FCC Test Report

Report No.:	RF160809C28
FCC ID:	PY316200339
Test Model:	R9000
Received Date:	Aug. 05, 2016
Test Date:	Aug. 12 ~ Sep. 09, 2016
Issued Date:	Sep. 10, 2016
Applicant:	NETGEAR, INC.
Address:	350 East Plumeria Drive San Jose, CA 95134
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C.)
Test Location:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)

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Release Control Record

Issue No.	Description	Date Issued
RF160809C28	Original release.	Sep. 10, 2016

1 Certificate of Conformity

Product:	AD7200 Smart WiFi Router
Brand:	NETGEAR
Test Model:	R9000
Sample Status:	Engineering sample
Applicant:	NETGEAR, INC.
Test Date:	Aug. 12 ~ Sep. 09, 2016
Standards:	47 CFR FCC Part 15, Subpart C (Section 15.247) ANSI C63.10:2013

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

Prepared by : _____ , **Date:** Sep. 10, 2016

Polly Chien / Specialist

Approved by : _____ , **Date:** Sep. 10, 2016

Ken Liu / Senior Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.247)			
FCC Clause	Test Item	Result	Remarks
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -13.18dB at 0.50547MHz.
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -0.1dB at 2388.00MHz, 4824.00MHz, 7386.00MHz.
15.247(d)	Antenna Port Emission	PASS	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	PASS	Meet the requirement of limit.
15.247(b)	Conducted power	PASS	Meet the requirement of limit.
15.247(e)	Power Spectral Density	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Antenna connector is I-PEX not a standard connector.

2.1 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:

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.44 dB
Radiated Emissions up to 1 GHz	30MHz ~ 200MHz	3.59 dB
	200MHz ~1000MHz	3.60 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	AD7200 Smart WiFi Router
Brand	NETGEAR
Test Model	R9000
Sample Status	Engineering sample
Power Supply Rating	19Vdc (adapter)
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
Modulation Technology	DSSS, OFDM
Transfer Rate	802.11b: 11/5.5/2/1Mbps 802.11g: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 800Mbps
Operating Frequency	2412 ~ 2462MHz
Number of Channel	11 for 802.11b, 802.11g, 802.11n (HT20) 7 for 802.11n (HT40)
Output Power	CDD Mode: 902.006mW Beamforming Mode: 766.857mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter
Cable Supplied	NA

Note:

1. The EUT incorporates a MIMO function. Physically, the EUT provides 4 completed transmitters and 4 receivers.

Band	Modulation Mode	CDD Mode	Beamforming Mode	TX Function
2.4GHz	802.11b	Support	Not Support	4TX
	802.11g	Support	Not Support	4TX
	802.11n (HT20)	Support	Support	4TX
	802.11n (HT40)	Support	Support	4TX

* For 802.11n, after pre-tested two modes (with beamforming mode and CDD mode) found CDD mode was the worst, therefore chosen for final test and presented in the test report.

2. The EUT uses following antennas.

Ant. Type	Connecter Type	Antenna Gain (dBi)				
		2412MHz	2422MHz	2437MHz	2452MHz	2462MHz
Dipole	I-PEX	1.87	1.81	1.49	1.39	1.22
		Directional Gain (dBi)				
		2412MHz	2422MHz	2437MHz	2452MHz	2462MHz
		6.457	6.785	7.058	6.783	6.619

3. WLAN 2.4GHz, WLAN 5GHz, WLAN 60GHz 802.11ad and BT LE technologies can transmit at same time.
4. Spurious emission of the simultaneous operation (WLAN 2.4GHz, WLAN 5GHz, WLAN 60GHz 802.11ad and BT LE) has been evaluated and no non-compliance was found.

5. The EUT consumes power from the following adapters.

Adapter 1	
Brand	NETGEAR
Model	AD2003F10
Part No.	332-10631-01
Input Power	100-120Vac, 50/60Hz, 1.5A
Output Power	19Vdc, 3.16A
Power Line	1.8m cable without core attached on adapter

Adapter 2	
Brand	NETGEAR
Model	2ABS060K 1 NA
Part No.	332-10788-01
Input Power	100-120Vac, 50/60Hz, 1.7A
Output Power	19Vdc, 3.16A
Power Line	1.8m cable without core attached on adapter

*After pre-tested two adapters, found adapter 2 was the worst and chosen for final test

3.2 Description of Test Modes

11 channels are provided for 802.11b, 802.11g and 802.11n (HT20):

Channel	Frequency	Channel	Frequency
1	2412MHz	7	2442MHz
2	2417MHz	8	2447MHz
3	2422MHz	9	2452MHz
4	2427MHz	10	2457MHz
5	2432MHz	11	2462MHz
6	2437MHz		

7 channels are provided for 802.11n (HT40):

Channel	Frequency	Channel	Frequency
3	2422MHz	7	2442MHz
4	2427MHz	8	2447MHz
5	2432MHz	9	2452MHz
6	2437MHz		

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable to				Description
	RE≥1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

Where RE≥1G: Radiated Emission above 1GHz & RE<1G: Radiated Emission below 1GHz
Bandedge Measurement
PLC: Power Line Conducted Emission APCM: Antenna Port Conducted Measurement

Note: The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-plane**.

Radiated Emission Test (Above 1GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Date Rate (Mbps)
CDD Mode						
-	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
-	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
-	802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	7.2
-	802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	15.0

Radiated Emission Test (Below 1GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Date Rate (Mbps)
CDD Mode						
-	802.11g	1 to 11	6	OFDM	BPSK	6.0

Power Line Conducted Emission Test:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Date Rate (Mbps)
CDD Mode						
-	802.11g	1 to 11	6	OFDM	BPSK	6.0

Antenna Port Conducted Measurement:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Date Rate (Mbps)
CDD Mode						
-	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
-	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
-	802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	7.2
-	802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	15.0
Beamforming Mode						
-	802.11n (HT20)	1 to 11	1, 6, 11	OFDM	BPSK	7.2
-	802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	15.0

Test Condition:

Applicable to	Environmental Conditions	Input Power	Tested by
RE≥1G	25 deg. C, 65% RH	120Vac, 60Hz	Alan Wu
	24 deg. C, 64% RH		
RE<1G	26 deg. C, 64% RH	120Vac, 60Hz	Alan Wu
PLC	25 deg. C, 75% RH	120Vac, 60Hz	Chris Lin
APCM	25 deg. C, 60% RH	120Vac, 60Hz	Frank Liu

3.3 Duty Cycle of Test Signal

Duty cycle of test signal is ≥ 98%, duty factor is not required.
Duty cycle of test signal is < 98%, duty factor shall be considered.

CDD Mode

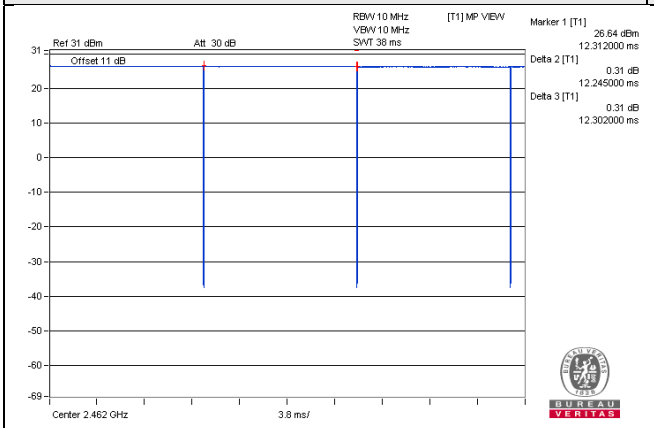
802.11b: Duty cycle = 12.245/12.302 = 0.995

802.11g: Duty cycle = 2.027/2.100 = 0.965, Duty factor = 10 * log(1/0.965) = 0.15

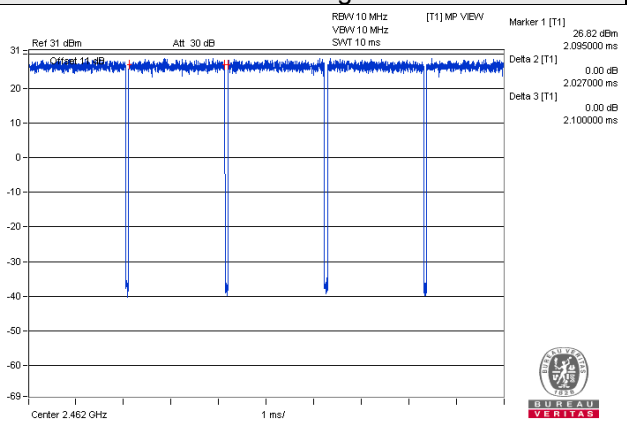
802.11n (HT20): Duty cycle = 4.961/5.038 = 0.985

802.11n (HT40): Duty cycle = 2.397/2.480 = 0.967, Duty factor = 10 * log(1/0.967) = 0.15

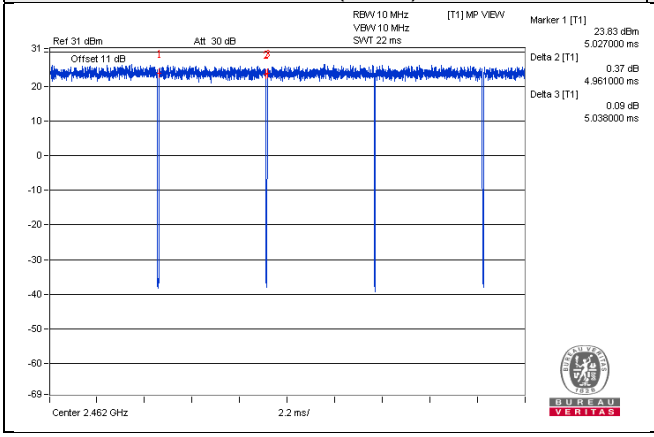
802.11b



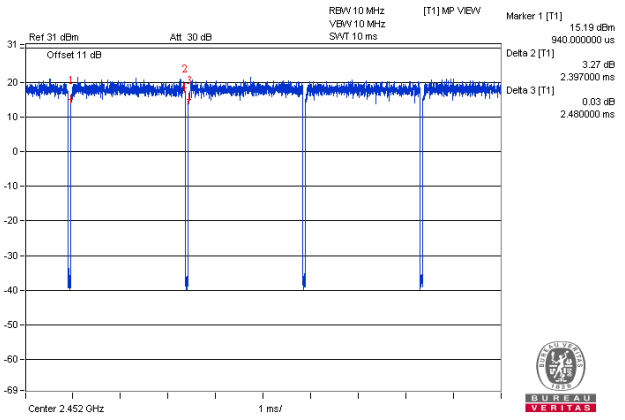
802.11g



802.11n (HT20)



802.11n (HT40)



3.4 Description of Support Units

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

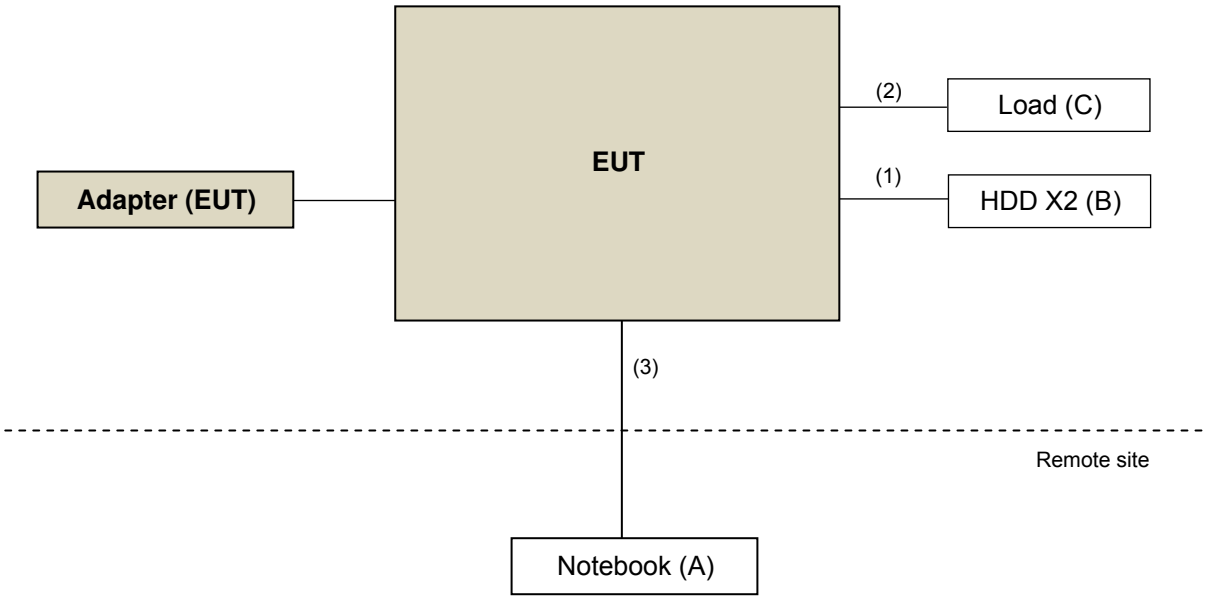
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	DELL	E5410	6RP2YM1	FCC DoC Approved	-
B.	HDD	TOSHIBA	DTB305	X4RBCC3RT3ZB	NA	-
	HDD	TOSHIBA	DTB305	X4R2C64VT3ZB	NA	-
C.	Load	NA	NA	NA	NA	-

Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Item A acted as a communication partner to transfer data.

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	USB cable	2	0.5	Y	0	-
2.	RJ45 cable	6	1.8	N	0	Cat5e
3.	RJ45 cable	1	3	N	0	Cat5e

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards

The EUT is a RF Product. According to the specification of the EUT declared by the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart C (15.247)
558074 D01 DTS Meas Guidance v03r05
662911 D01 Multiple Transmitter Output v02r01
ANSI C63.10-2013

All test items have been performed and recorded as per the above standards.

Note: The EUT has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 30dB below the highest level of the desired power:

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

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 30dB under any condition of modulation.

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Oct. 12, 2015	Oct. 11, 2016
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Aug. 16, 2016	Aug. 15, 2017
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Jan. 07, 2016	Jan. 06, 2017
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-1170	Jan. 08, 2016	Jan. 07, 2017
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Jan. 18, 2016	Jan. 17, 2017
Preamplifier Agilent	8449B	3008A01960	Aug. 09, 2016	Aug. 08, 2017
Preamplifier Agilent	8447D	2944A10631	Aug. 09, 2016	Aug. 08, 2017
RF signal cable HUBER+SUHNER	SUCOFLEX 104	MY 13380+295012/04	Aug. 09, 2016	Aug. 08, 2017
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH4-03(250724)	Aug. 09, 2016	Aug. 08, 2017
Software BV ADT	ADT_Radiated_ V7.6.15.9.4	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	010303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021703	NA	NA
Turn Table BV ADT	TT100	TT93021703	NA	NA
Turn Table Controller BV ADT	SC100	SC93021703	NA	NA
High Speed Peak Power Meter	ML2495A	0824012	Aug. 11, 2016	Aug. 10, 2017
Power Sensor	MA2411B	0738171	Aug. 11, 2016	Aug. 10, 2017

Note:
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 4.
3. The horn antenna and preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 460141.
5. The IC Site Registration No. is IC7450F-4.

4.1.3 Test Procedures

a. The EUT was placed on the top of a rotating table 0.8 meters (for below 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

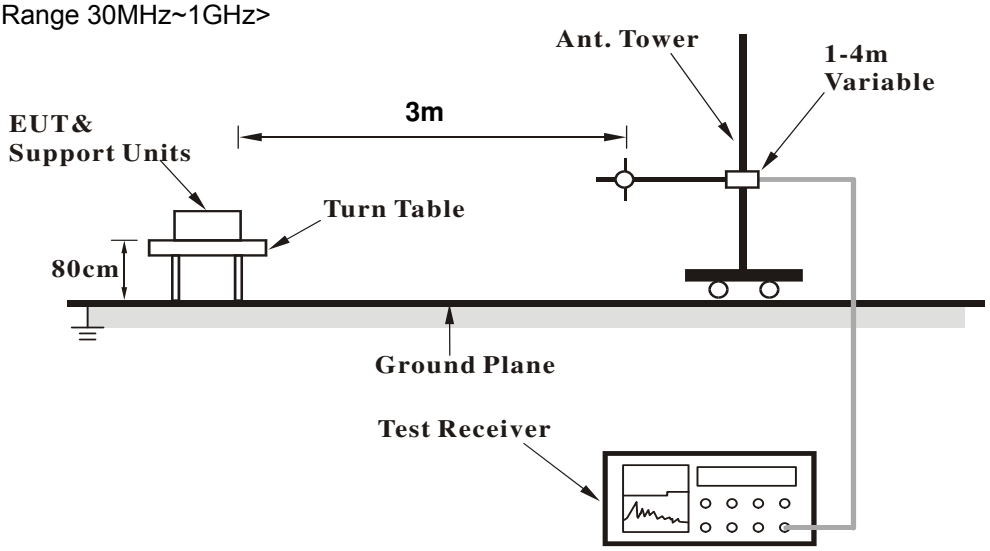
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor (10 log(1/duty cycle)).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

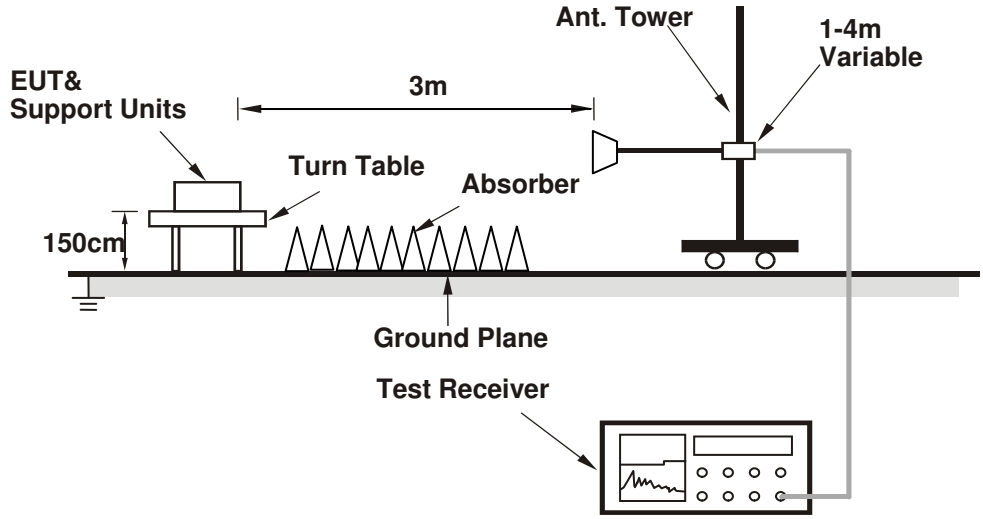
No deviation.

