FCC Test Report

Report No.:	RF170110C12
FCC ID:	I88EMG6765-Q10A
Model:	EMG6765-Q10A
Series Model:	EMG3426-Q10A
Received Date:	Jan. 10, 2017
Test Date:	Feb. 24 ~ Mar. 29, 2017
Issued Date:	Apr. 20, 2017
Applicant:	Zyxel Communications Corporation
Address:	No. 2 Industry East RD. IX, Hsinchu Science Park, Hsinchu 30075, Taiwan
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
RF170110C12	Original release	Apr. 20, 2017

1 Certificate of Conformity

Product:	AC2200 Gigabit Ethernet MoCA Gateway AC2200 Gigabit Ethernet Gateway
Brand:	ZYXEL
Model:	EMG6765-Q10A
Series Model:	EMG3426-Q10A
Sample Status:	Engineering sample
Applicant:	Zyxel Communications Corporation
Test Date:	Feb. 24 ~ Mar. 29, 2017
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:** Apr. 20, 2017

Pettie Chen / Senior Specialist

Approved by : _____ , **Date:** Apr. 20, 2017

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 -16.92dB at 0.44273MHz
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -0.6dB at 2483.5, 4874.00MHz.
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 IPEX 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	2.94 dB
Radiated Emissions up to 1 GHz	30MHz ~ 200MHz	3.63 dB
	200MHz ~1000MHz	3.64 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	AC2200 Gigabit Ethernet MoCA Gateway AC2200 Gigabit Ethernet Gateway
Brand	ZYXEL
Model	EMG6765-Q10A
Series Model	EMG3426-Q10A
Model Difference	Refer to note as below
Sample Status	Engineering sample
Test Software	QRCT
CPU Model	IPQ8065
RF Chip Model	2.4G:QCA9381 ,5G:QCA9984
Firmware Version	V1.00(ABHR.0)C0
Power Supply Rating	12Vdc (Adapter)
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
Modulation Technology	DSSS, OFDM
Transfer Rate	802.11b:11.0/ 5.5/ 2.0/ 1.0Mbps 802.11g: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to 450Mbps
Operating Frequency	2412 ~ 2462MHz
Number of Channel	11 for 802.11b, 802.11g, 802.11n (HT20) 7 for 802.11n (HT40)
Output Power	775.277mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter
Data Cable Supplied	NA

Note:

1. All models are listed as below. Model EMG6765-Q10A is the representatives for final test.

Product	Brand	Model	Difference
AC2200 Gigabit Ethernet MoCA Gateway	ZYXEL	EMG6765-Q10A	With MoCA
AC2200 Gigabit Ethernet Gateway	ZYXEL	EMG3426-Q10A	Without MoCA

2. The EUT incorporates a MIMO function. Physically, the EUT provides 3 completed transmitters and 3 receivers.

Modulation Mode	TX Function	Beamforming
802.11b	3TX	Not Support
802.11g	3TX	Not Support
802.11n (HT20)	3TX	Not Support
802.11n (HT40)	3TX	Not Support

3. The EUT consumes power from the following adapter.

Brand	Asian Power Devices Inc.
Model	WA-36A12FU
Input Power	100-240V~50-60Hz 0.9A Max
Output Power	12Vdc, 3A
Power Line	1.45m non-shielded power cable with one core

4. The EUT with follow antennas gain is listed as table below.

Ant. Type	Dipole and Couple				
Connector	IPEX				
Frequency (MHz)	2400		2450		2500
Ant. 1	2.94		2.28		2.93
Ant. 2	3.36		3.32		3.40
Ant. 3	3.14		2.76		3.42
Frequency (MHz)	5150	5350	5470	5725	5850
Ant. 4	4.14	4.03	4.51	4.49	3.92
Ant. 5	3.62	4.31	4.34	4.56	4.58
Ant. 6	4.08	4.32	4.30	3.66	3.07
Ant. 7	4.66	4.72	5.04	3.91	4.47

* The antenna is internal antenna and not user accessible.

5. 2.4GHz, 5GHz technology can transmit at same time.

6. The power setting are list as below:

CDD Mode					
	802.11b	802.11g	802.11n (HT20)		802.11n (HT40)
CH01	23	19	18	CH03	14
CH06	23.5	24	24	CH06	18
CH11	23	18	17.5	CH09	13.5

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 & Bandedge Measurement **RE<1G:** Radiated Emission below 1GHz

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 **Z-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	DATA RATE (Mbps)
-	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	6.5
-	802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5

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	DATA RATE (Mbps)
-	802.11b	1 to 11	1	DSSS	DBPSK	1.0

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	DATA RATE (Mbps)
-	802.11b	1 to 11	1	DSSS	DBPSK	1.0

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	DATA RATE (Mbps)
-	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	6.5
-	802.11n (HT40)	3 to 9	3, 6, 9	OFDM	BPSK	13.5

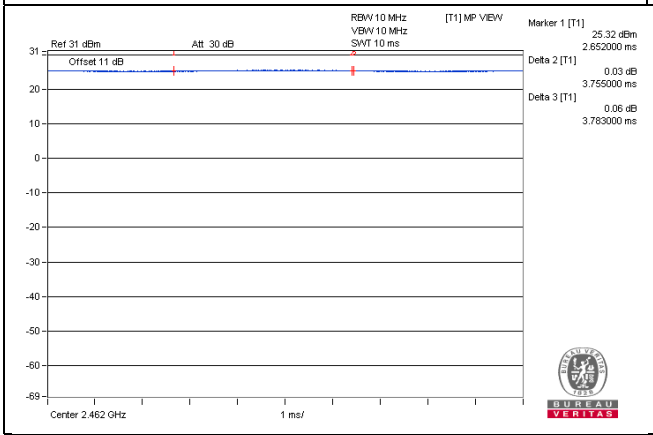
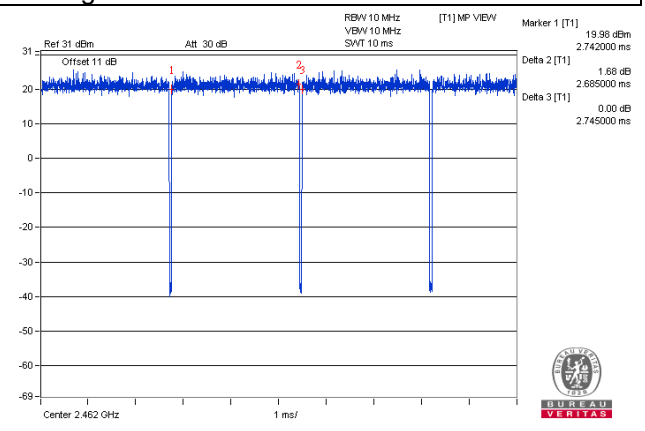
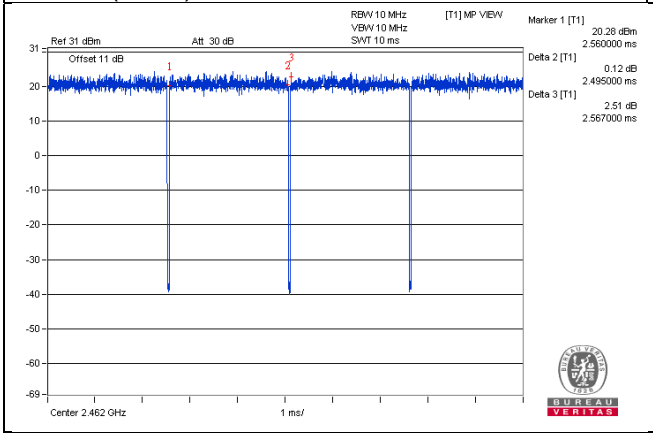
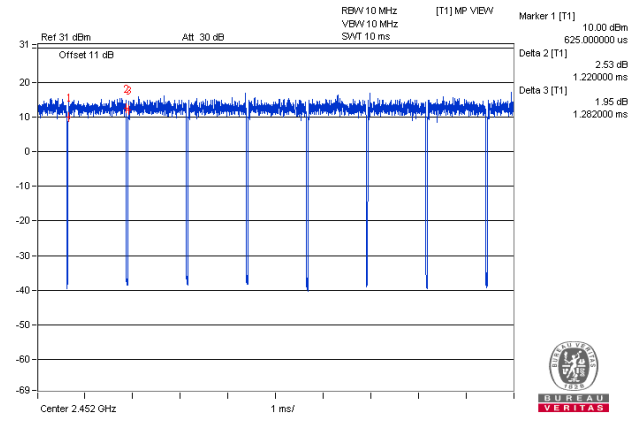
Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	25deg. C, 65%RH	120Vac, 60Hz	Matthew Yang, Chris Lin
RE<1G	25deg. C, 65%RH	120Vac, 60Hz	Chris Lin
PLC	25deg. C, 75%RH	120Vac, 60Hz	Chris Lin
APCM	25deg. C, 60%RH	120Vac, 60Hz	Ted Chang, Antony Lee

3.3 Duty Cycle of Test Signal

Duty cycle of test signal is 100 %, duty factor is not required.
Duty cycle of test signal is < 98%, duty factor shall be considered.

802.11b: Duty cycle = 100%
802.11g: Duty cycle = 2.685/2.745 = 0.978, Duty factor = 10 * log(1/0.978) = 0.10
802.11n (HT20): Duty cycle = 2.495/2.567 = 0.972, Duty factor = 10 * log(1/0.972) = 0.12
802.11n (HT40): Duty cycle = 1.220/1.282 = 0.952, Duty factor = 10 * log(1/0.952) = 0.22

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.

