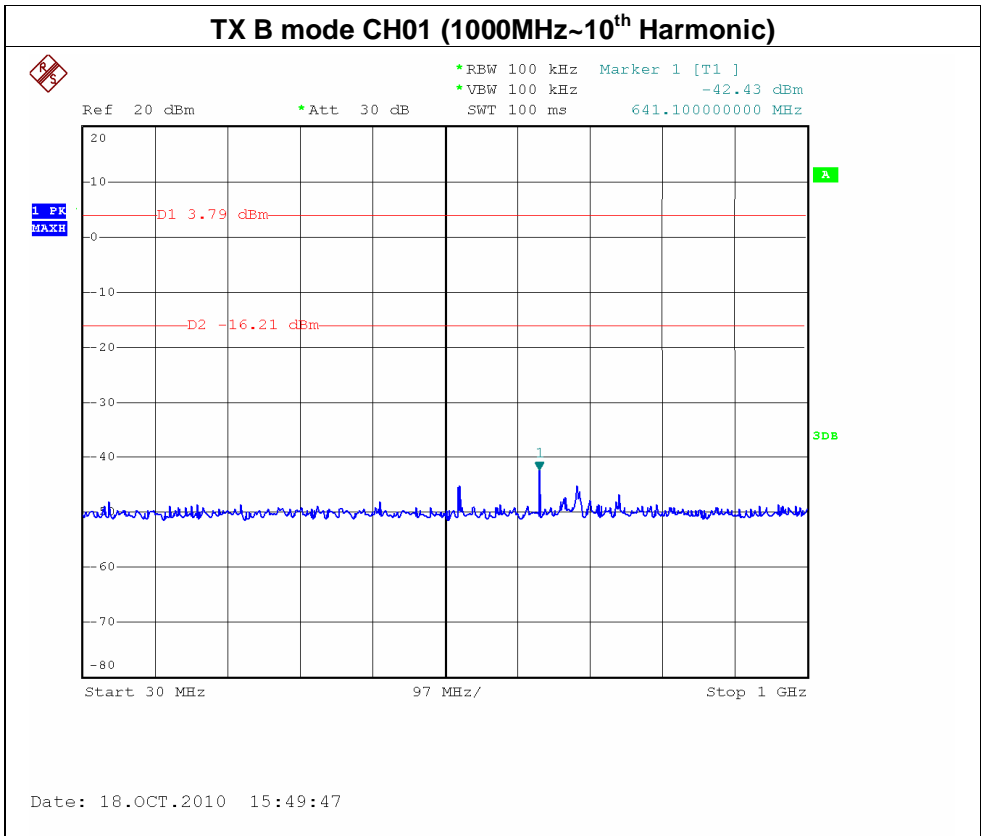
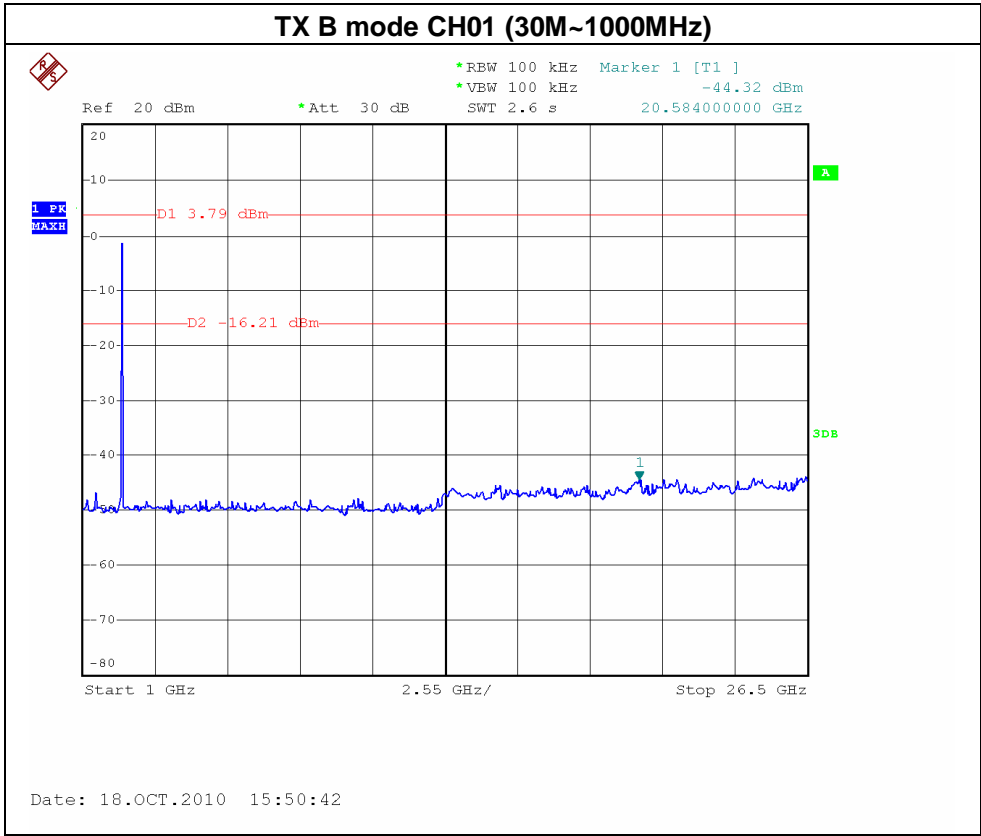
Channel of Worst Data: CH01			
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
2384.18	-54.50	2489.63	-54.76

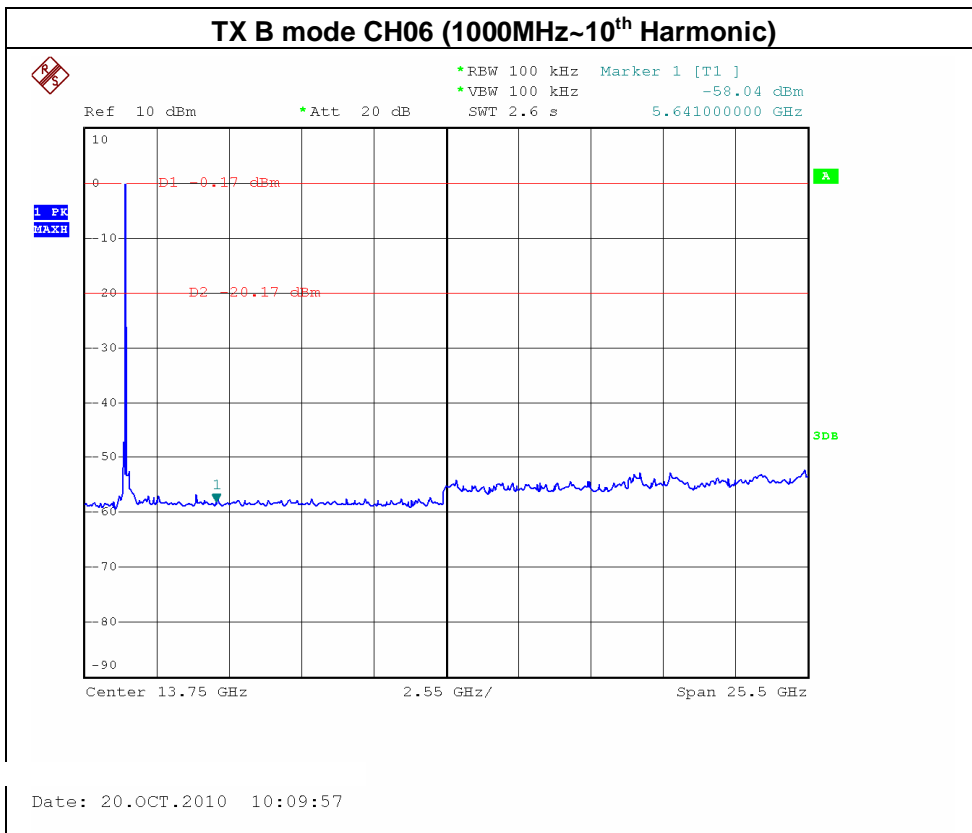
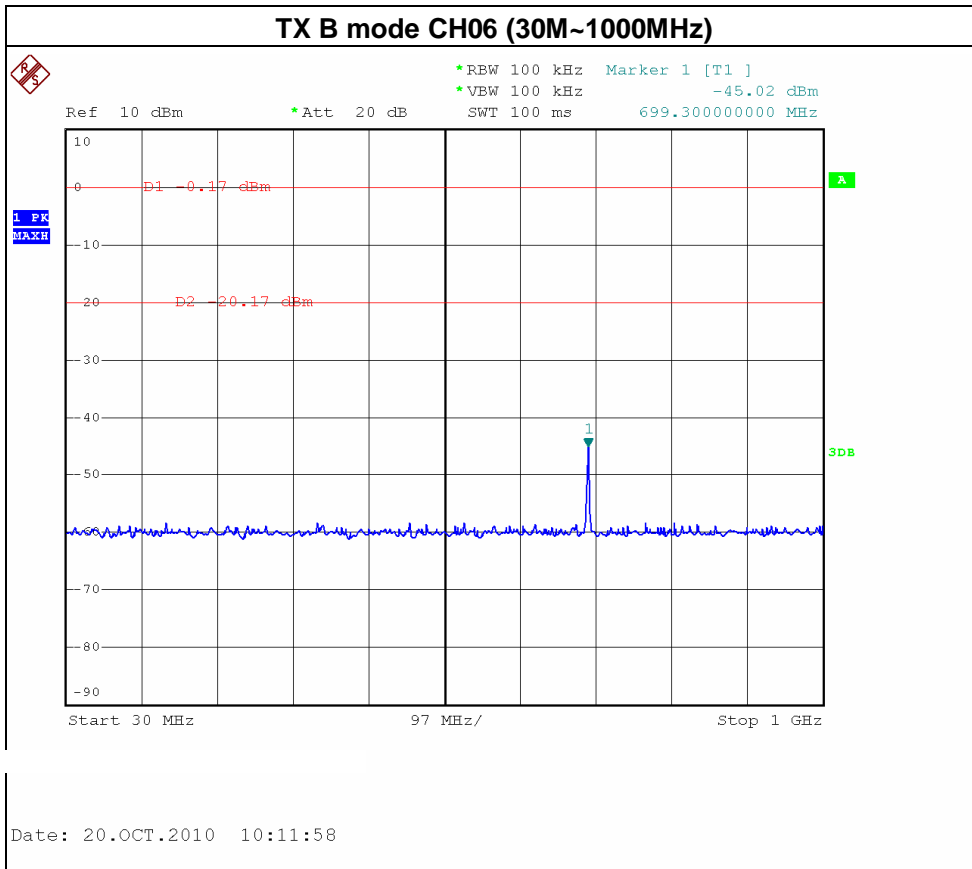
**Result**

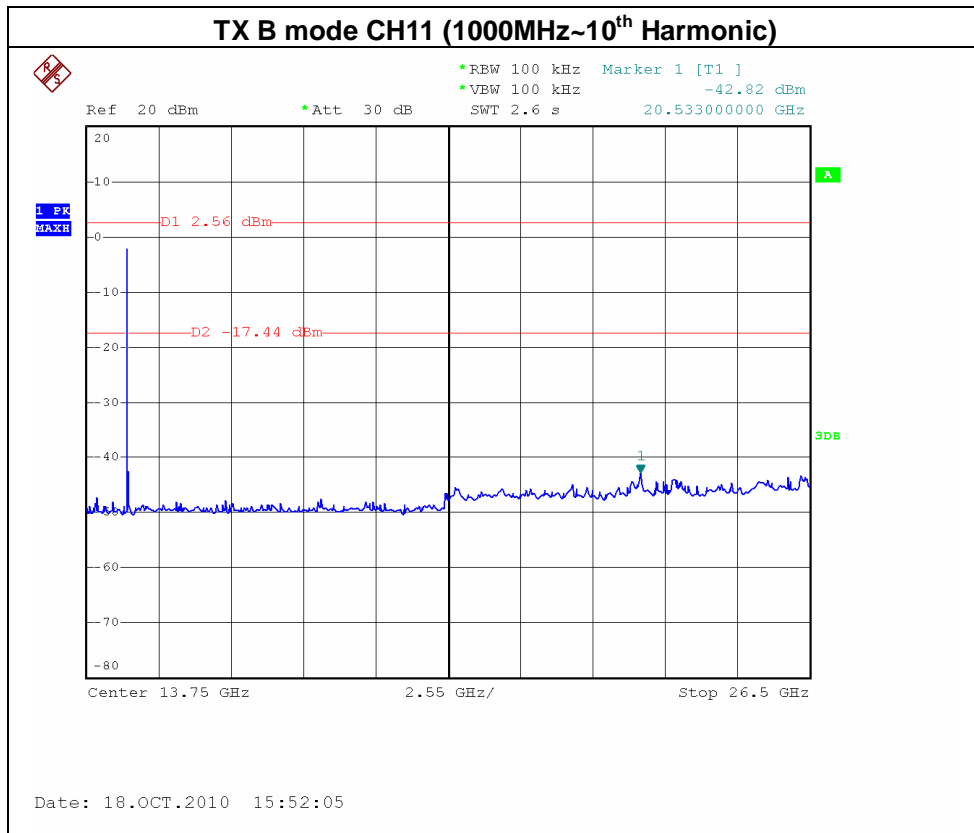
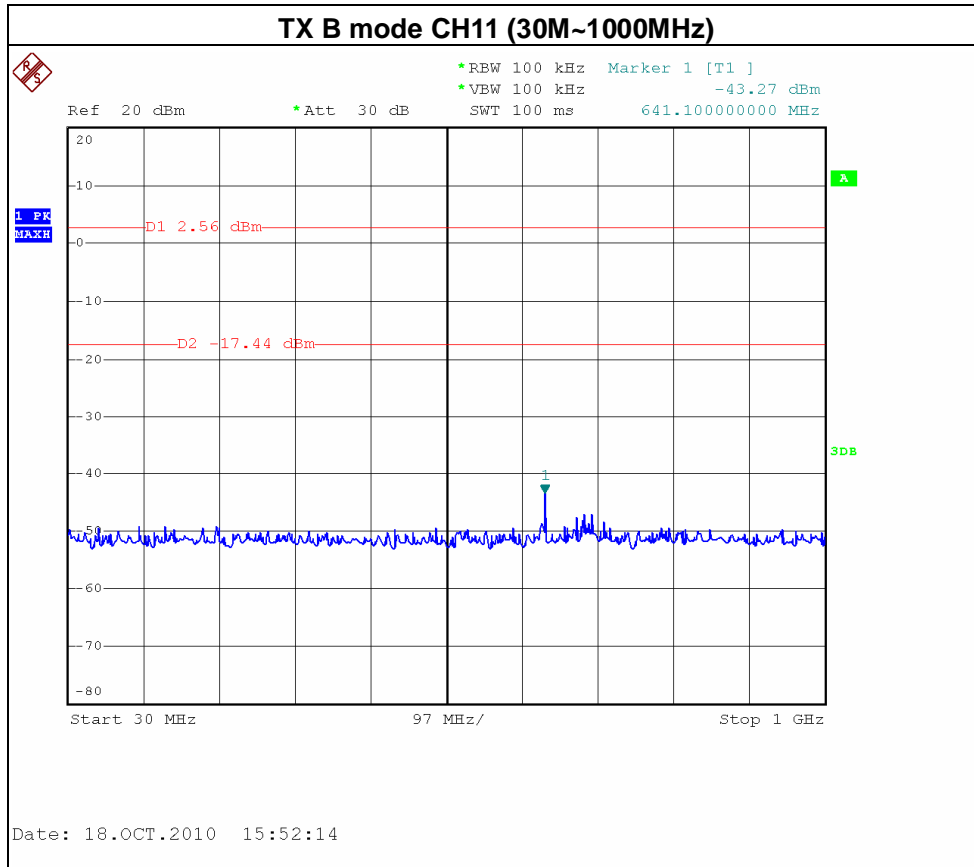
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.







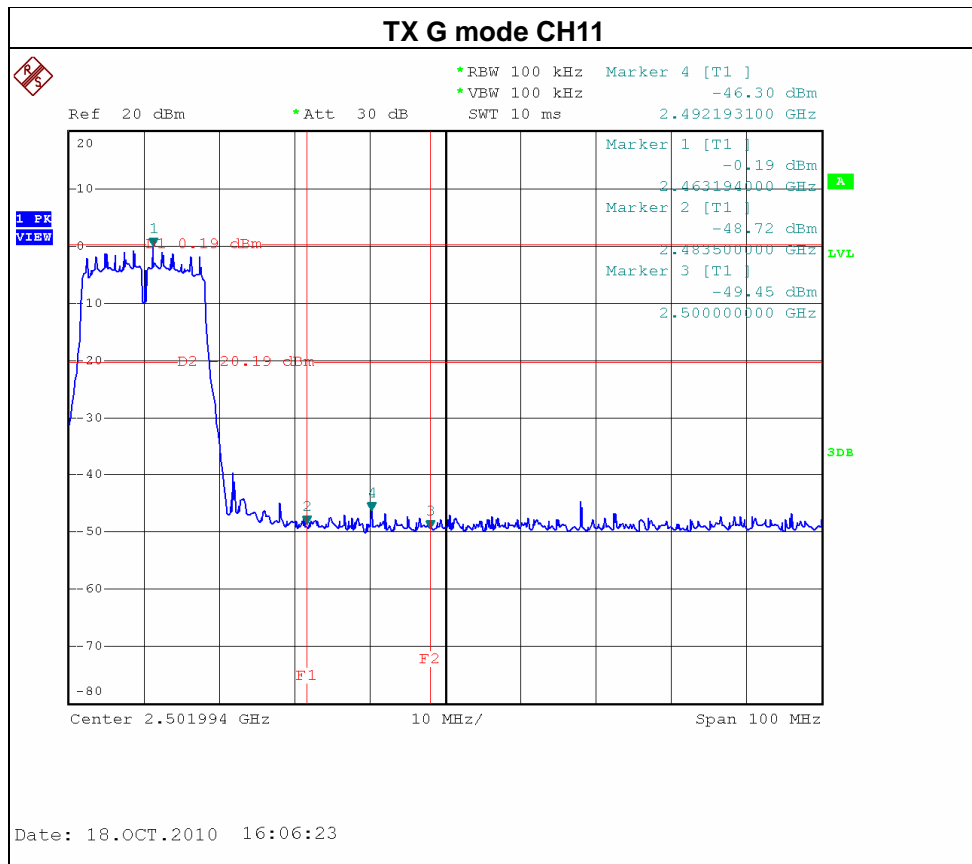
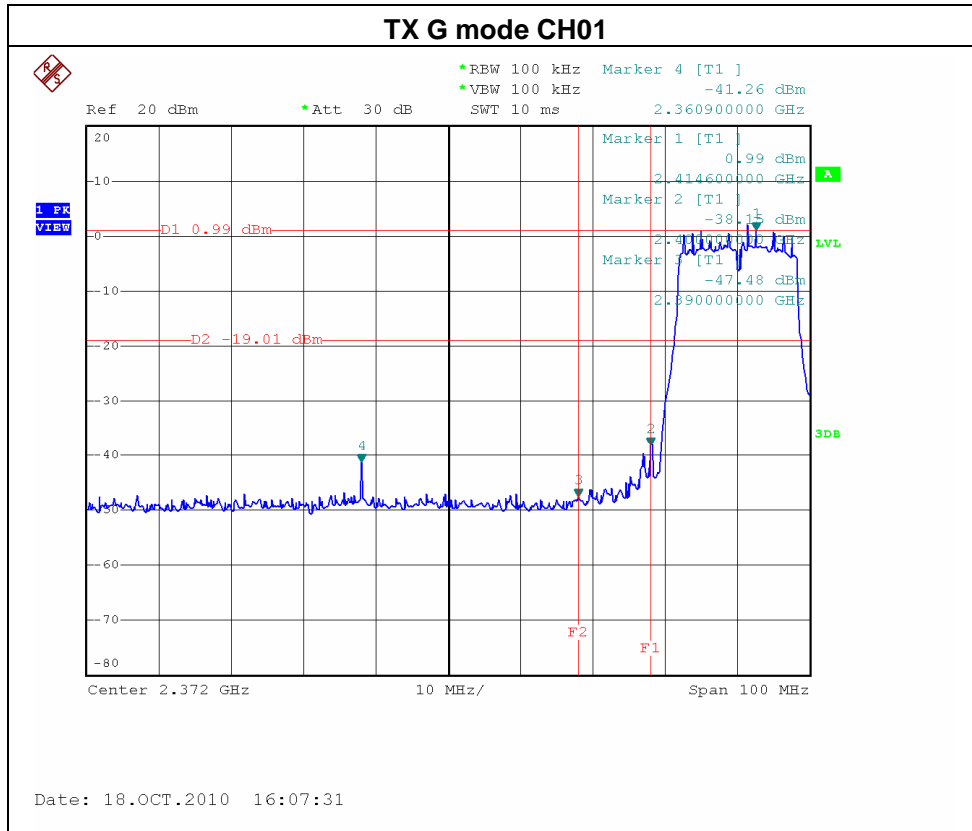


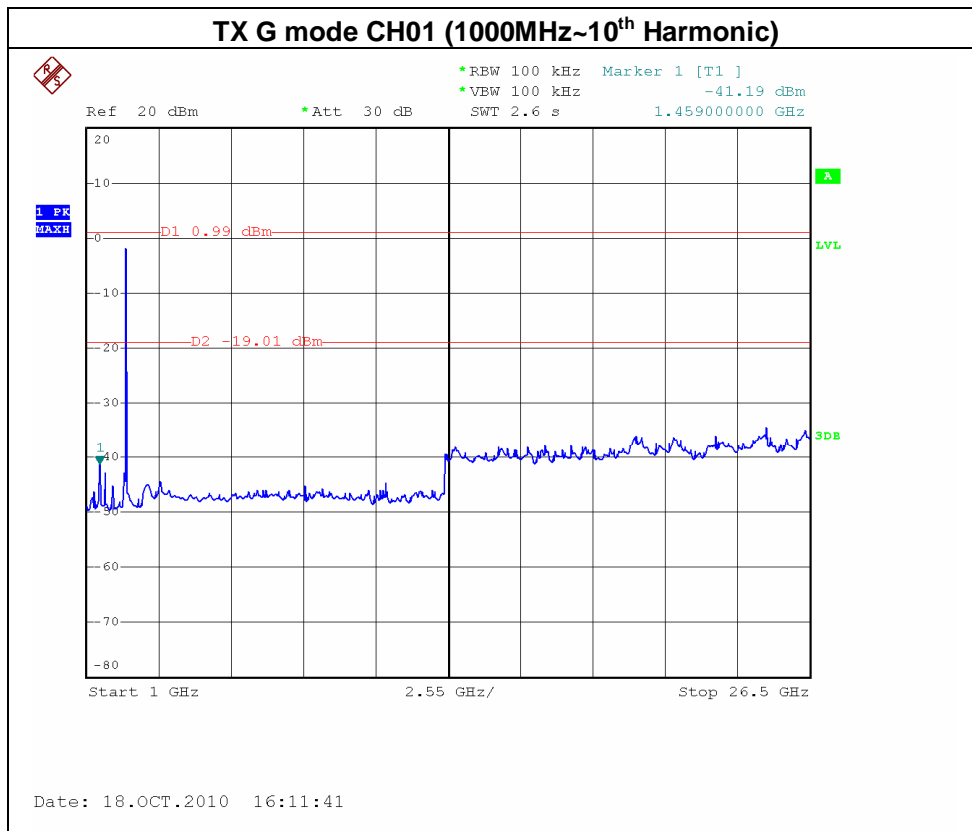
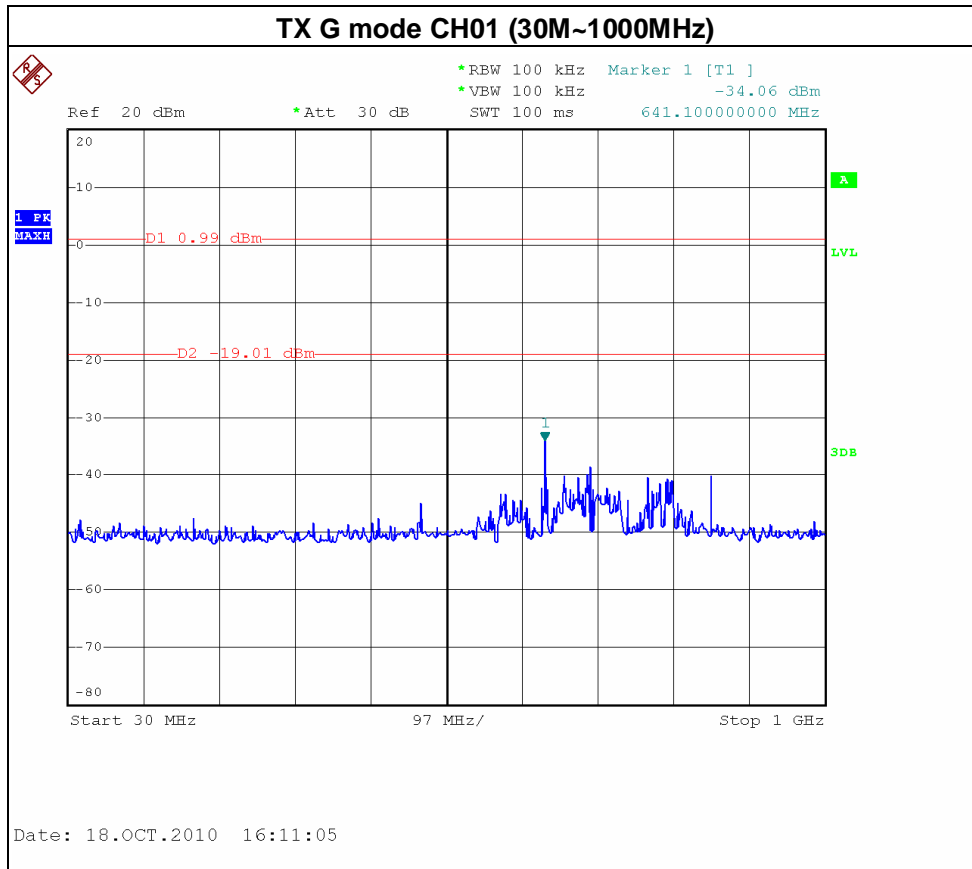