4.1.5 Test Set Up

<Frequency Range 30MHz~1GHz>



<Frequency Range above 1GHz>



For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.1.6 EUT Operating Conditions

a. Placed the EUT on the testing table.
b. Prepared a notebook to act as a communication partner and placed it outside of testing area.
c. The communication partner connected with EUT via a RJ45 cable and ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
d. The communication partner sent data to EUT by command "PING".
e. The necessary accessories enable the system in full functions.

4.1.7 Test Results

Above 1GHz Worst-Case Data：

802.11b

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	55.7 PK	74.0	-18.3	2.18 H	59	23.00	32.70
2	2390.00	44.4 AV	54.0	-9.6	2.18 H	59	11.70	32.70
3	*2412.00	112.4 PK			2.18 H	59	79.60	32.80
4	*2412.00	108.6 AV			2.18 H	59	75.80	32.80
5	4824.00	57.0 PK	74.0	-17.0	1.00 H	193	50.10	6.90
6	4824.00	53.2 AV	54.0	-0.8	1.00 H	193	46.30	6.90
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	63.2 PK	74.0	-10.8	2.50 V	291	30.50	32.70
2	2390.00	52.5 AV	54.0	-1.5	2.50 V	291	19.80	32.70
3	*2412.00	123.2 PK			2.50 V	291	90.40	32.80
4	*2412.00	119.4 AV			2.50 V	291	86.60	32.80
5	4824.00	58.0 PK	74.0	-16.0	1.05 V	85	51.10	6.90
6	**4824.00**	**53.9 AV**	**54.0**	**-0.1**	**1.05 V**	**85**	**47.00**	**6.90**

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	111.7 PK			1.07 H	52	78.70	33.00
2	*2437.00	107.9 AV			1.07 H	52	74.90	33.00
3	4874.00	54.1 PK	74.0	-19.9	1.00 H	216	47.10	7.00
4	4874.00	50.4 AV	54.0	-3.6	1.00 H	216	43.40	7.00
5	7311.00	60.5 PK	74.0	-13.5	1.15 H	162	47.40	13.10
6	7311.00	53.6 AV	54.0	-0.4	1.15 H	162	40.50	13.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	123.5 PK			2.16 V	300	90.50	33.00
2	*2437.00	119.7 AV			2.16 V	300	86.70	33.00
3	4874.00	58.0 PK	74.0	-16.0	1.26 V	115	51.00	7.00
4	4874.00	53.7 AV	54.0	-0.3	1.26 V	115	46.70	7.00
5	7311.00	58.5 PK	74.0	-15.5	1.00 V	342	45.40	13.10
6	7311.00	51.2 AV	54.0	-2.8	1.00 V	342	38.10	13.10

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	112.4 PK			1.54 H	55	79.30	33.10
2	*2462.00	108.5 AV			1.54 H	55	75.40	33.10
3	2483.50	56.9 PK	74.0	-17.1	1.54 H	55	23.70	33.20
4	2483.50	47.0 AV	54.0	-7.0	1.54 H	55	13.80	33.20
5	4924.00	56.8 PK	74.0	-17.2	2.69 H	228	49.70	7.10
6	4924.00	53.5 AV	54.0	-0.5	2.69 H	228	46.40	7.10
7	7386.00	61.4 PK	74.0	-12.6	1.00 H	159	48.10	13.30
8	7386.00	53.7 AV	54.0	-0.3	1.00 H	159	40.40	13.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	123.8 PK			1.57 V	299	90.70	33.10
2	*2462.00	120.3 AV			1.57 V	299	87.20	33.10
3	2483.50	62.1 PK	74.0	-11.9	1.57 V	299	28.90	33.20
4	2483.50	53.8 AV	54.0	-0.2	1.57 V	299	20.60	33.20
5	4924.00	56.5 PK	74.0	-17.5	1.00 V	133	49.40	7.10
6	4924.00	53.1 AV	54.0	-0.9	1.00 V	133	46.00	7.10
7	7386.00	60.6 PK	74.0	-13.4	1.29 V	173	47.30	13.30
8	**7386.00**	**53.9 AV**	**54.0**	**-0.1**	**1.29 V**	**173**	**40.60**	**13.30**

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

802.11g

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	59.5 PK	74.0	-14.5	1.41 H	66	26.80	32.70
2	2390.00	48.5 AV	54.0	-5.5	1.41 H	66	15.80	32.70
3	*2412.00	110.3 PK			1.41 H	66	77.50	32.80
4	*2412.00	100.2 AV			1.41 H	66	67.40	32.80
5	4824.00	49.6 PK	74.0	-24.4	1.00 H	152	42.70	6.90
6	4824.00	37.6 AV	54.0	-16.4	1.00 H	152	30.70	6.90
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	67.1 PK	74.0	-6.9	2.99 V	1	34.40	32.70
2	2390.00	53.7 AV	54.0	-0.3	2.99 V	1	21.00	32.70
3	*2412.00	121.9 PK			2.99 V	1	89.10	32.80
4	*2412.00	112.1 AV			2.99 V	1	79.30	32.80
5	4824.00	49.9 PK	74.0	-24.1	1.10 V	91	43.00	6.90
6	4824.00	37.9 AV	54.0	-16.1	1.10 V	91	31.00	6.90

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	59.8 PK	74.0	-14.2	1.68 H	48	27.10	32.70
2	2390.00	48.7 AV	54.0	-5.3	1.68 H	48	16.00	32.70
3	*2437.00	113.0 PK			1.68 H	48	80.00	33.00
4	*2437.00	103.3 AV			1.68 H	48	70.30	33.00
5	2483.50	59.8 PK	74.0	-14.2	1.68 H	48	26.60	33.20
6	2483.50	47.9 AV	54.0	-6.1	1.68 H	48	14.70	33.20
7	4874.00	57.3 PK	74.0	-16.7	1.24 H	182	50.30	7.00
8	4874.00	44.3 AV	54.0	-9.7	1.24 H	182	37.30	7.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	66.2 PK	74.0	-7.8	3.26 V	232	33.50	32.70
2	2390.00	53.8 AV	54.0	-0.2	3.26 V	232	21.10	32.70
3	*2437.00	124.9 PK			3.26 V	232	91.90	33.00
4	*2437.00	114.6 AV			3.26 V	232	81.60	33.00
5	2483.50	67.3 PK	74.0	-6.7	3.26 V	232	34.10	33.20
6	2483.50	53.4 AV	54.0	-0.6	3.26 V	232	20.20	33.20
7	4874.00	56.4 PK	74.0	-17.6	1.01 V	142	49.40	7.00
8	4874.00	43.8 AV	54.0	-10.2	1.01 V	142	36.80	7.00

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	110.2 PK			1.69 H	51	77.10	33.10
2	*2462.00	100.7 AV			1.69 H	51	67.60	33.10
3	2483.50	61.0 PK	74.0	-13.0	1.69 H	51	27.80	33.20
4	2483.50	46.8 AV	54.0	-7.2	1.69 H	51	13.60	33.20
5	4924.00	55.7 PK	74.0	-18.3	1.47 H	86	48.60	7.10
6	4924.00	44.9 AV	54.0	-9.1	1.47 H	86	37.80	7.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	122.8 PK			2.93 V	54	89.70	33.10
2	*2462.00	112.3 AV			2.93 V	54	79.20	33.10
3	2483.50	70.0 PK	74.0	-4.0	2.93 V	54	36.80	33.20
4	2483.50	53.5 AV	54.0	-0.5	2.93 V	54	20.30	33.20
5	4924.00	54.9 PK	74.0	-19.1	1.08 V	96	47.80	7.10
6	4924.00	43.9 AV	54.0	-10.1	1.08 V	96	36.80	7.10

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

802.11n (HT20)

CHANNEL	TX Channel 1	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	55.9 PK	74.0	-18.1	1.00 H	50	23.20	32.70
2	2390.00	43.9 AV	54.0	-10.1	1.00 H	50	11.20	32.70
3	*2412.00	107.3 PK			1.00 H	50	74.50	32.80
4	*2412.00	96.9 AV			1.00 H	50	64.10	32.80
5	4824.00	53.8 PK	74.0	-20.2	1.00 H	182	46.90	6.90
6	4824.00	41.5 AV	54.0	-12.5	1.00 H	182	34.60	6.90
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	67.5 PK	74.0	-6.5	2.47 V	251	34.80	32.70
2	2390.00	53.8 AV	54.0	-0.2	2.47 V	251	21.10	32.70
3	*2412.00	122.8 PK			2.47 V	251	90.00	32.80
4	*2412.00	111.8 AV			2.47 V	251	79.00	32.80
5	4824.00	52.0 PK	74.0	-22.0	1.07 V	189	45.10	6.90
6	4824.00	40.4 AV	54.0	-13.6	1.07 V	189	33.50	6.90

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2388.00	63.5 PK	74.0	-10.5	1.10 H	55	30.80	32.70
2	2388.00	49.8 AV	54.0	-4.2	1.10 H	55	17.10	32.70
3	*2437.00	114.9 PK			1.10 H	55	81.90	33.00
4	*2437.00	105.2 AV			1.10 H	55	72.20	33.00
5	4874.00	57.4 PK	74.0	-16.6	1.00 H	188	50.40	7.00
6	4874.00	43.3 AV	54.0	-10.7	1.00 H	188	36.30	7.00
7	7311.00	65.6 PK	74.0	-8.4	1.00 H	169	52.50	13.10
8	7311.00	49.1 AV	54.0	-4.9	1.00 H	169	36.00	13.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2388.00	64.9 PK	74.0	-9.1	1.95 V	173	32.20	32.70
2	**2388.00**	**53.9 AV**	**54.0**	**-0.1**	**1.95 V**	**173**	**21.20**	**32.70**
3	*2437.00	124.4 PK			1.95 V	173	91.40	33.00
4	*2437.00	114.0 AV			1.95 V	173	81.00	33.00
5	4874.00	54.8 PK	74.0	-19.2	1.00 V	185	47.80	7.00
6	4874.00	41.3 AV	54.0	-12.7	1.00 V	185	34.30	7.00
7	7311.00	67.2 PK	74.0	-6.8	1.42 V	176	54.10	13.10
8	7311.00	49.3 AV	54.0	-4.7	1.42 V	176	36.20	13.10

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 11	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	110.4 PK			1.28 H	56	77.30	33.10
2	*2462.00	100.8 AV			1.28 H	56	67.70	33.10
3	2483.50	58.4 PK	74.0	-15.6	1.28 H	56	25.20	33.20
4	2483.50	46.3 AV	54.0	-7.7	1.28 H	56	13.10	33.20
5	4924.00	55.0 PK	74.0	-19.0	1.00 H	181	47.90	7.10
6	4924.00	44.4 AV	54.0	-9.6	1.00 H	181	37.30	7.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	122.8 PK			2.83 V	251	89.70	33.10
2	*2462.00	112.5 AV			2.83 V	251	79.40	33.10
3	2483.50	66.6 PK	74.0	-7.4	2.83 V	251	33.40	33.20
4	2483.50	53.8 AV	54.0	-0.2	2.83 V	251	20.60	33.20
5	4924.00	54.0 PK	74.0	-20.0	1.04 V	180	46.90	7.10
6	4924.00	43.3 AV	54.0	-10.7	1.04 V	180	36.20	7.10

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

802.11n (HT40)

CHANNEL	TX Channel 3	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	58.0 PK	74.0	-16.0	1.00 H	57	25.30	32.70
2	2390.00	48.1 AV	54.0	-5.9	1.00 H	57	15.40	32.70
3	*2422.00	107.1 PK			1.00 H	57	74.20	32.90
4	*2422.00	96.5 AV			1.00 H	57	63.60	32.90
5	4844.00	46.8 PK	74.0	-27.2	1.00 H	170	39.80	7.00
6	4844.00	34.9 AV	54.0	-19.1	1.00 H	170	27.90	7.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	65.9 PK	74.0	-8.1	1.48 V	317	33.20	32.70
2	2390.00	53.6 AV	54.0	-0.4	1.48 V	317	20.90	32.70
3	*2422.00	113.8 PK			1.48 V	317	80.90	32.90
4	*2422.00	104.2 AV			1.48 V	317	71.30	32.90
5	4844.00	48.7 PK	74.0	-25.3	1.11 V	117	41.70	7.00
6	4844.00	36.6 AV	54.0	-17.4	1.11 V	117	29.60	7.00

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	60.1 PK	74.0	-13.9	1.37 H	54	27.40	32.70
2	2390.00	49.1 AV	54.0	-4.9	1.37 H	54	16.40	32.70
3	*2437.00	108.7 PK			1.37 H	54	75.70	33.00
4	*2437.00	98.3 AV			1.37 H	54	65.30	33.00
5	2483.50	61.2 PK	74.0	-12.8	1.37 H	54	28.00	33.20
6	2483.50	47.3 AV	54.0	-6.7	1.37 H	54	14.10	33.20
7	4874.00	48.2 PK	74.0	-25.8	1.00 H	177	41.20	7.00
8	4874.00	35.5 AV	54.0	-18.5	1.00 H	177	28.50	7.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	66.3 PK	74.0	-7.7	2.93 V	62	33.60	32.70
2	2390.00	53.7 AV	54.0	-0.3	2.93 V	62	21.00	32.70
3	*2437.00	117.8 PK			2.93 V	62	84.80	33.00
4	*2437.00	107.7 AV			2.93 V	62	74.70	33.00
5	2483.50	66.8 PK	74.0	-7.2	2.93 V	62	33.60	33.20
6	2483.50	51.6 AV	54.0	-2.4	2.93 V	62	18.40	33.20
7	4874.00	49.4 PK	74.0	-24.6	1.10 V	113	42.40	7.00
8	4874.00	37.7 AV	54.0	-16.3	1.10 V	113	30.70	7.00

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 9	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	108.6 PK			1.00 H	56	75.50	33.10
2	*2452.00	98.5 AV			1.00 H	56	65.40	33.10
3	2483.50	61.8 PK	74.0	-12.2	1.00 H	56	28.60	33.20
4	2483.50	50.0 AV	54.0	-4.0	1.00 H	56	16.80	33.20
5	4904.00	47.4 PK	74.0	-26.6	1.00 H	172	40.30	7.10
6	4904.00	35.3 AV	54.0	-18.7	1.00 H	172	28.20	7.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	115.4 PK			1.14 V	317	82.30	33.10
2	*2452.00	105.7 AV			1.14 V	317	72.60	33.10
3	2483.50	67.9 PK	74.0	-6.1	1.14 V	317	34.70	33.20
4	2483.50	53.8 AV	54.0	-0.2	1.14 V	317	20.60	33.20
5	4904.00	48.9 PK	74.0	-25.1	1.12 V	114	41.80	7.10
6	4904.00	37.3 AV	54.0	-16.7	1.12 V	114	30.20	7.10

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

Below 1GHz Worst-Case Data: 802.11g

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	99.75	34.2 QP	43.5	-9.3	1.50 H	51	52.80	-18.60
2	187.07	39.0 QP	43.5	-4.5	1.24 H	183	54.90	-15.90
3	355.89	41.8 QP	46.0	-4.2	1.00 H	340	53.30	-11.50
4	499.48	39.7 QP	46.0	-6.3	2.00 H	325	48.20	-8.50
5	625.60	38.2 QP	46.0	-7.8	1.24 H	247	43.80	-5.60
6	800.24	42.3 QP	46.0	-3.7	1.24 H	66	44.40	-2.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	53.18	34.3 QP	40.0	-5.7	1.50 V	353	48.20	-13.90
2	367.53	37.4 QP	46.0	-8.6	1.00 V	69	48.50	-11.10
3	480.07	40.7 QP	46.0	-5.3	2.00 V	347	49.70	-9.00
4	499.48	40.7 QP	46.0	-5.3	2.00 V	347	49.20	-8.50
5	577.09	36.7 QP	46.0	-9.3	1.00 V	7	43.70	-7.00
6	625.60	36.6 QP	46.0	-9.4	2.00 V	91	42.20	-5.60

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

Note: 1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCS30	100289	Dec. 23, 2015	Dec. 22, 2016
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond2-01	Dec. 26, 2015	Dec. 25, 2016
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Jan. 11, 2016	Jan. 10, 2017
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Jul. 26, 2016	Jul. 25, 2017
Software ADT	BV ADT_Cond_ V7.3.7.3	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Shielded Room 2.
3. The VCCI Site Registration No. is C-2047.

4.2.3 Test Procedures

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

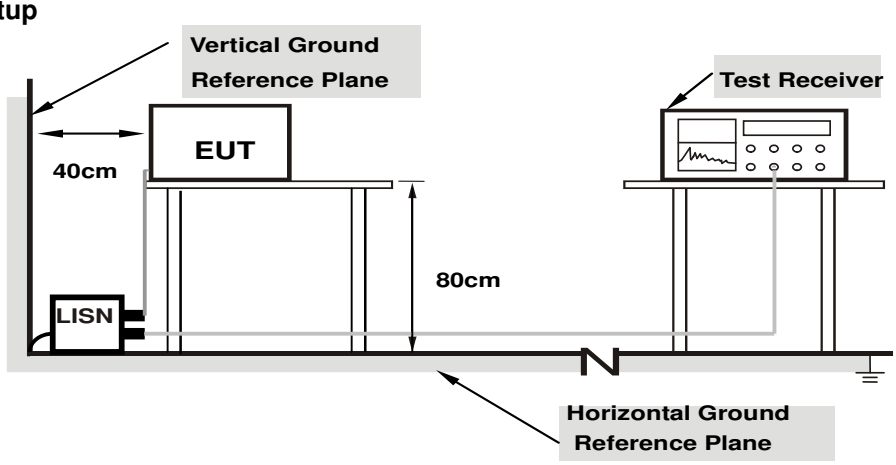
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) were not recorded.

NOTE: The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



Note: 1.Support units were connected to second LISN.

For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.2.6 EUT Operating Conditions

Same as 4.1.6.