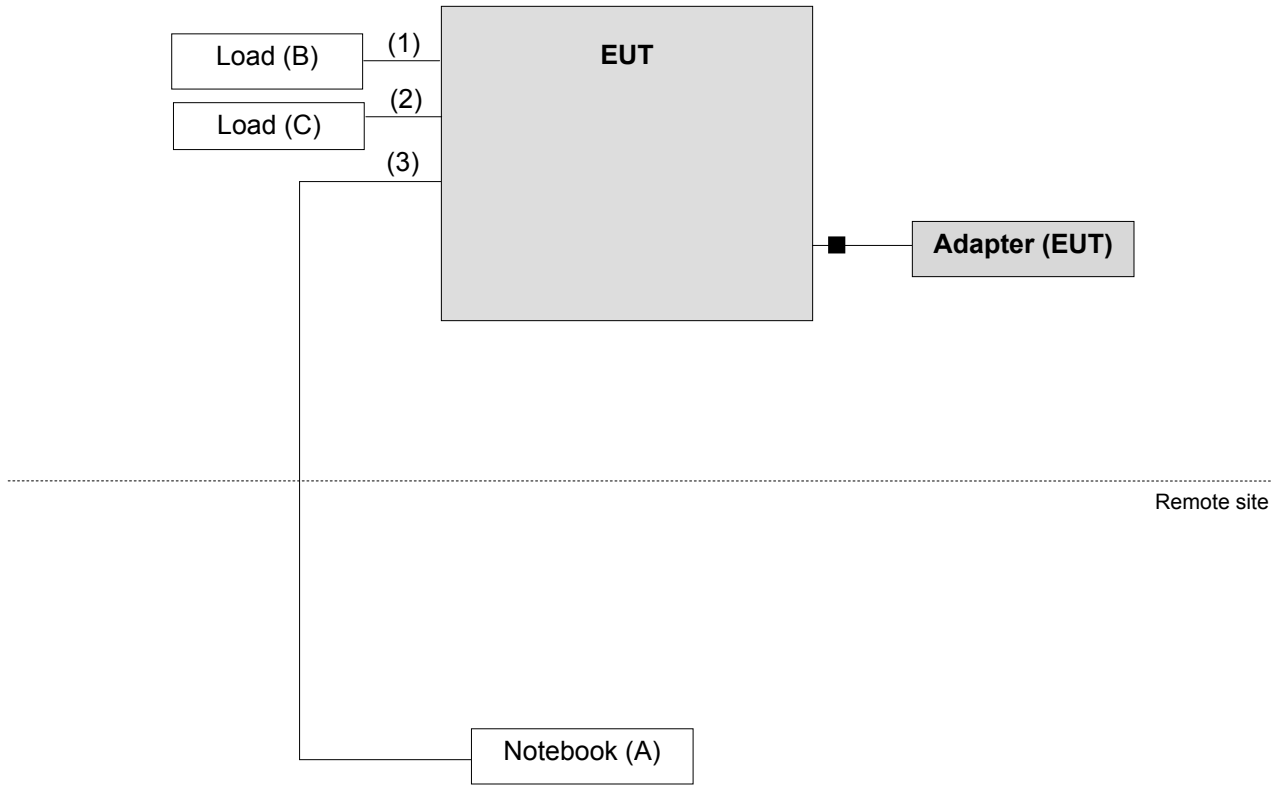
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	DELL	E5410	6RP2YM1	FCC DoC Approved	-
B.	Load	N/A	N/A	N/A	N/A	-
C.	Load	N/A	N/A	N/A	N/A	-

Note:

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

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RJ45 Cable	3	1.8	N	0	Cat5e
2.	Coaxial Cable	1	2	N	0	-
3.	RJ45 Cable	1	10	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 specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart C (15.247)

KDB 558074 D01 DTS Meas Guidance v04

KDB 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 is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It 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. 24, 2016	Oct. 23, 2017
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Aug. 16, 2016	Aug. 15, 2017
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Dec. 28, 2016	Dec. 27, 2017
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-1170	Dec. 15, 2016	Dec. 14, 2017
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Dec. 14, 2016	Dec. 13, 2017
Loop Antenna	EM-6879	269	Aug. 11, 2016	Aug. 10, 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

For Radiated emission below 30MHz

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. 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. Both X and Y axes of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case 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.

NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

For Radiated emission above 30MHz

a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 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:

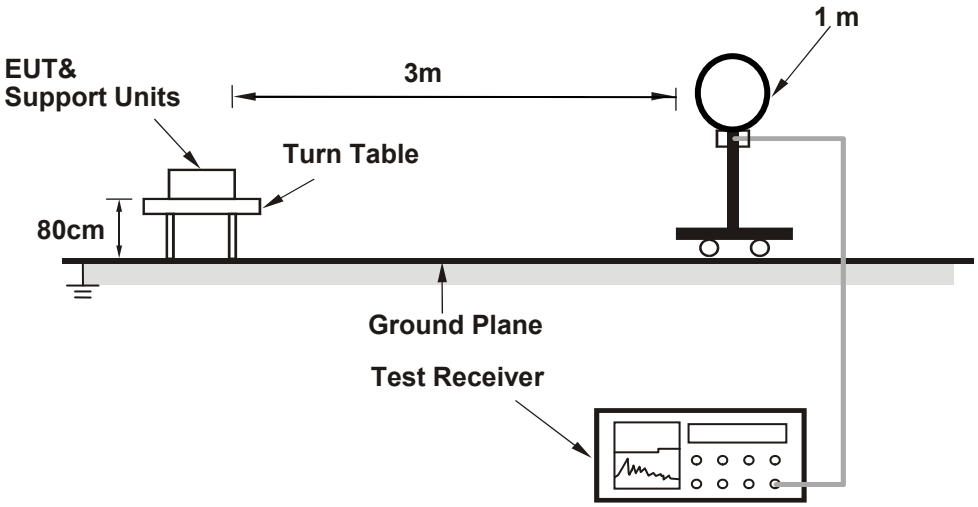
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 3 x RBW (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

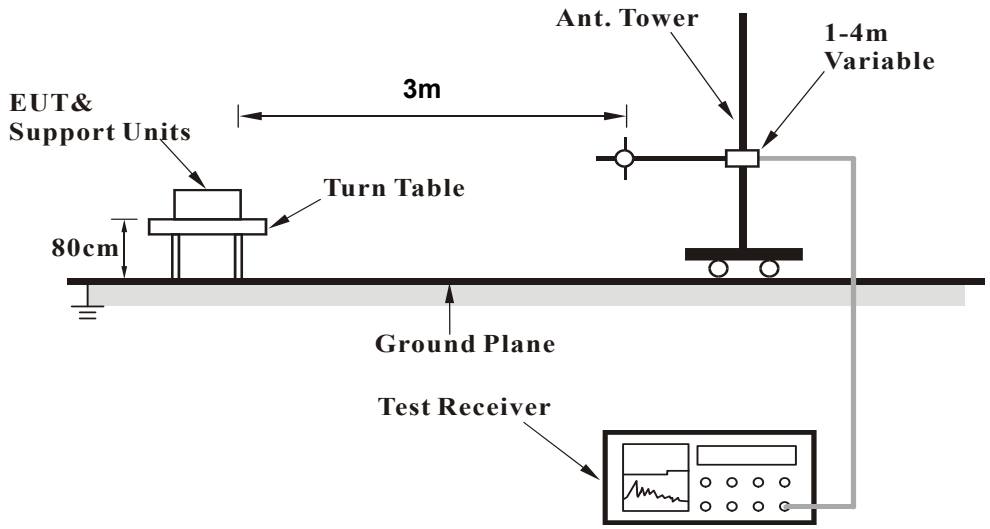
No deviation.

4.1.5 Test Set Up

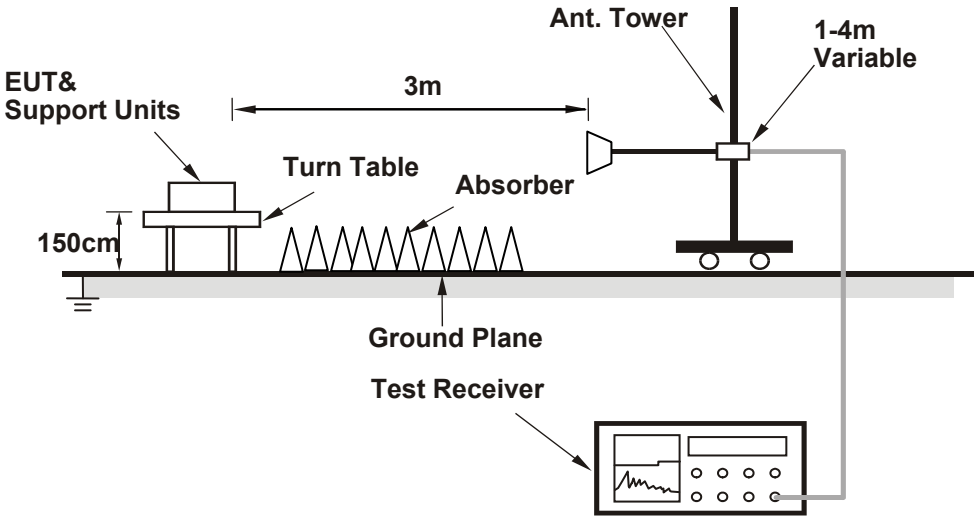
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission 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 (QRCT) to enable EUT under transmission condition continuously at specific channel frequency.
d. The communication partner sent data to EUT by command "PING".