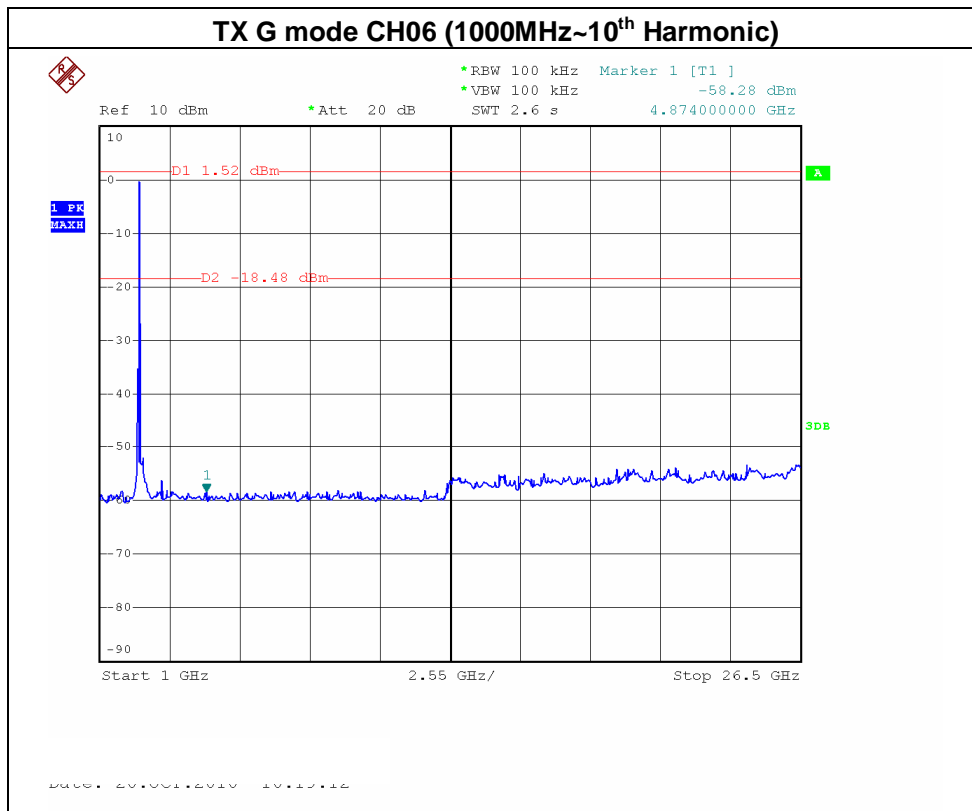
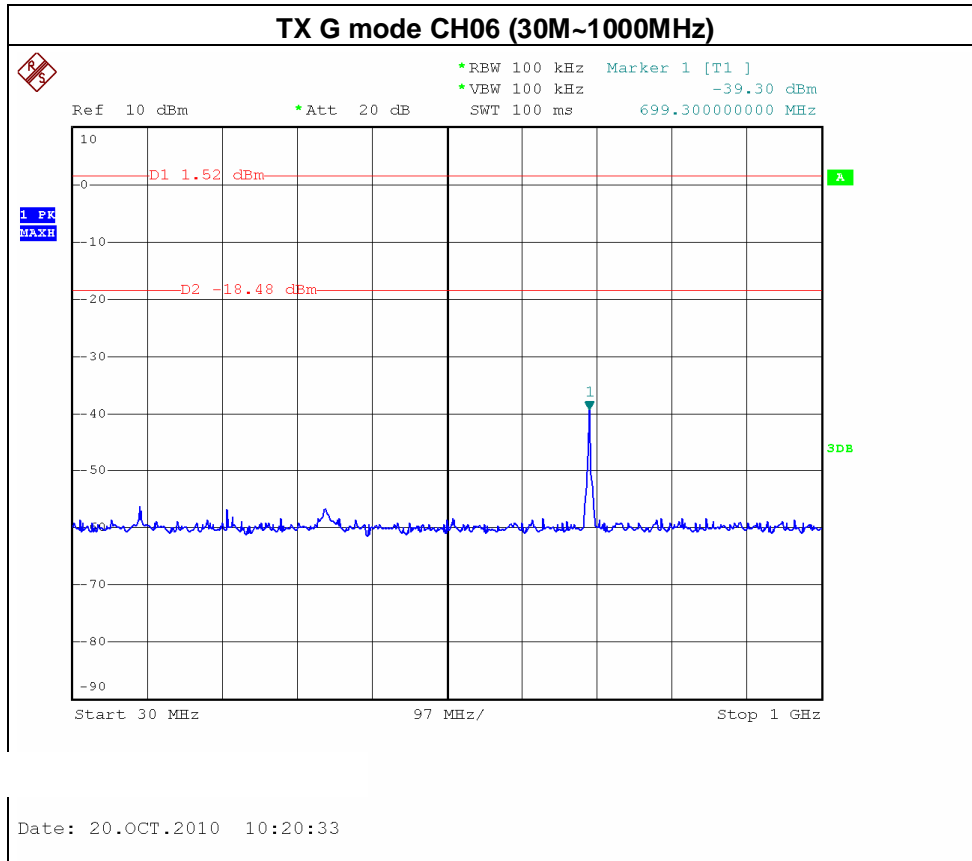


EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX G MODE / CH01,CH06, CH11		

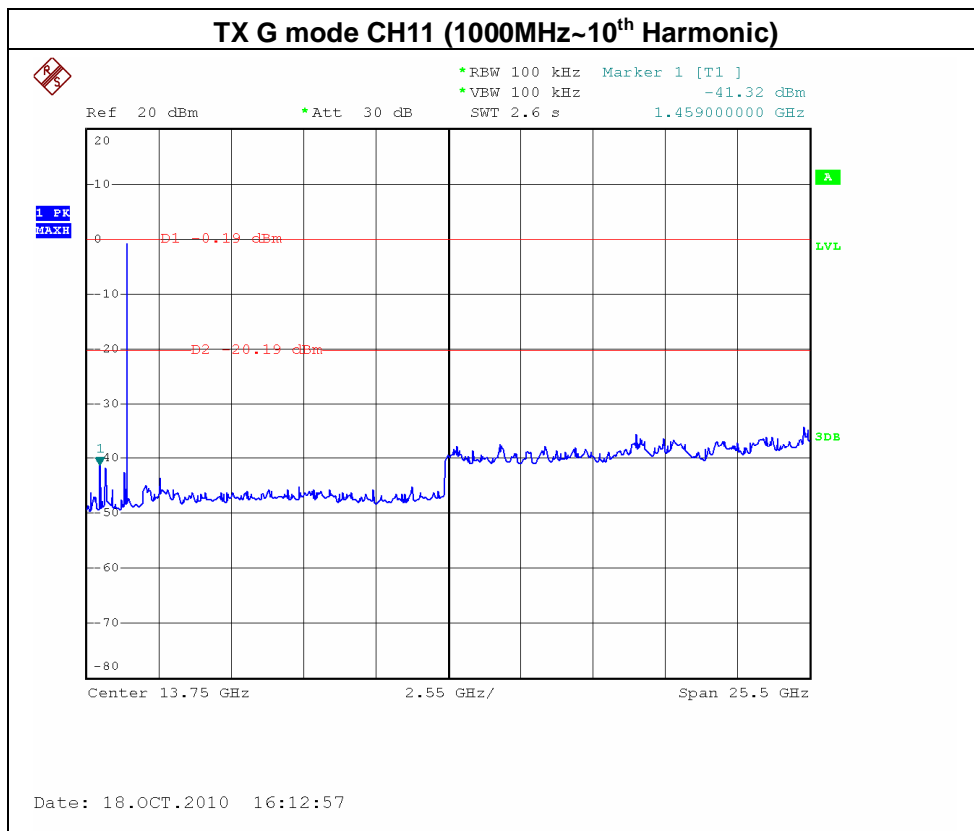
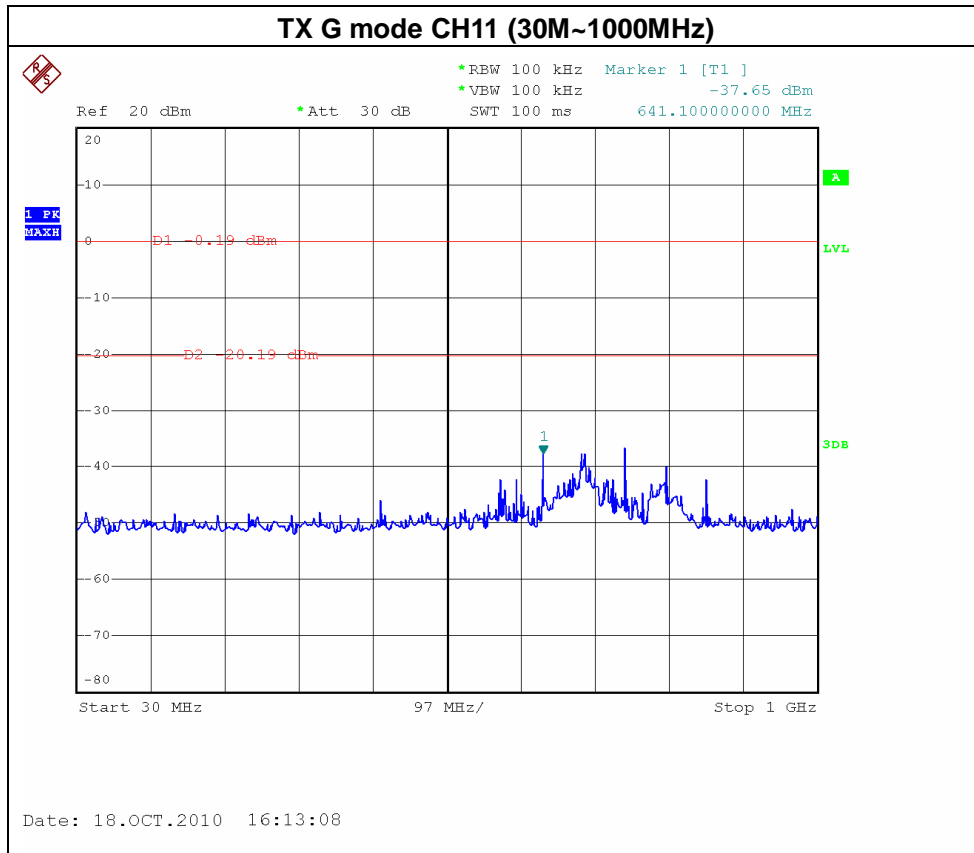
Channel of Worst Data: CH01			
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
2360.90	-41.26	2492.19	-46.30
Result			
In any 100kHz 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.			







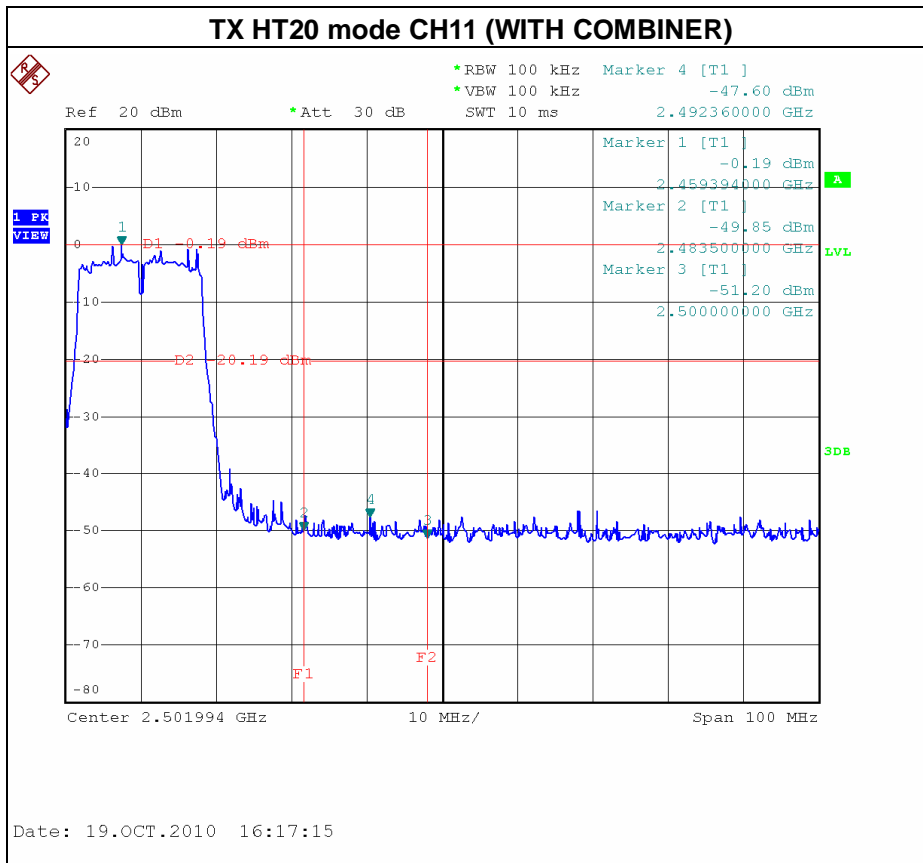
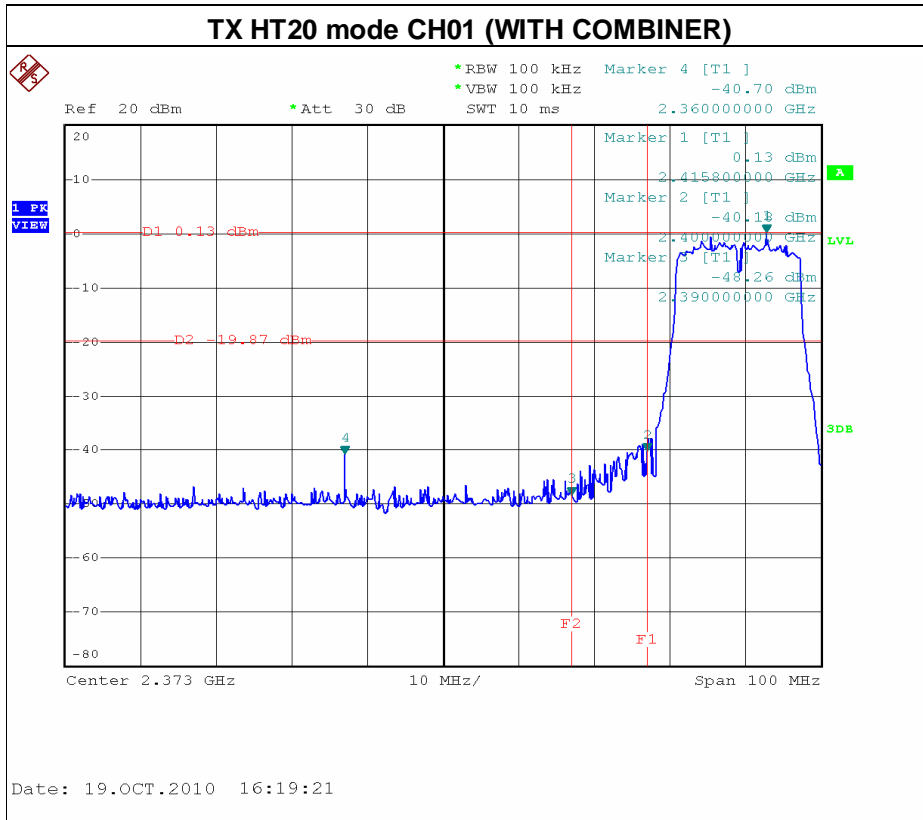


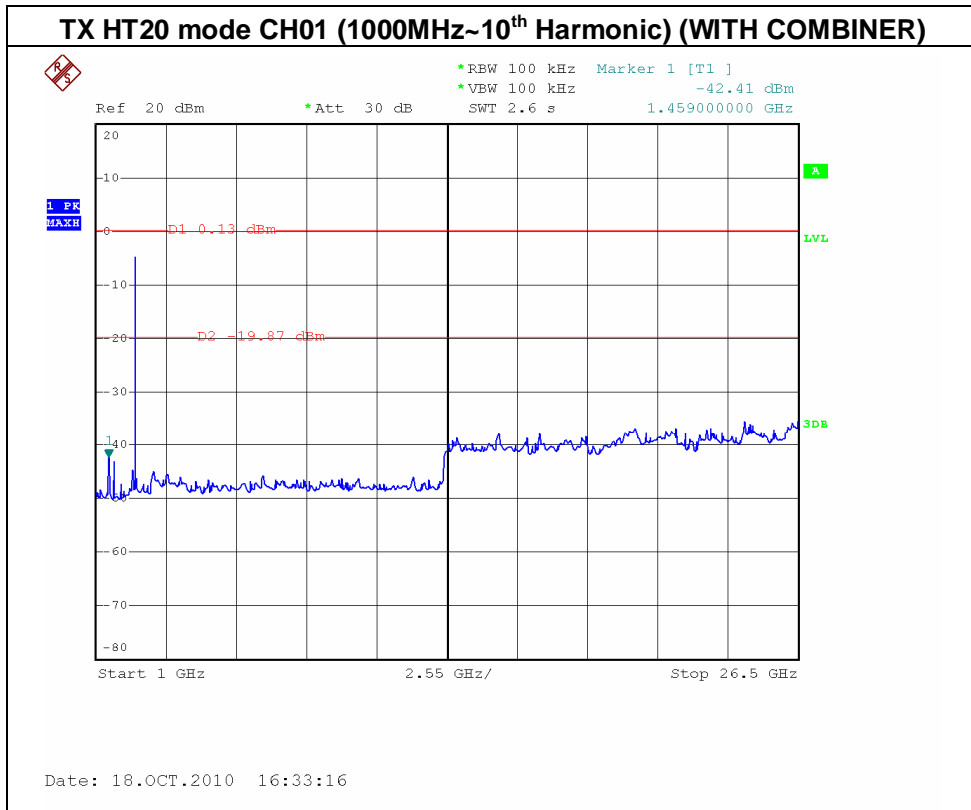
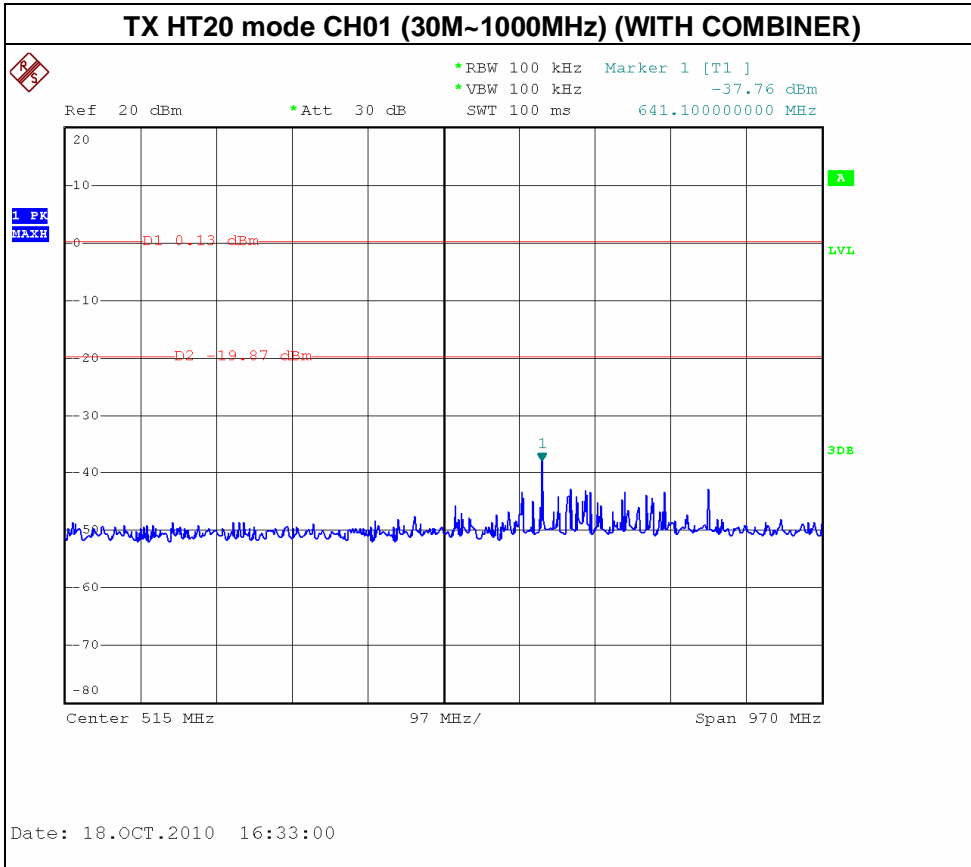


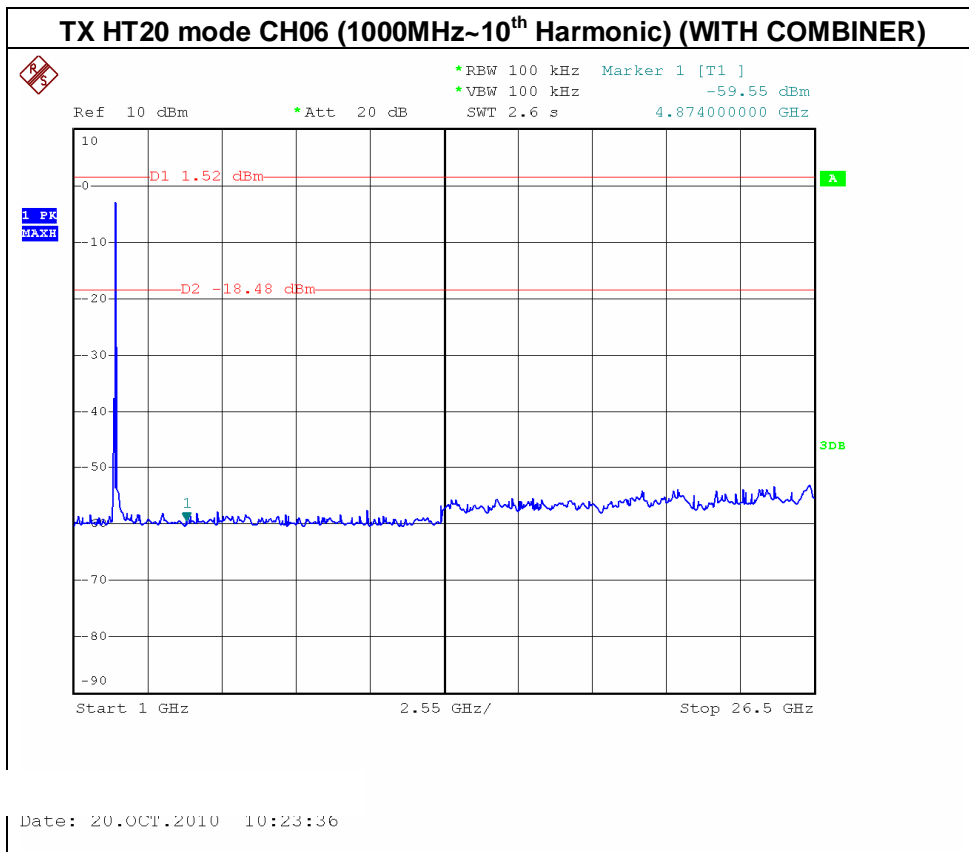
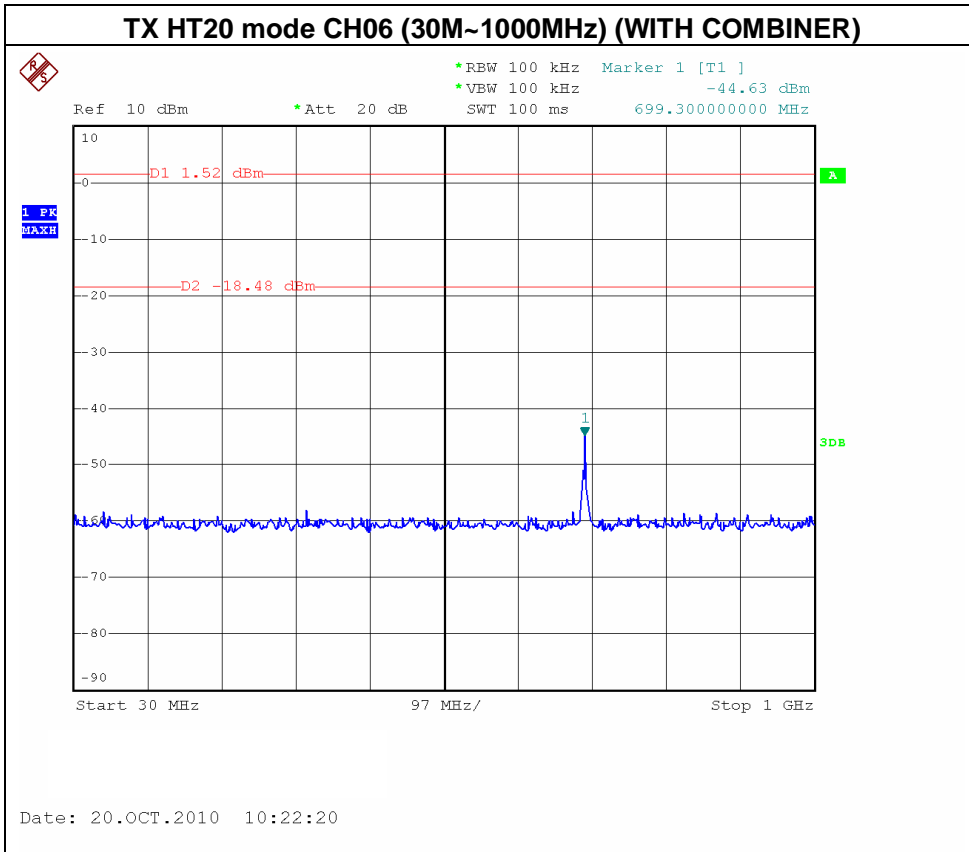