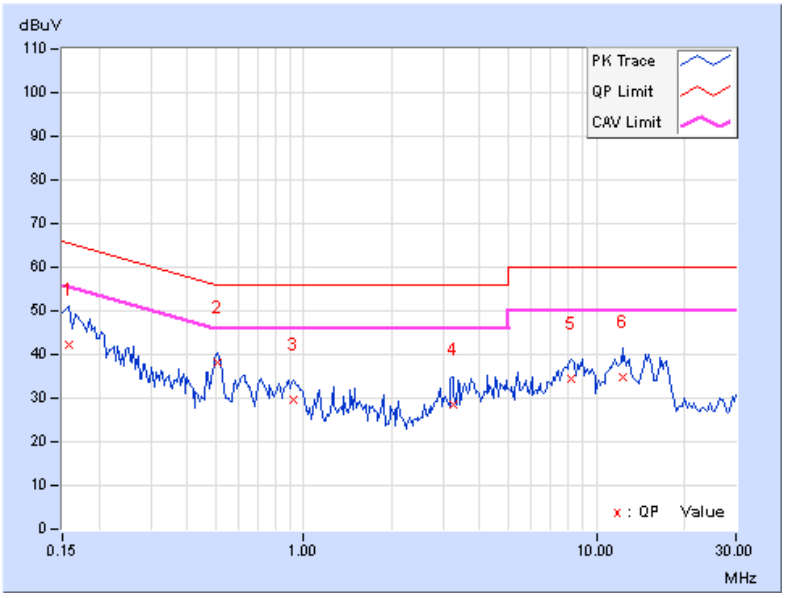
4.2.7 Test Results

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15781	10.18	32.07	14.92	42.25	25.10	65.58	55.58	-23.33	-30.48
2	**0.50547**	**10.25**	**28.00**	**22.57**	**38.25**	**32.82**	**56.00**	**46.00**	**-17.75**	**-13.18**
3	0.92344	10.30	19.43	10.46	29.73	20.76	56.00	46.00	-26.27	-25.24
4	3.23828	10.40	17.98	9.40	28.38	19.80	56.00	46.00	-27.62	-26.20
5	8.20703	10.49	24.05	17.71	34.54	28.20	60.00	50.00	-25.46	-21.80
6	12.34375	10.55	24.39	18.42	34.94	28.97	60.00	50.00	-25.06	-21.03

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

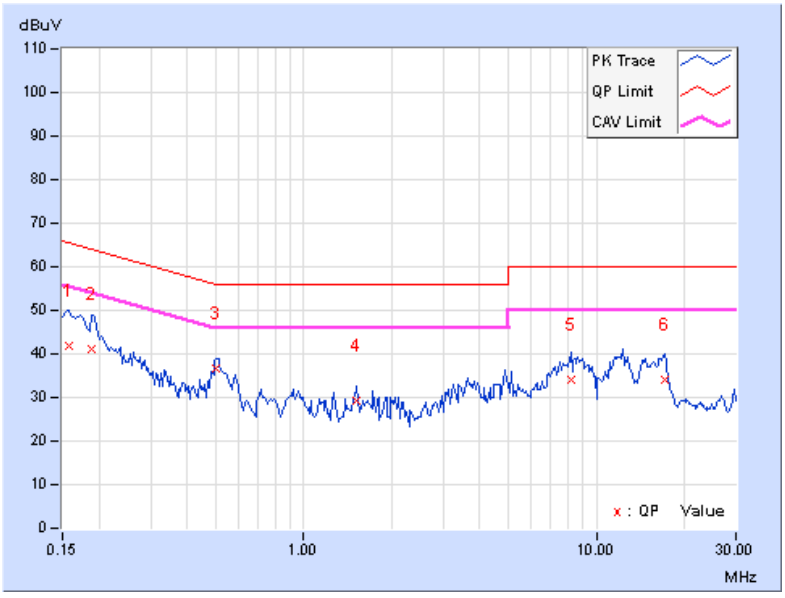


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15781	10.19	31.57	14.12	41.76	24.31	65.58	55.58	-23.82	-31.27
2	0.18906	10.20	30.94	16.48	41.14	26.68	64.08	54.08	-22.94	-27.40
3	0.50156	10.30	26.26	19.85	36.56	30.15	56.00	46.00	-19.44	-15.85
4	1.52344	10.35	18.76	10.07	29.11	20.42	56.00	46.00	-26.89	-25.58
5	8.17578	10.59	23.66	17.33	34.25	27.92	60.00	50.00	-25.75	-22.08
6	17.10156	10.79	23.43	17.26	34.22	28.05	60.00	50.00	-25.78	-21.95

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

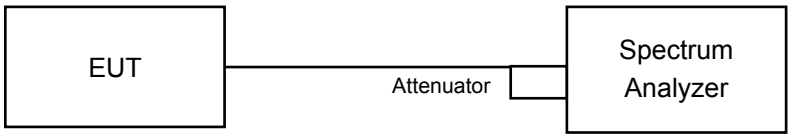


4.3 6dB Bandwidth Measurement

4.3.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 Test Setup



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

a. Set resolution bandwidth (RBW) = 100kHz
b. Set the video bandwidth (VBW) ≥ 3 x RBW, Detector = Peak.
c. Trace mode = max hold.
d. Sweep = auto couple.
e. Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 Test Result

CDD Mode

802.11b

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
1	2412	8.54	8.11	8.52	8.10	0.5	Pass
6	2437	8.59	7.60	8.60	8.59	0.5	Pass
11	2462	7.57	8.59	8.59	7.59	0.5	Pass

802.11g

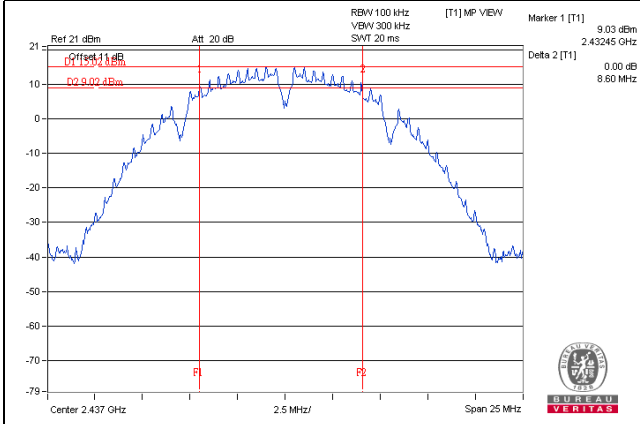
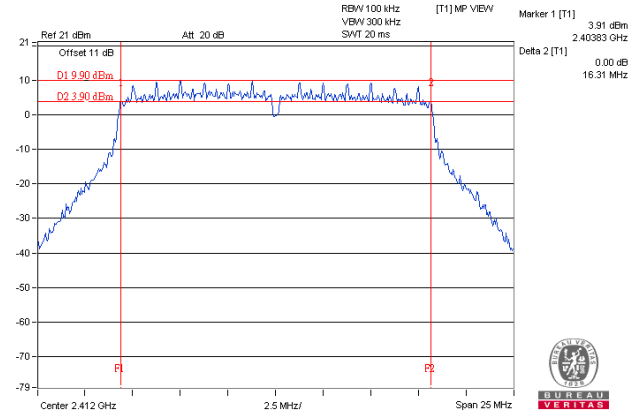
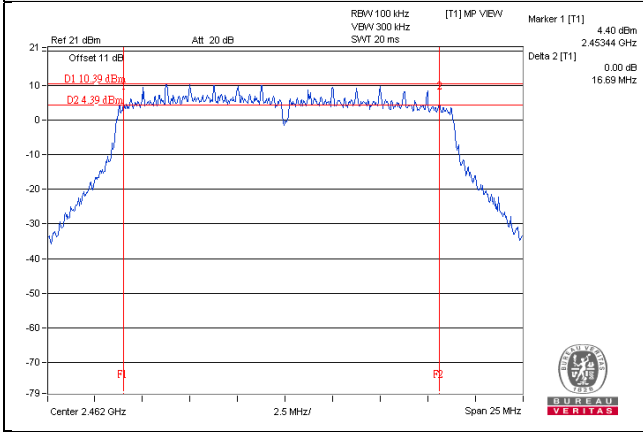
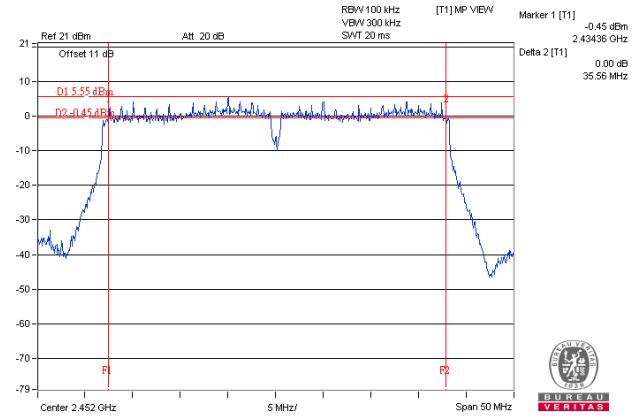
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
1	2412	15.56	16.31	15.75	15.75	0.5	Pass
6	2437	15.76	15.77	15.77	15.72	0.5	Pass
11	2462	15.75	15.74	15.73	15.74	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
1	2412	16.57	16.56	16.32	16.33	0.5	Pass
6	2437	15.75	15.76	15.76	15.74	0.5	Pass
11	2462	15.95	15.75	15.94	16.69	0.5	Pass

802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
3	2422	35.18	35.22	35.30	35.20	0.5	Pass
6	2437	35.23	35.19	35.15	35.14	0.5	Pass
9	2452	35.19	35.56	35.22	35.17	0.5	Pass

Spectrum Plot of Worst Value	
802.11b	802.11g
	
802.11n (HT20)	802.11n (HT40)
	

4.4 Conducted Output Power Measurement

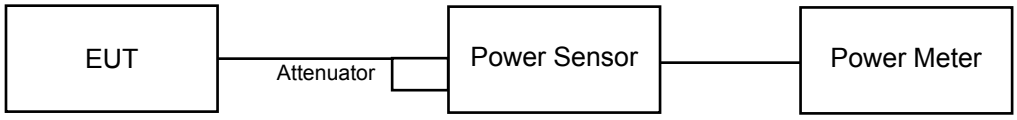
4.4.1 Limits of Conducted Output Power Measurement

For systems using digital modulation in the 2400–2483.5 MHz bands: 1 Watt (30dBm)
Per KDB 662911 D01 Multiple Transmitter Output Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for NANT ≤ 4;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any NANT;
Array Gain = 5 log(NANT/NSS) dB or 3 dB, whichever is less for 20-MHz channel widths with NANT ≥ 5.

For power measurements on all other devices: Array Gain = 10 log(NANT/NSS) dB.

4.4.2 Test Setup



4.4.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.4 Test Procedures

An average power sensor was used on the output port of the EUT. A power meter was used to read the response of the average power sensor. Record the power level.

4.4.5 Deviation from Test Standard

No deviation.

4.4.6 EUT Operating Conditions

Same as item 4.3.6.

4.4.7 Test Results

CDD Mode

802.11b

Channel	Frequency (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
1	2412	22.86	22.79	23.10	22.48	764.490	28.83	30	Pass
6	2437	22.80	22.83	22.86	22.85	768.362	28.86	30	Pass
11	2462	23.04	22.82	22.92	22.78	778.353	28.91	30	Pass

802.11g

Channel	Frequency (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
1	2412	19.51	19.67	19.84	19.48	367.113	25.65	30	Pass
6	2437	23.51	23.43	23.72	23.46	**902.006**	29.55	30	Pass
11	2462	20.23	20.11	20.43	20.13	421.451	26.25	30	Pass

802.11n (HT20)

Channel	Frequency (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
1	2412	19.15	19.51	19.23	19.24	339.254	25.31	30	Pass
6	2437	23.35	23.22	23.57	23.28	866.490	29.38	30	Pass
11	2462	19.88	19.70	19.81	19.90	384.043	25.84	30	Pass

802.11n (HT40)

Channel	Frequency (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
3	2422	16.13	15.98	16.28	16.04	163.289	22.13	30	Pass
6	2437	20.01	19.92	20.24	19.97	403.400	26.06	30	Pass
9	2452	17.88	17.96	18.25	18.12	255.59	24.08	30	Pass

Beamforming Mode

802.11n (HT20)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
1	2412	19.15	19.51	19.23	19.24	339.254	25.31	29.543	Pass
6	2437	22.80	22.73	23.02	22.75	**766.857**	28.85	28.942	Pass
11	2462	18.96	18.77	18.89	18.99	310.737	24.92	29.381	Pass

Note:

2412MHz: Directional gain = 6.457dBi > 6dBi, so the power limit shall be reduced to 30-(6.457-6) = 29.543dBm.

2437MHz: Directional gain = 7.058dBi > 6dBi, so the power limit shall be reduced to 30-(7.058-6) = 28.942dBm.

2462MHz: Directional gain = 6.619dBi > 6dBi, so the power limit shall be reduced to 30-(6.619-6) = 29.381dBm.

802.11n (HT40)

Chan.	Chan. Freq. (MHz)	Average Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
3	2422	16.13	15.98	16.28	16.04	163.289	22.13	29.215	Pass
6	2437	20.01	19.92	20.24	19.97	403.400	26.06	28.942	Pass
9	2452	17.88	17.96	18.25	18.12	255.590	24.08	29.217	Pass

Note:

2422MHz: Directional gain = 6.785dBi > 6dBi, so the power limit shall be reduced to 30-(6.785-6) = 29.215dBm.

2437MHz: Directional gain = 7.058dBi > 6dBi, so the power limit shall be reduced to 30-(7.058-6) = 28.942dBm.

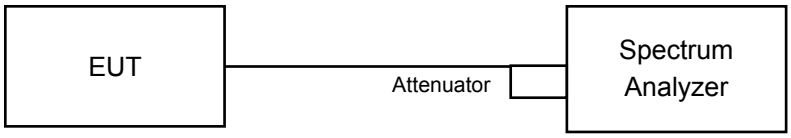
2452MHz: Directional gain = 6.783dBi > 6dBi, so the power limit shall be reduced to 30-(6.783-6) = 29.217dBm.

4.5 Power Spectral Density Measurement

4.5.1 Limits of Power Spectral Density Measurement

The Maximum of Power Spectral Density Measurement is 8dBm.

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedure

For AVG. power (duty cycle ≥ 98%)
a) Set instrument center frequency to DTS channel center frequency.
b) Set span to at least 1.5 times the OBW.
c) Set RBW to: 3 kHz ≤ RBW ≤ 100 kHz.
d) Set VBW ≥3 x RBW.
e) Detector = power averaging (RMS) or sample detector (when RMS not available).
f) Ensure that the number of measurement points in the sweep ≥ 2 x span/RBW.
g) Sweep time = auto couple.
h) Employ trace averaging (RMS) mode over a minimum of 100 traces.
i) Use the peak marker function to determine the maximum amplitude level.

For AVG. power (duty cycle < 98%)
a) Measure the duty cycle (x).
b) Set instrument center frequency to DTS channel center frequency.
c) Set span to at least 1.5 times the OBW.
d) Set RBW to: 3 kHz ≤ RBW ≤ 100 kHz.
e) Set VBW ≥3 x RBW.
f) Detector = power averaging (RMS) or sample detector (when RMS not available).
g) Ensure that the number of measurement points in the sweep ≥ 2 x span/RBW.
h) Sweep time = auto couple.
i) Do not use sweep triggering. Allow sweep to “free run”.
j) Employ trace averaging (RMS) mode over a minimum of 100 traces.
k) Use the peak marker function to determine the maximum amplitude level.
l) Add 10 log (1/x), where x is the duty cycle measured in step (a, to the measured PSD to compute the average PSD during the actual transmission time.

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

Same as item 4.3.6

4.5.7 Test Results

CDD Mode

802.11b

TX chain	Channel	Freq. (MHz)	PSD (dBm)	10 log (N=4) dB	Total PSD (dBm)	Limit (dBm)	PASS /FAIL
0	1	2412	-4.68	6.02	1.34	7.525	Pass
	6	2437	-5.03	6.02	0.99	6.942	Pass
	11	2462	-4.30	6.02	1.72	7.381	Pass
1	1	2412	-4.09	6.02	1.93	7.525	Pass
	6	2437	-4.26	6.02	1.76	6.942	Pass
	11	2462	-4.54	6.02	1.48	7.381	Pass
2	1	2412	-4.41	6.02	1.61	7.525	Pass
	6	2437	-4.43	6.02	1.59	6.942	Pass
	11	2462	-4.83	6.02	1.19	7.381	Pass
3	1	2412	-4.74	6.02	1.28	7.525	Pass
	6	2437	-4.54	6.02	1.48	6.942	Pass
	11	2462	-4.45	6.02	1.57	7.381	Pass

Note:

1. 2412MHz: Directional gain = 6.475dBi > 6dBi, so the power density limit shall be reduced to 8-(6.475-6) = 7.525dBm.

   2437MHz: Directional gain = 7.058dBi > 6dBi, so the power density limit shall be reduced to 8-(7.058-6) = 6.942dBm.

   2462MHz: Directional gain = 6.619dBi > 6dBi, so the power density limit shall be reduced to 8-(6.619-6) = 7.381dBm.

802.11g

TX chain	Channel	Freq. (MHz)	PSD (dBm)	10 log (N=4) dB	Total PSD w/o duty factor (dBm)	Duty factor	Total PSD (dBm)	Limit (dBm)	PASS /FAIL
0	1	2412	-7.54	6.02	-1.52	0.15	-1.37	7.525	Pass
	6	2437	-7.66	6.02	-1.64	0.15	-1.49	6.942	Pass
	11	2462	-6.63	6.02	-0.61	0.15	-0.46	7.381	Pass
1	1	2412	-10.91	6.02	-4.89	0.15	-4.74	7.525	Pass
	6	2437	-7.12	6.02	-1.10	0.15	-0.95	6.942	Pass
	11	2462	-9.82	6.02	-3.80	0.15	-3.65	7.381	Pass
2	1	2412	-11.08	6.02	-5.06	0.15	-4.91	7.525	Pass
	6	2437	-7.50	6.02	-1.48	0.15	-1.33	6.942	Pass
	11	2462	-10.92	6.02	-4.90	0.15	-4.75	7.381	Pass
3	1	2412	-11.67	6.02	-5.65	0.15	-5.50	7.525	Pass
	6	2437	-7.80	6.02	-1.78	0.15	-1.63	6.942	Pass
	11	2462	-9.84	6.02	-3.82	0.15	-3.67	7.381	Pass

Note:

1. 2412MHz: Directional gain = 6.475dBi > 6dBi, so the power density limit shall be reduced to 8-(6.475-6) = 7.525dBm.

   2437MHz: Directional gain = 7.058dBi > 6dBi, so the power density limit shall be reduced to 8-(7.058-6) = 6.942dBm.