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	2326.00	59.3 PK	74.0	-14.7	2.36 H	340	26.7	32.6
2	2326.00	49.1 AV	54.0	-4.9	2.36 H	340	16.5	32.6
3	2390.00	60.5 PK	74.0	-13.5	2.37 H	176	27.6	32.9
4	2390.00	49.6 AV	54.0	-4.4	2.37 H	176	16.7	32.9
5	*2412.00	115.2 PK			2.40 H	210	82.3	32.9
6	*2412.00	111.4 AV			2.40 H	210	78.5	32.9
7	2498.00	61.9 PK	74.0	-12.1	2.29 H	41	28.6	33.3
8	2498.00	51.2 AV	54.0	-2.8	2.29 H	41	17.9	33.3
9	4824.00	54.2 PK	74.0	-19.8	1.58 H	204	47.5	6.7
10	4824.00	49.5 AV	54.0	-4.5	1.58 H	204	42.8	6.7
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	2326.00	61.8 PK	74.0	-12.2	1.83 V	282	29.2	32.6
2	2326.00	52.1 AV	54.0	-1.9	1.83 V	282	19.5	32.6
3	2390.00	62.5 PK	74.0	-11.5	1.79 V	243	29.6	32.9
4	2390.00	51.1 AV	54.0	-2.9	1.79 V	243	18.2	32.9
5	*2412.00	118.3 PK			1.47 V	36	85.4	32.9
6	*2412.00	114.9 AV			1.47 V	36	82.0	32.9
7	2498.00	61.9 PK	74.0	-12.1	1.46 V	324	28.6	33.3
8	2498.00	50.8 AV	54.0	-3.2	1.46 V	324	17.5	33.3
9	4824.00	56.4 PK	74.0	-17.6	2.14 V	215	49.7	6.7
10	4824.00	53.3 AV	54.0	-0.7	2.14 V	215	46.6	6.7

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)
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	2350.00	60.0 PK	74.0	-14.0	2.38 H	174	27.2	32.8
2	2350.00	49.5 AV	54.0	-4.5	2.38 H	174	16.7	32.8
3	*2437.00	115.1 PK			2.47 H	337	82.0	33.1
4	*2437.00	111.3 AV			2.47 H	337	78.2	33.1
5	4874.00	55.0 PK	74.0	-19.0	2.10 H	278	48.2	6.8
6	4874.00	50.4 AV	54.0	-3.6	2.10 H	278	43.6	6.8
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	2350.00	62.4 PK	74.0	-11.6	1.69 V	282	29.6	32.8
2	2350.00	53.1 AV	54.0	-0.9	1.69 V	282	20.3	32.8
3	*2437.00	120.0 PK			1.54 V	157	86.9	33.1
4	*2437.00	116.6 AV			1.54 V	157	83.5	33.1
5	4874.00	57.2 PK	74.0	-16.8	2.31 V	218	50.4	6.8
6	**4874.00**	**53.4 AV**	**54.0**	**-0.6**	**2.31 V**	**218**	**46.6**	**6.8**

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)
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	2376.00	59.2 PK	74.0	-14.8	1.56 H	3	26.4	32.8
2	2376.00	50.2 AV	54.0	-3.8	1.56 H	3	17.4	32.8
3	*2462.00	114.8 PK			1.28 H	310	81.6	33.2
4	*2462.00	111.3 AV			1.28 H	310	78.1	33.2
5	2483.50	63.5 PK	74.0	-10.5	1.27 H	41	30.2	33.3
6	**2483.50**	**53.4 AV**	**54.0**	**-0.6**	**1.27 H**	**41**	**20.1**	**33.3**
7	4924.00	52.3 PK	74.0	-21.7	1.56 H	163	45.4	6.9
8	4924.00	47.5 AV	54.0	-6.5	1.56 H	163	40.6	6.9
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	2376.00	61.1 PK	74.0	-12.9	2.94 V	254	28.3	32.8
2	2376.00	52.3 AV	54.0	-1.7	2.94 V	254	19.5	32.8
3	*2462.00	117.0 PK			2.43 V	152	83.8	33.2
4	*2462.00	114.0 AV			2.43 V	152	80.8	33.2
5	2483.50	62.5 PK	74.0	-11.5	3.07 V	275	29.2	33.3
6	**2483.50**	**53.4 AV**	**54.0**	**-0.6**	**3.07 V**	**275**	**20.1**	**33.3**
7	4924.00	56.7 PK	74.0	-17.3	2.46 V	157	49.8	6.9
8	4924.00	53.3 AV	54.0	-0.7	2.46 V	157	46.4	6.9

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)
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	2288.00	57.4 PK	74.0	-16.6	1.24 H	71	56.0	1.4
2	2288.00	49.0 AV	54.0	-5.0	1.24 H	71	47.6	1.4
3	2390.00	69.2 PK	74.0	-4.8	1.10 H	156	36.3	32.9
4	2390.00	51.8 AV	54.0	-2.2	1.10 H	156	18.9	32.9
5	*2412.00	113.6 PK			2.67 H	146	80.7	32.9
6	*2412.00	104.0 AV			2.67 H	146	71.1	32.9
7	4824.00	48.2 PK	74.0	-25.8	1.55 H	224	41.5	6.7
8	4824.00	36.6 AV	54.0	-17.4	1.55 H	224	29.9	6.7
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	2288.00	61.9 PK	74.0	-12.1	1.17 V	262	60.5	1.4
2	2288.00	52.7 AV	54.0	-1.3	1.17 V	262	51.3	1.4
3	2390.00	70.0 PK	74.0	-4.0	1.43 V	161	37.1	32.9
4	2390.00	53.3 AV	54.0	-0.7	1.43 V	161	20.4	32.9
5	*2412.00	113.7 PK			1.47 V	92	80.8	32.9
6	*2412.00	104.7 AV			1.47 V	92	71.8	32.9
7	4824.00	49.3 PK	74.0	-24.7	1.47 V	85	42.6	6.7
8	4824.00	37.1 AV	54.0	-16.9	1.47 V	85	30.4	6.7

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)
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	2288.00	57.0 PK	74.0	-17.0	1.14 H	178	55.6	1.4
2	2288.00	49.2 AV	54.0	-4.8	1.14 H	178	47.8	1.4
3	*2437.00	120.6 PK			2.47 H	42	87.5	33.1
4	*2437.00	111.3 AV			2.47 H	42	78.2	33.1
5	2483.50	70.2 PK	74.0	-3.8	2.58 H	63	36.9	33.3
6	2483.50	53.2 AV	54.0	-0.8	2.58 H	63	19.9	33.3
7	4874.00	48.0 PK	74.0	-26.0	1.32 H	64	41.2	6.8
8	4874.00	36.2 AV	54.0	-17.8	1.32 H	64	29.4	6.8
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	2288.00	61.2 PK	74.0	-12.8	1.52 V	260	59.8	1.4
2	2288.00	52.6 AV	54.0	-1.4	1.52 V	260	51.2	1.4
3	*2437.00	122.3 PK			1.15 V	162	89.2	33.1
4	*2437.00	112.8 AV			1.15 V	162	79.7	33.1
5	2483.50	68.1 PK	74.0	-5.9	1.02 V	167	34.8	33.3
6	2483.50	53.3 AV	54.0	-0.7	1.02 V	167	20.0	33.3
7	4874.00	49.6 PK	74.0	-24.4	1.25 V	74	42.8	6.8
8	4874.00	36.9 AV	54.0	-17.1	1.25 V	74	30.1	6.8

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)
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	2288.00	56.2 PK	74.0	-17.8	1.16 H	69	54.8	1.4
2	2288.00	48.8 AV	54.0	-5.2	1.16 H	69	47.4	1.4
3	*2462.00	115.3 PK			1.87 H	39	82.1	33.2
4	*2462.00	105.6 AV			1.87 H	39	72.4	33.2
5	2483.50	69.3 PK	74.0	-4.7	1.20 H	71	36.0	33.3
6	2483.50	52.3 AV	54.0	-1.7	1.20 H	71	19.0	33.3
7	4924.00	48.1 PK	74.0	-25.9	1.17 H	48	41.2	6.9
8	4924.00	36.3 AV	54.0	-17.7	1.17 H	48	29.4	6.9
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	2288.00	59.3 PK	74.0	-14.7	1.60 V	258	57.9	1.4
2	2288.00	52.5 AV	54.0	-1.5	1.60 V	258	51.1	1.4
3	*2462.00	114.1 PK			2.92 V	258	80.9	33.2
4	*2462.00	105.0 AV			2.92 V	258	71.8	33.2
5	2483.50	70.8 PK	74.0	-3.2	1.02 V	259	37.5	33.3
6	2483.50	53.3 AV	54.0	-0.7	1.02 V	259	20.0	33.3
7	4924.00	49.4 PK	74.0	-24.6	1.32 V	69	42.5	6.9
8	4924.00	37.0 AV	54.0	-17.0	1.32 V	69	30.1	6.9

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)
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	2288.00	57.9 PK	74.0	-16.1	1.22 H	71	56.5	1.4
2	2288.00	49.4 AV	54.0	-4.6	1.22 H	71	48.0	1.4
3	2390.00	72.5 PK	74.0	-1.5	1.51 H	81	39.6	32.9
4	2390.00	52.0 AV	54.0	-2.0	1.51 H	81	19.1	32.9
5	*2412.00	112.3 PK			2.18 H	36	79.4	32.9
6	*2412.00	103.0 AV			2.18 H	36	70.1	32.9
7	4824.00	48.2 PK	74.0	-25.8	1.55 H	226	41.5	6.7
8	4824.00	36.1 AV	54.0	-17.9	1.55 H	226	29.4	6.7
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	2288.00	59.9 PK	74.0	-14.1	1.20 V	261	58.5	1.4
2	2288.00	53.0 AV	54.0	-1.0	1.20 V	261	51.6	1.4
3	2390.00	69.9 PK	74.0	-4.1	1.24 V	39	37.0	32.9
4	2390.00	53.1 AV	54.0	-0.9	1.24 V	39	20.2	32.9
5	*2412.00	114.9 PK			2.95 V	261	82.0	32.9
6	*2412.00	106.0 AV			2.95 V	261	73.1	32.9
7	4824.00	49.2 PK	74.0	-24.8	1.32 V	64	42.5	6.7
8	4824.00	37.1 AV	54.0	-16.9	1.32 V	64	30.4	6.7