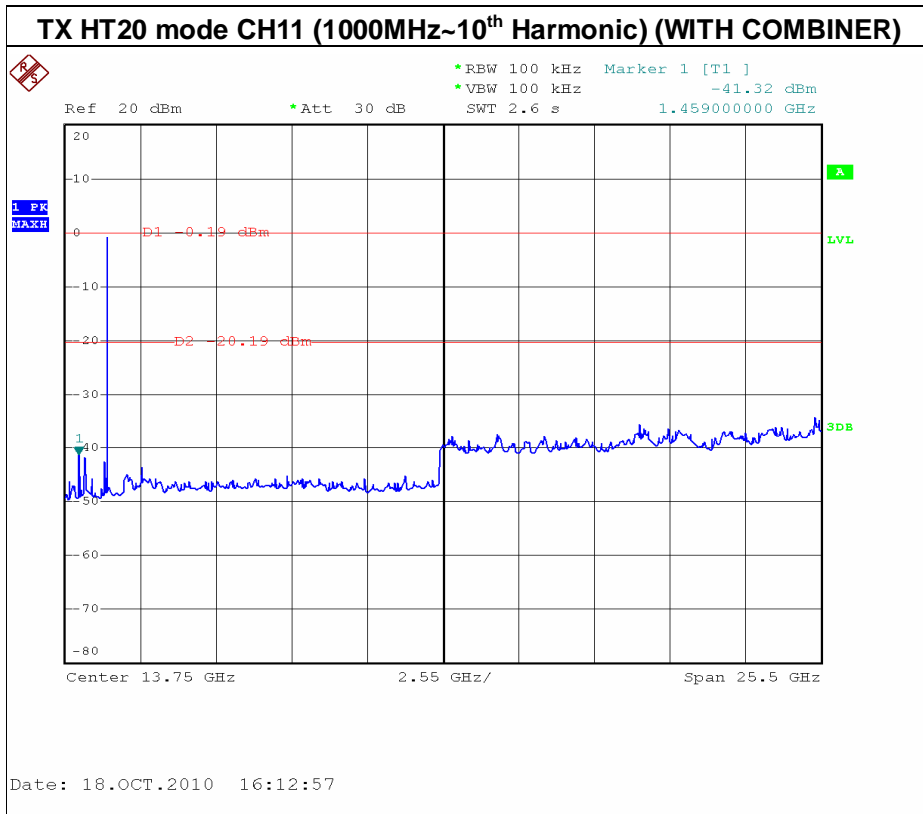
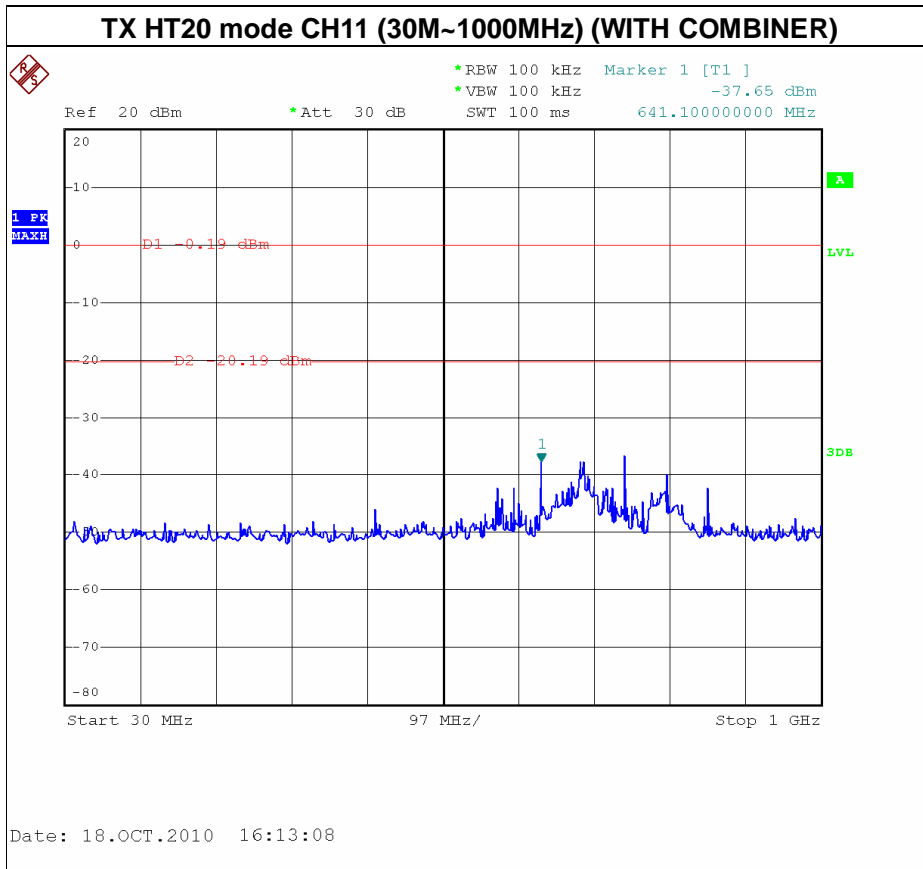
EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE / CH01,CH06, CH11 <b>(WITH COMBINER)</b>		

Channel of Worst Data: CH01 <b>(WITH COMBINER)</b>			
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)
2360.00	-40.70	2492.36	-47.60
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.			









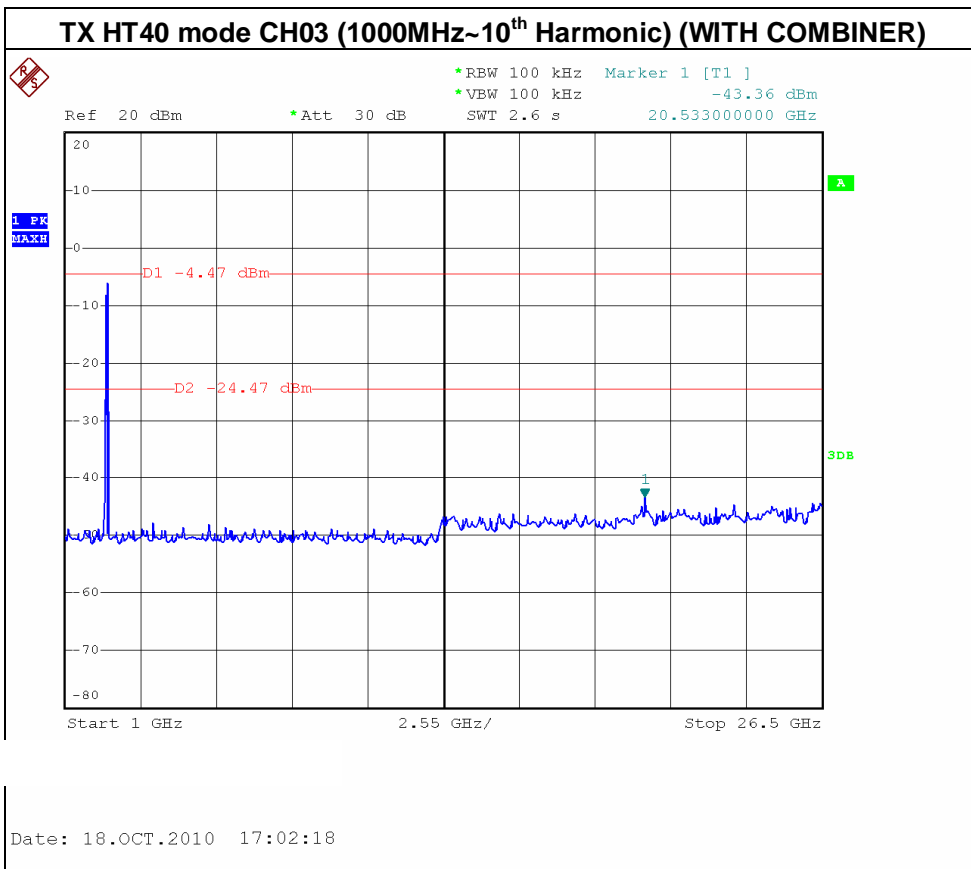
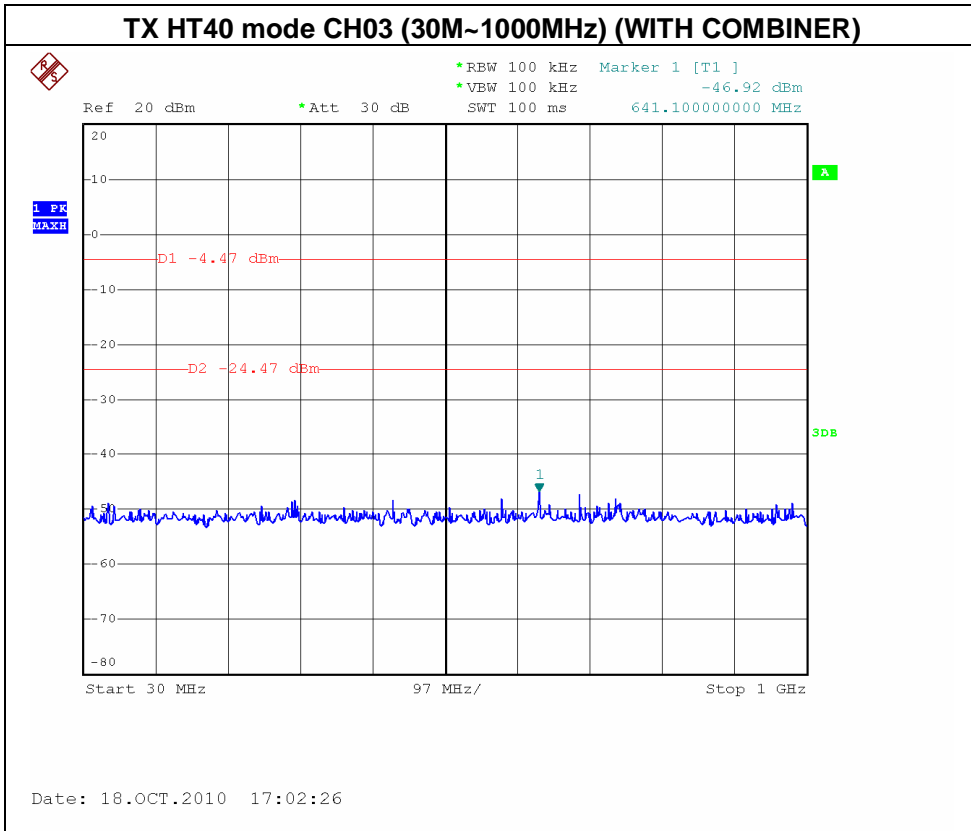


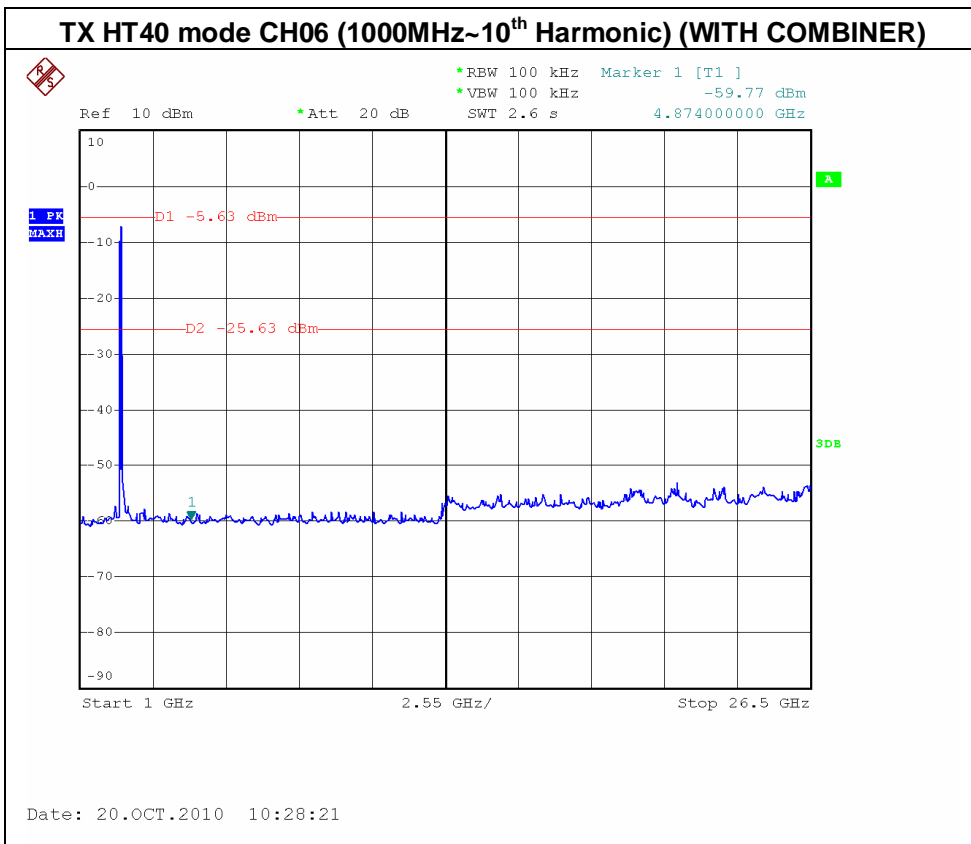
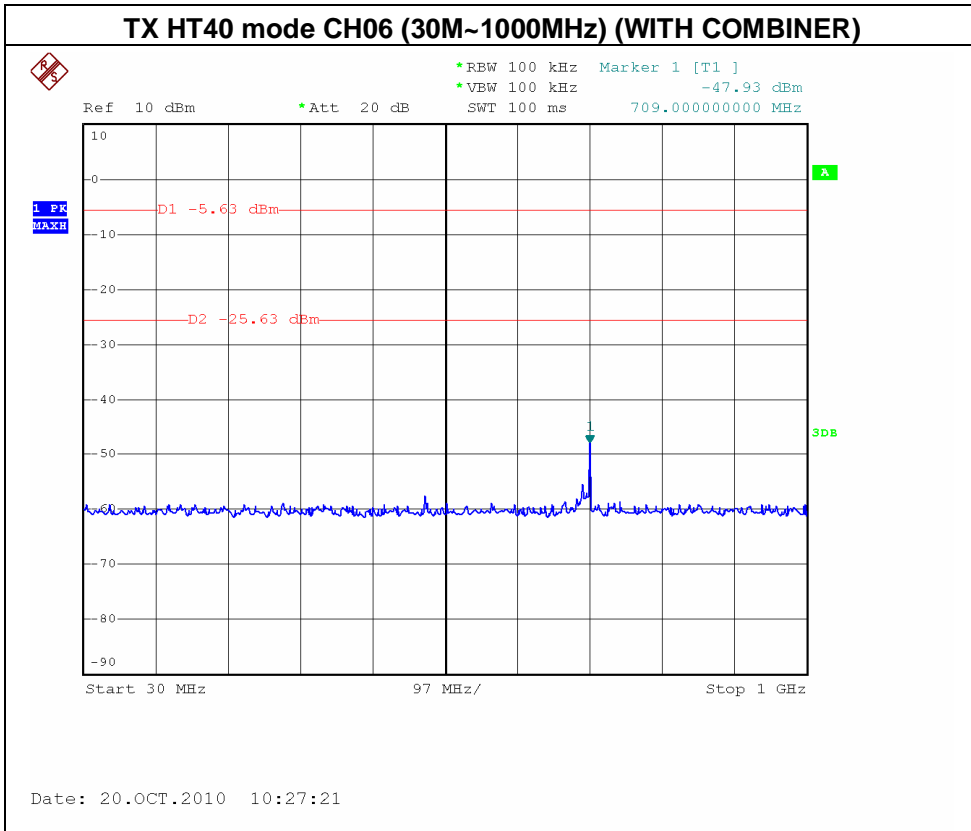
EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-40M MODE /CH03, CH06, CH09 <b>(WITH COMBINER)</b>		

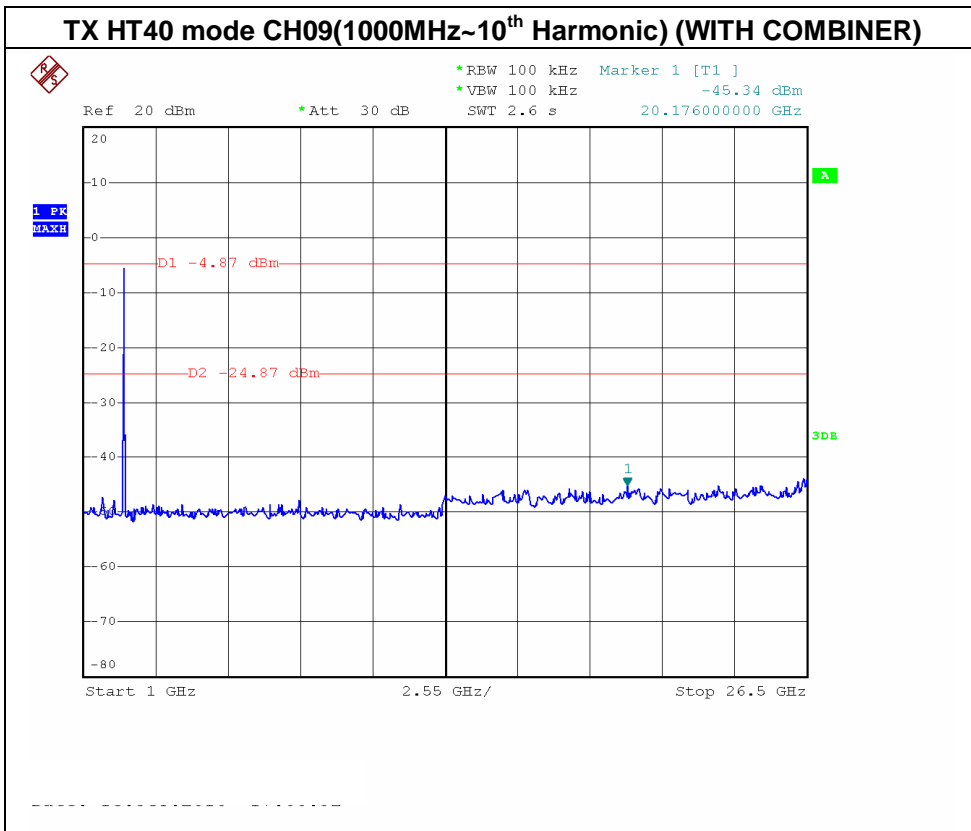
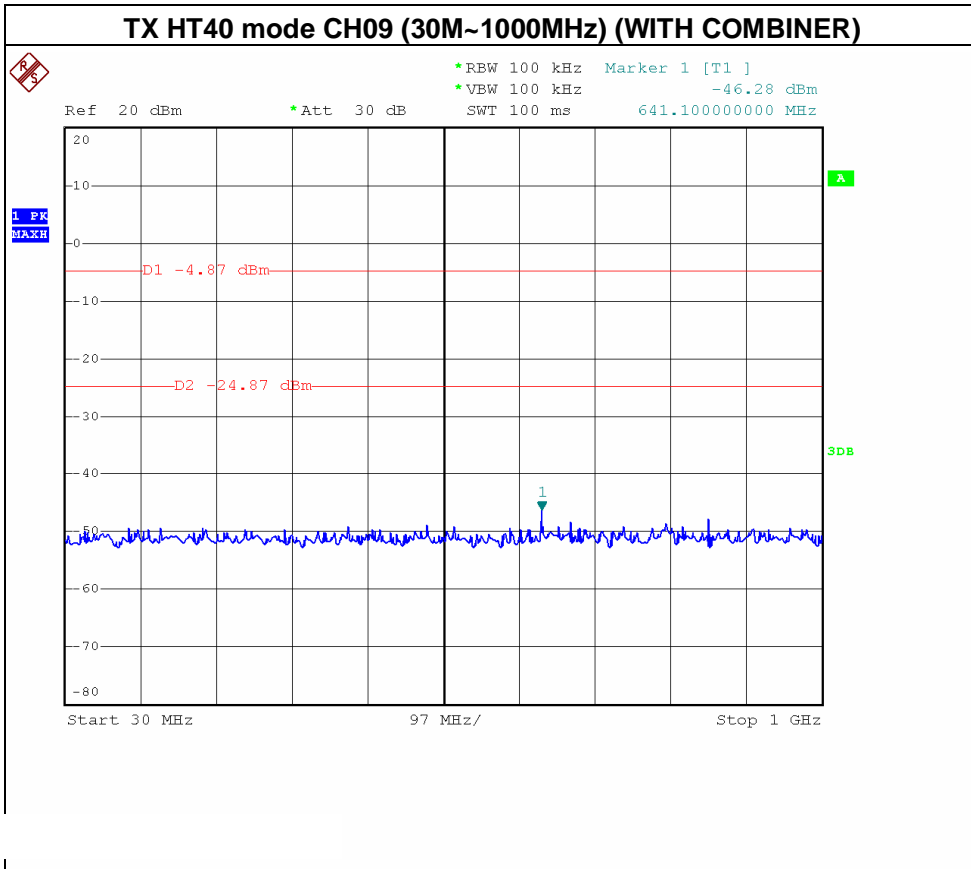
Channel of Worst Data: CH03 <b>(WITH COMBINER)</b>			
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
2385.50	-37.35	2486.7	-37.59
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.			