   2462MHz: Directional gain = 6.619dBi > 6dBi, so the power density limit shall be reduced to 8-(6.619-6) = 7.381dBm.
2. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

TX chain	Channel	Freq. (MHz)	PSD (dBm)	10 log (N=4) dB	Total PSD (dBm)	Limit (dBm)	PASS /FAIL
0	1	2412	-11.87	6.02	-5.85	7.525	Pass
	6	2437	-7.05	6.02	-1.03	6.942	Pass
	11	2462	-10.46	6.02	-4.44	7.381	Pass
1	1	2412	-11.87	6.02	-5.85	7.525	Pass
	6	2437	-7.86	6.02	-1.84	6.942	Pass
	11	2462	-9.83	6.02	-3.81	7.381	Pass
2	1	2412	-11.91	6.02	-5.89	7.525	Pass
	6	2437	-7.75	6.02	-1.73	6.942	Pass
	11	2462	-10.33	6.02	-4.31	7.381	Pass
3	1	2412	-12.04	6.02	-6.02	7.525	Pass
	6	2437	-8.10	6.02	-2.08	6.942	Pass
	11	2462	-10.51	6.02	-4.49	7.381	Pass

Note:

1. 2412MHz: Directional gain = 6.475dBi > 6dBi, so the power density limit shall be reduced to 8-(6.475-6) = 7.525dBm.

   2437MHz: Directional gain = 7.058dBi > 6dBi, so the power density limit shall be reduced to 8-(7.058-6) = 6.942dBm.

   2462MHz: Directional gain = 6.619dBi > 6dBi, so the power density limit shall be reduced to 8-(6.619-6) = 7.381dBm.

802.11n (HT40)

TX chain	Channel	Freq. (MHz)	PSD (dBm)	10 log (N=4) dB	Total PSD w/o duty factor (dBm)	Duty factor	Total PSD (dBm)	Limit (dBm)	PASS /FAIL
0	3	2422	-17.52	6.02	-11.50	0.15	-11.35	7.215	Pass
	6	2437	-13.25	6.02	-7.23	0.15	-7.08	6.942	Pass
	9	2452	-15.51	6.02	-9.49	0.15	-9.34	7.217	Pass
1	3	2422	-17.51	6.02	-11.49	0.15	-11.34	7.215	Pass
	6	2437	-14.17	6.02	-8.15	0.15	-8.00	6.942	Pass
	9	2452	-15.80	6.02	-9.78	0.15	-9.63	7.217	Pass
2	3	2422	-17.30	6.02	-11.28	0.15	-11.13	7.215	Pass
	6	2437	-15.80	6.02	-9.78	0.15	-9.63	6.942	Pass
	9	2452	-17.57	6.02	-11.55	0.15	-11.40	7.217	Pass
3	3	2422	-17.89	6.02	-11.87	0.15	-11.72	7.215	Pass
	6	2437	-15.57	6.02	-9.55	0.15	-9.40	6.942	Pass
	9	2452	-15.56	6.02	-9.54	0.15	-9.39	7.217	Pass

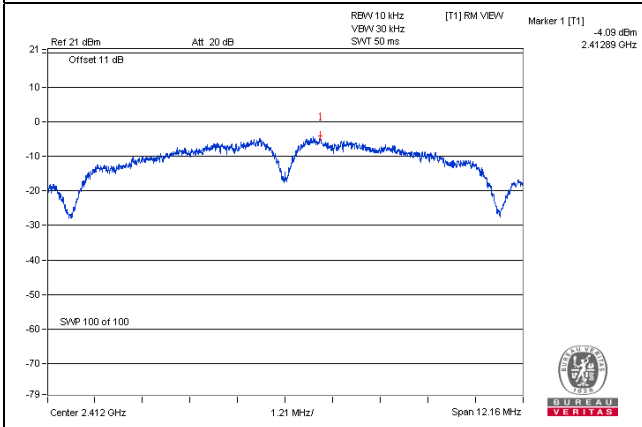
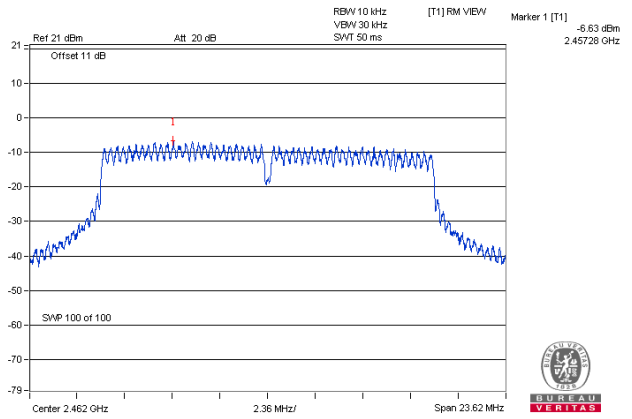
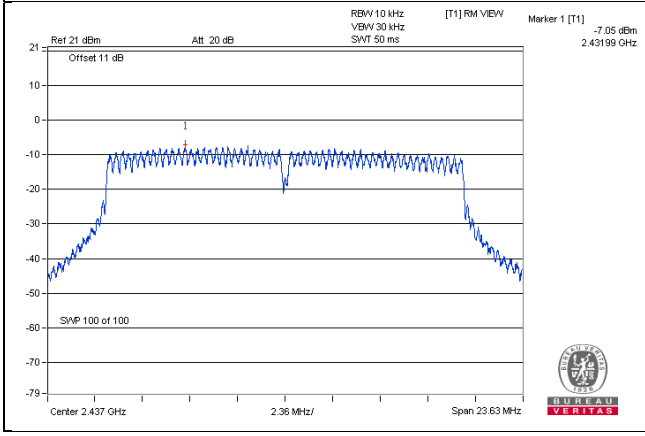
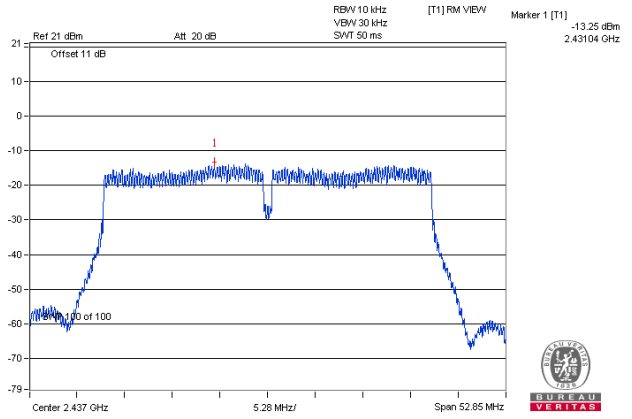
Note:

1. 2422MHz: Directional gain = 6.785dBi > 6dBi, so the power density limit shall be reduced to 8-(6.785-6) = 7.215dBm.

   2437MHz: Directional gain = 7.058dBi > 6dBi, so the power density limit shall be reduced to 8-(7.058-6) = 6.942dBm.

   2452MHz: Directional gain = 6.783dBi > 6dBi, so the power density limit shall be reduced to 8-(6.783-6) = 7.217dBm.

2. Refer to section 3.3 for duty cycle spectrum plot.

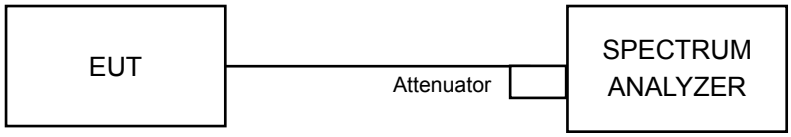
Spectrum Plot of Worst Value	
802.11b	802.11g
	
802.11n (HT20)	802.11n (HT40)
	

4.6 Conducted Out of Band Emission Measurement

4.6.1 Limits of Conducted Out of Band Emission Measurement

Below 30dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

MEASUREMENT PROCEDURE REF

1. Set the RBW = 100 kHz.
2. Set the VBW ≥ 300 kHz.
3. Detector = average.
4. Sweep time = auto couple.
5. Trace mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

MEASUREMENT PROCEDURE OOBE

1. Set RBW = 100 kHz.
2. Set VBW ≥ 300 kHz.
3. Detector = peak.
4. Sweep = auto couple.
5. Trace Mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum amplitude level.

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

Same as item 4.3.6

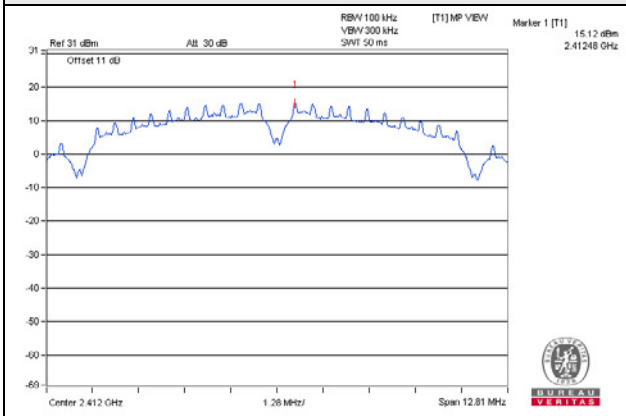
4.6.7 Test Results

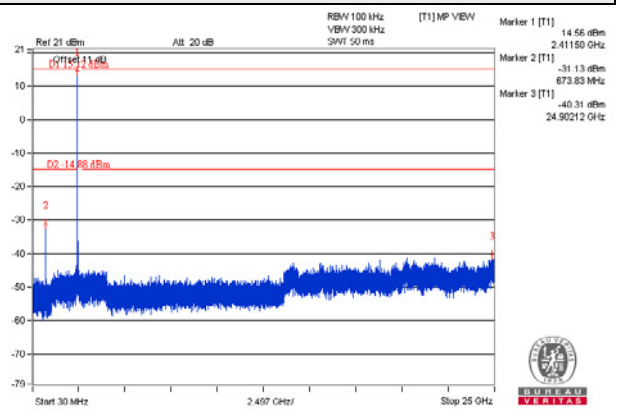
The conducted emission test is performed on each TX port of operating mode without summing or adding 10log (N) since the limit is relative emission limit.
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 30dB offset below D1. It shows compliance with the requirement.