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)
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	2288.00	57.4 PK	74.0	-16.6	1.14 H	96	56.0	1.4
2	2288.00	48.9 AV	54.0	-5.1	1.14 H	96	47.5	1.4
3	2390.00	66.7 PK	74.0	-7.3	1.20 H	306	33.8	32.9
4	2390.00	52.2 AV	54.0	-1.8	1.20 H	306	19.3	32.9
5	*2437.00	120.1 PK			1.00 H	155	87.0	33.1
6	*2437.00	110.1 AV			1.00 H	155	77.0	33.1
7	4874.00	48.0 PK	74.0	-26.0	1.14 H	105	41.2	6.8
8	4874.00	36.2 AV	54.0	-17.8	1.14 H	105	29.4	6.8
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	2288.00	63.8 PK	74.0	-10.2	1.69 V	227	62.4	1.4
2	2288.00	52.4 AV	54.0	-1.6	1.69 V	227	51.0	1.4
3	2390.00	70.2 PK	74.0	-3.8	1.35 V	263	37.3	32.9
4	2390.00	53.1 AV	54.0	-0.9	1.35 V	263	20.2	32.9
5	*2437.00	119.8 PK			1.35 V	152	86.7	33.1
6	*2437.00	110.3 AV			1.35 V	152	77.2	33.1
7	4874.00	49.3 PK	74.0	-24.7	1.17 V	41	42.5	6.8
8	4874.00	37.2 AV	54.0	-16.8	1.17 V	41	30.4	6.8

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)
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	2288.00	59.3 PK	74.0	-14.7	1.63 H	29	57.9	1.4
2	2288.00	49.2 AV	54.0	-4.8	1.63 H	29	47.8	1.4
3	*2462.00	113.9 PK			1.93 H	39	80.7	33.2
4	*2462.00	105.1 AV			1.93 H	39	71.9	33.2
5	2483.50	66.3 PK	74.0	-7.7	1.19 H	73	33.0	33.3
6	2483.50	52.7 AV	54.0	-1.3	1.19 H	73	19.4	33.3
7	4924.00	46.9 PK	74.0	-27.1	1.10 H	65	40.0	6.9
8	4924.00	35.4 AV	54.0	-18.6	1.10 H	65	28.5	6.9
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	2288.00	63.5 PK	74.0	-10.5	1.47 V	99	62.1	1.4
2	2288.00	52.6 AV	54.0	-1.4	1.47 V	99	51.2	1.4
3	*2462.00	114.3 PK			1.06 V	163	81.1	33.2
4	*2462.00	104.8 AV			1.06 V	163	71.6	33.2
5	2483.50	71.8 PK	74.0	-2.2	1.00 V	265	38.5	33.3
6	2483.50	53.2 AV	54.0	-0.8	1.00 V	265	19.9	33.3
7	4924.00	49.4 PK	74.0	-24.6	1.07 V	87	42.5	6.9
8	4924.00	36.9 AV	54.0	-17.1	1.07 V	87	30.0	6.9

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)
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	2288.00	55.3 PK	74.0	-18.7	1.15 H	306	53.9	1.4
2	2288.00	44.5 AV	54.0	-9.5	1.15 H	306	43.1	1.4
3	2390.00	67.2 PK	74.0	-6.8	1.08 H	161	34.3	32.9
4	2390.00	51.8 AV	54.0	-2.2	1.08 H	161	18.9	32.9
5	*2422.00	107.8 PK			1.02 H	149	74.7	33.1
6	*2422.00	98.4 AV			1.02 H	149	65.3	33.1
7	4844.00	46.7 PK	74.0	-27.3	1.52 H	87	40.0	6.7
8	4844.00	35.4 AV	54.0	-18.6	1.52 H	87	28.7	6.7
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	2288.00	56.0 PK	74.0	-18.0	1.52 V	256	54.6	1.4
2	2288.00	49.0 AV	54.0	-5.0	1.52 V	256	47.6	1.4
3	2390.00	70.2 PK	74.0	-3.8	1.15 V	164	37.3	32.9
4	2390.00	53.3 AV	54.0	-0.7	1.15 V	164	20.4	32.9
5	*2422.00	108.7 PK			1.47 V	155	75.6	33.1
6	*2422.00	98.9 AV			1.47 V	155	65.8	33.1
7	4844.00	47.7 PK	74.0	-26.3	1.07 V	54	41.0	6.7
8	4844.00	36.2 AV	54.0	-17.8	1.07 V	54	29.5	6.7

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)
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	2288.00	56.1 PK	74.0	-17.9	1.39 H	64	54.7	1.4
2	2288.00	44.5 AV	54.0	-9.5	1.39 H	64	43.1	1.4
3	2390.00	69.8 PK	74.0	-4.2	1.69 H	45	36.9	32.9
4	2390.00	52.0 AV	54.0	-2.0	1.69 H	45	19.1	32.9
5	*2437.00	111.6 PK			1.50 H	39	78.5	33.1
6	*2437.00	102.1 AV			1.50 H	39	69.0	33.1
7	4874.00	47.4 PK	74.0	-26.6	1.55 H	224	40.6	6.8
8	4874.00	35.2 AV	54.0	-18.8	1.55 H	224	28.4	6.8
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	2288.00	60.4 PK	74.0	-13.6	1.10 V	258	59.0	1.4
2	2288.00	49.3 AV	54.0	-4.7	1.10 V	258	47.9	1.4
3	2390.00	68.8 PK	74.0	-5.2	1.36 V	261	35.9	32.9
4	2390.00	53.2 AV	54.0	-0.8	1.36 V	261	20.3	32.9
5	*2437.00	112.9 PK			1.00 V	156	79.8	33.1
6	*2437.00	103.2 AV			1.00 V	156	70.1	33.1
7	4874.00	47.8 PK	74.0	-26.2	1.08 V	47	41.0	6.8
8	4874.00	36.3 AV	54.0	-17.7	1.08 V	47	29.5	6.8

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)
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	2288.00	56.1 PK	74.0	-17.9	1.33 H	225	54.7	1.4
2	2288.00	44.5 AV	54.0	-9.5	1.33 H	225	43.1	1.4
3	*2452.00	108.1 PK			2.13 H	42	74.9	33.2
4	*2452.00	99.1 AV			2.13 H	42	65.9	33.2
5	2483.50	67.7 PK	74.0	-6.3	1.20 H	69	34.4	33.3
6	2483.50	51.9 AV	54.0	-2.1	1.20 H	69	18.6	33.3
7	4904.00	47.1 PK	74.0	-26.9	1.05 H	31	40.2	6.9
8	4904.00	35.3 AV	54.0	-18.7	1.05 H	31	28.4	6.9
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	2288.00	59.8 PK	74.0	-14.2	1.69 V	57	58.4	1.4
2	2288.00	48.9 AV	54.0	-5.1	1.69 V	57	47.5	1.4
3	*2452.00	108.1 PK			1.11 V	152	74.9	33.2
4	*2452.00	98.3 AV			1.11 V	152	65.1	33.2
5	2483.50	73.2 PK	74.0	-0.8	3.15 V	259	39.9	33.3
6	2483.50	53.3 AV	54.0	-0.7	3.15 V	259	20.0	33.3
7	4904.00	48.1 PK	74.0	-25.9	1.52 V	74	41.2	6.9
8	4904.00	36.8 AV	54.0	-17.2	1.52 V	74	29.9	6.9

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)
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:

802.11b

CHANNEL	TX Channel 1	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	124.98	35.9 QP	43.5	-7.6	2.00 H	215	51.6	-15.7
2	274.39	33.0 QP	46.0	-13.0	1.00 H	226	46.0	-13.0
3	375.29	34.4 QP	46.0	-11.6	1.00 H	81	45.3	-10.9
4	499.48	30.1 QP	46.0	-15.9	1.51 H	91	38.6	-8.5
5	625.60	38.8 QP	46.0	-7.2	1.26 H	163	44.3	-5.5
6	875.91	39.9 QP	46.0	-6.1	1.51 H	53	41.1	-1.2
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	101.69	33.4 QP	43.5	-10.1	1.24 V	13	51.5	-18.1
2	276.33	26.9 QP	46.0	-19.1	1.00 V	162	39.9	-13.0
3	375.29	32.6 QP	46.0	-13.4	2.00 V	125	43.5	-10.9
4	625.60	34.6 QP	46.0	-11.4	1.00 V	309	40.1	-5.5
5	875.91	39.6 QP	46.0	-6.4	1.00 V	204	40.8	-1.2
6	947.71	33.0 QP	46.0	-13.0	1.50 V	205	33.0	0.0

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)
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	ESCI	100613	Nov. 21, 2016	Nov. 20, 2017
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond1-01	Dec. 22, 2016	Dec. 21, 2017
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Mar. 10, 2017	Mar. 09, 2018
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Jul. 28, 2016	Jul. 27, 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 1.
3. The VCCI Site Registration No. is C-2040.

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.