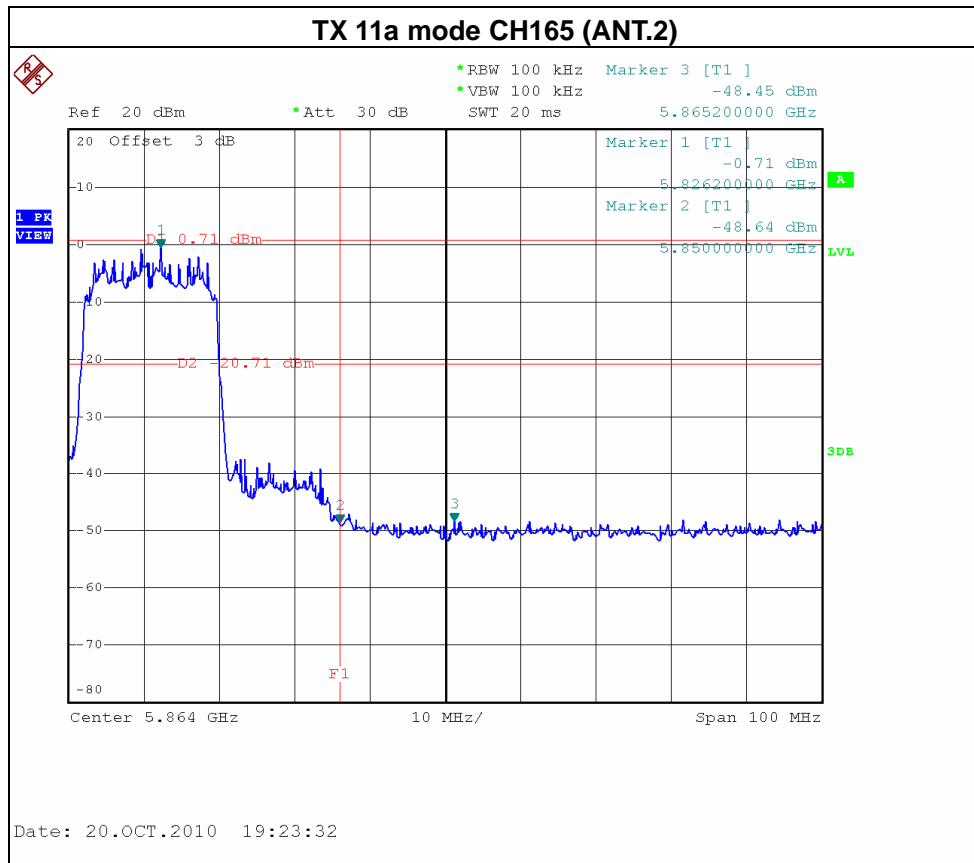
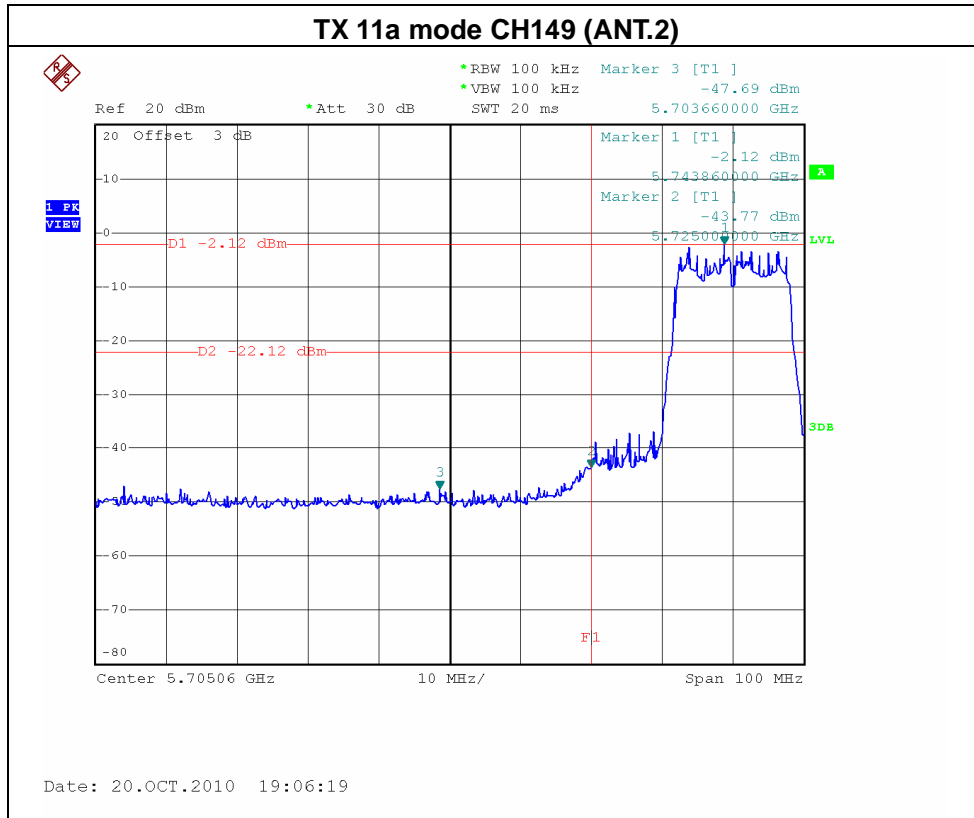


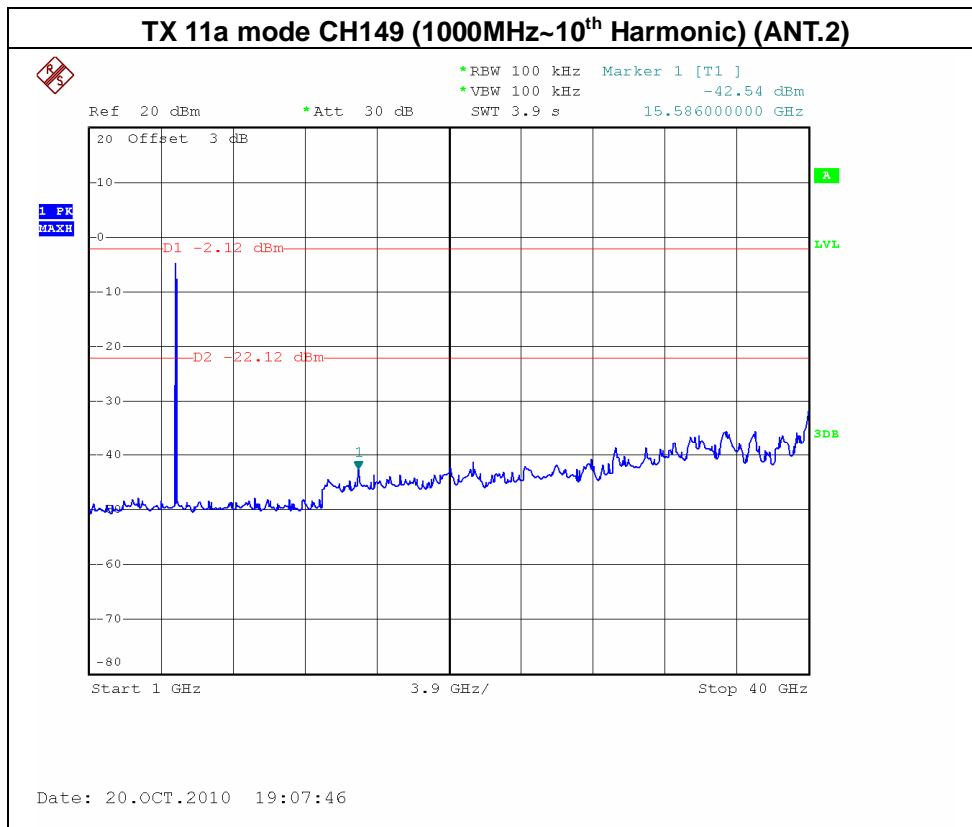
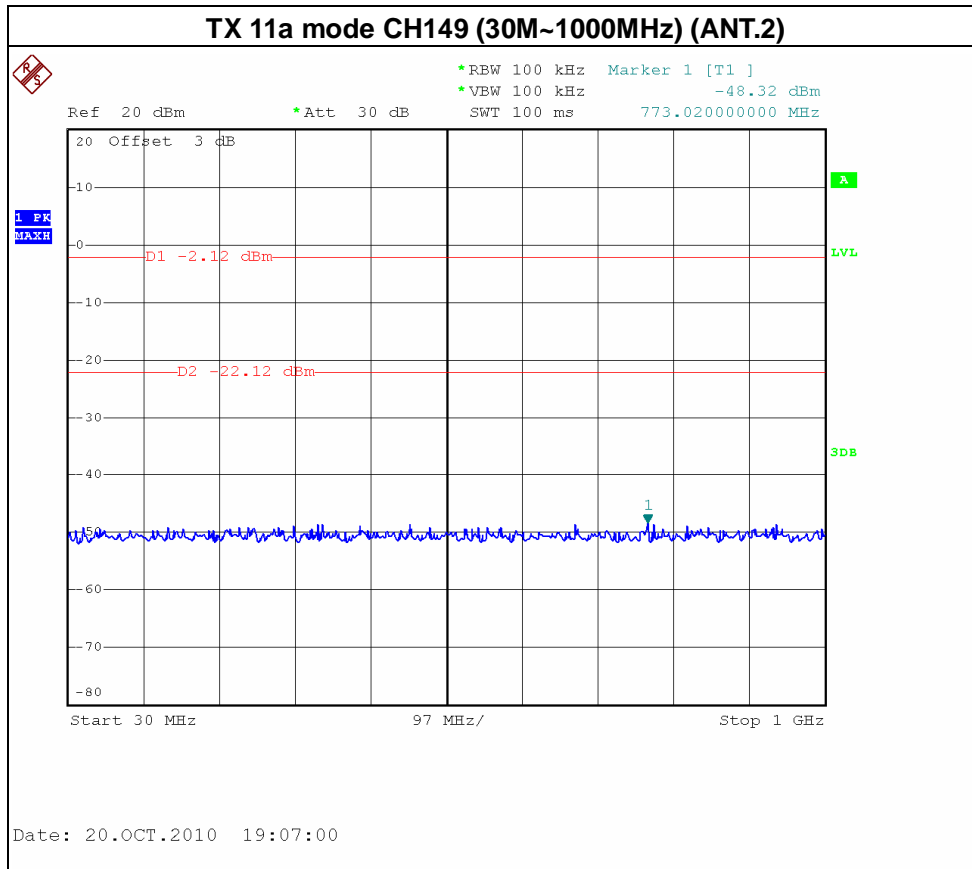


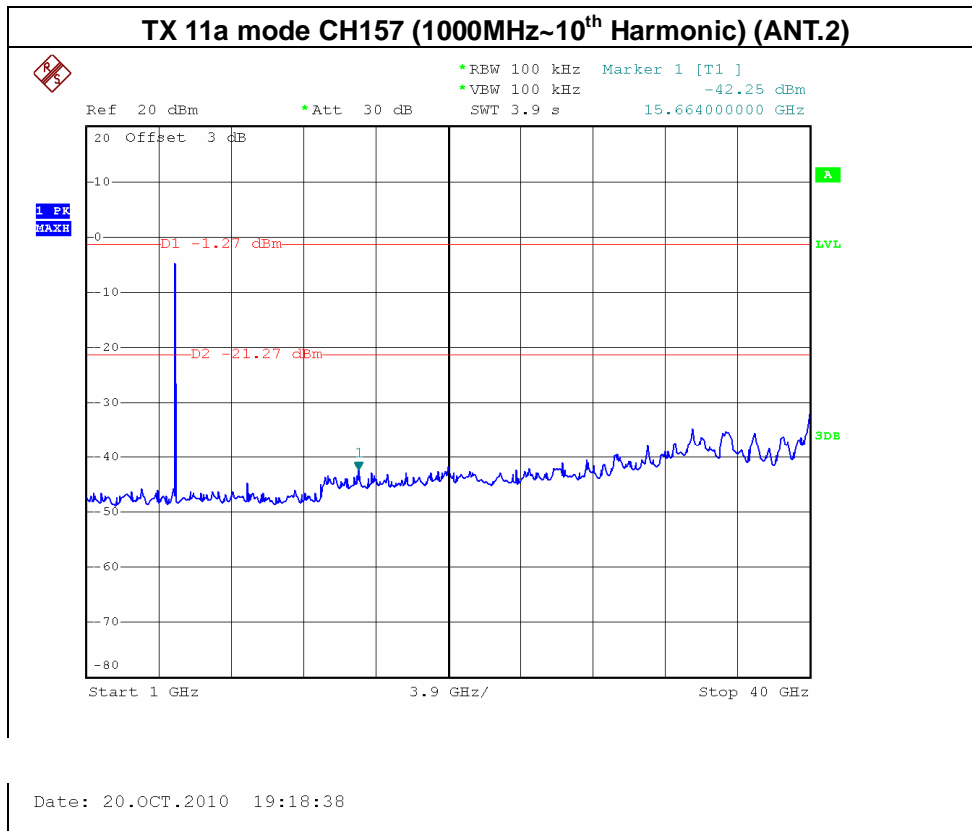
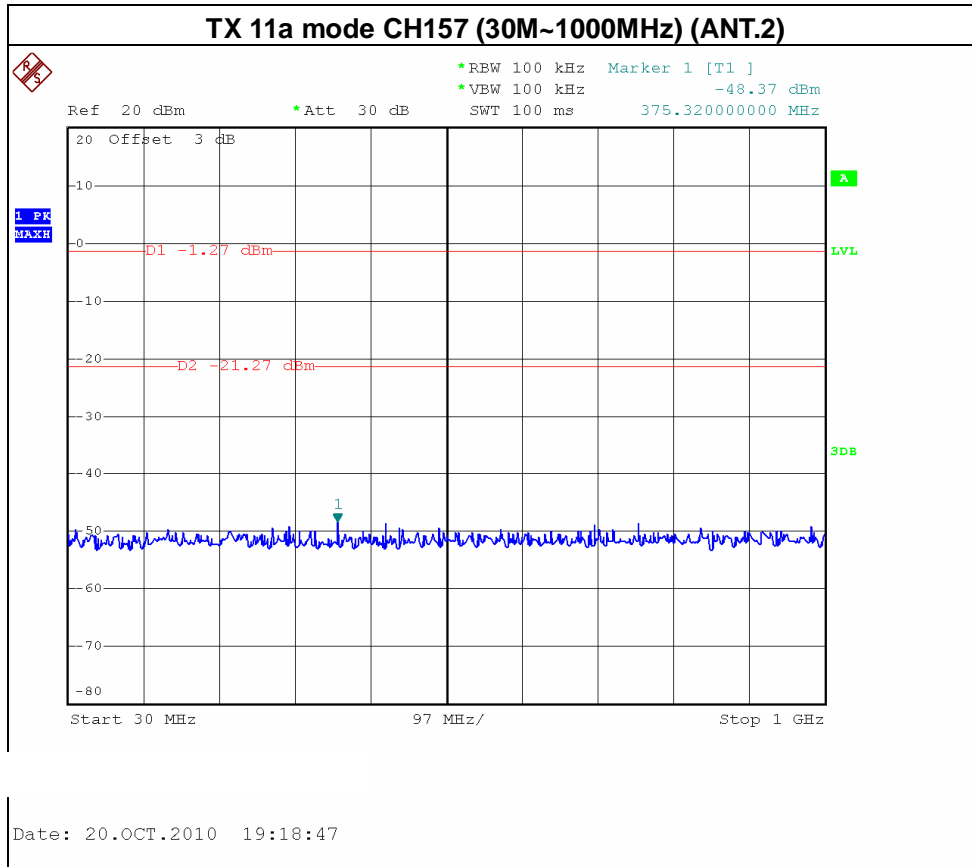
**7.1.7 TEST RESULTS-5G BANG**

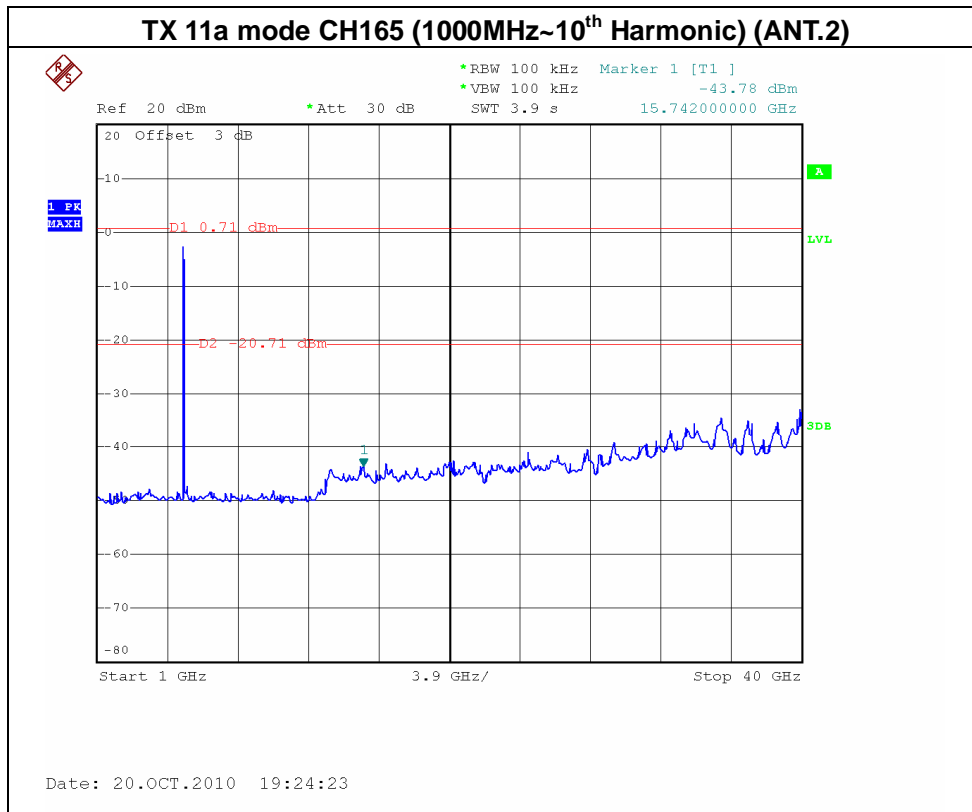
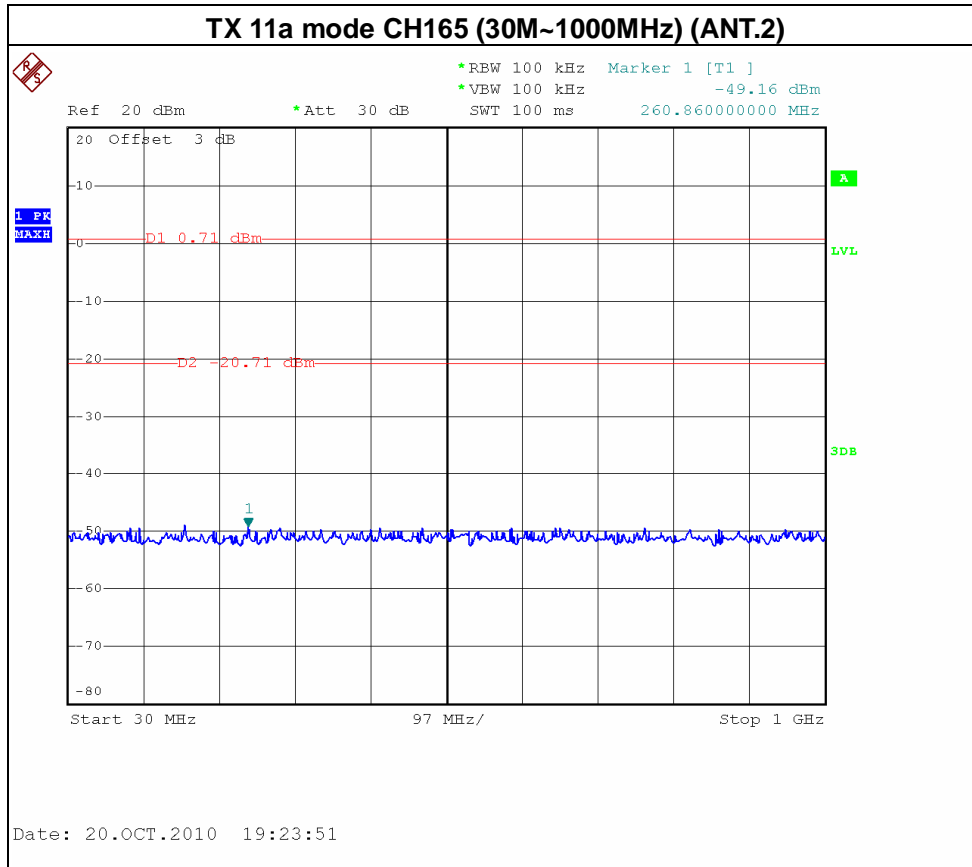
EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX 11a MODE /CH149, CH157, CH165 <b>(ANT.2)</b>		

Channel of Worst Data: CH149 <b>(ANT.2)</b>			
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)
5725.00	-43.77	5865.20	-48.45
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.			







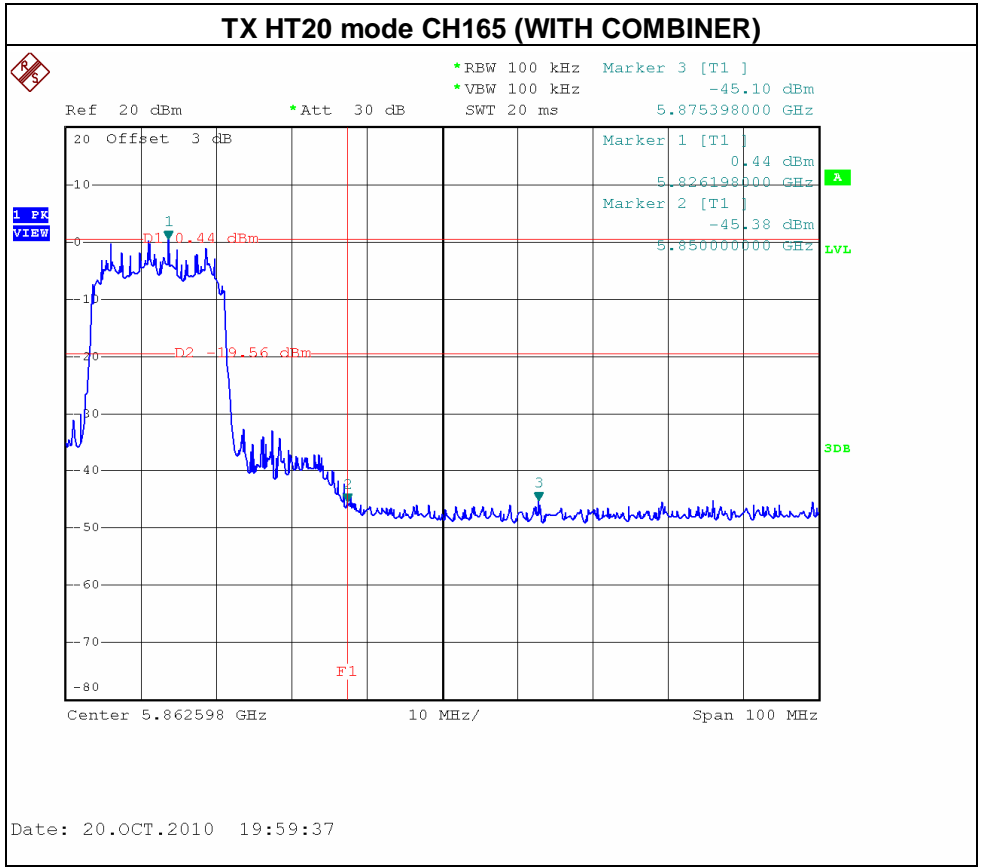
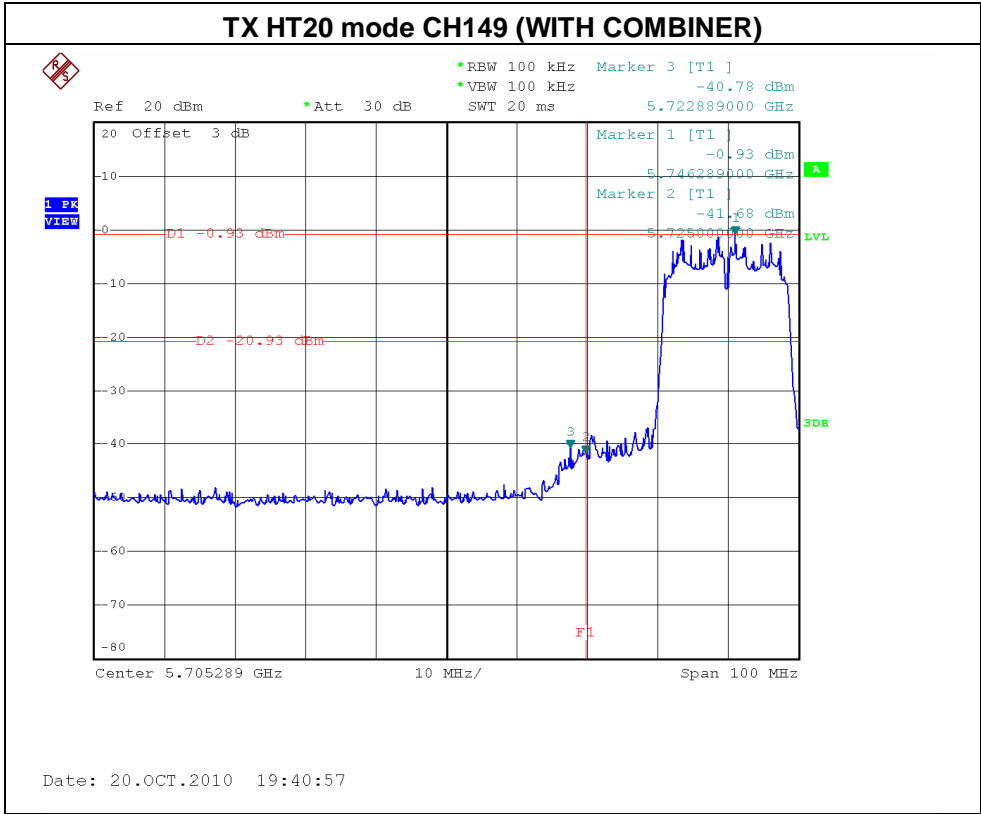






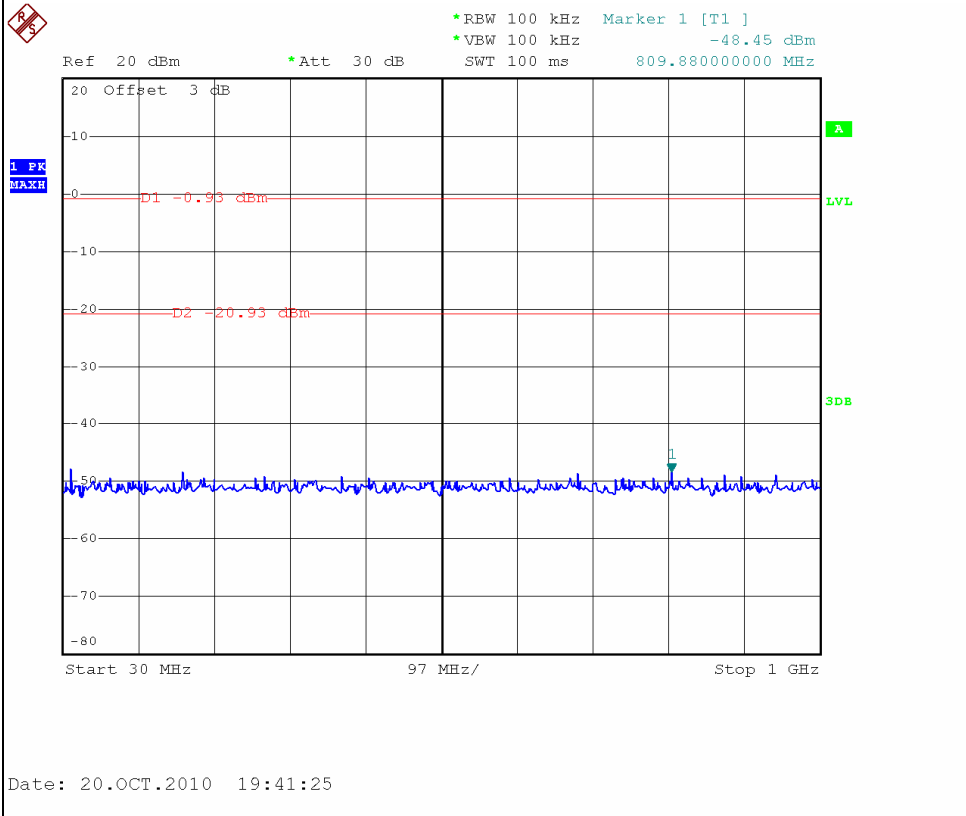
EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE /CH149, CH157, CH165 <b>(WITH COMBINER)</b>		

Channel of Worst Data: CH149 <b>(WITH COMBINER)</b>			
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)
5722.89	-40.78	5875.40	-45.10
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.			