CDD Mode

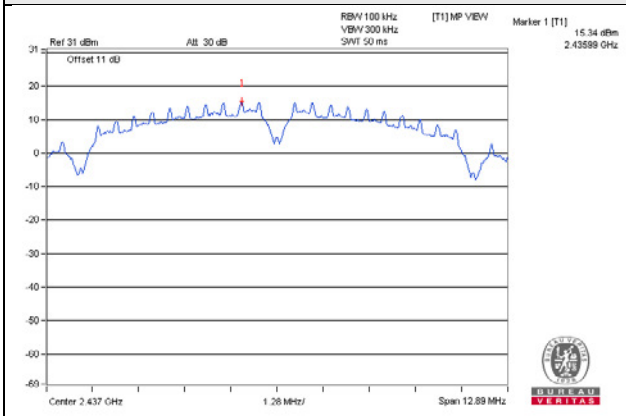
802.11b_Chain 0

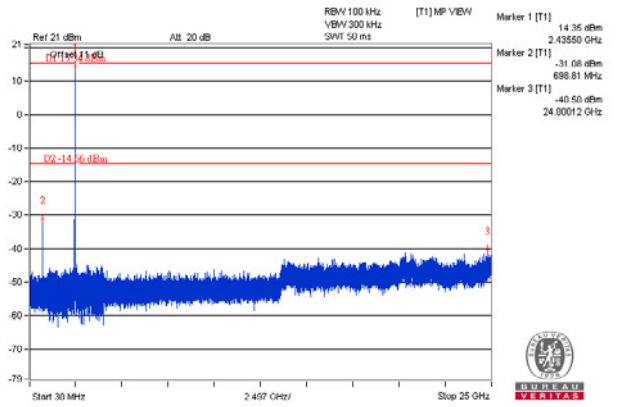
CH 1



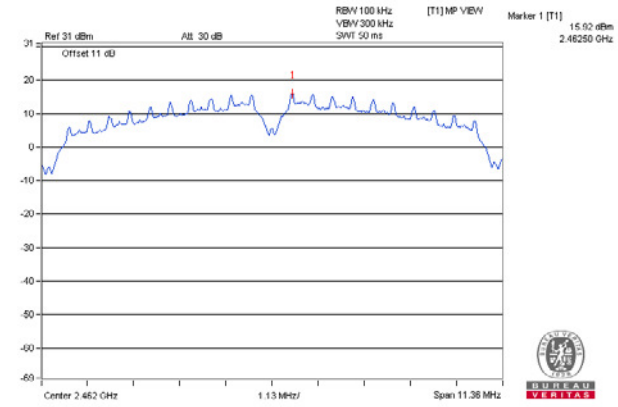


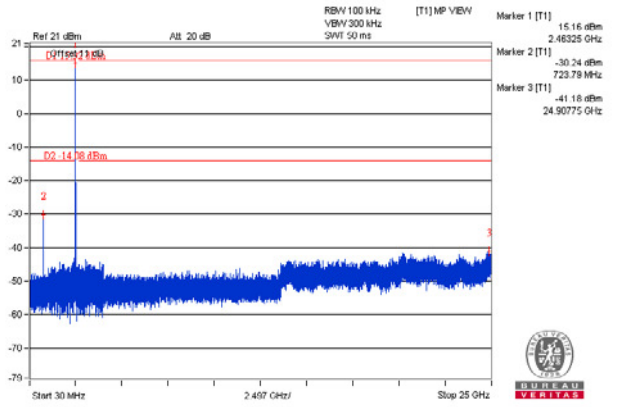
CH 6





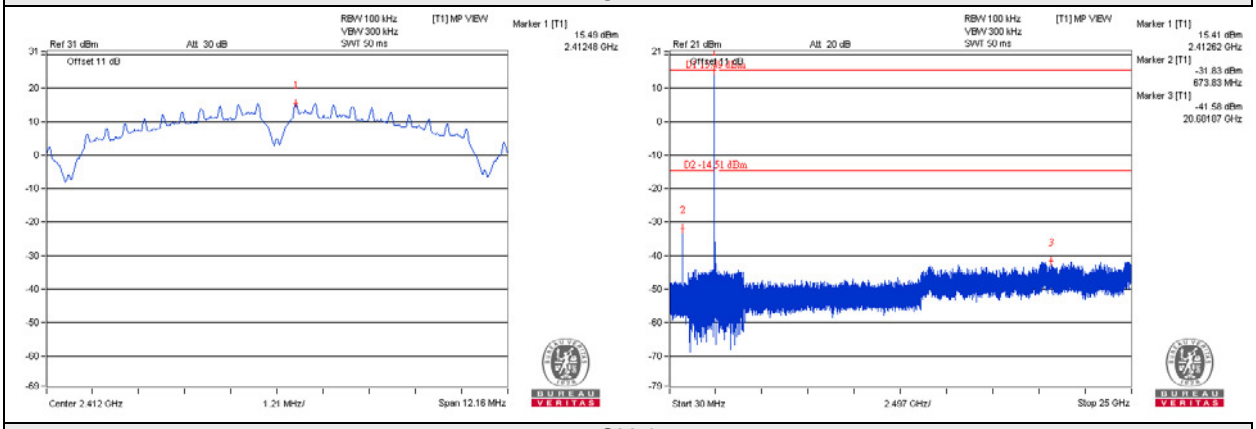
CH 11



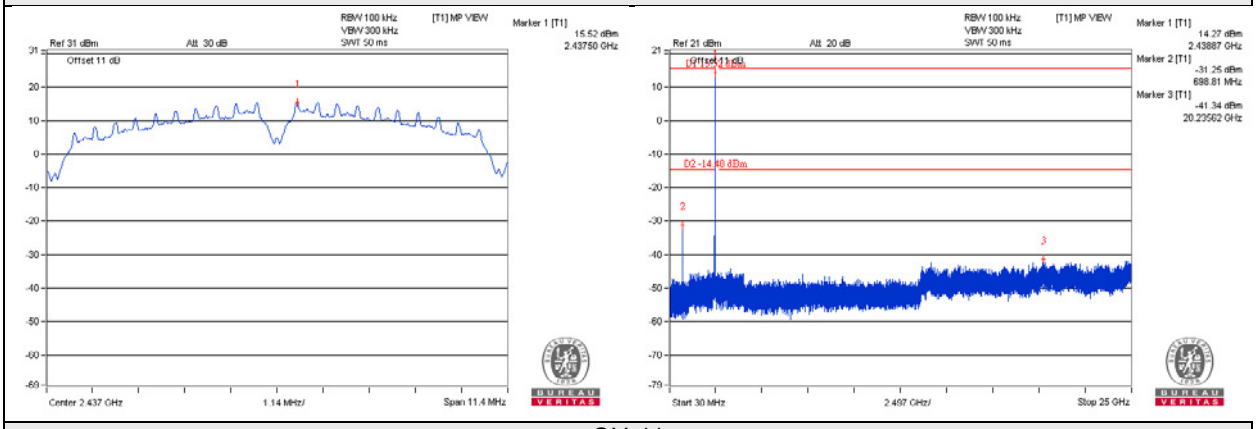


802.11b_Chain 1

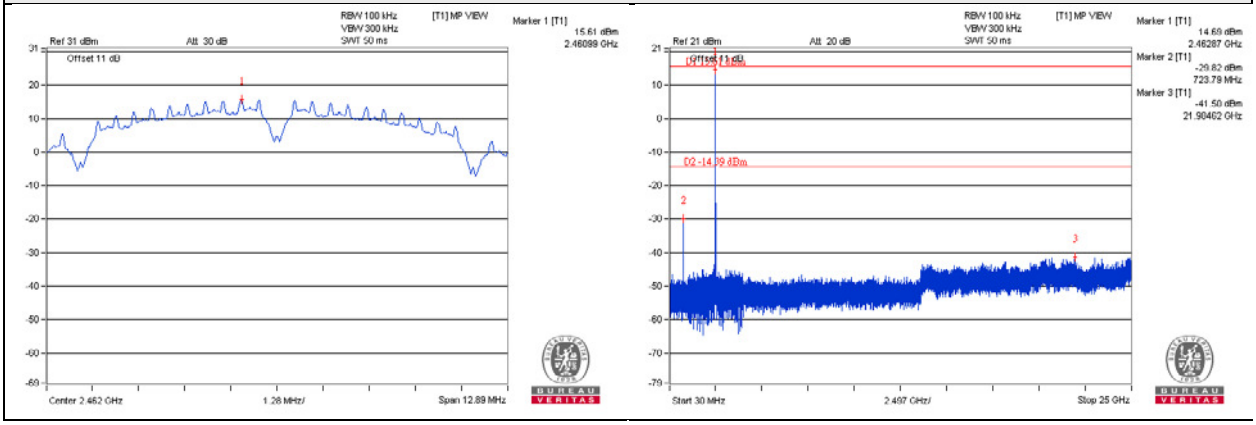
CH 1



CH 6

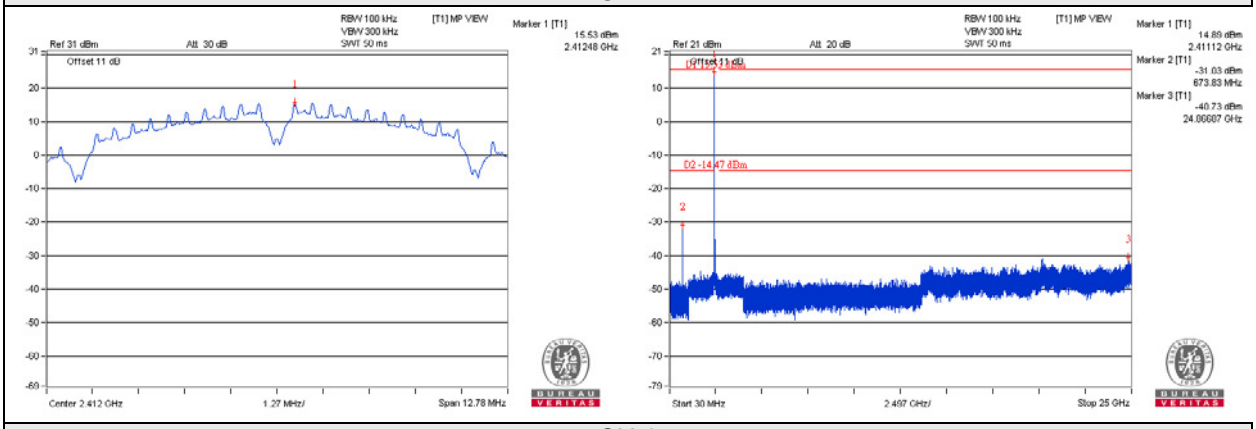


CH 11

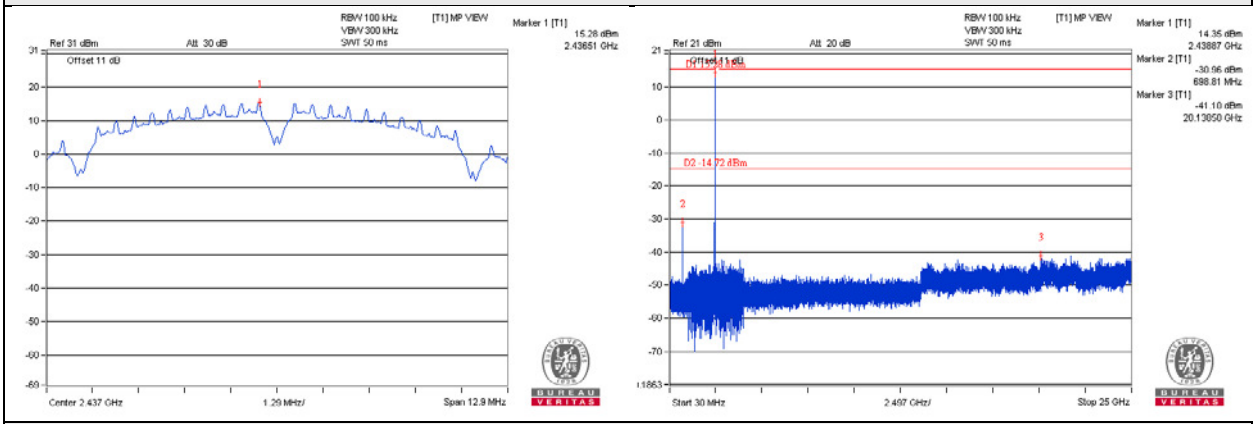


802.11b_Chain 2

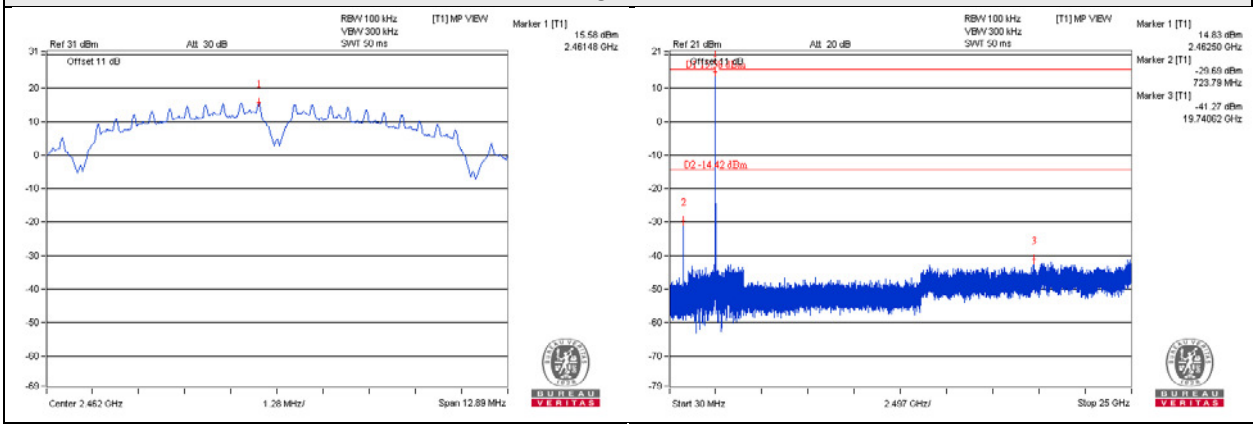
CH 1



CH 6

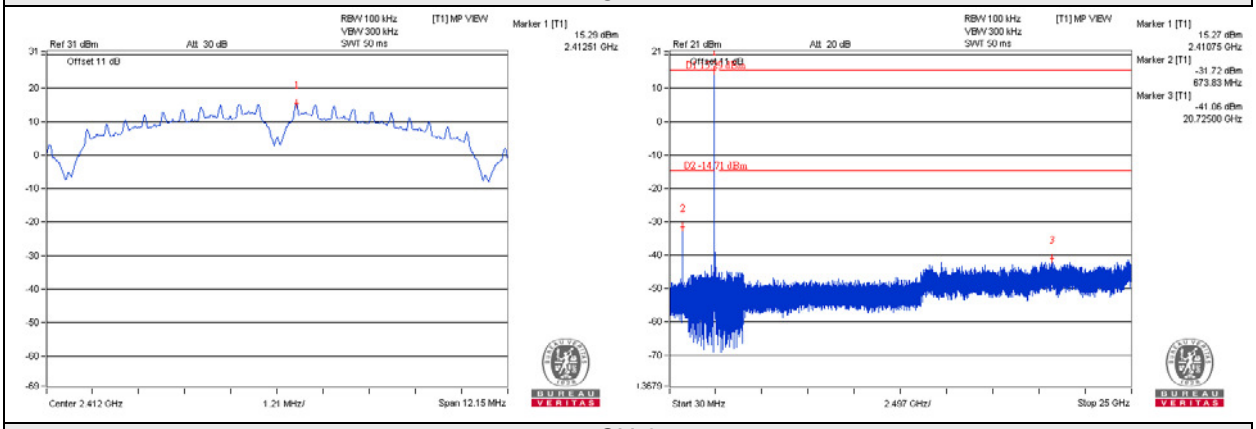


CH 11

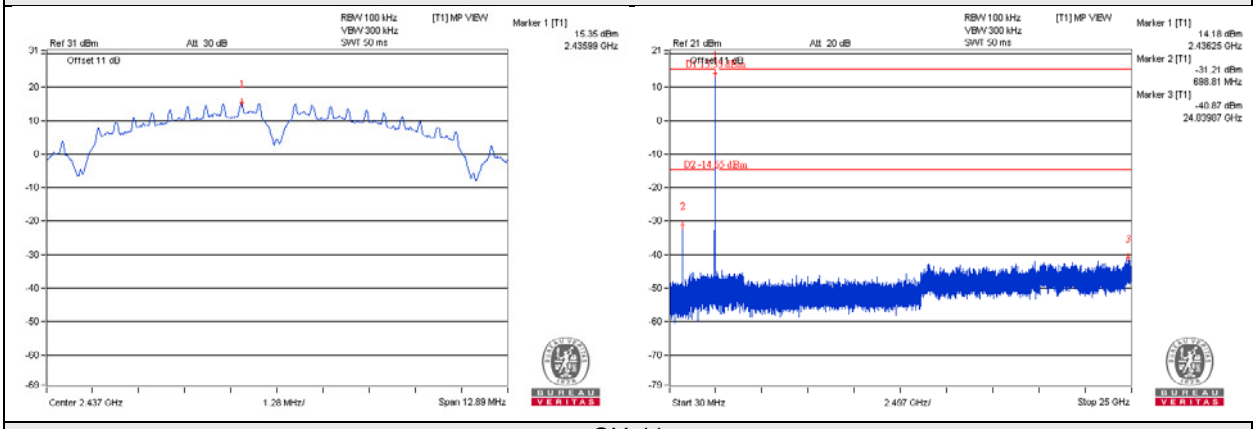


802.11b_Chain 3

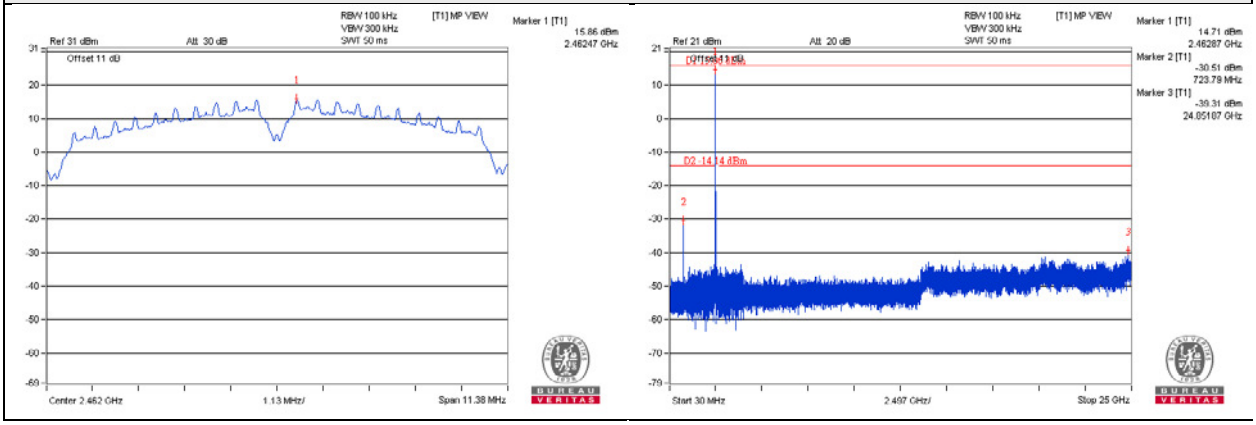
CH 1



CH 6

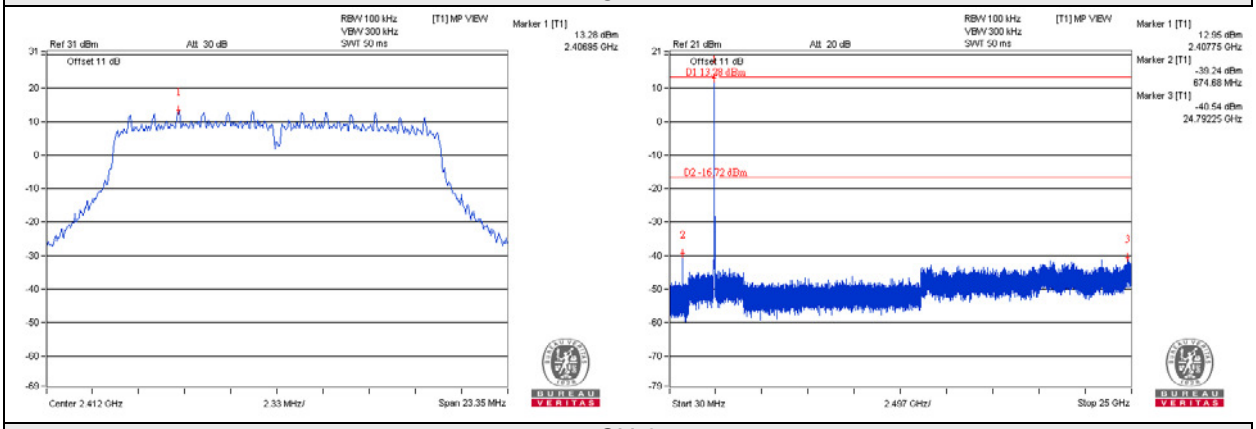


CH 11

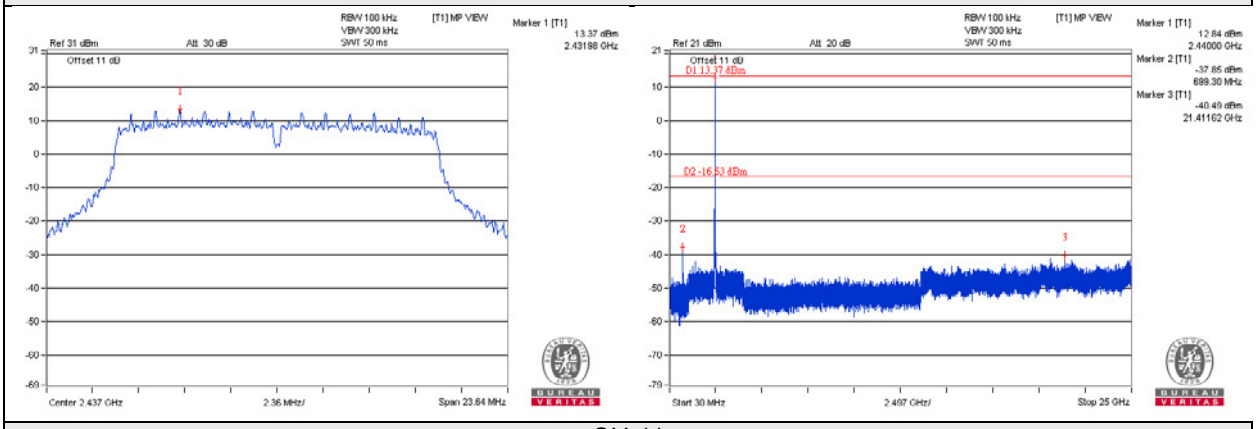


802.11g_Chain 0

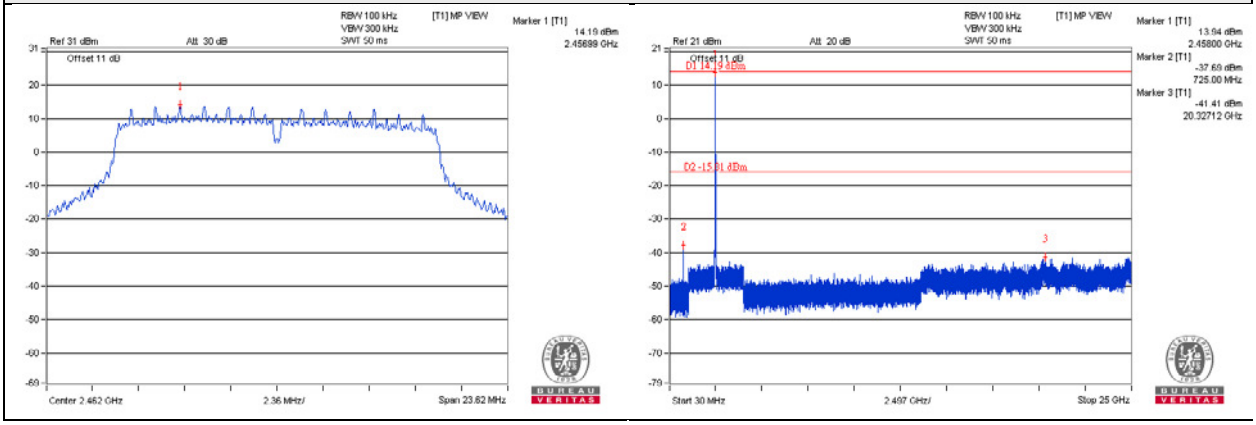
CH 1