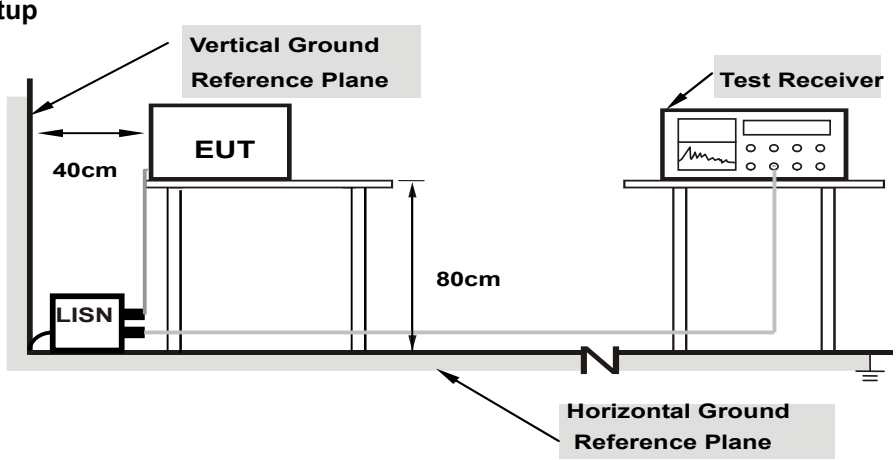
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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.

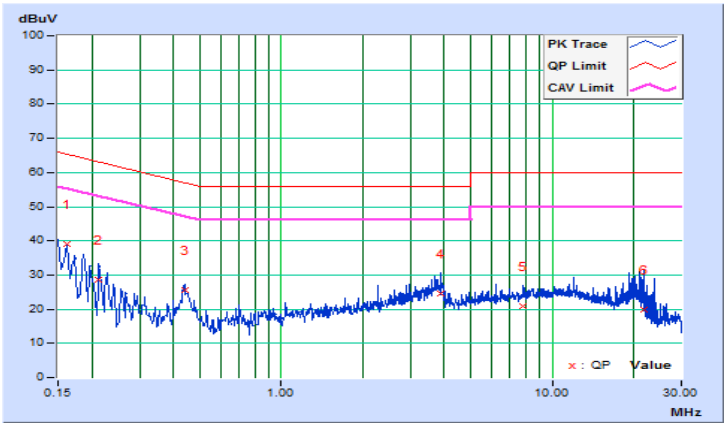
4.2.7 Test Results

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	0.16173	10.12	28.84	18.65	38.96	28.77	65.37	55.37	-26.41	-26.60
2	0.21256	10.14	18.41	6.41	28.55	16.55	63.10	53.10	-34.55	-36.55
3	0.43924	10.17	15.56	11.69	25.73	21.86	57.08	47.08	-31.35	-25.22
4	3.88014	10.36	14.22	6.41	24.58	16.77	56.00	46.00	-31.42	-29.23
5	7.79796	10.58	10.37	5.77	20.95	16.35	60.00	50.00	-39.05	-33.65
6	21.88569	11.55	8.48	-0.15	20.03	11.40	60.00	50.00	-39.97	-38.60

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.

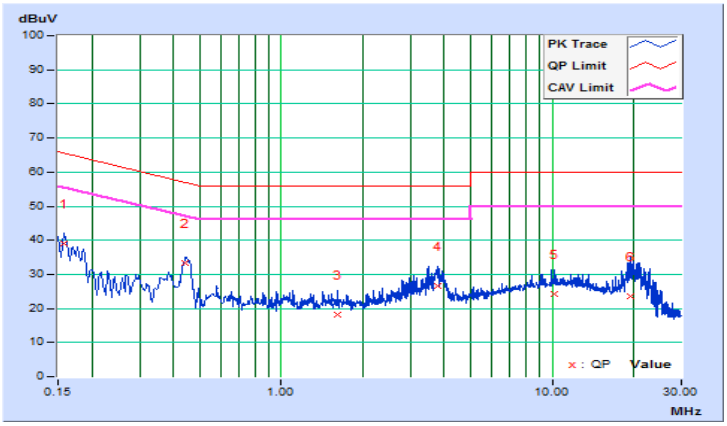


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

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	0.15782	10.13	28.89	21.71	39.02	31.84	65.58	55.58	-26.56	-23.74
2	**0.44273**	**10.18**	**23.32**	**19.91**	**33.50**	**30.09**	**57.01**	**47.01**	**-23.51**	**-16.92**
3	1.61234	10.23	8.02	3.32	18.25	13.55	56.00	46.00	-37.75	-32.45
4	3.77066	10.38	16.11	8.01	26.49	18.39	56.00	46.00	-29.51	-27.61
5	10.23389	10.79	13.32	8.66	24.11	19.45	60.00	50.00	-35.89	-30.55
6	19.45367	11.53	11.97	6.13	23.50	17.66	60.00	50.00	-36.50	-32.34

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.

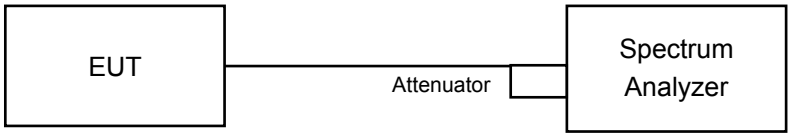


4.3 6dB Bandwidth Measurement

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 = average.

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 fromTest 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

802.11b

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
1	2412	10.12	10.14	10.13	0.5	Pass
6	2437	10.12	10.12	10.12	0.5	Pass
11	2462	10.12	10.09	10.10	0.5	Pass

802.11g

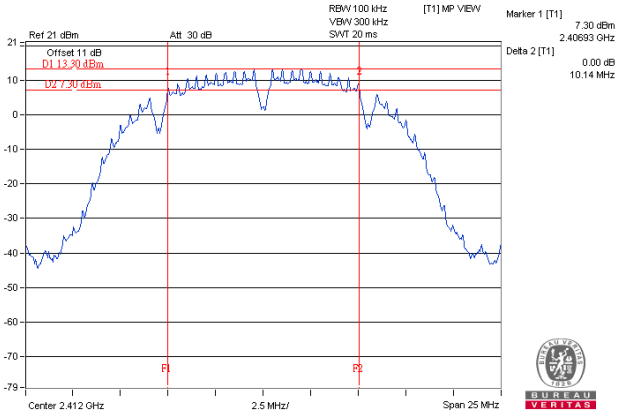
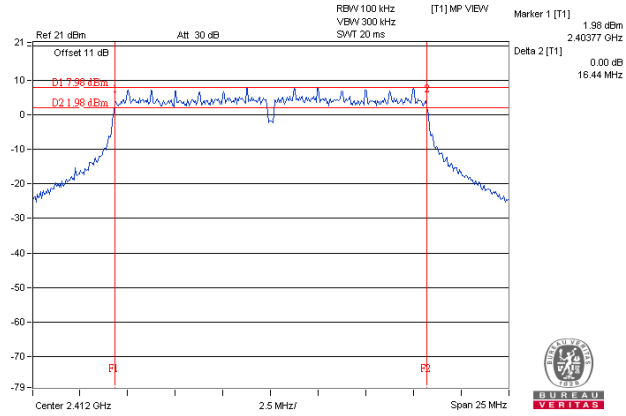
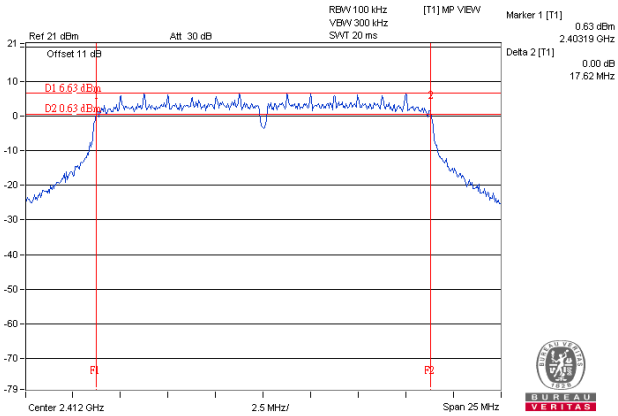
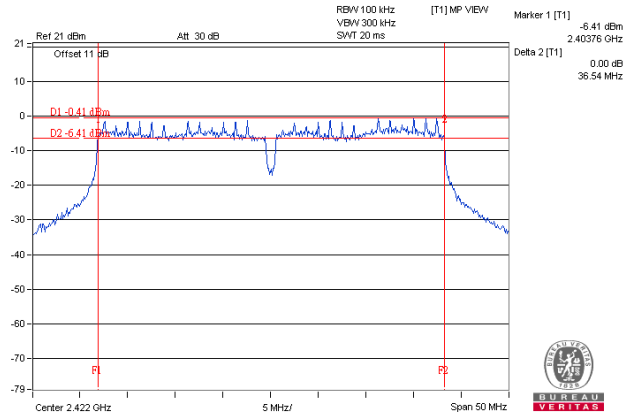
Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
1	2412	16.44	16.43	16.42	0.5	Pass
6	2437	16.40	16.38	16.39	0.5	Pass
11	2462	16.41	16.40	16.39	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
1	2412	17.62	17.62	17.62	0.5	Pass
6	2437	17.32	17.58	17.62	0.5	Pass
11	2462	17.61	17.60	17.60	0.5	Pass

802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
3	2422	36.45	36.54	36.54	0.5	Pass
6	2437	36.45	36.47	36.47	0.5	Pass
9	2452	36.49	36.48	36.47	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

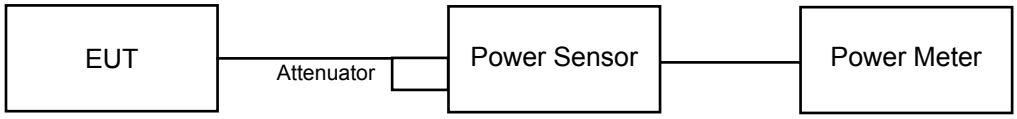
For systems using digital modulation in the 2400–2483.5 MHz bands: 1 Watt (30dBm)

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 $N_{ANT} \leq 4$;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};
Array Gain = 5 log(N_{ANT}/N_{SS}) dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) 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