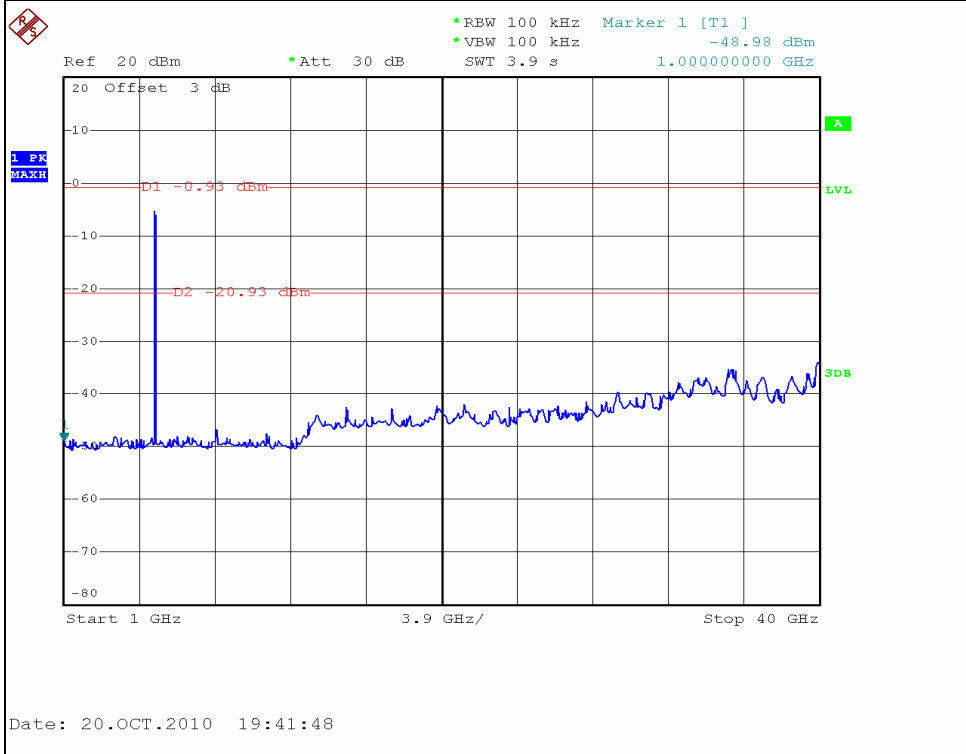




### TX HT20 mode CH149 (30M~1000MHz) (WITH COMBINER)

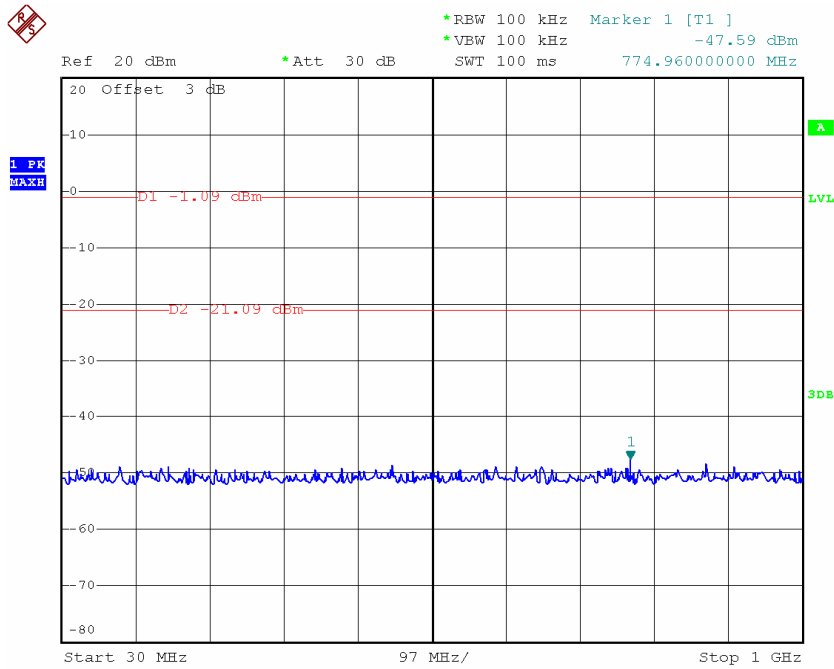


### TX HT20 mode CH149 (1000MHz~10<sup>th</sup> Harmonic) (WITH COMBINER)



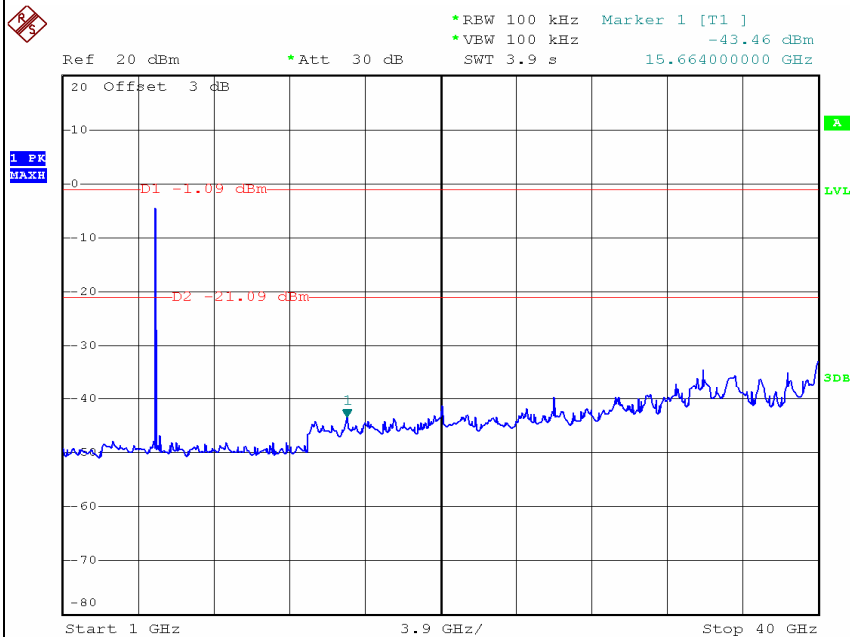


### TX HT20 mode CH157 (30M~1000MHz) (WITH COMBINER)



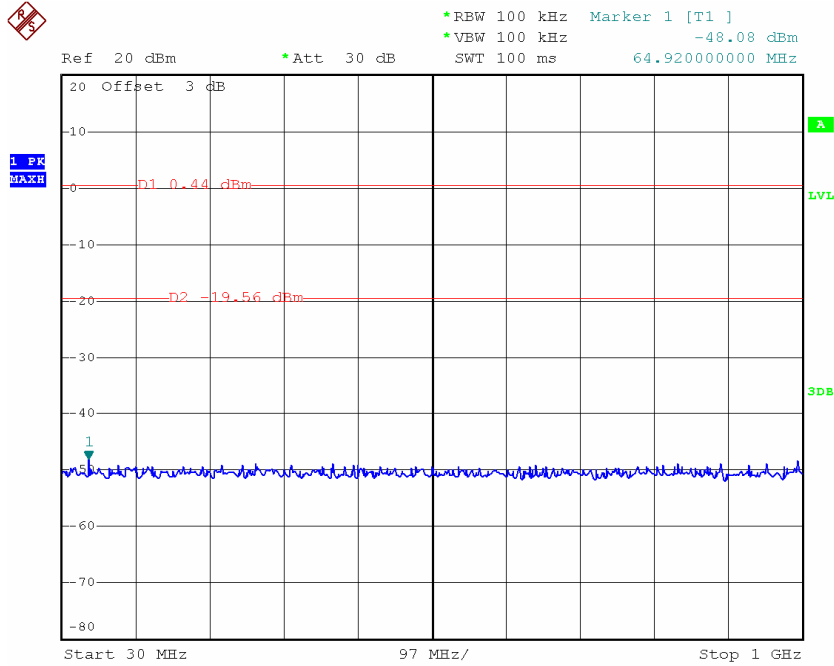
Date: 20.OCT.2010 19:44:45

### TX HT20 mode CH157 (1000MHz~10<sup>th</sup> Harmonic) (WITH COMBINER)



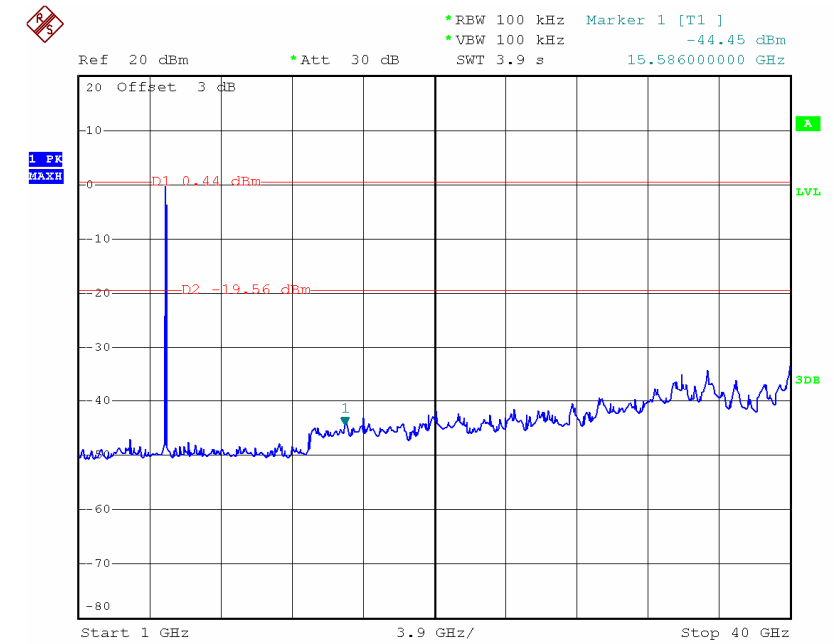


### TX HT20 mode CH165 (30M~1000MHz) (WITH COMBINER)



Date: 20.OCT.2010 20:00:46

### TX HT20 mode CH165 (1000MHz~10<sup>th</sup> Harmonic) (WITH COMBINER)

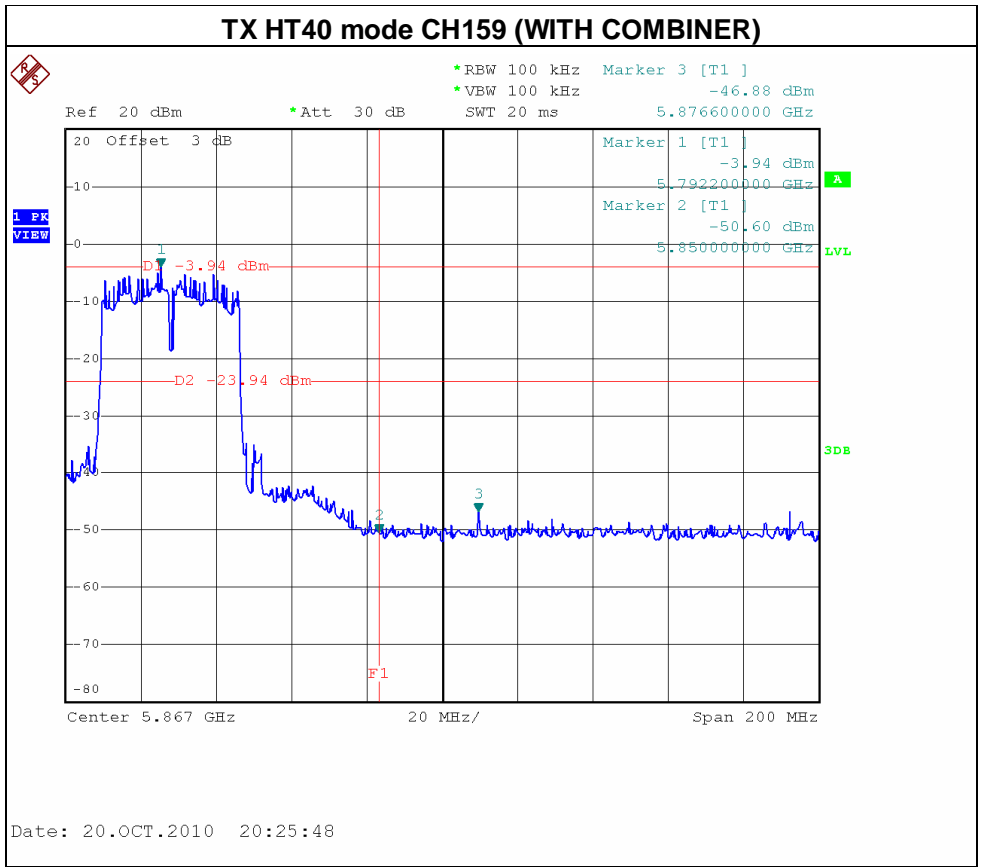
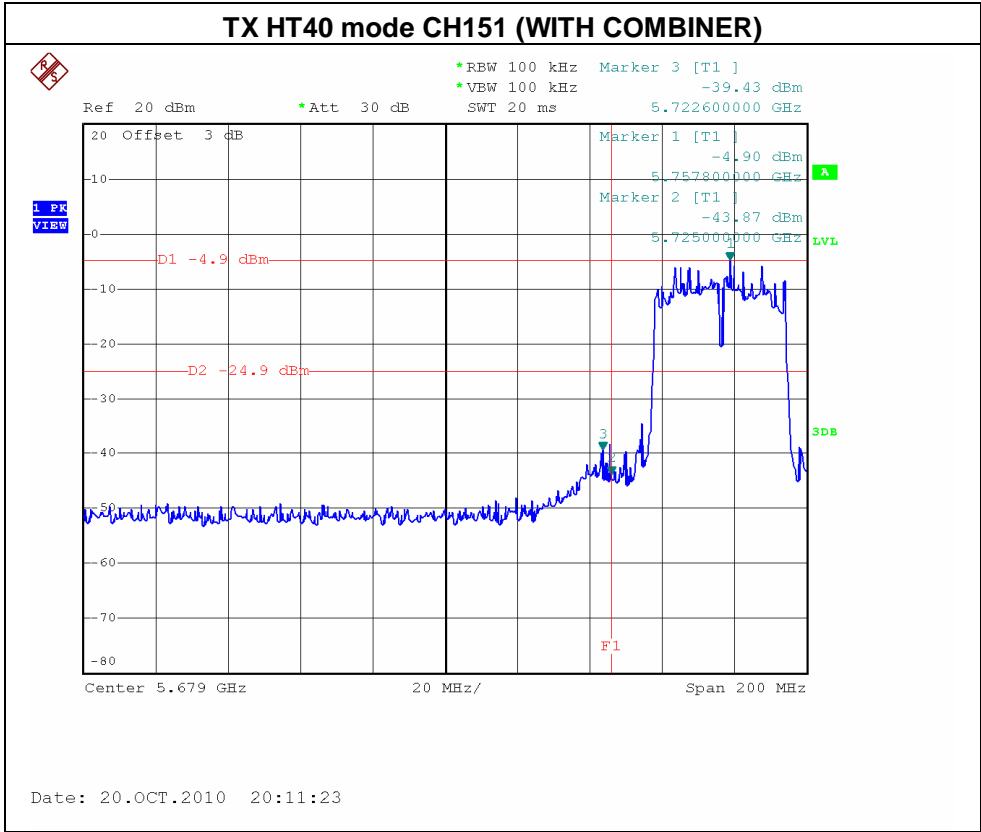


Date: 20.OCT.2010 20:01:11



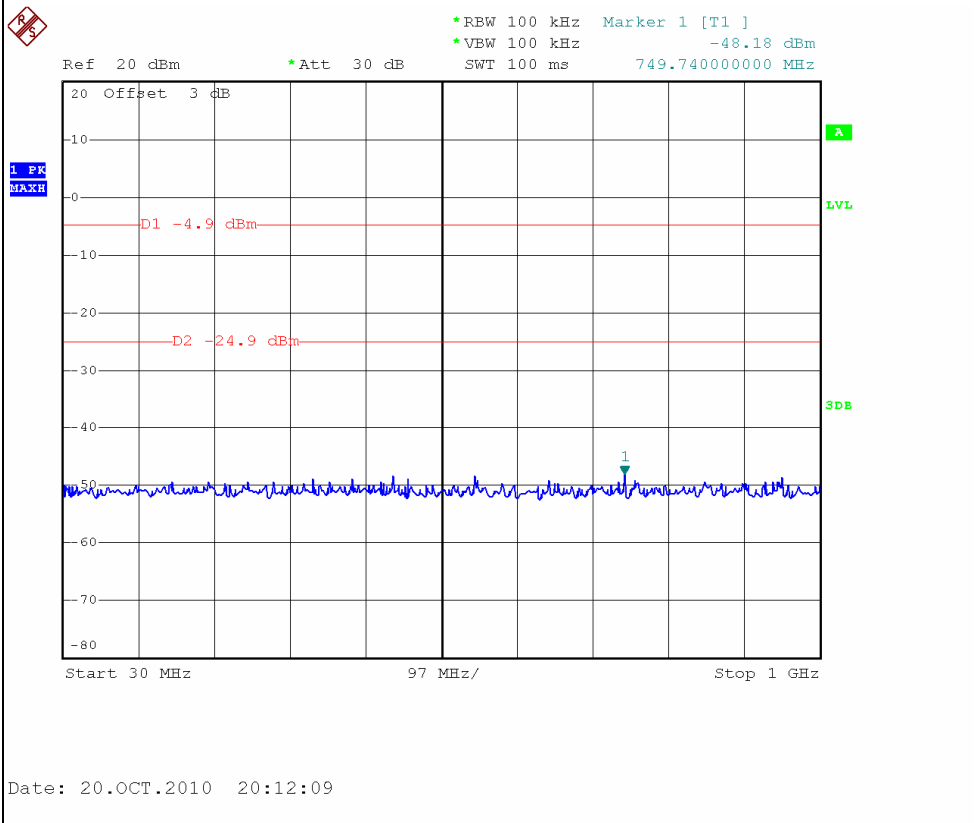
EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-40M MODE /CH151, CH159 <b>(WITH COMBINER)</b>		

Channel of Worst Data: CH151 <b>(WITH COMBINER)</b>			
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)
5722.60	-39.43	5876.60	-46.88
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.			

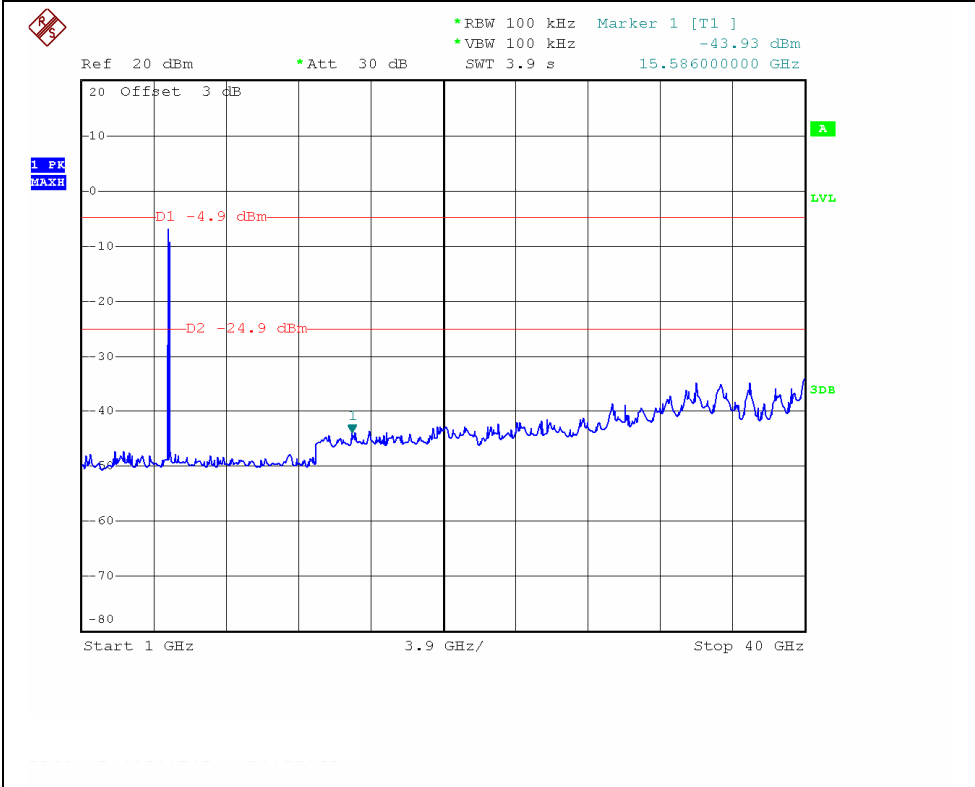




### TX HT40 mode CH151 (30M~1000MHz) (WITH COMBINER)



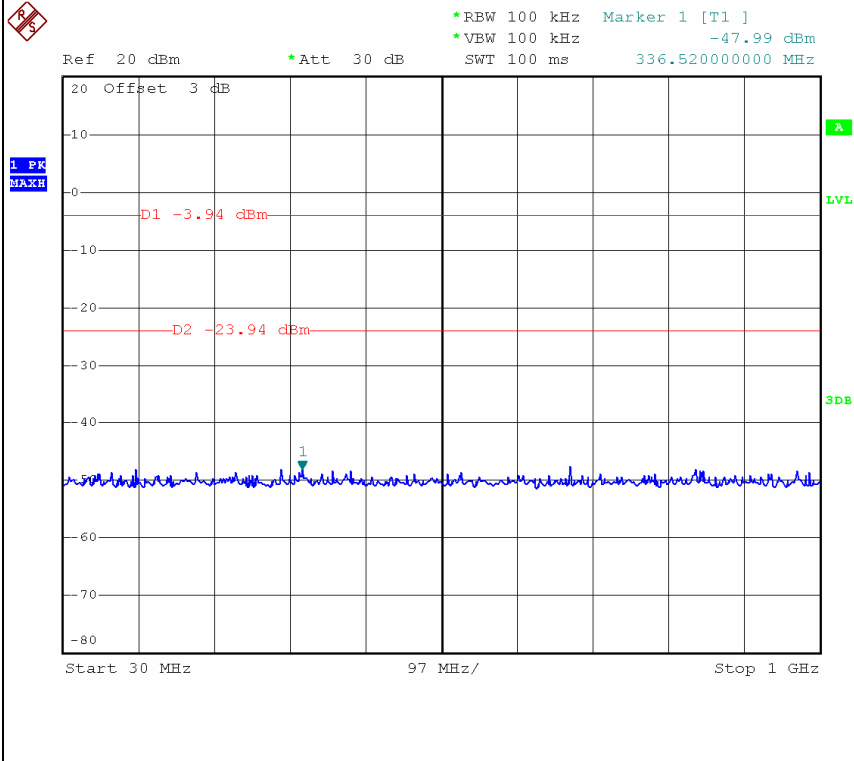
### TX HT40 mode CH151 (1000MHz~10<sup>th</sup> Harmonic) (WITH COMBINER)



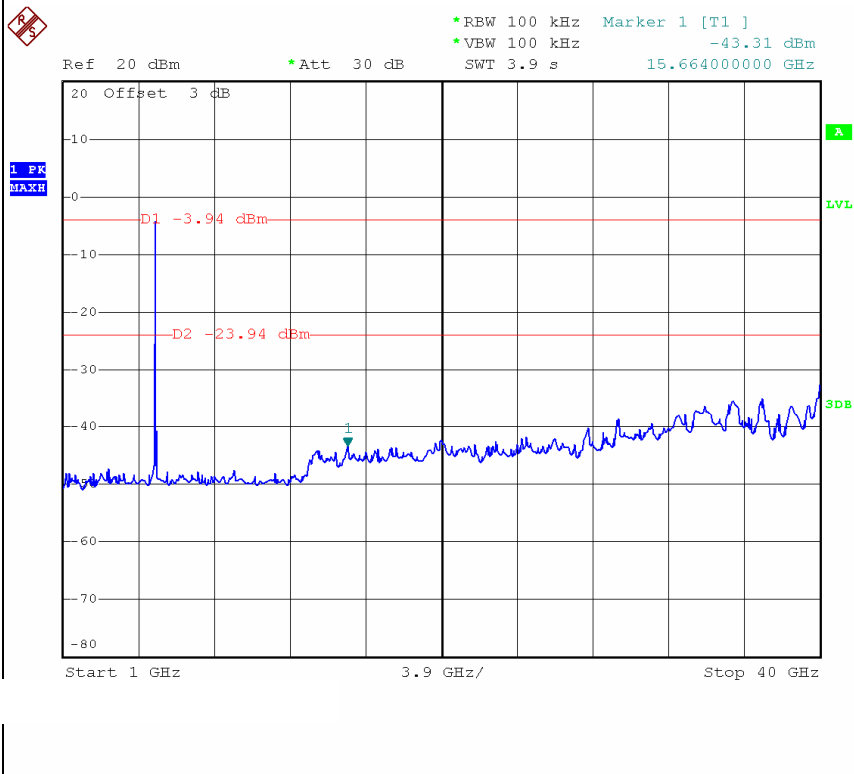




### TX HT40 mode CH159 (30M~1000MHz) (WITH COMBINER)



### TX HT40 mode CH159(1000MHz~10<sup>th</sup> Harmonic) (WITH COMBINER)



Date: 20.OCT.2010 20:27:22



**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 5725~5825	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	100129	Jan. 05, 2011

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**

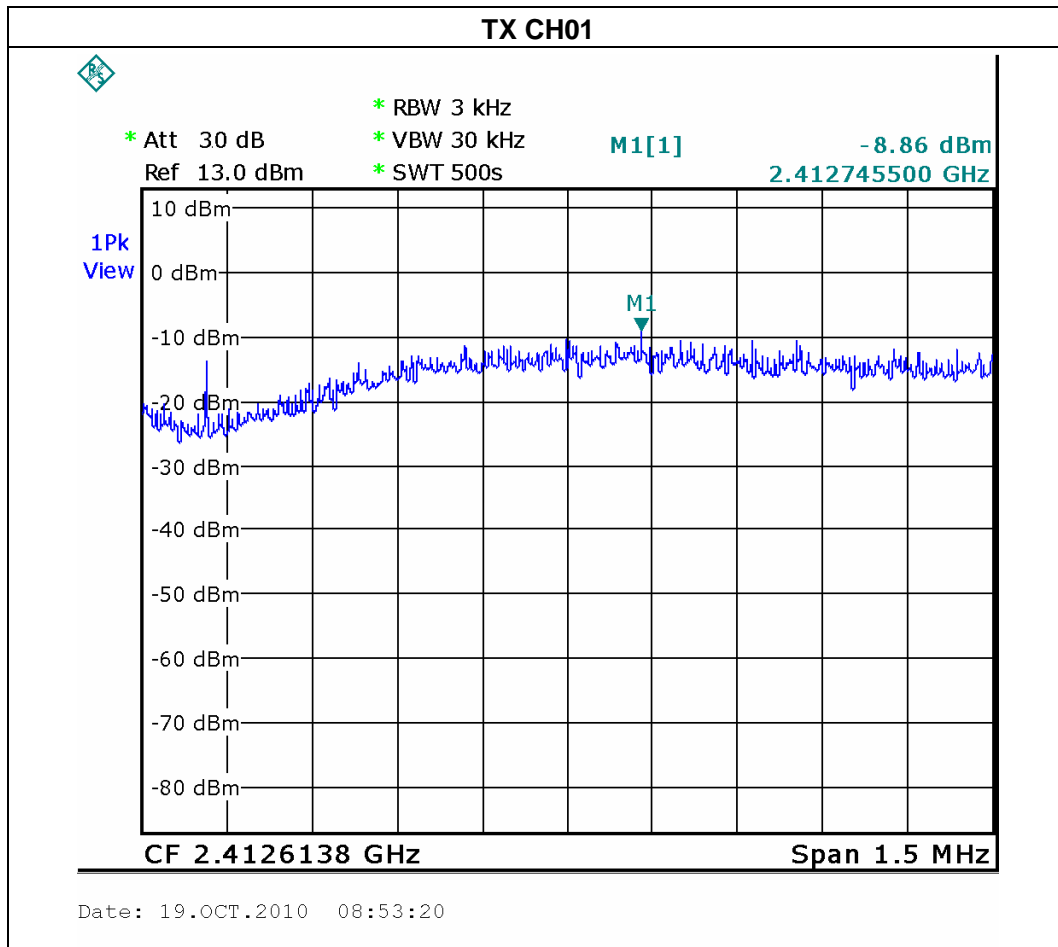
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.