CH 6

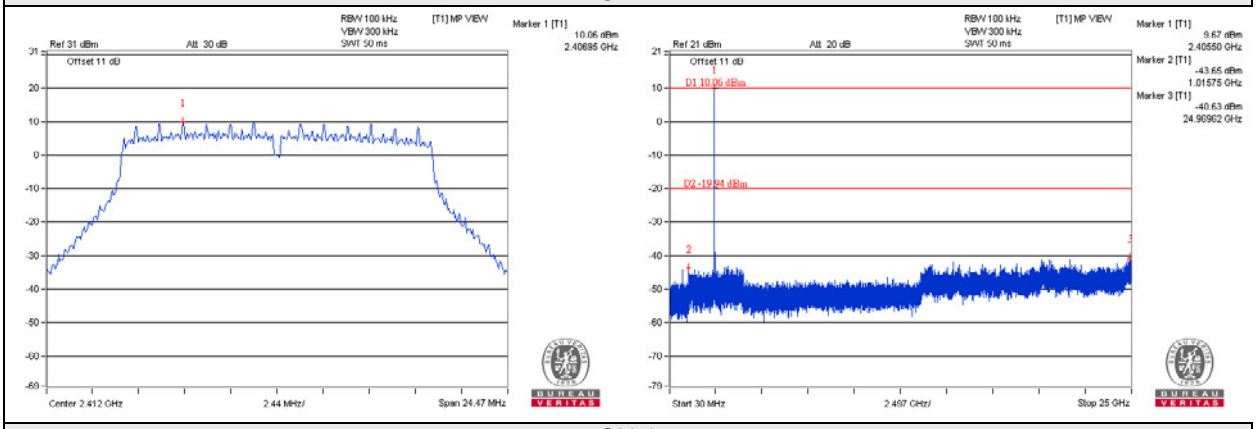


CH 11

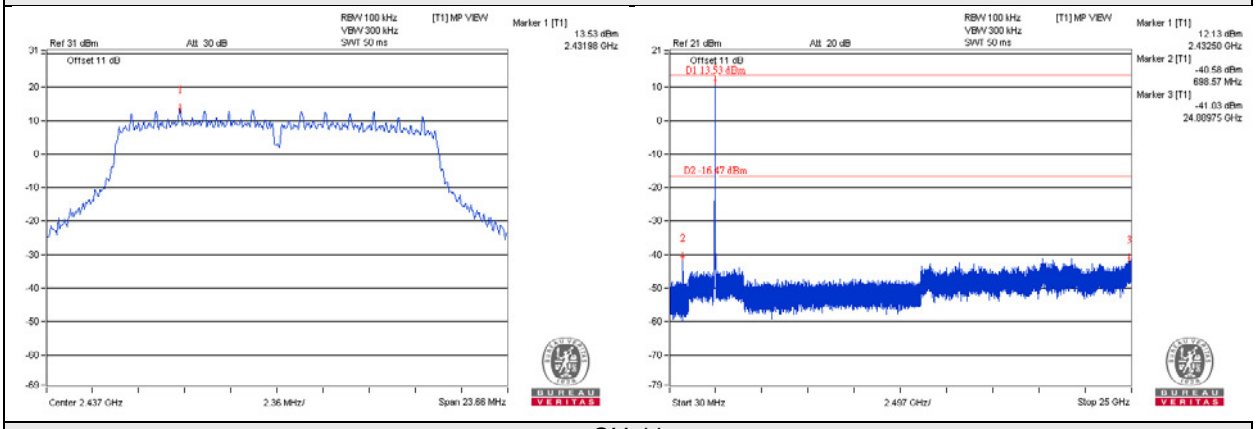


802.11g_Chain 1

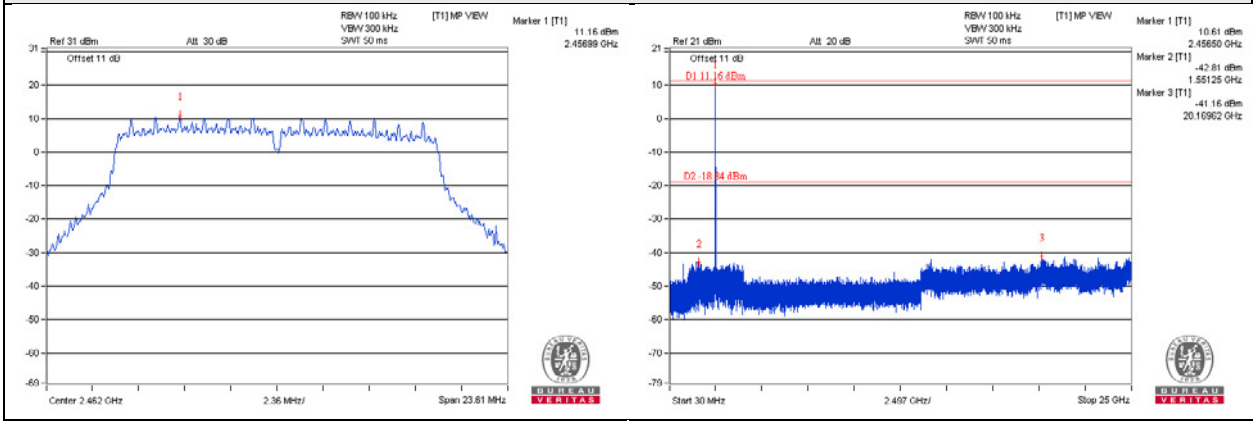
CH 1



CH 6

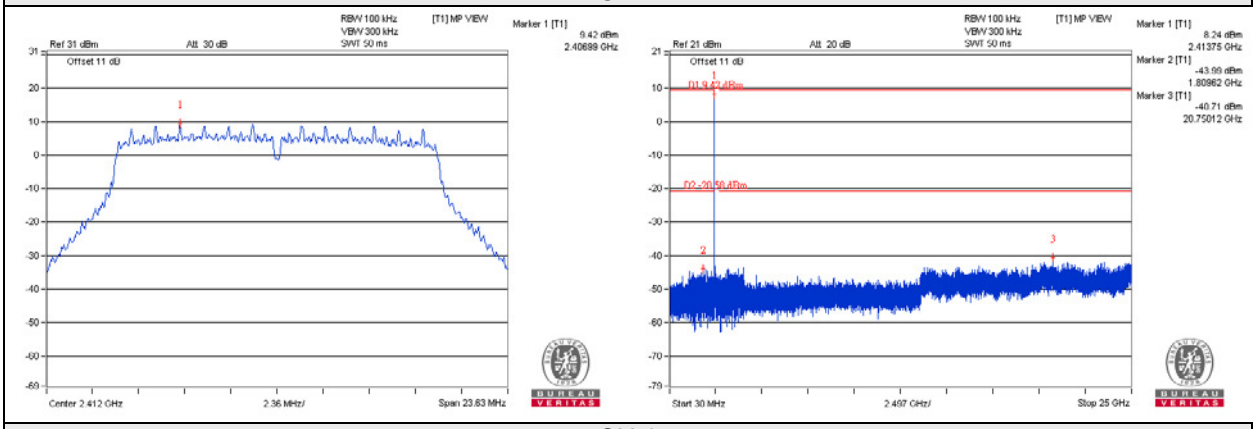


CH 11

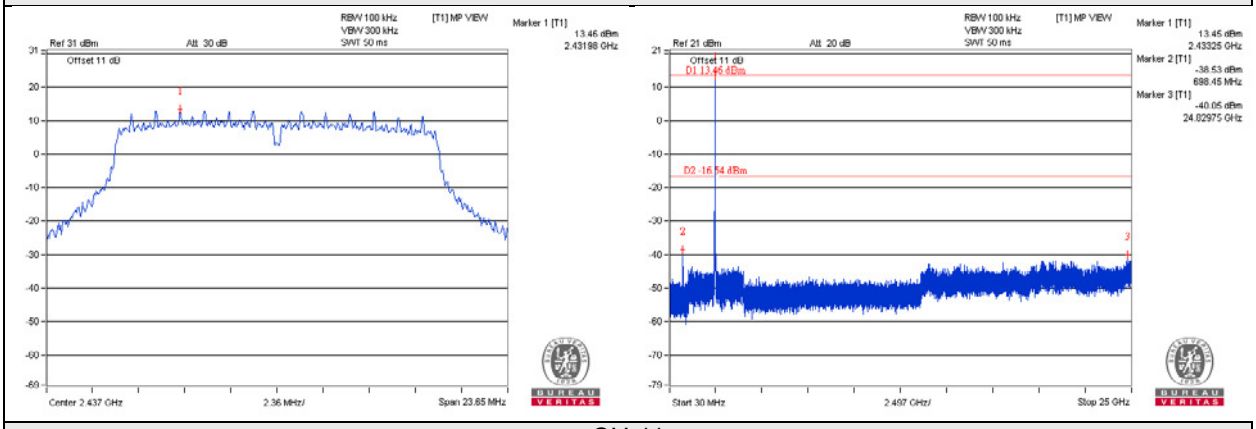


802.11g_Chain 2

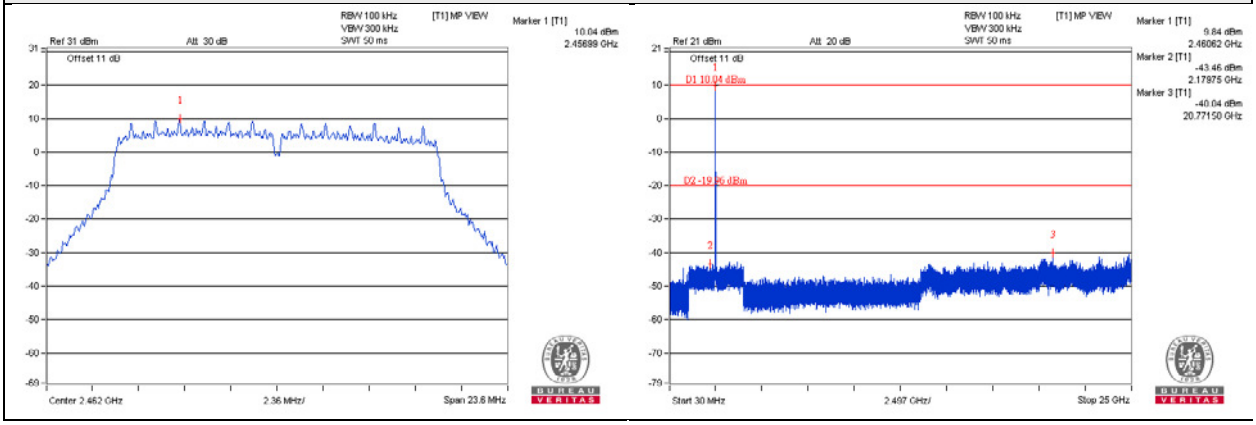
CH 1



CH 6

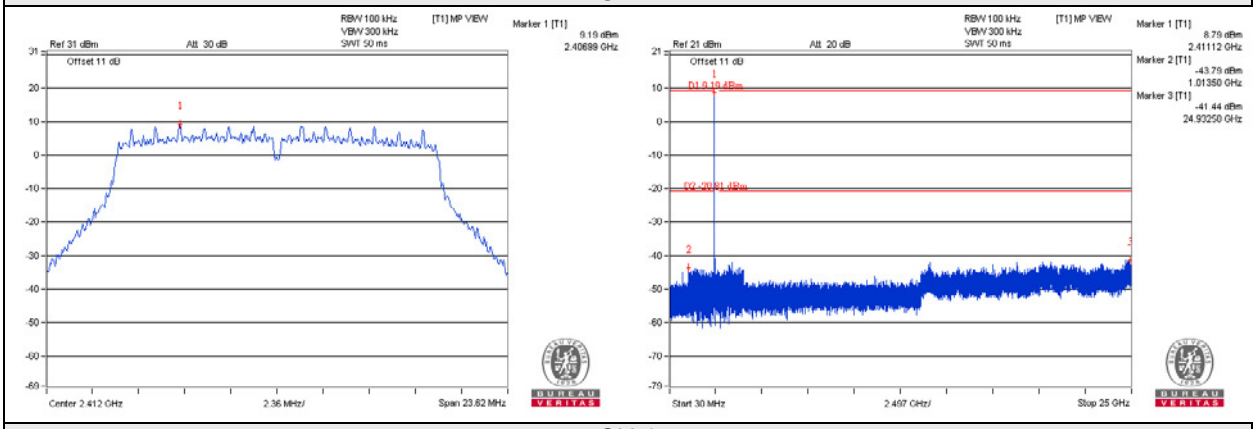


CH 11

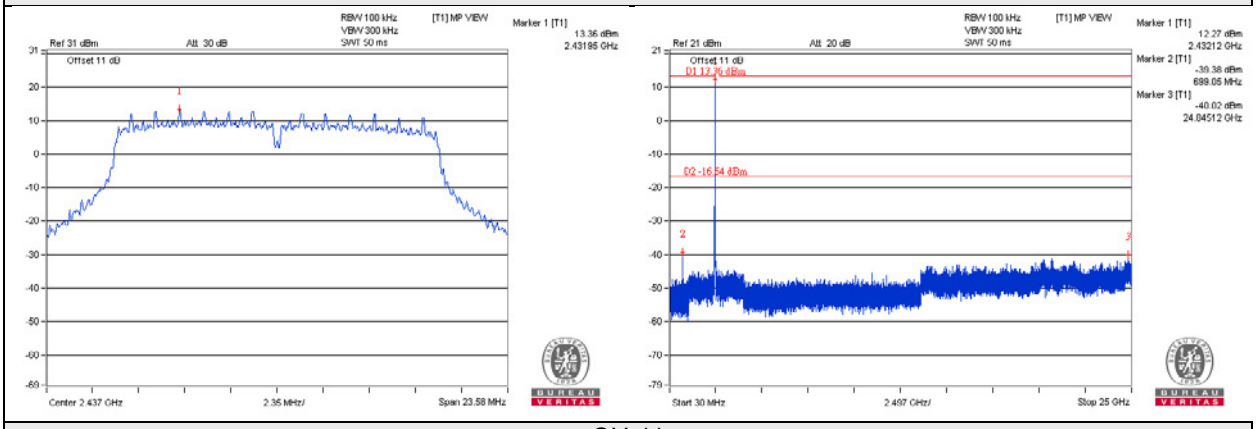


802.11g_Chain 3

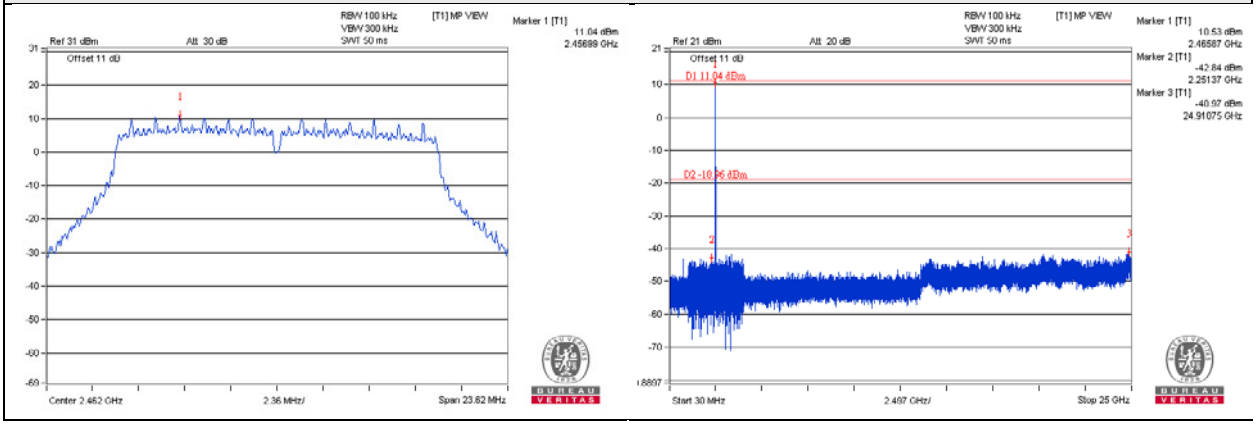
CH 1



CH 6

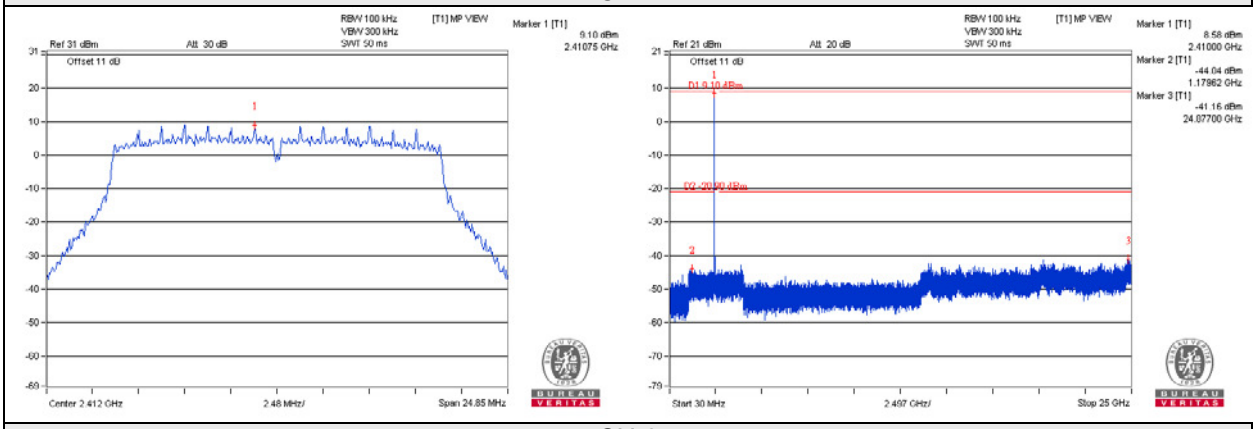


CH 11

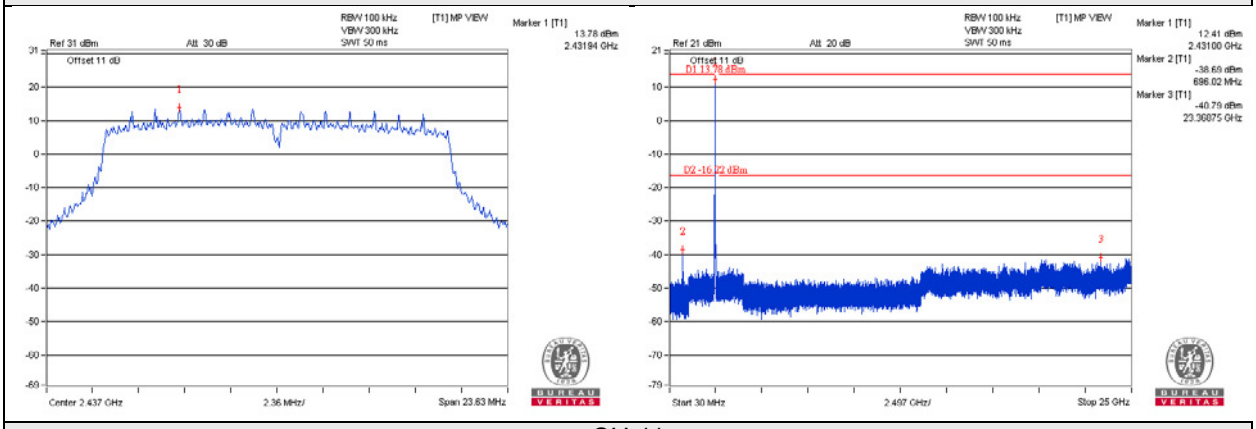


802.11n (HT20)_Chain 0

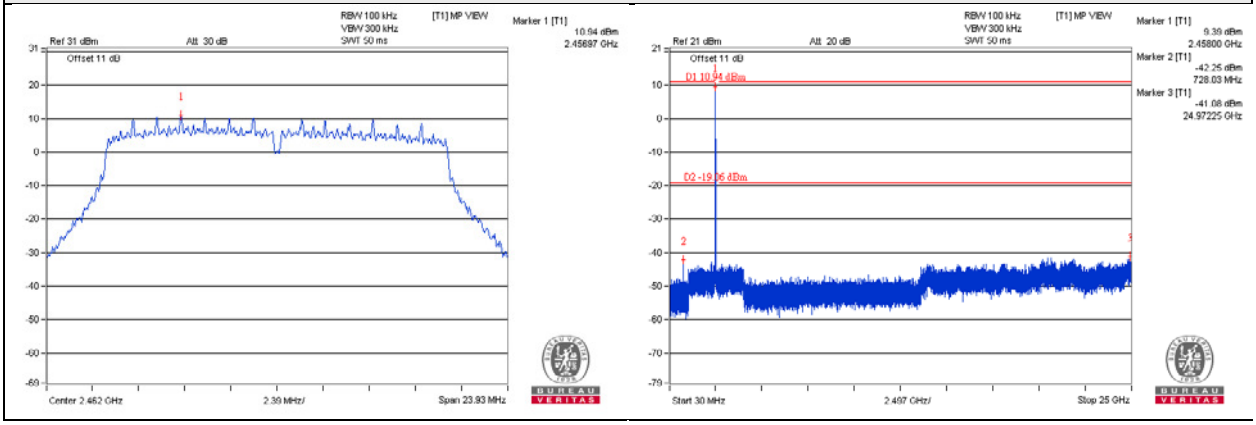
CH 1



CH 6

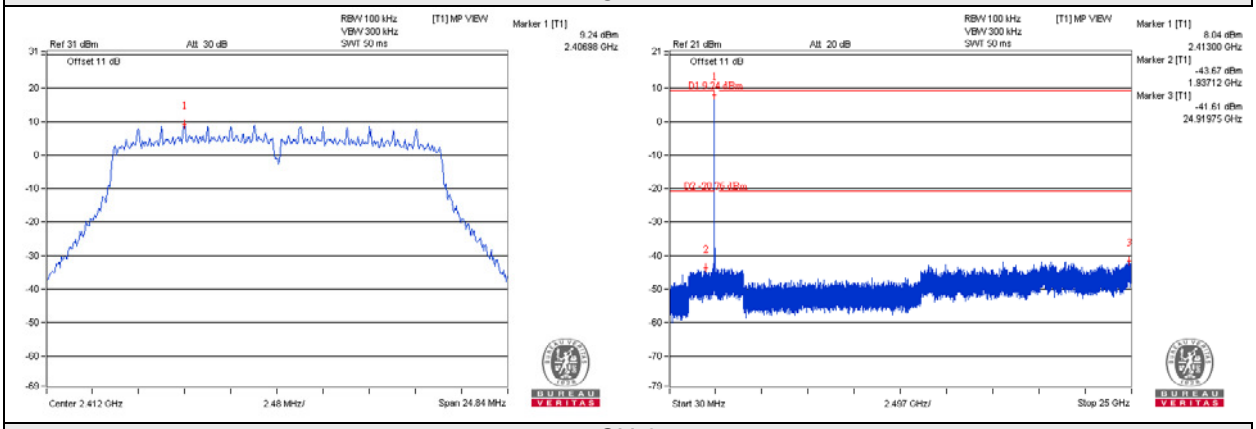


CH 11

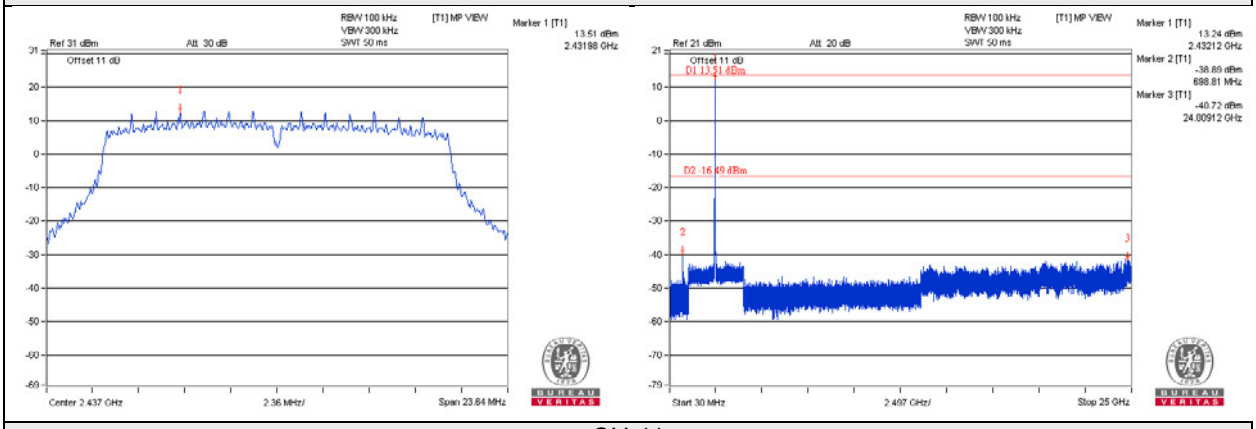


802.11n (HT20)_Chain 1

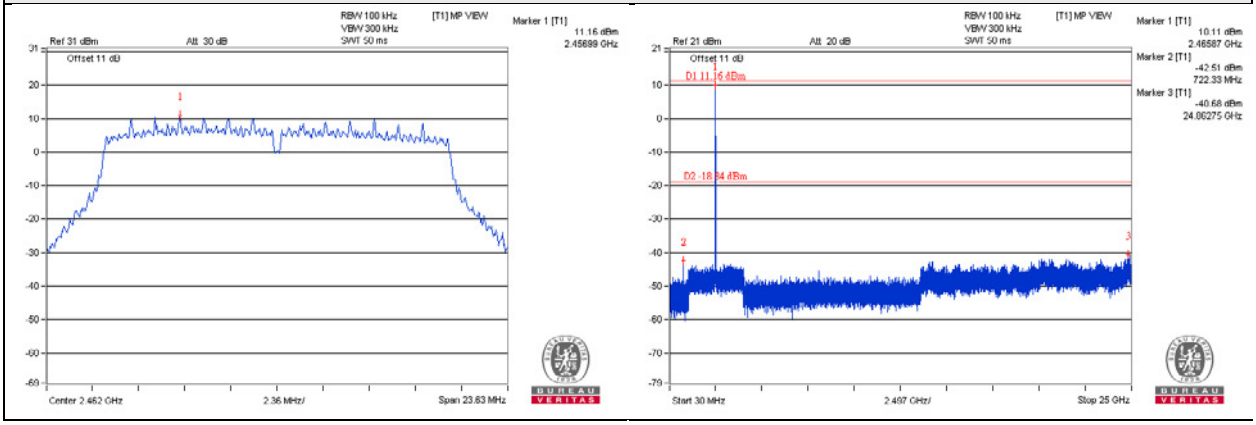
CH 1



CH 6