802.11b

Channel	Frequency (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
1	2412	22.62	22.43	22.69	543.575	27.35	30	Pass
6	2437	23.02	23.74	23.54	662.983	28.22	30	Pass
11	2462	22.84	22.84	22.58	565.752	27.53	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				
1	2412	18.81	18.65	19.07	230.039	23.62	30	Pass
6	2437	23.81	24.18	24.29	770.788	28.87	30	Pass
11	2462	17.98	18.00	18.10	190.467	22.80	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				
1	2412	17.94	17.42	17.73	176.731	22.47	30	Pass
6	2437	23.88	24.21	24.27	**775.277**	28.89	30	Pass
11	2462	17.60	17.31	17.85	172.325	22.36	30	Pass

802.11n (HT40)

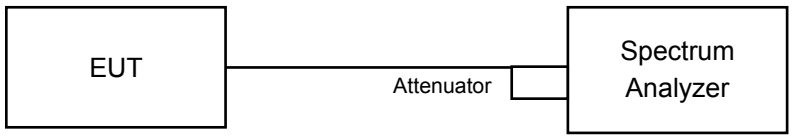
Channel	Frequency (MHz)	Average Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
3	2422	14.26	13.96	14.32	78.598	18.95	30	Pass
6	2437	18.45	17.92	18.41	201.271	23.04	30	Pass
9	2452	13.61	13.23	13.34	65.576	18.17	30	Pass

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 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 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

802.11b

TX chain	Channel	Frequency (MHz)	PSD (dBm)	10 log (N=3) dB	Total PSD (dBm)	Limit (dBm)	Pass / Fail
0	1	2412	-5.75	4.77	-0.98	5.97	Pass
	6	2437	-5.73	4.77	-0.96	5.97	Pass
	11	2462	-5.91	4.77	-1.14	5.97	Pass
1	1	2412	-6.91	4.77	-2.14	5.97	Pass
	6	2437	-4.51	4.77	0.26	5.97	Pass
	11	2462	-5.60	4.77	-0.83	5.97	Pass
2	1	2412	-5.94	4.77	-1.17	5.97	Pass
	6	2437	-3.94	4.77	0.83	5.97	Pass
	11	2462	-5.35	4.77	-0.58	5.97	Pass

Note:
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/2$]= 8.03dBi > 6dBi , so the power density limit shall be reduced to 8-(8.03-6) = 5.97dBm.

802.11g

TX chain	Channel	Frequency (MHz)	PSD (dBm)	10 log (N=3) dB	Duty Factor	Total PSD with Duty Factor (dBm)	Limit (dBm)	Pass / Fail
0	1	2412	-11.78	4.77	0.10	-6.91	5.97	Pass
	6	2437	-6.97	4.77	0.10	-2.10	5.97	Pass
	11	2462	-12.21	4.77	0.10	-7.34	5.97	Pass
1	1	2412	-11.75	4.77	0.10	-6.88	5.97	Pass
	6	2437	-6.73	4.77	0.10	-1.86	5.97	Pass
	11	2462	-12.46	4.77	0.10	-7.59	5.97	Pass
2	1	2412	-11.68	4.77	0.10	-6.81	5.97	Pass
	6	2437	-5.99	4.77	0.10	-1.12	5.97	Pass
	11	2462	-12.17	4.77	0.10	-7.30	5.97	Pass

Note:
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/2$]= 8.03dBi > 6dBi , so the power density limit shall be reduced to 8-(8.03-6) = 5.97dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

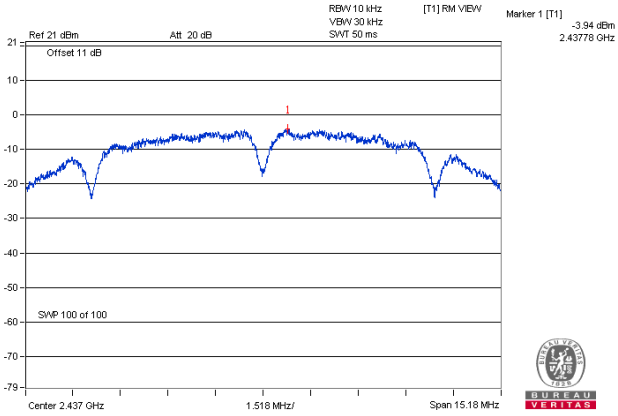
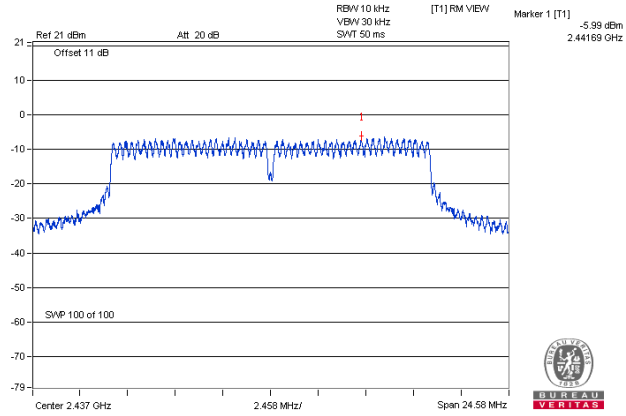
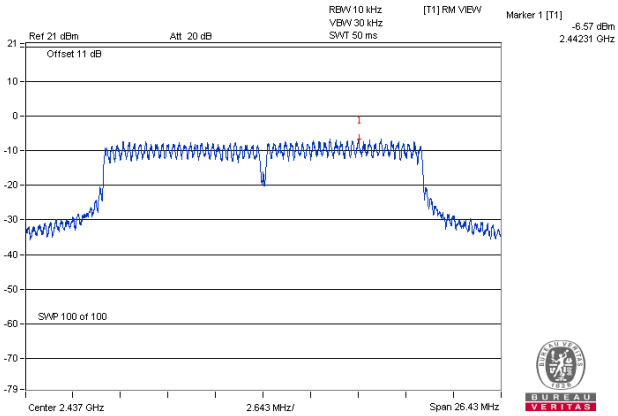
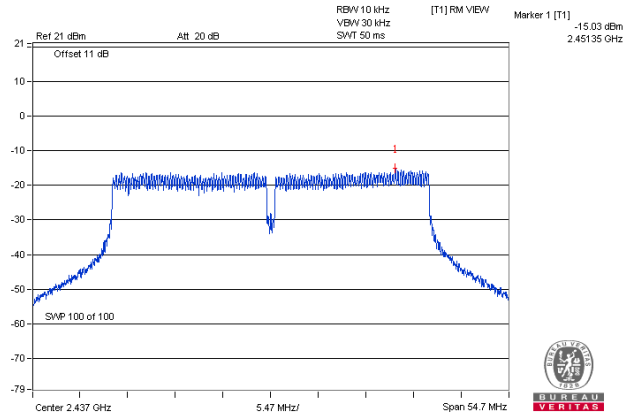
TX chain	Channel	Frequency (MHz)	PSD (dBm)	10 log (N=3) dB	Duty Factor	Total PSD with Duty Factor (dBm)	Limit (dBm)	Pass / Fail
0	1	2412	-12.44	4.77	0.12	-7.55	5.97	Pass
	6	2437	-6.80	4.77	0.12	-1.91	5.97	Pass
	11	2462	-13.48	4.77	0.12	-8.59	5.97	Pass
1	1	2412	-13.43	4.77	0.12	-8.54	5.97	Pass
	6	2437	-6.58	4.77	0.12	-1.69	5.97	Pass
	11	2462	-13.57	4.77	0.12	-8.68	5.97	Pass
2	1	2412	-13.36	4.77	0.12	-8.47	5.97	Pass
	6	2437	-6.57	4.77	0.12	-1.68	5.97	Pass
	11	2462	-12.93	4.77	0.12	-8.04	5.97	Pass

Note:
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/2$]= 8.03dBi > 6dBi , so the power density limit shall be reduced to 8-(8.03-6) = 5.97dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

TX chain	Channel	Frequency (MHz)	PSD (dBm)	10 log (N=3) dB	Duty Factor	Total PSD with Duty Factor (dBm)	Limit (dBm)	Pass / Fail
0	3	2422	-20.22	4.77	0.22	-15.23	5.97	Pass
	6	2437	-15.70	4.77	0.22	-10.71	5.97	Pass
	9	2452	-20.40	4.77	0.22	-15.41	5.97	Pass
1	3	2422	-20.68	4.77	0.22	-15.69	5.97	Pass
	6	2437	-15.92	4.77	0.22	-10.93	5.97	Pass
	9	2452	-19.76	4.77	0.22	-14.77	5.97	Pass
2	3	2422	-18.92	4.77	0.22	-13.93	5.97	Pass
	6	2437	-15.03	4.77	0.22	-10.04	5.97	Pass
	9	2452	-19.24	4.77	0.22	-14.25	5.97	Pass

Note:
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/2$]= 8.03dBi > 6dBi , so the power density limit shall be reduced to 8-(8.03-6) = 5.97dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

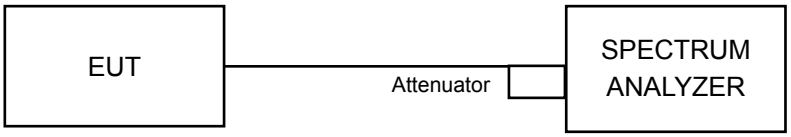
Spectrum Plot of Worst Value	
802.11b	802.11g
	
802.11n (HT20)	802.11n (HT40)
	

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

a. Set the RBW = 100 kHz.

b. Set the VBW ≥ 300 kHz.

c. Detector = average.

d. Sweep time = auto couple.

e. Trace mode = max hold.

f. Allow trace to fully stabilize.

g. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

MEASUREMENT PROCEDURE OOBE

a. Set RBW = 100 kHz.

b. Set VBW ≥ 300 kHz.

c. Ensure that the number of measurement points ≥ span/RBW

d. According to measurement points to set differ measurement span.

e. Detector = average.

f. Trace Mode = max hold.

g. Sweep = auto couple.