**8.1.6 TEST RESULTS-2.4G BAND**

EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
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	-8.86	8
CH06	2437 MHz	-10.00	8
CH11	2462 MHz	-9.53	8

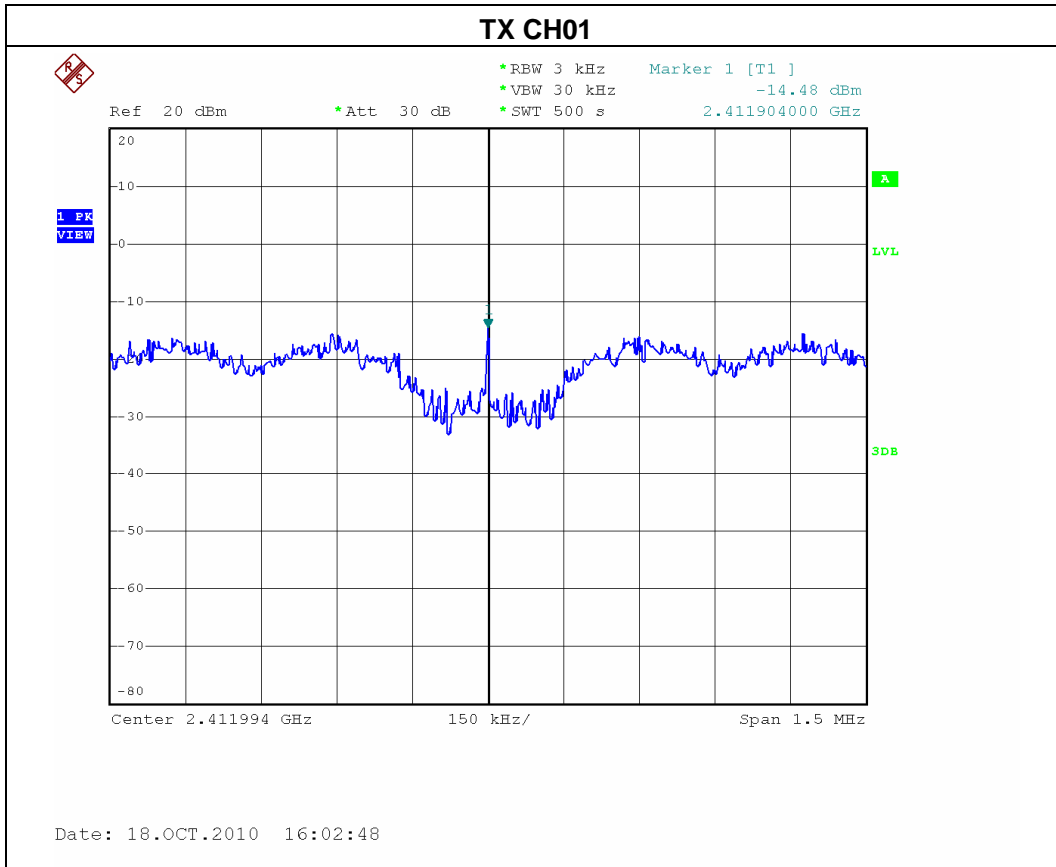


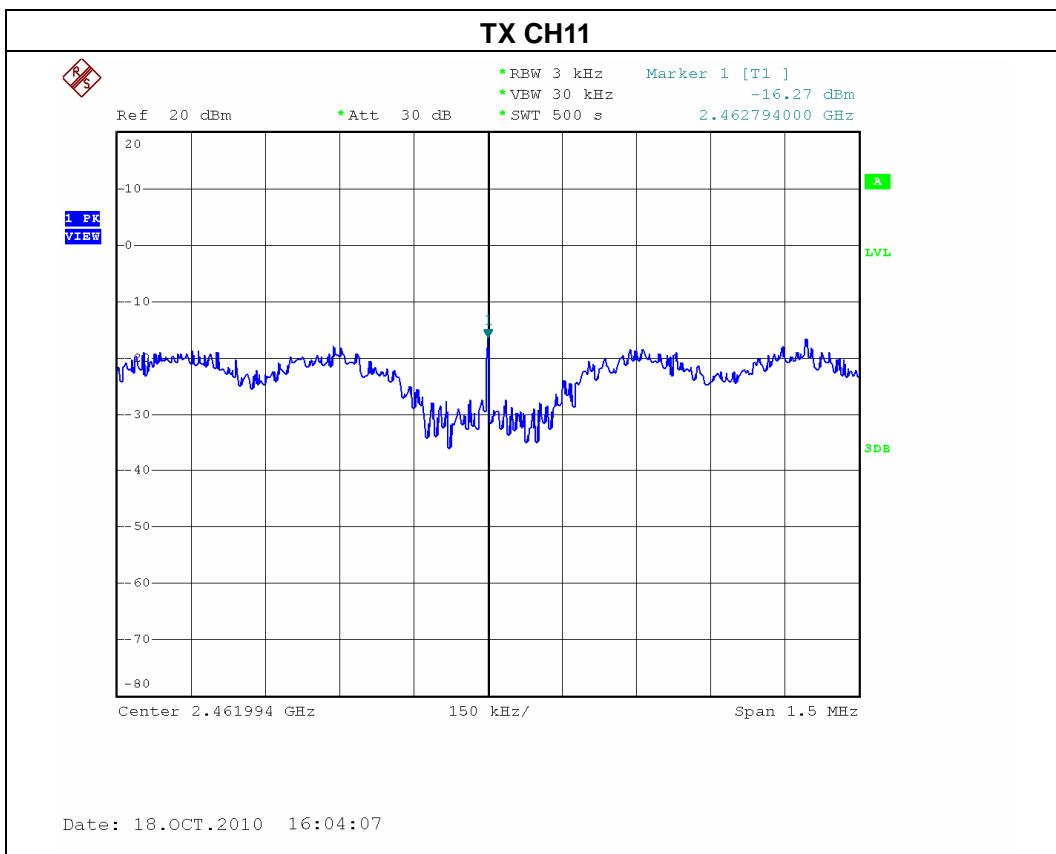
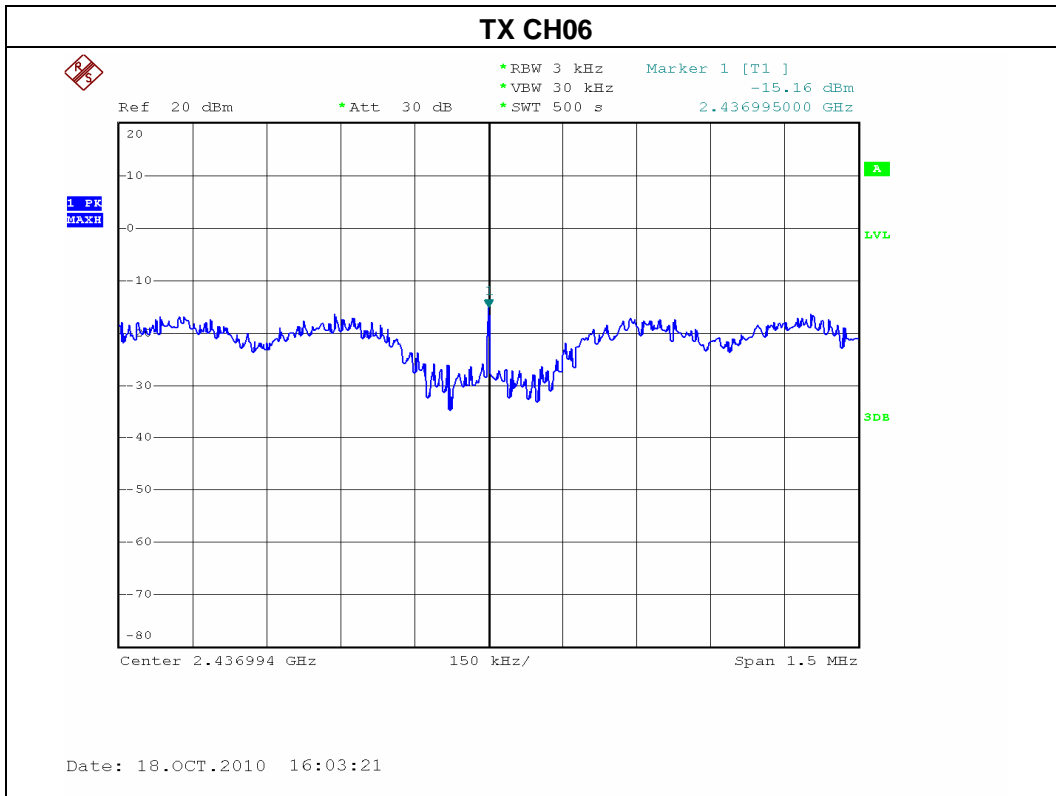




EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX G MODE /CH01, CH06, CH11		

Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH01	2412 MHz	-14.48	8
CH06	2437 MHz	-15.16	8
CH11	2462 MHz	-16.27	8







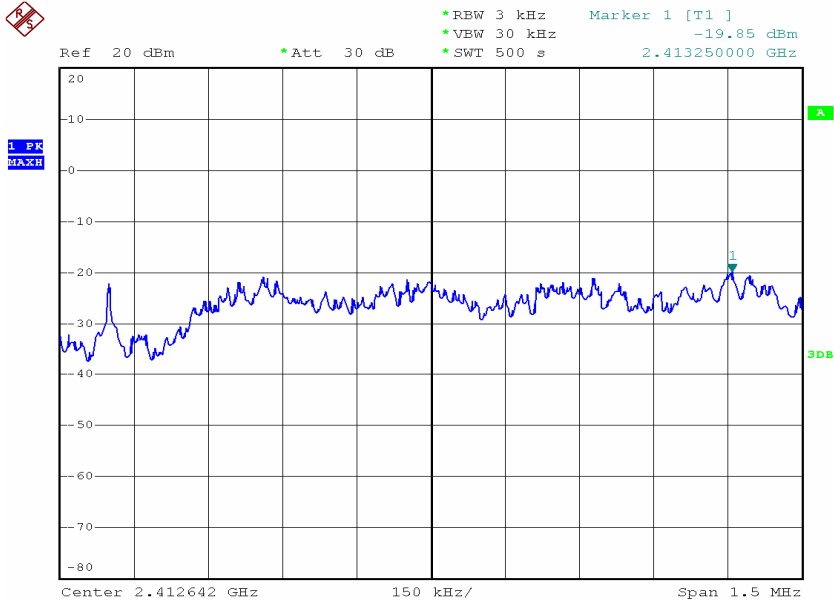
EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE /CH01, CH06, CH11		

ANT.1					
Test Channel	Frequency (MHz)	Power density (dBm) (W)		LIMIT (dBm)	PASS/FAIL
CH01	2412	-19.85	0.000010	8	PASS
CH06	2437	-21.38	0.000007	8	PASS
CH11	2462	-20.64	0.000009	8	PASS

ANT.2					
Test Channel	Frequency (MHz)	Power density (dBm) (W)		LIMIT (dBm)	PASS/FAIL
CH01	2412	-14.67	0.000034	8	PASS
CH06	2437	-15.55	0.000028	8	PASS
CH11	2462	-14.33	0.000037	8	PASS

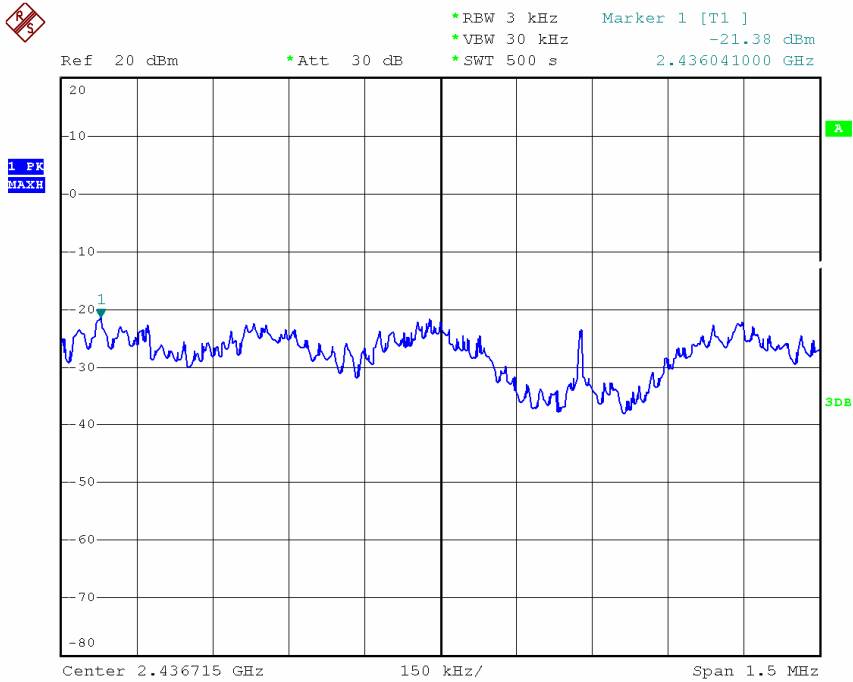


### TX CH01 -ANT.1



Date: 6.SEP.2010 17:12:11

### TX CH06 -ANT.1

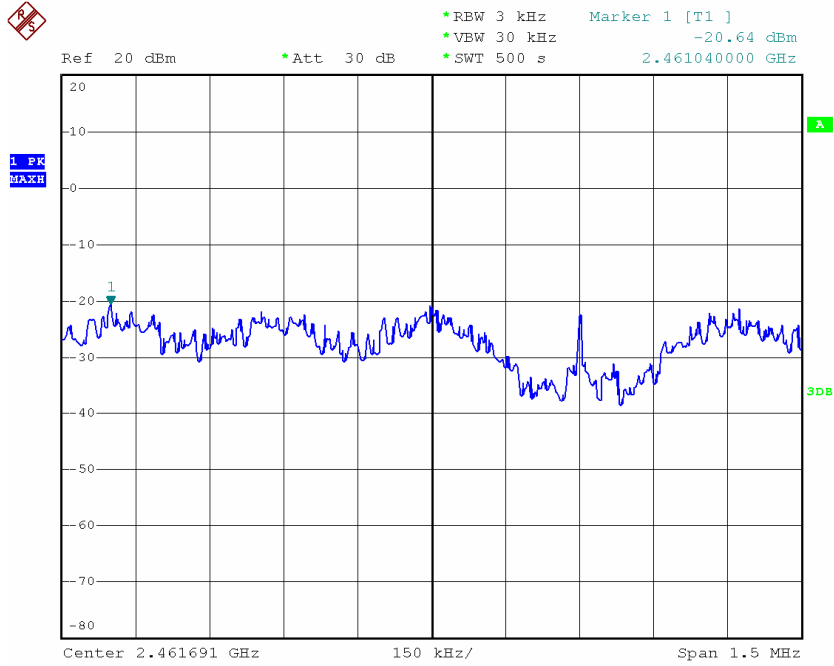


Date: 19.OCT.2010 17:12:55



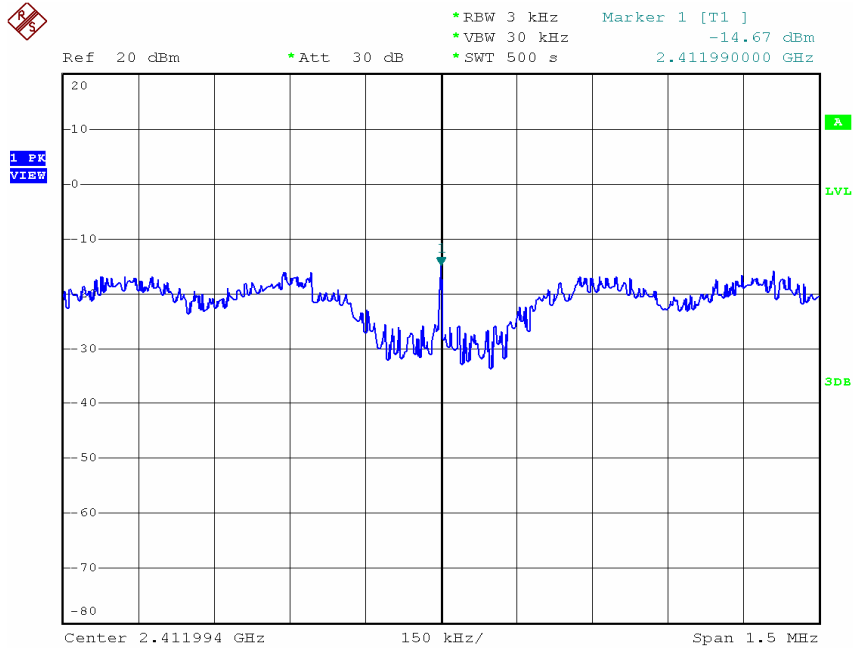


### TX CH11 -ANT.1

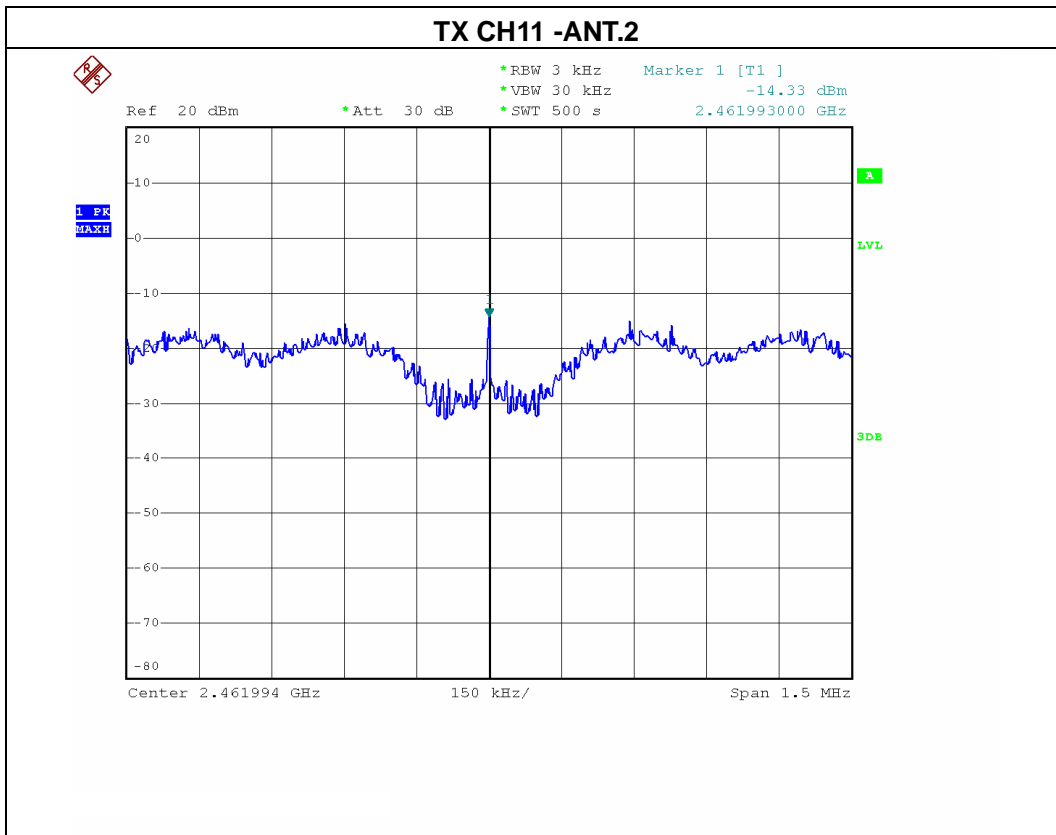
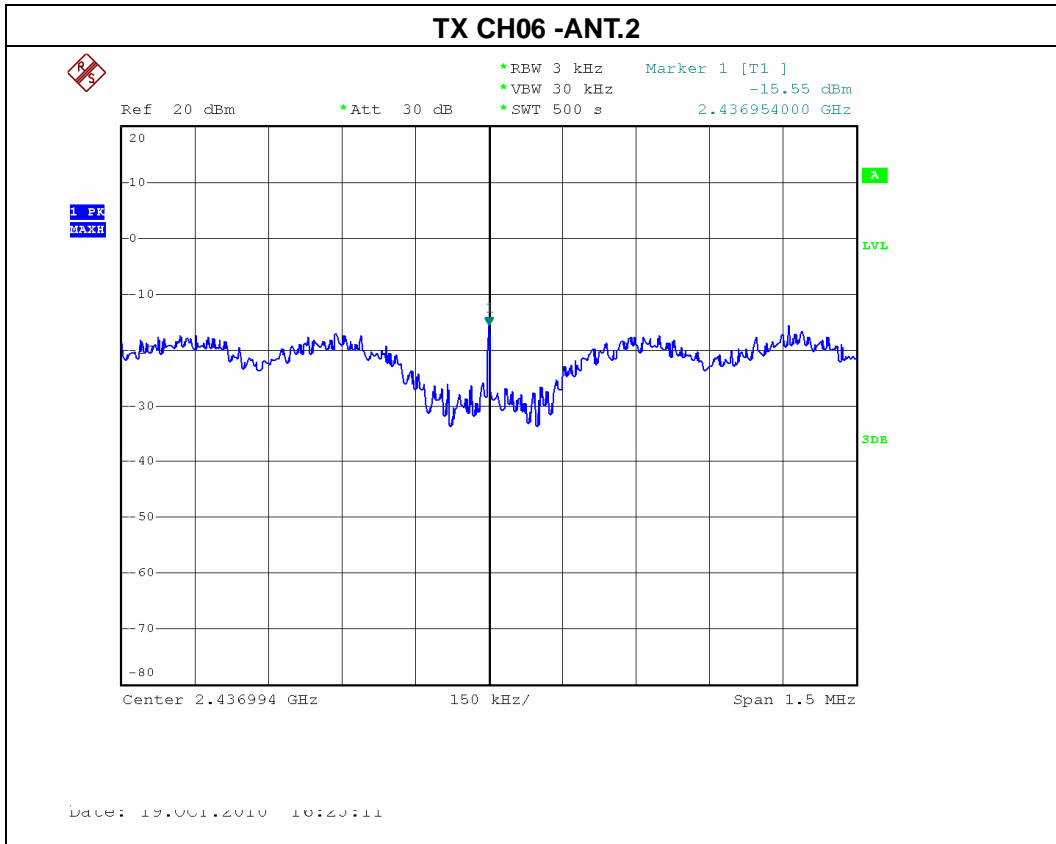


Date: 19.OCT.2010 17:13:41

### TX CH01 -ANT.2



Date:





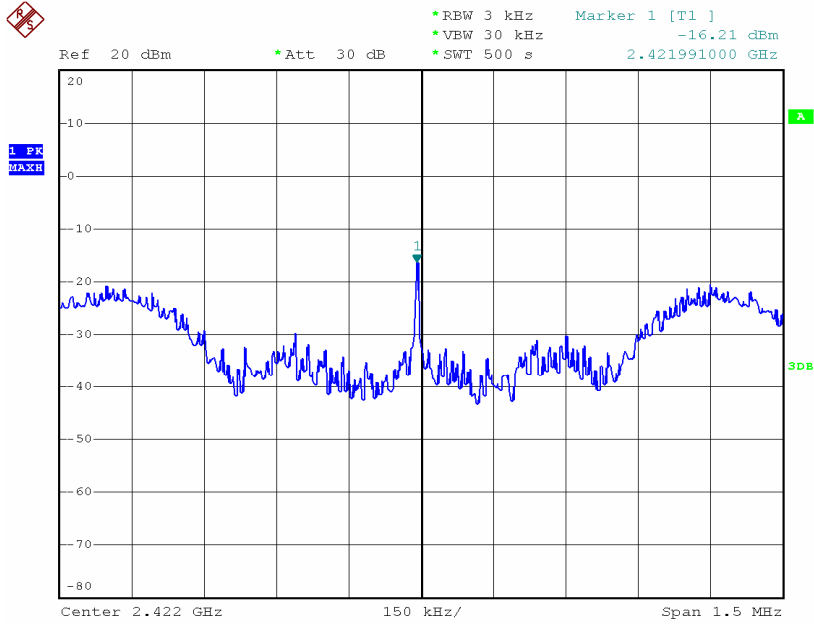
EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-40M MODE /CH03, CH06, CH09		

ANT.1					
Test Channel	Frequency (MHz)	Power density (dBm) (W)		LIMIT (dBm)	PASS/FAIL
CH03	2422	-16.21	0.000024	8	PASS
CH06	2437	-20.84	0.000008	8	PASS
CH09	2452	-19.77	0.000011	8	PASS

ANT.2					
Test Channel	Frequency (MHz)	Power density (dBm) (W)		LIMIT (dBm)	PASS/FAIL
CH03	2422	-17.55	0.000018	8	PASS
CH06	2437	-22.36	0.000006	8	PASS
CH09	2452	-20.80	0.000008	8	PASS

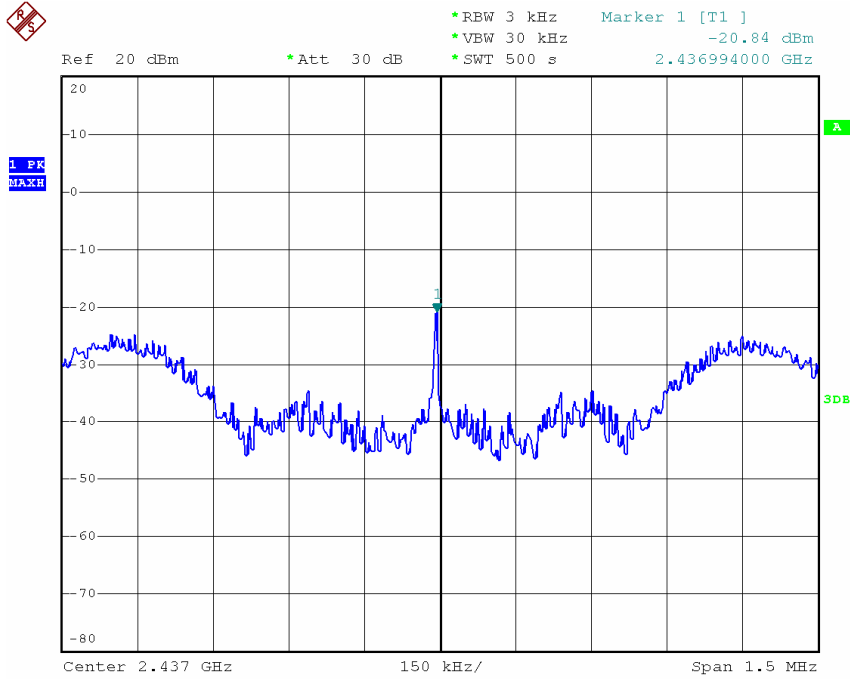


### TX CH03 -ANT.1



Date: 19.OCT.2010 16:53:40

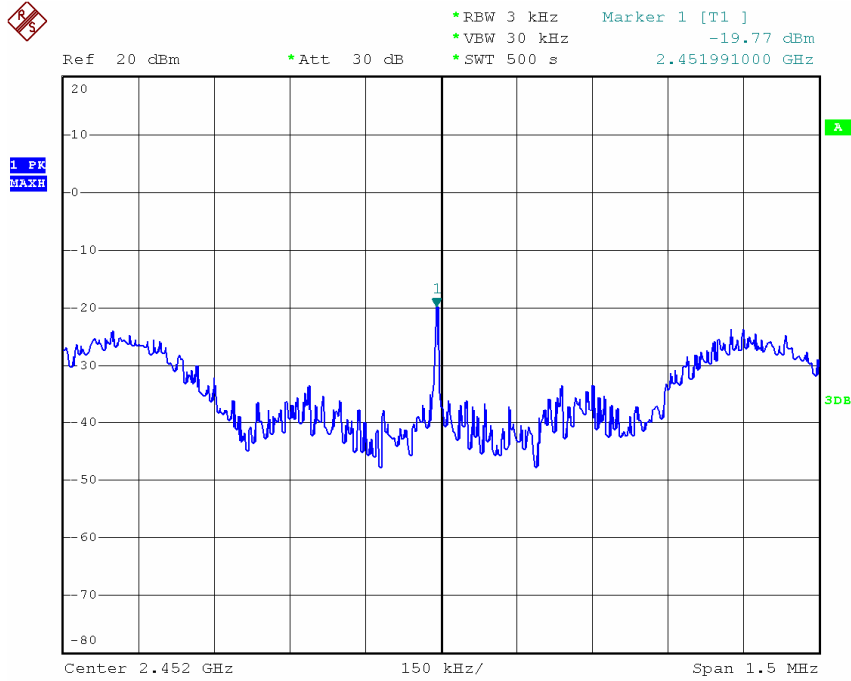
### TX CH06 -ANT.1



Date: 19.OCT.2010 16:54:51

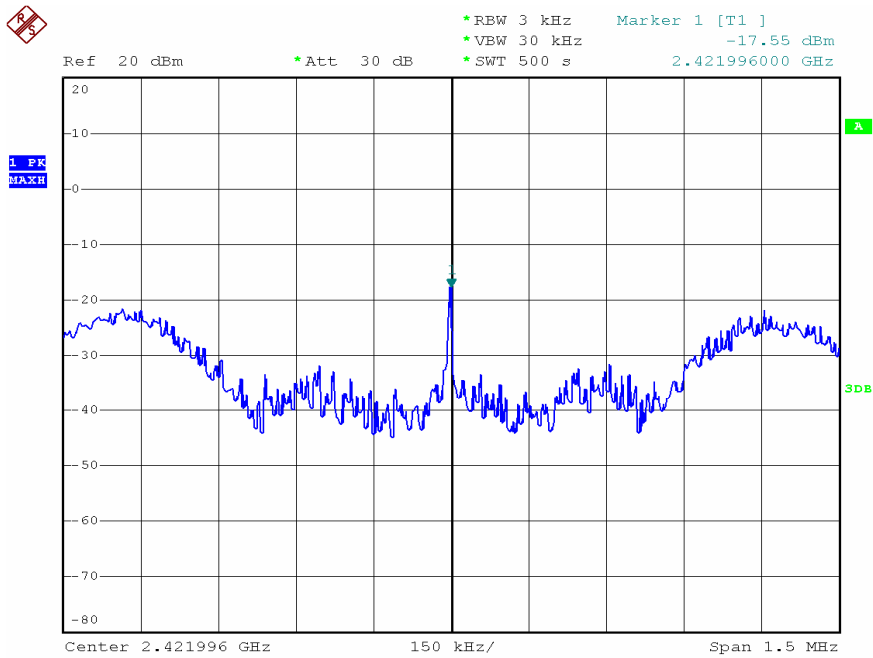


### TX CH09 -ANT.1

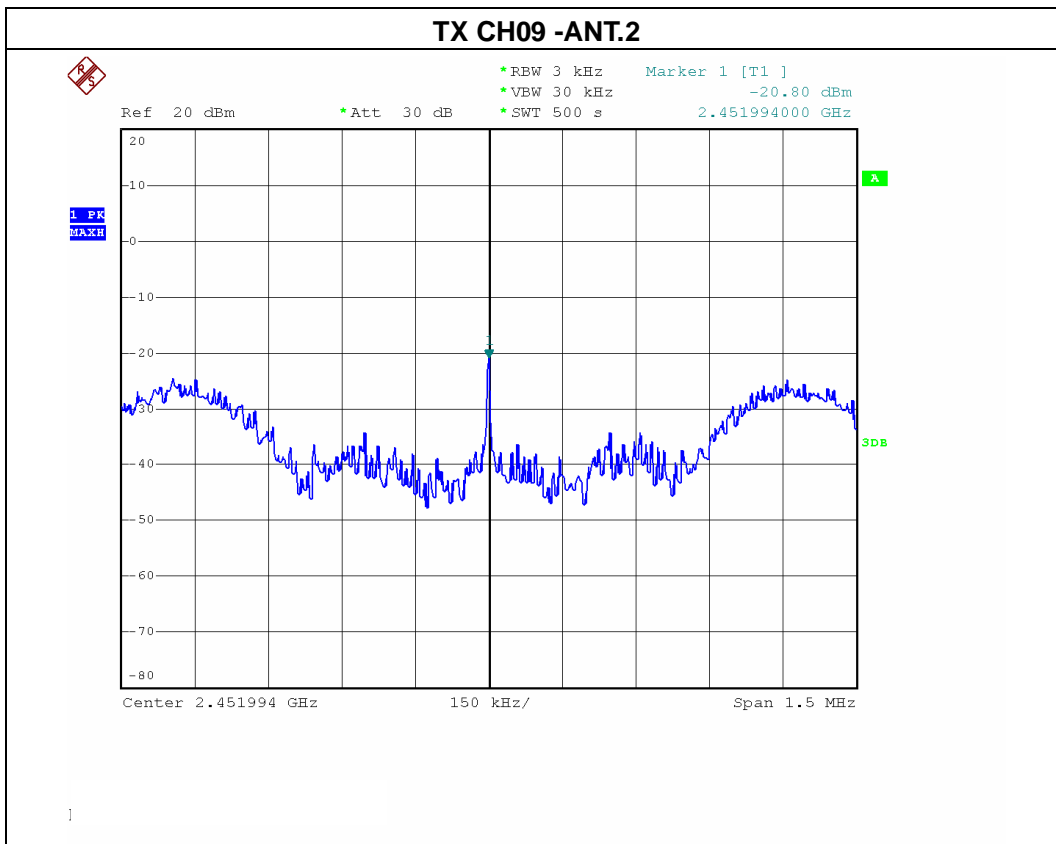
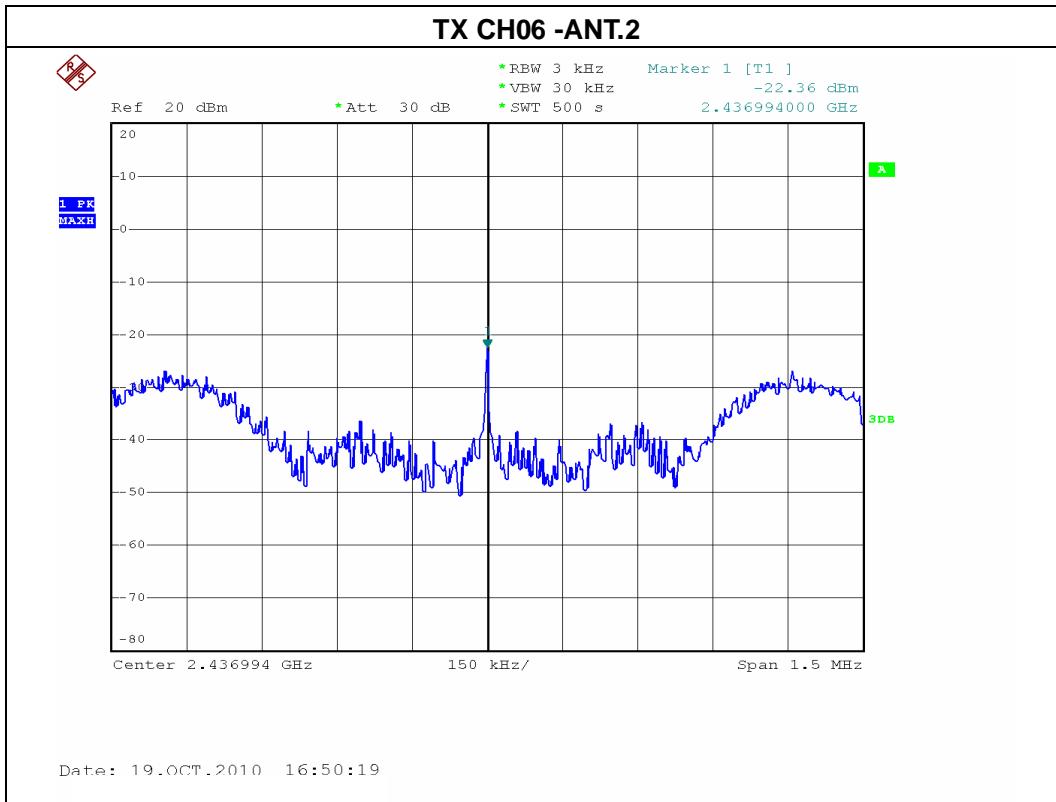


Date: 19.OCT.2010 16:55:14

### TX CH03 -ANT.2



Da

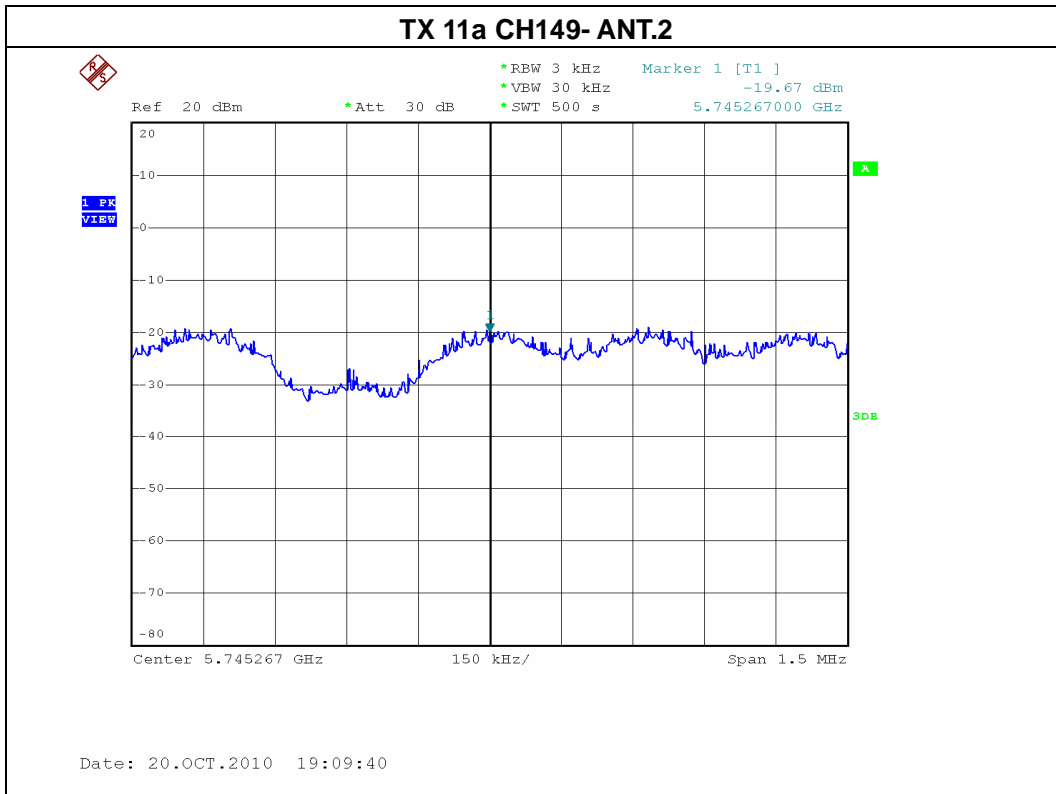


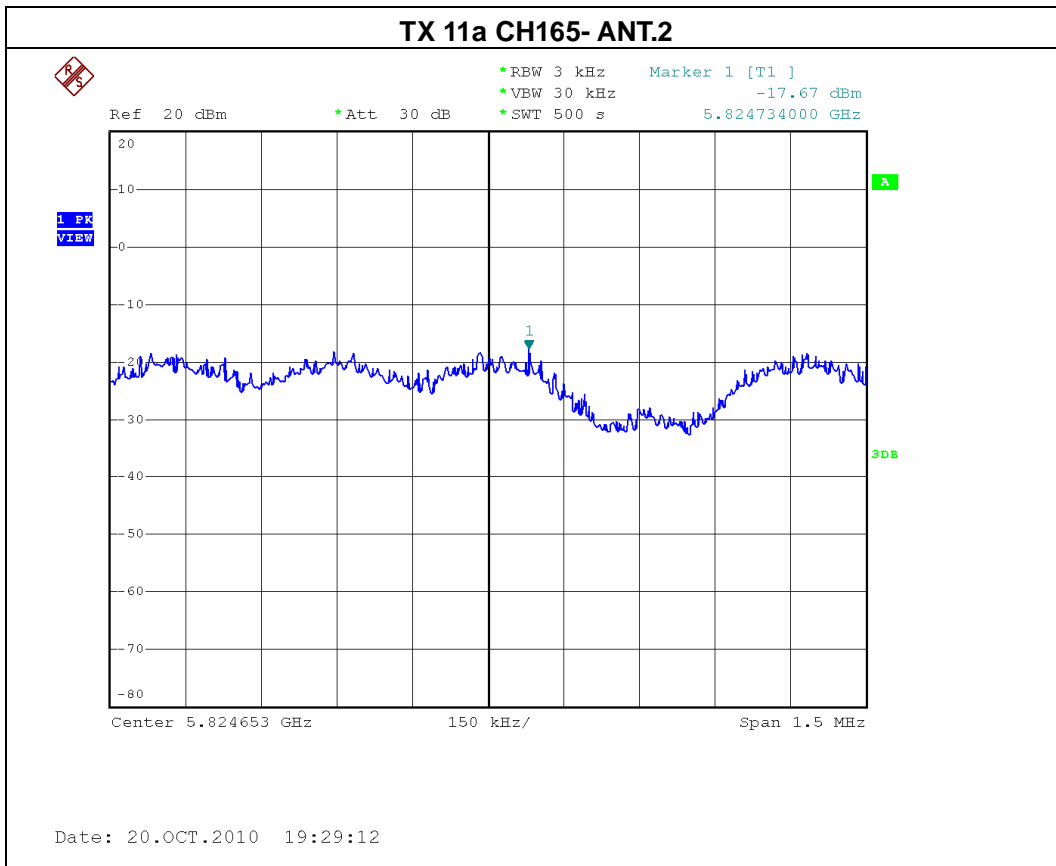
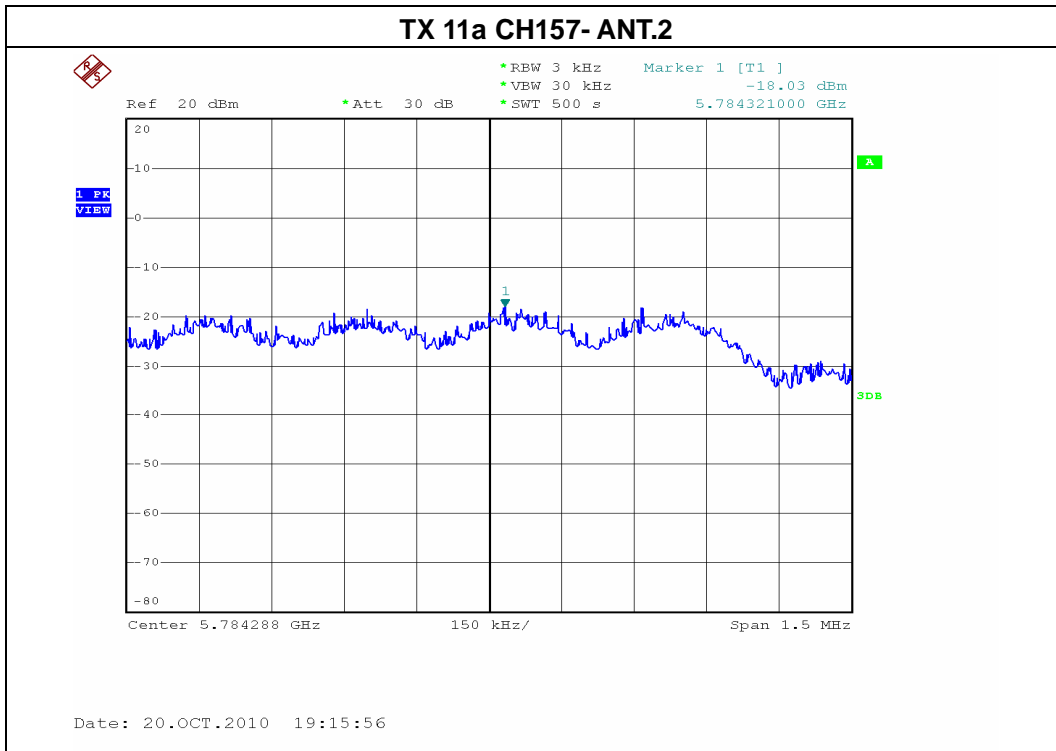


**8.1.7 TEST RESULTS-5G BAND**

EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX 11a MODE /CH149, CH157, CH165		

ANT.2			
Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH149	5745 MHz	-19.67	8
CH157	5785 MHz	-18.03	8
CH165	5825 MHz	-17.67	8





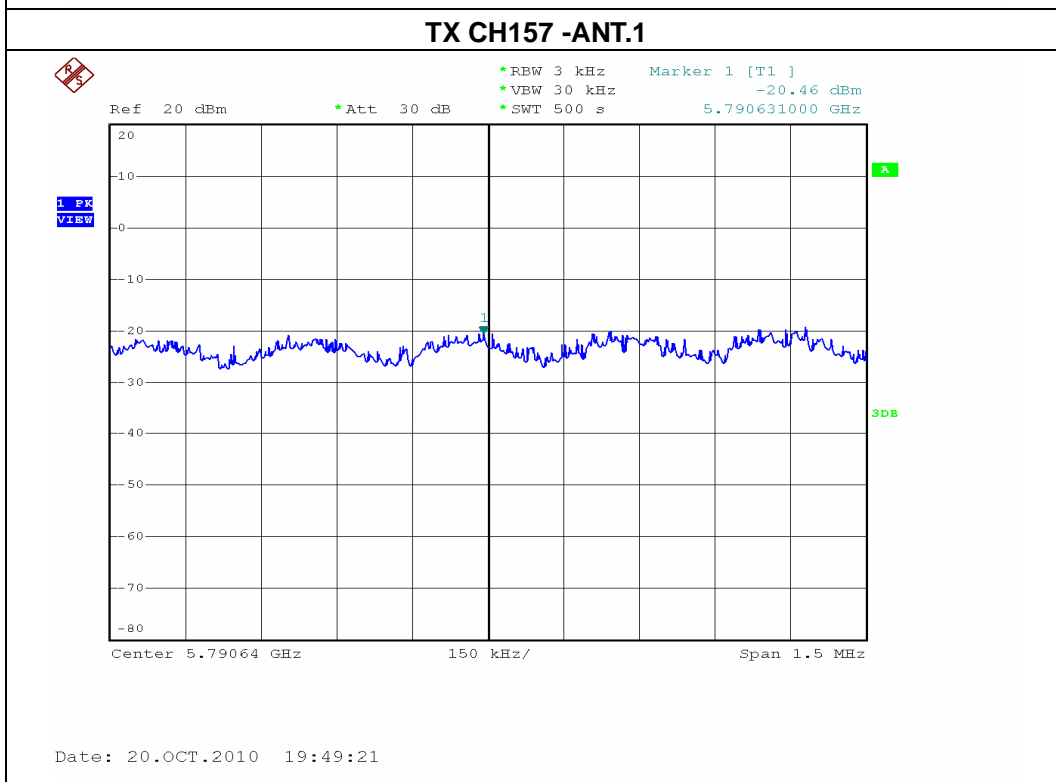
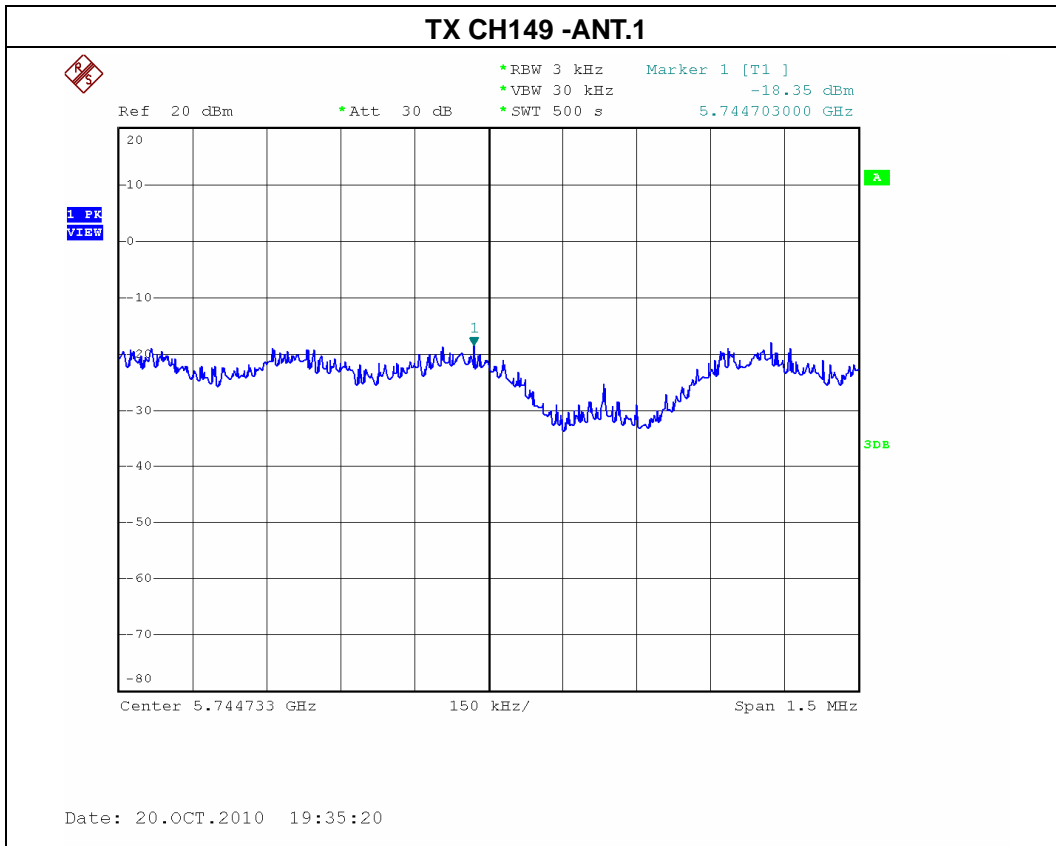