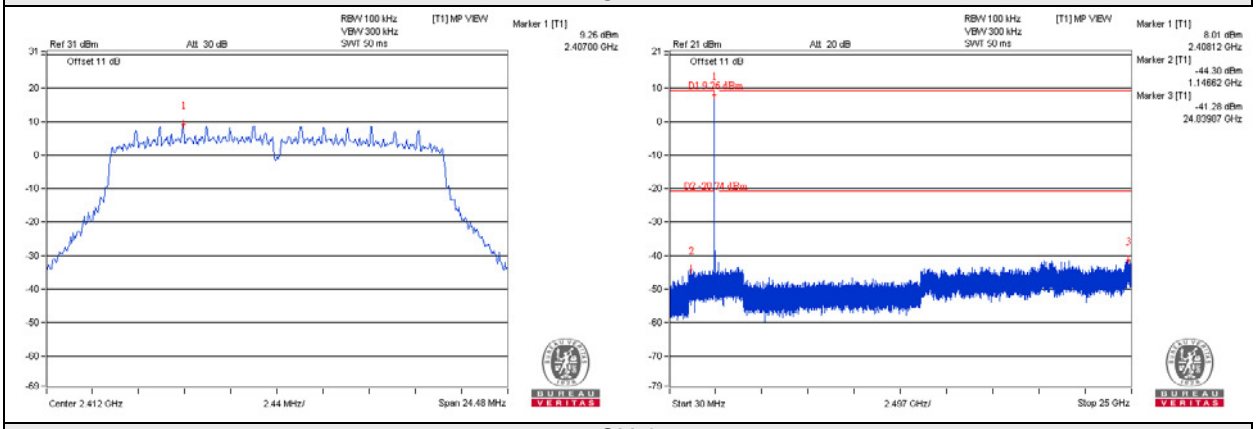


CH 11

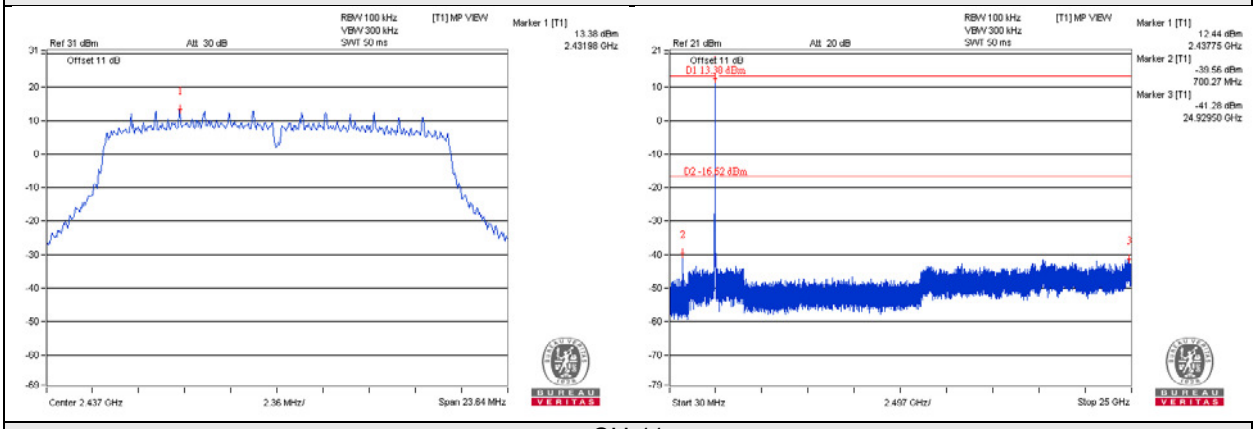


802.11n (HT20)_Chain 2

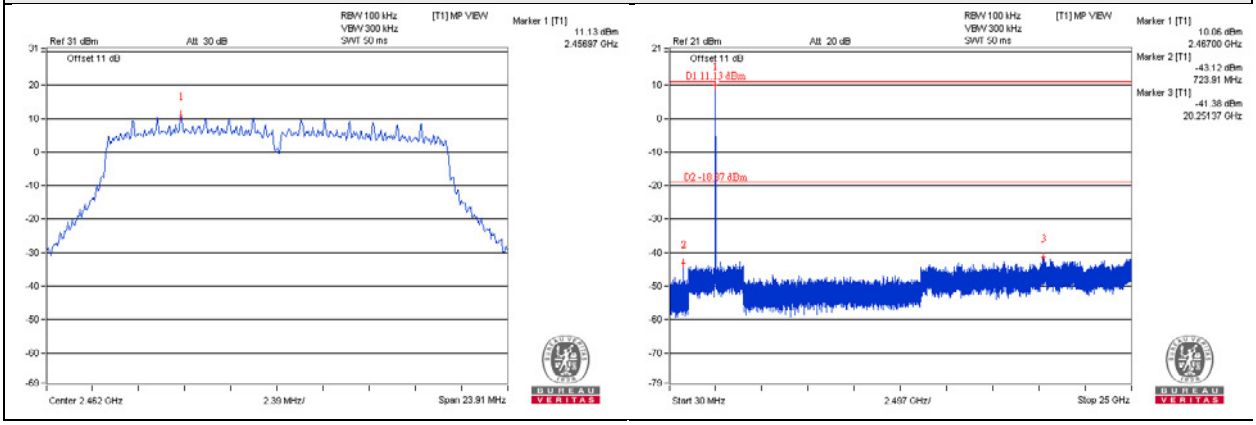
CH 1



CH 6

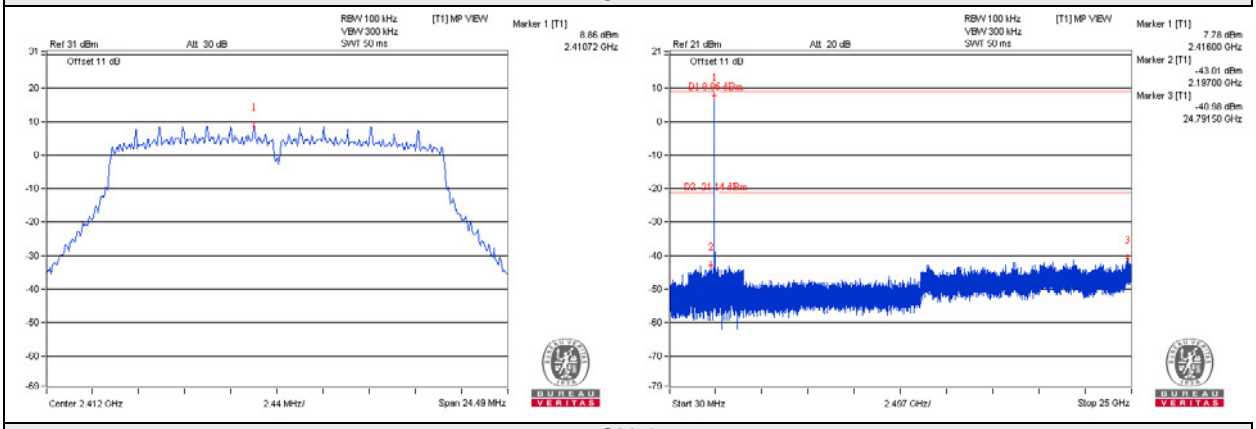


CH 11

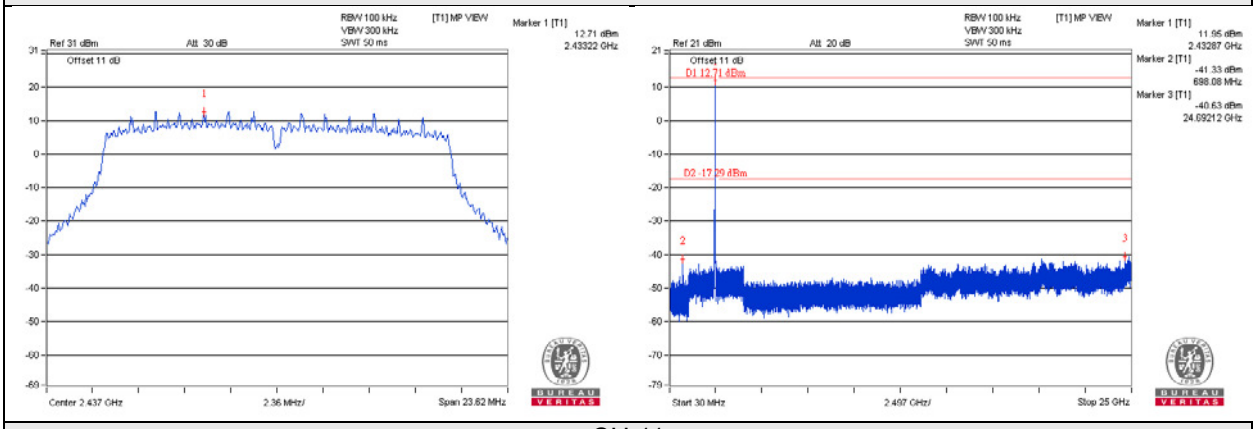


802.11n (HT20)_Chain 3

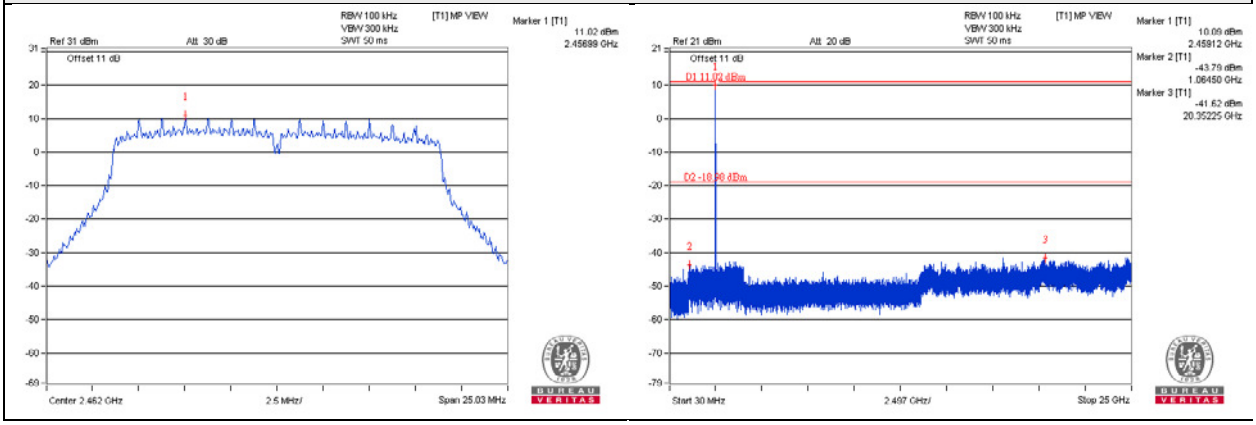
CH 1



CH 6

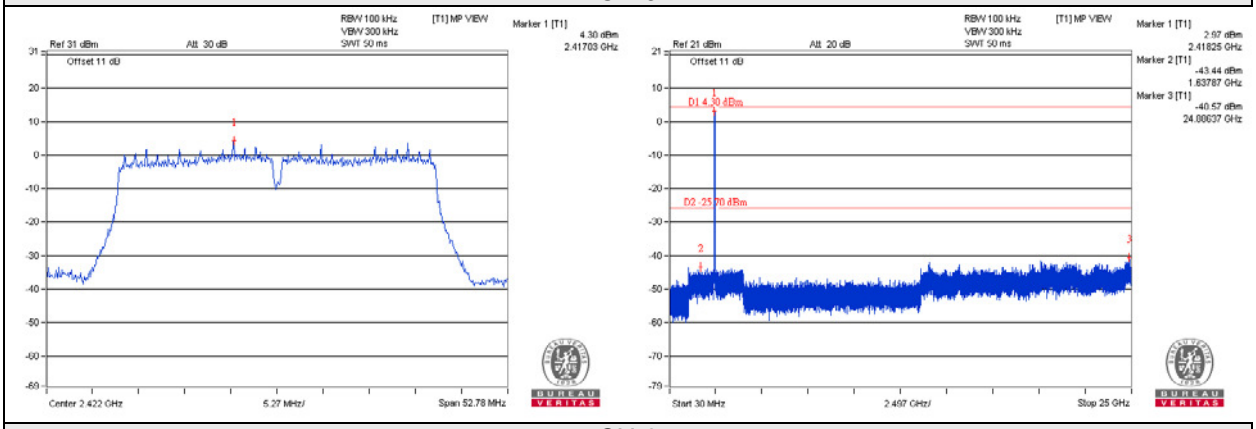


CH 11

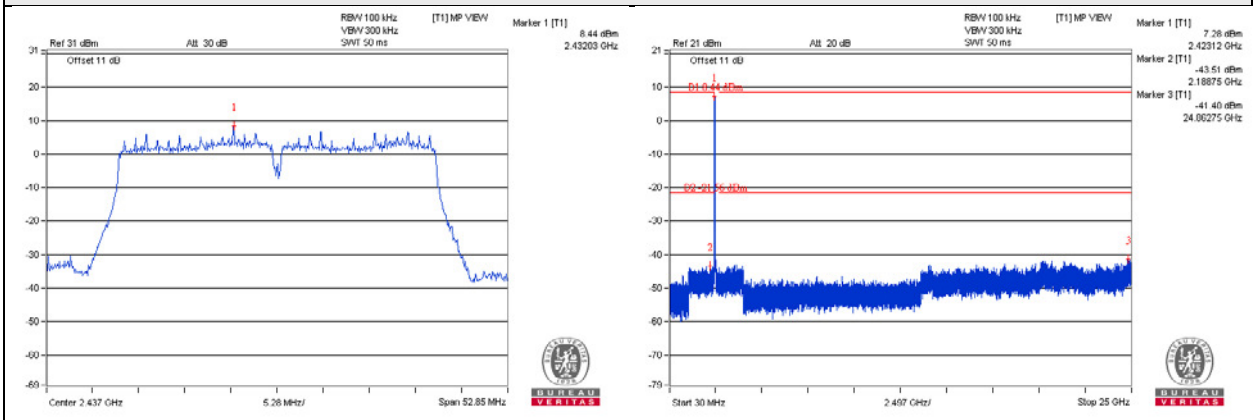


802.11n (HT40)_Chain 0

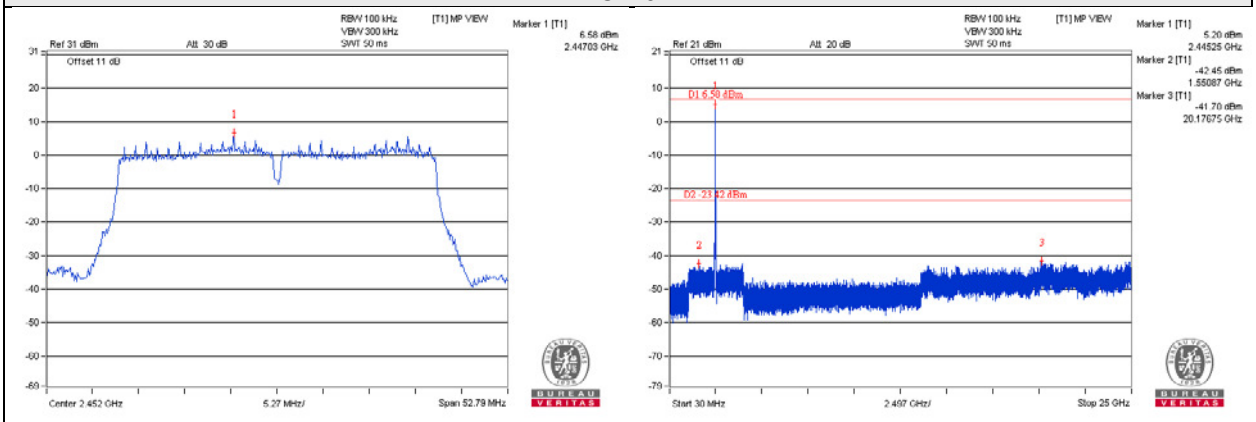
CH 3



CH 6

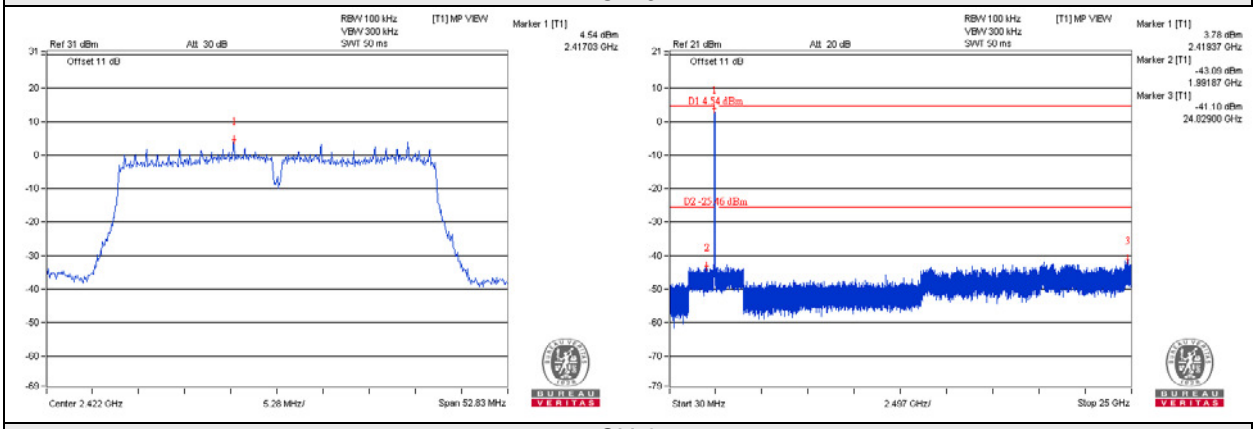


CH 9

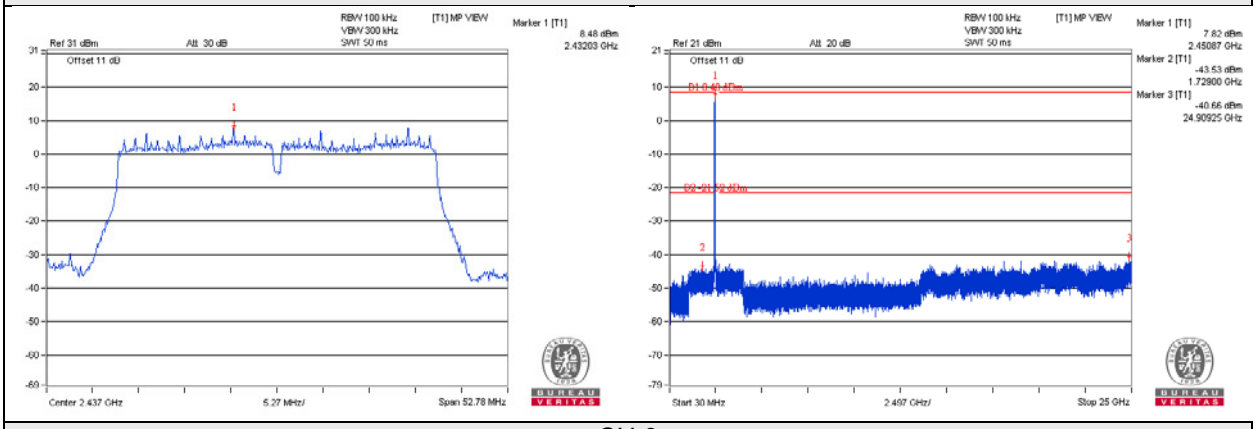


802.11n (HT40)_Chain 1

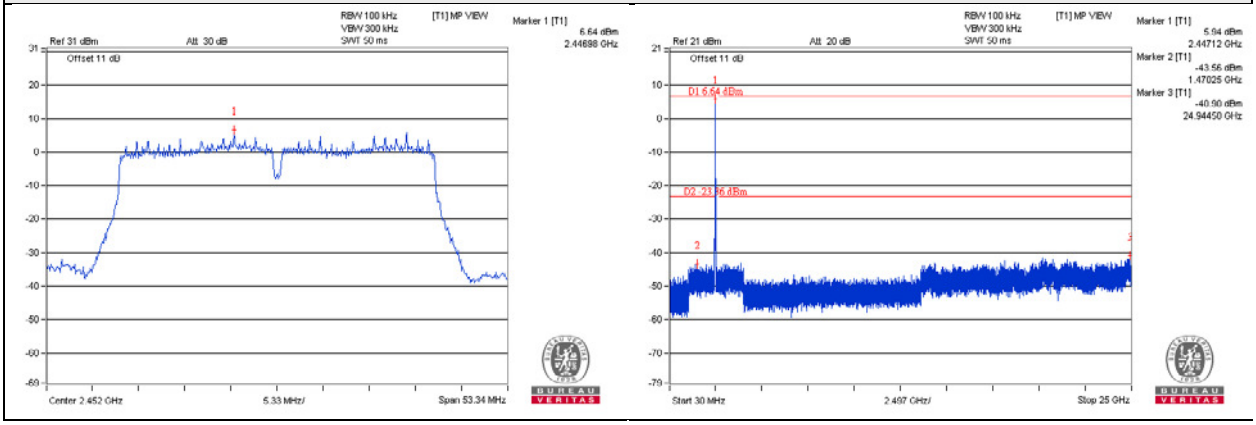
CH 3



CH 6

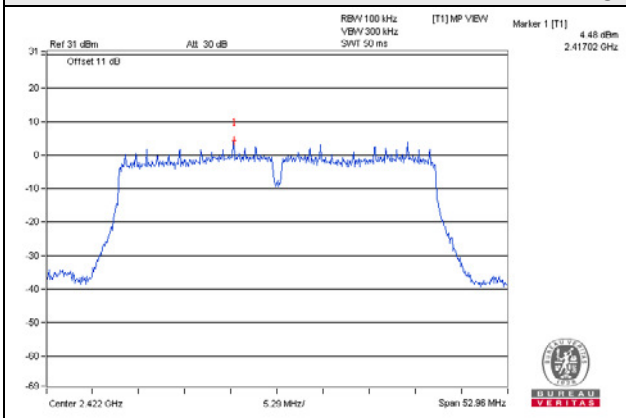


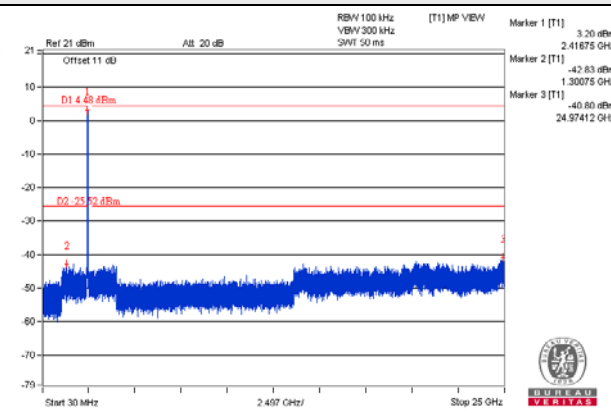
CH 9



802.11n (HT40)_Chain 2

CH 3





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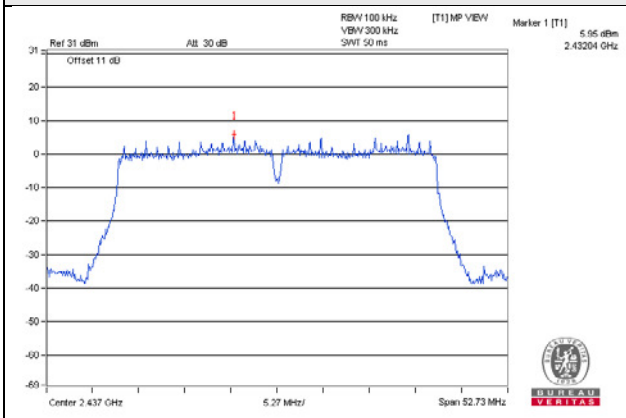