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

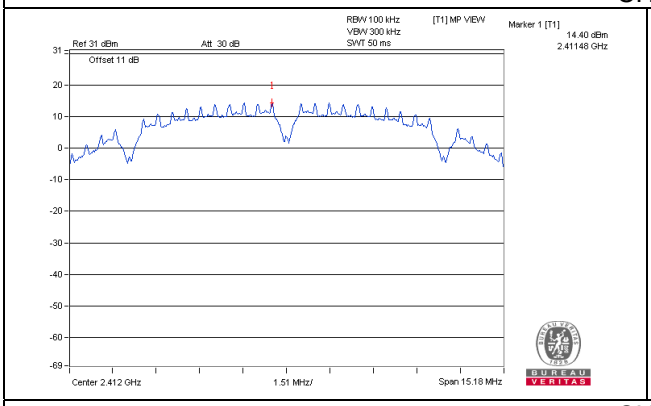
Same as Item 4.3.6

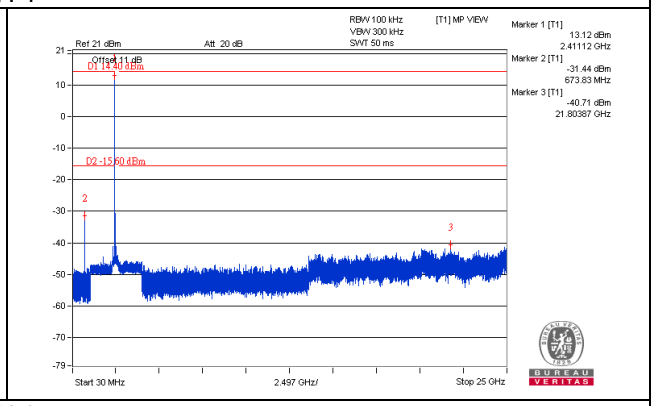
4.6.7 Test Results

The 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.