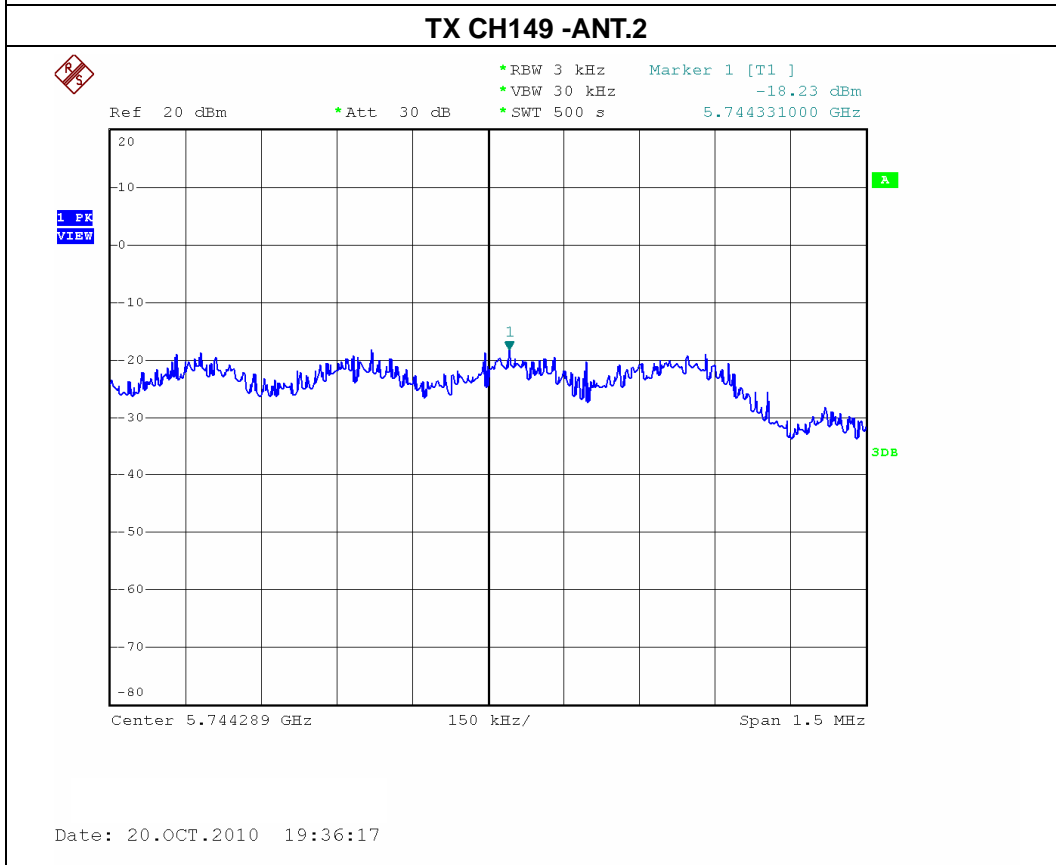
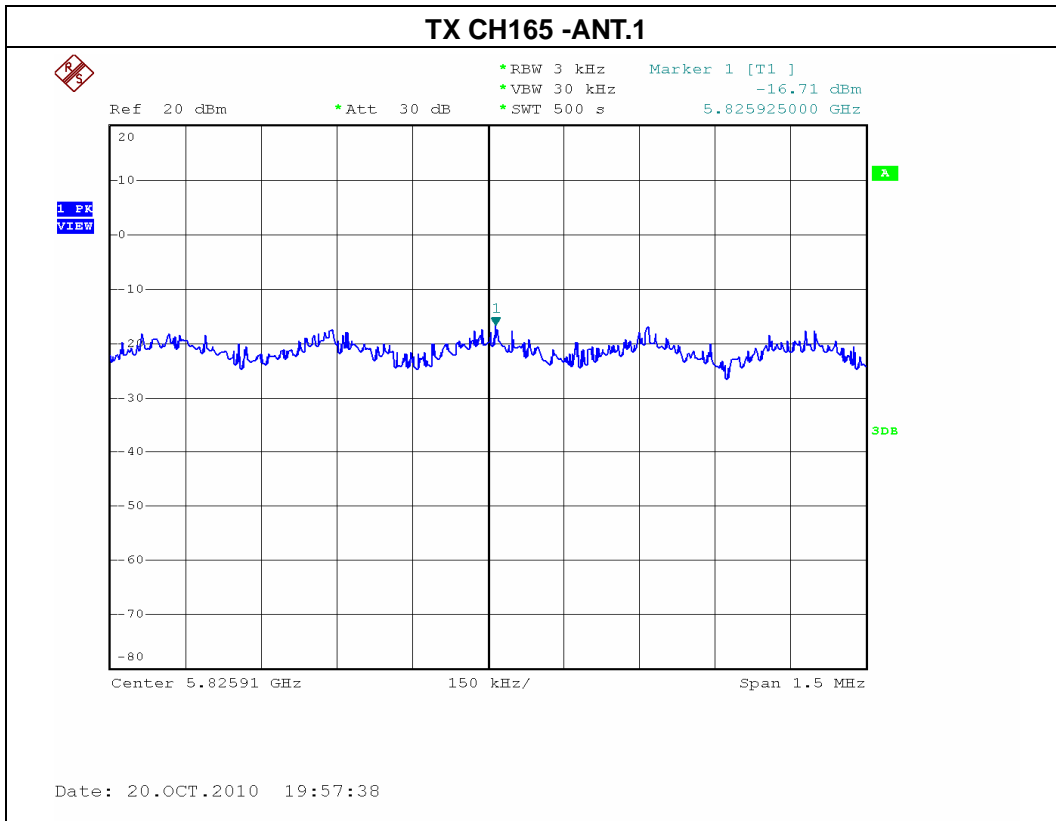


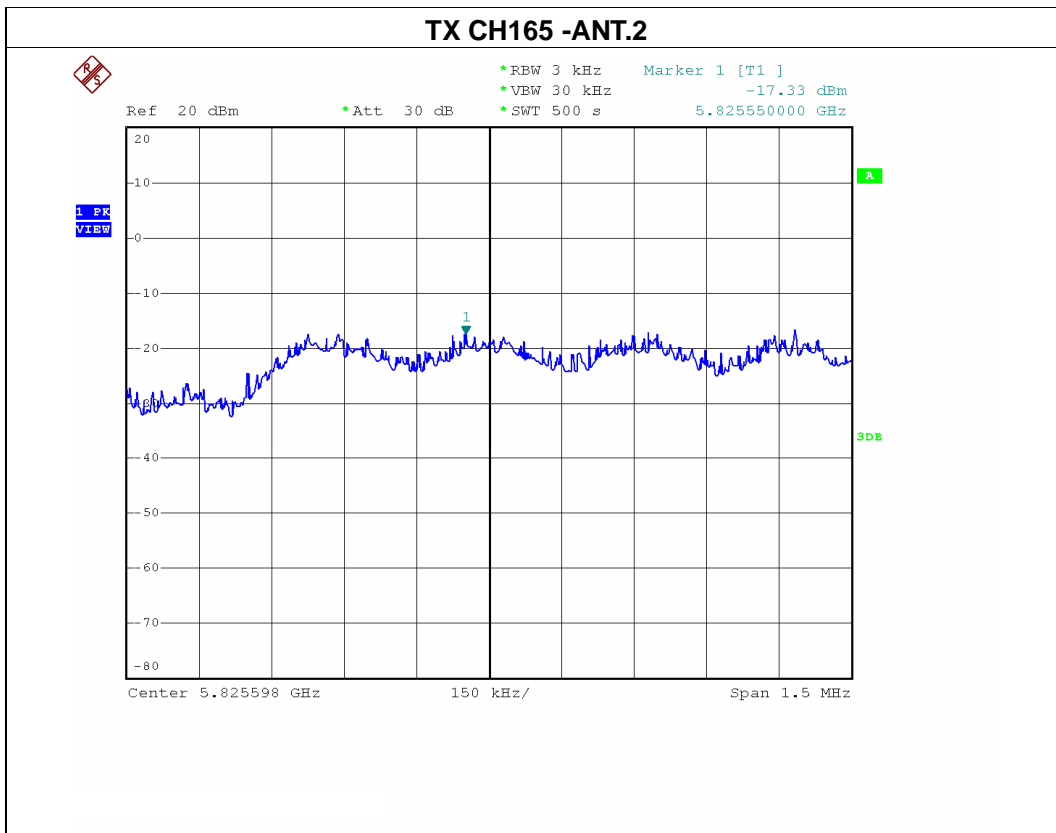
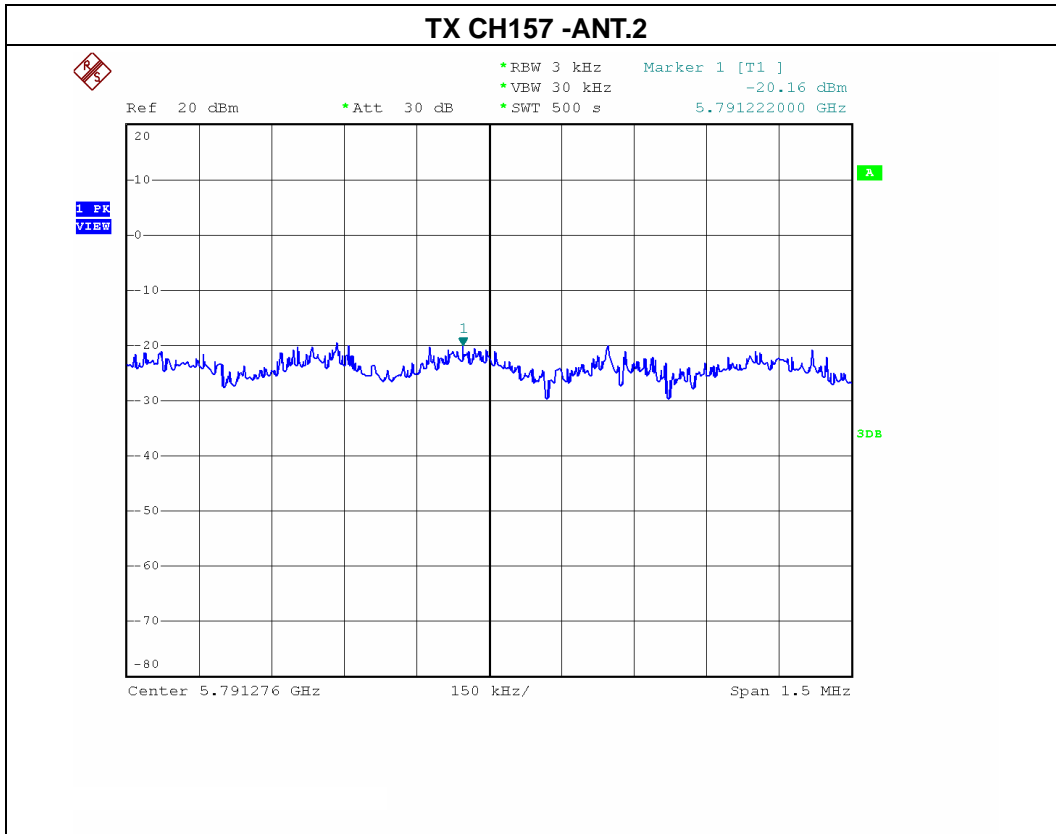
EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE / CH149, CH157, CH165		

ANT.1					
Test Channel	Frequency (MHz)	Power density (dBm) (W)		LIMIT (dBm)	PASS/FAIL
CH149	5745	-18.35	0.000015	8	PASS
CH157	5785	-20.46	0.000009	8	PASS
CH165	5825	-16.71	0.000021	8	PASS

ANT.2					
Test Channel	Frequency (MHz)	Power density (dBm) (W)		LIMIT (dBm)	PASS/FAIL
CH149	5745	-18.23	0.000015	8	PASS
CH157	5785	-20.16	0.000010	8	PASS
CH165	5825	-17.33	0.000018	8	PASS









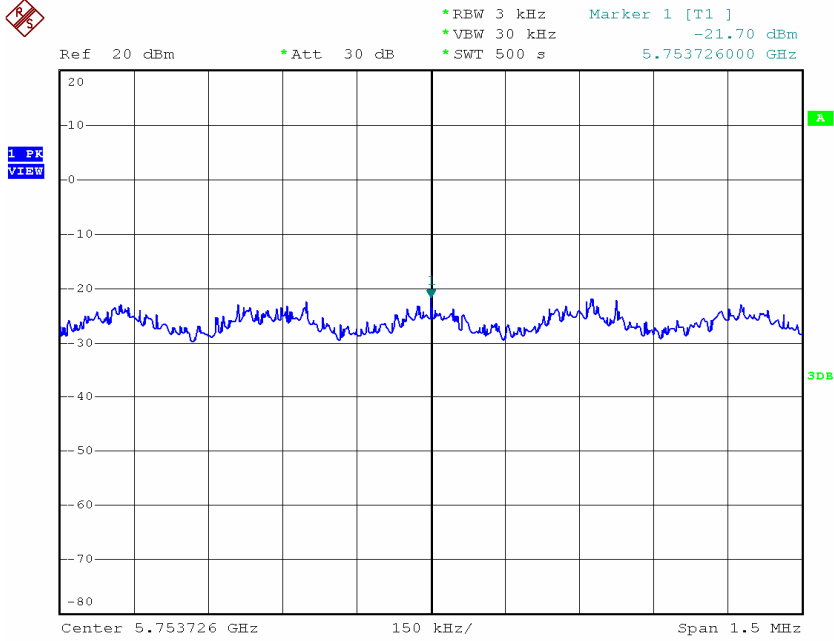
EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-40M MODE /CH151, CH159		

ANT.1					
Test Channel	Frequency (MHz)	Power density (dBm) (W)		LIMIT (dBm)	PASS/FAIL
CH151	5755	-21.70	0.000007	8	PASS
CH159	5795	-22.44	0.000006	8	PASS

ANT.2					
Test Channel	Frequency (MHz)	Power density (dBm) (W)		LIMIT (dBm)	PASS/FAIL
CH151	5755	-22.88	0.000005	8	PASS
CH159	5795	-21.57	0.000007	8	PASS

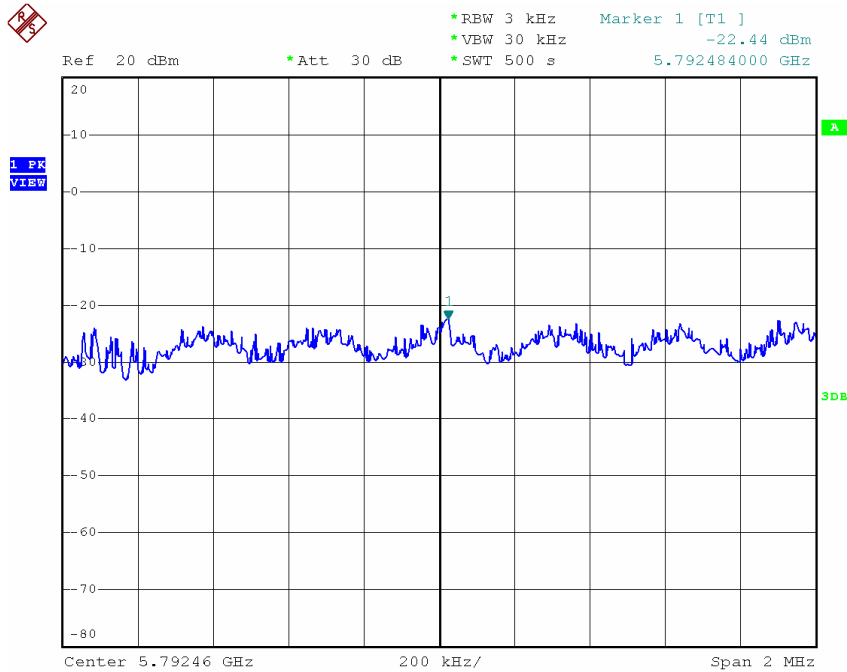


### TX CH151 -ANT.1



Date: 20.OCT.2010 20:17:26

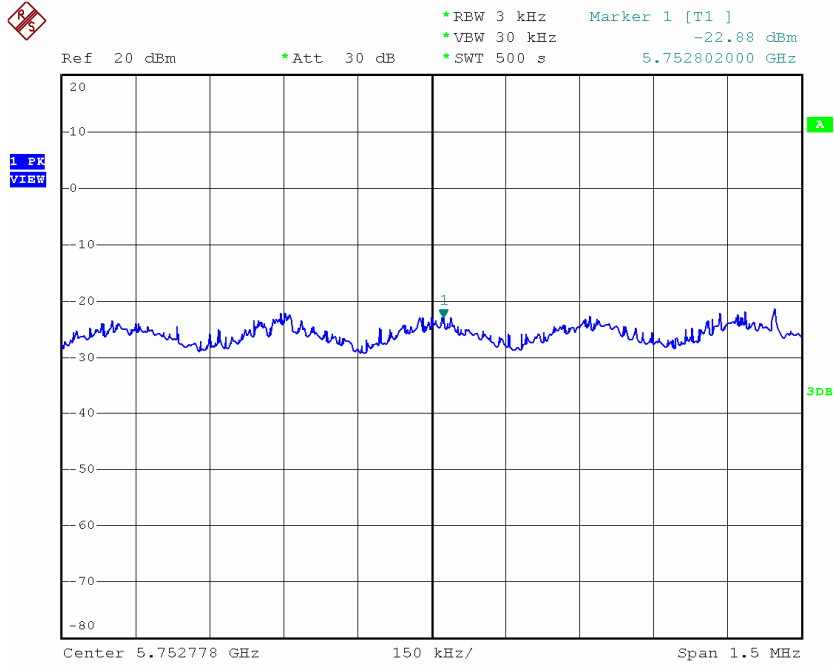
### TX CH159 -ANT.1



Date: 20.OCT.2010 20:33:01

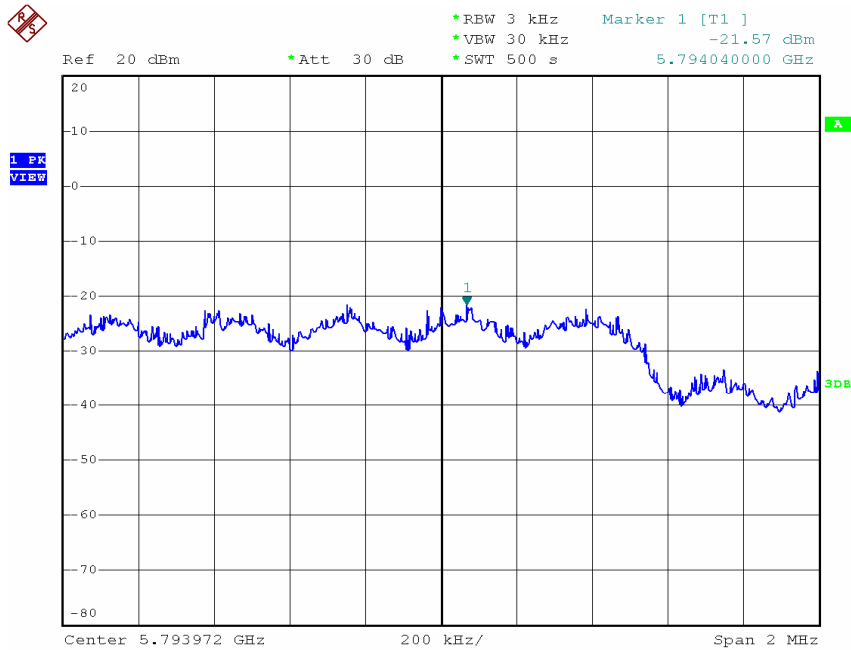


### TX CH151 -ANT.2



Date: 20.OCT.2010 20:18:58

### TX CH159 -ANT.2



:8



**9. RF EXPOSURE TEST**

**9.1 APPLIED PROCEDURES / LIMIT**

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

(A) Limits for Occupational / Controlled Exposure

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

(B) Limits for General Population / Uncontrolled Exposure

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

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

**9.1.1 MPE CALCULATION METHOD**

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

**E** = Electric field (V/m)

**P** = Peak RF output power (W)

**G** = EUT Antenna numeric gain (numeric)

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

The formula can be changed to

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

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

**9.1.2 DEVIATION FROM STANDARD**

No deviation.

**9.1.3 EUT OPERATION CONDITIONS**

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





**9.1.4 TEST RESULTS -2.4G BAND**

EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	<b>TX B MODE CH01, CH06, CH11</b>		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
4.1	2.5704	21.47	140.2814	0.071771	1	Complies
<b>4.1</b>	<b>2.5704</b>	<b>22.82</b>	<b>191.4256</b>	<b>0.097938</b>	<b>1</b>	<b>Complies</b>
4.1	2.5704	20.67	116.6810	0.059697	1	Complies

EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	<b>TX G MODE CH01, CH06, CH11</b>		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
4.1	2.5704	18.34	68.2339	0.034910	1	Complies
<b>4.1</b>	<b>2.5704</b>	<b>18.76</b>	<b>75.1623</b>	<b>0.038455</b>	<b>1</b>	<b>Complies</b>
4.1	2.5704	17.50	56.2341	0.028771	1	<b>Complies</b>



EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	<b>TX N-20M MODE CH01, CH06, CH11 (WITH COMBINER)</b>		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
7.1	5.1286	21.04	127.0574	0.129703	1	Complies
7.1	5.1286	21.07	127.9381	0.130602	1	Complies
<b>7.1</b>	<b>5.1286</b>	<b>21.18</b>	<b>131.2200</b>	<b>0.133952</b>	<b>1</b>	<b>Complies</b>

Remark :

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

EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	<b>TX N-40M MODE CH03, CH06, CH09 (WITH COMBINER)</b>		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
7.1	5.1286	20.21	104.9542	0.107140	1	Complies
<b>7.1</b>	<b>5.1286</b>	<b>20.29</b>	<b>106.9055</b>	<b>0.109132</b>	<b>1</b>	<b>Complies</b>
7.1	5.1286	20.03	100.6932	0.102790	1	Complies

Remark :

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



**9.1.5 TEST RESULTS -5G BAND**

EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	<b>TX 11a MODE CH149, CH157, CH165</b>		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
4.4	2.7542	16.73	47.0977	0.025820	1	Complies
4.4	2.7542	16.12	40.9261	0.022436	1	Complies
<b>4.4</b>	<b>2.7542</b>	<b>16.89</b>	<b>48.8652</b>	<b>0.026789</b>	<b>1</b>	<b>Complies</b>

EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	<b>TX N-20M MODE CH149, CH157, CH165 (WITH COMBINER)</b>		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
7.26	5.3211	19.27	84.5279	0.089526	1	Complies
<b>7.26</b>	<b>5.3211</b>	<b>19.39</b>	<b>86.8960</b>	<b>0.092034</b>	<b>1</b>	<b>Complies</b>
7.26	5.3211	20.04	100.9253	0.106893	1	Complies

EUT :	BCM3380Z D3.0 Wireless eMTA	Model Name :	DVW3201B
Temperature :	24 °C	Relative Humidity :	60 %
Pressure :	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	<b>TX N-40M MODE CH151, CH159 (WITH COMBINER)</b>		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
7.26	5.3211	18.28	67.2977	0.071277	1	Complies
<b>7.26</b>	<b>5.3211</b>	<b>18.40</b>	<b>69.1831</b>	<b>0.073274</b>	<b>1</b>	<b>Complies</b>

Remark :

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



**10. EUT TEST PHOTO**

**Conducted Measurement Photos**





**Radiated Measurement Photos**