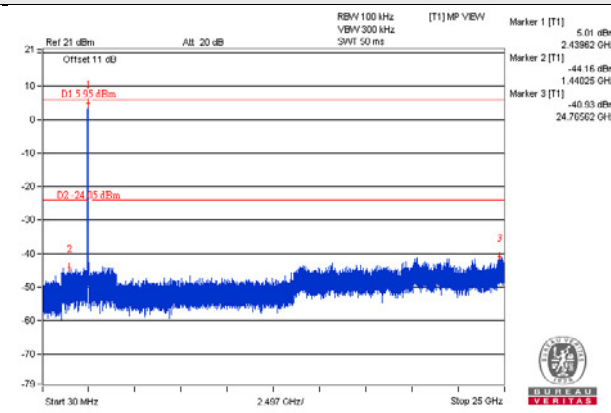

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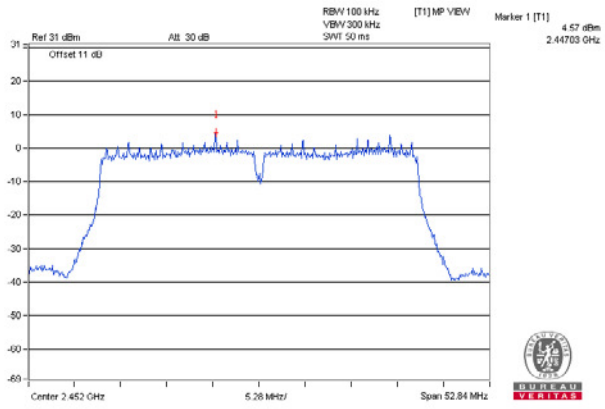
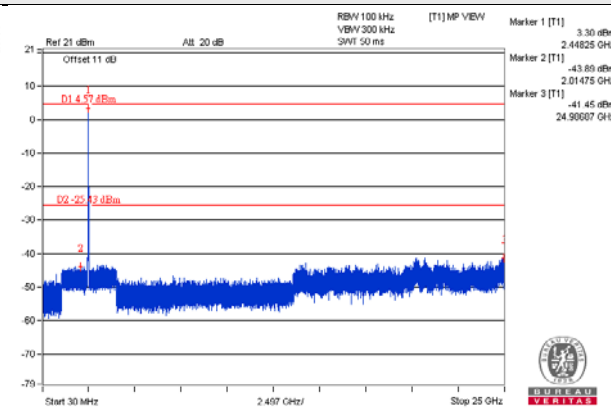
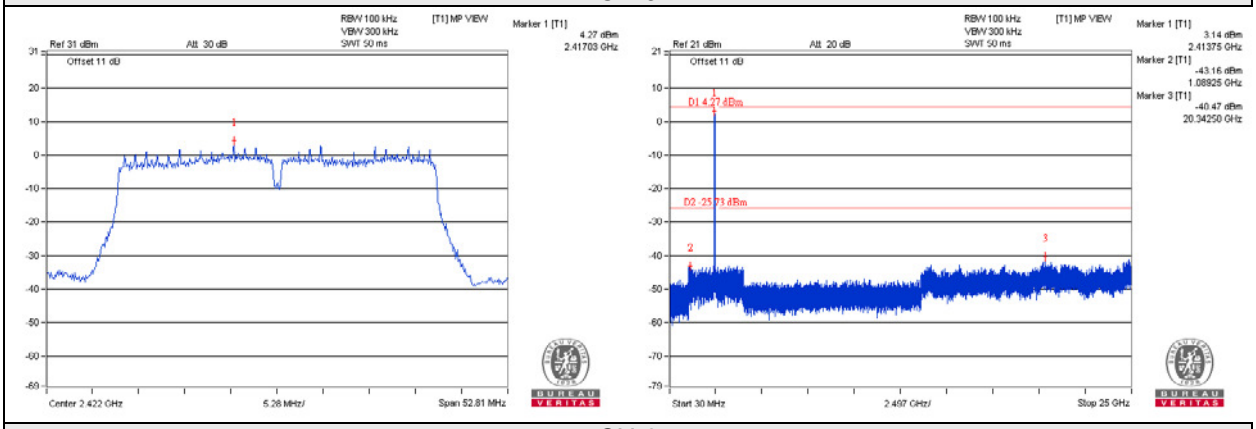




802.11n (HT40)_Chain 3

CH 3



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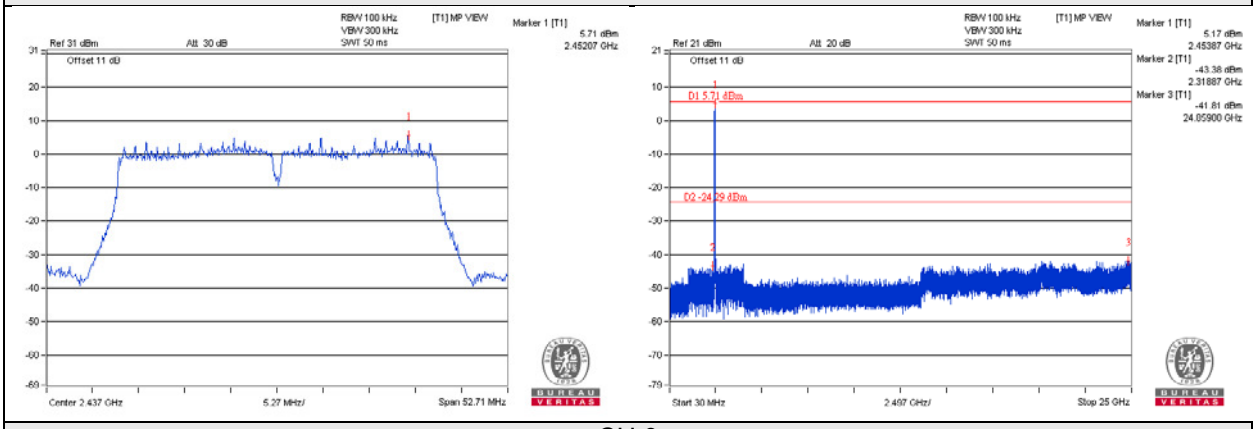

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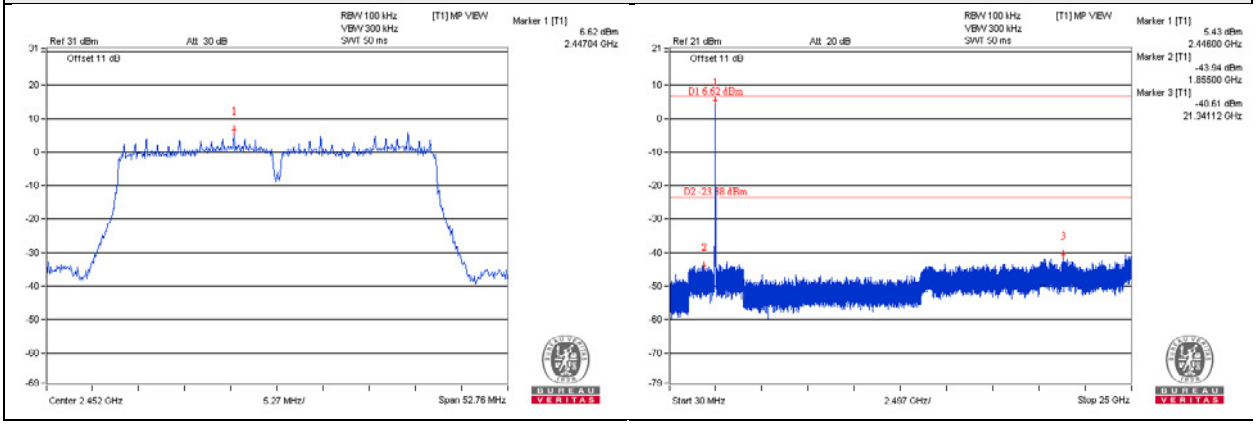

5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

Appendix – Information on the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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Email: service.adt@tw.bureauveritas.com
Web Site: www.bureauveritas-adt.com

The address and road map of all our labs can be found in our web site also.

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