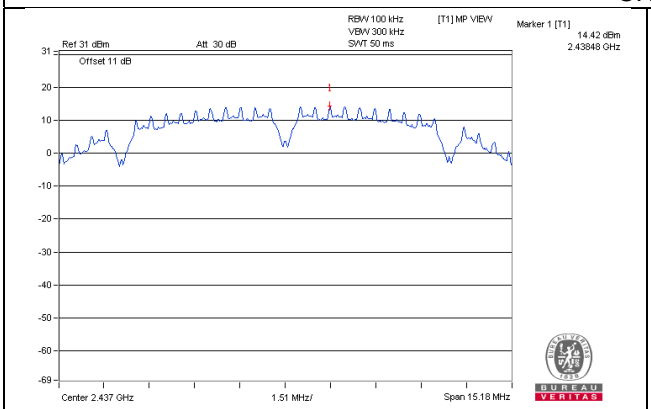
802.11b_Chain 0

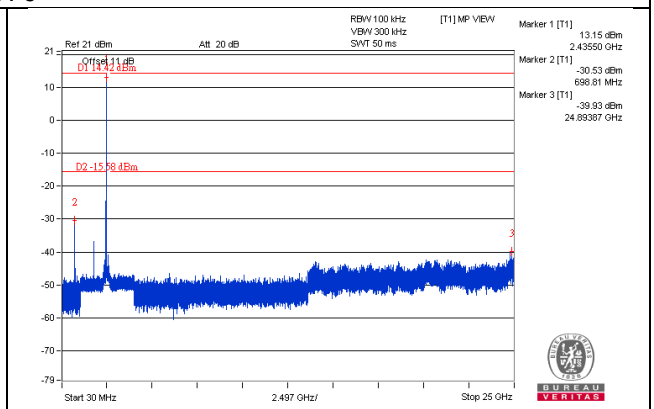
CH 1



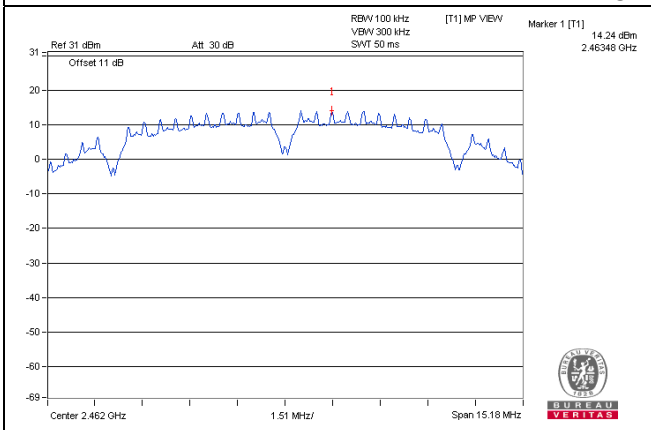


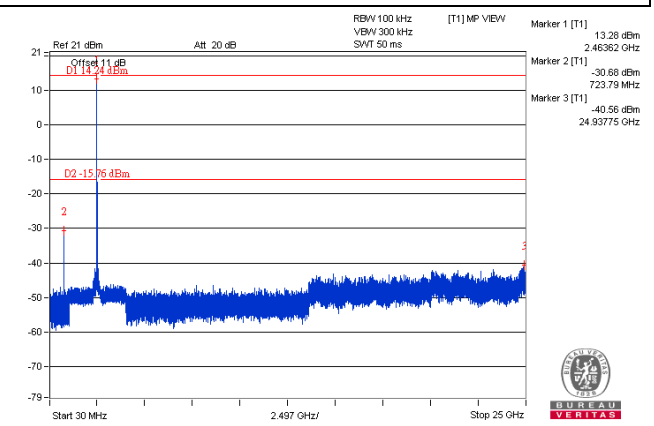
CH 6



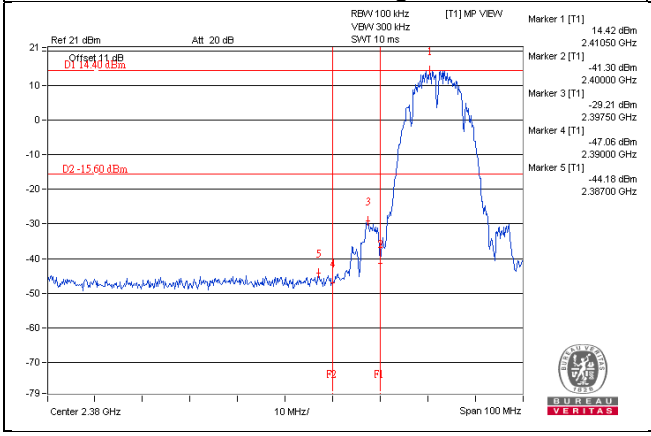


CH 11

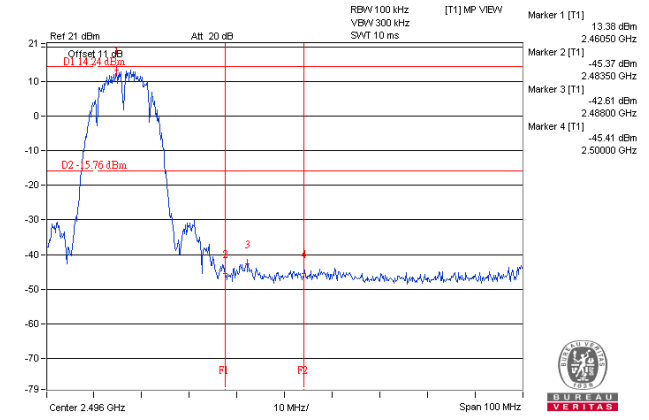




CH 1 Band edge

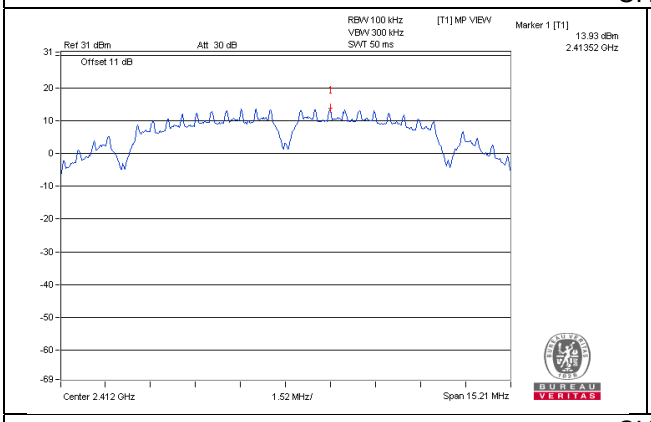


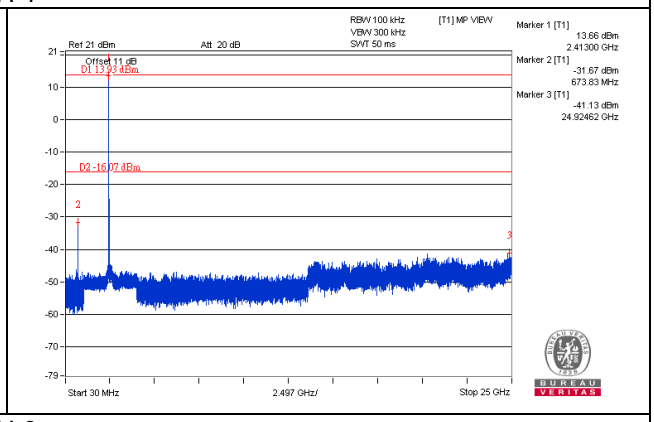
CH 11 Band edge



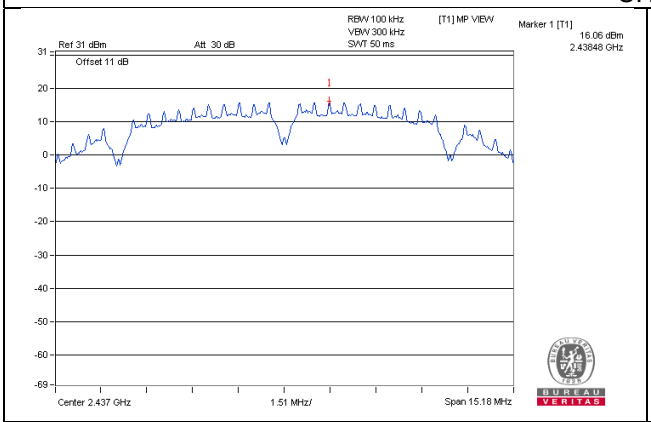
802.11b_Chain 1

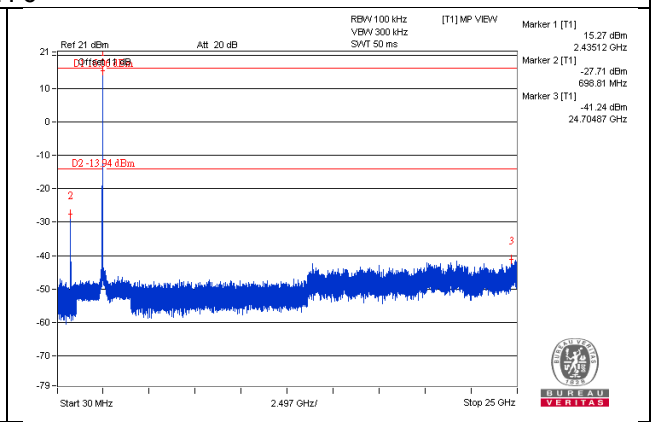
CH 1



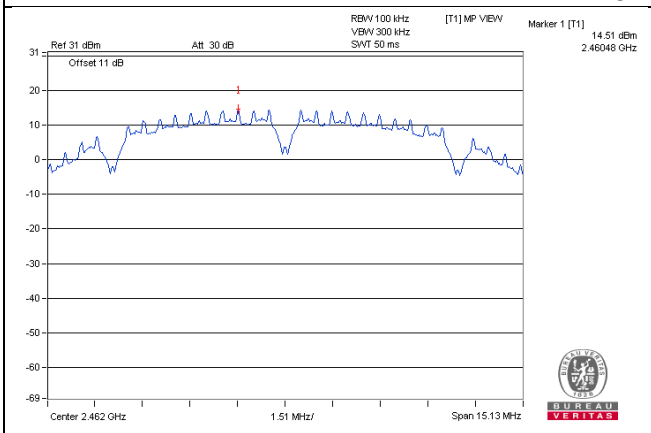


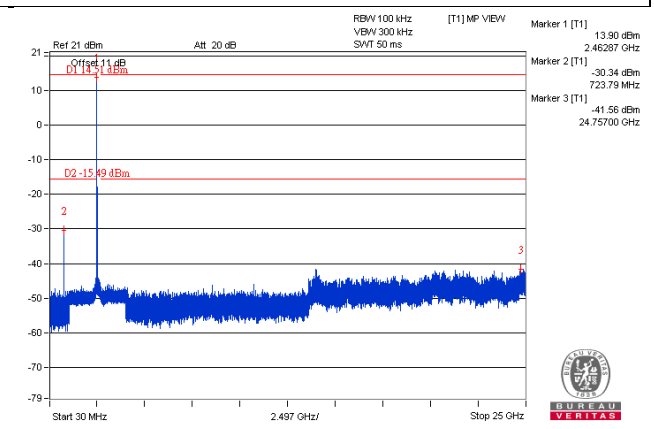
CH 6



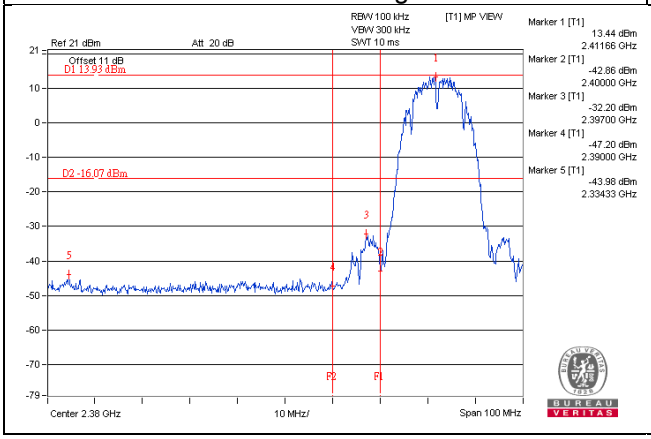


CH 11

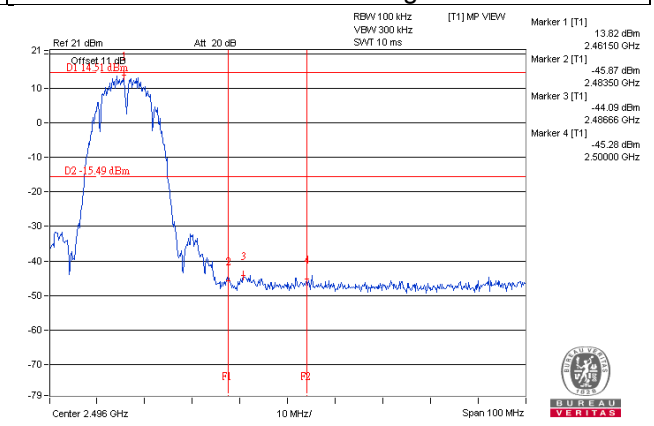




CH 1 Band edge

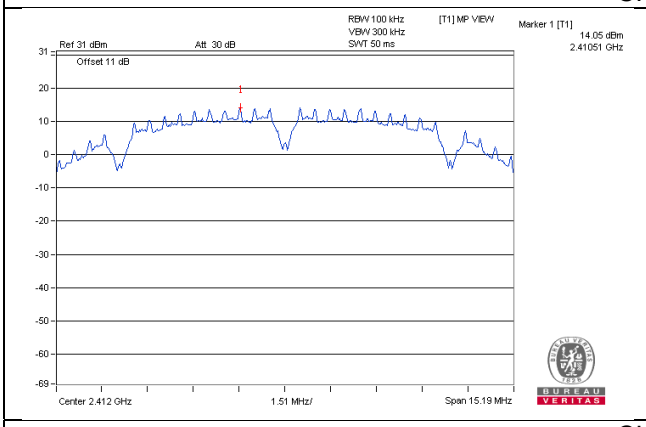


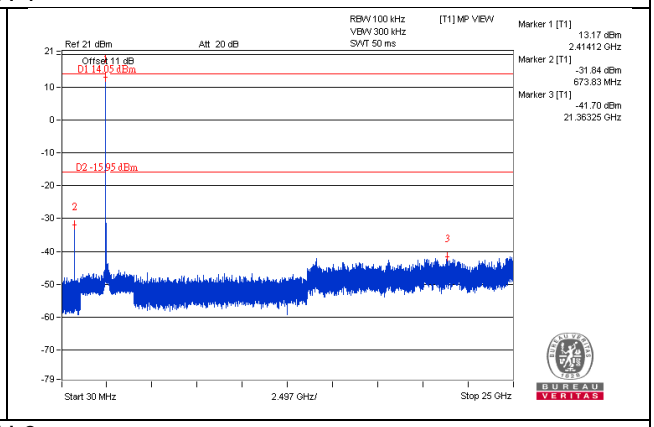
CH 11 Band edge



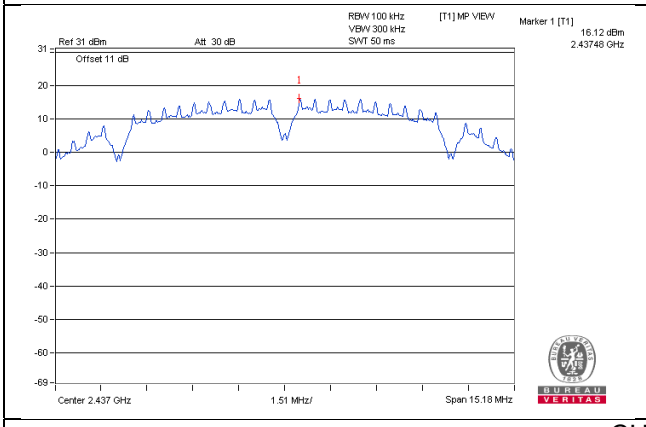
802.11b_Chain 2

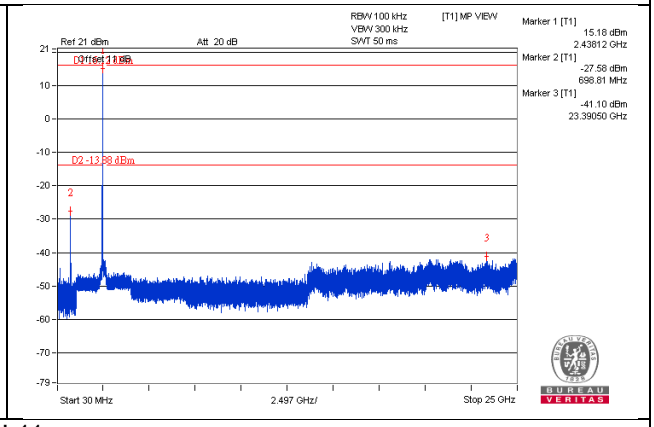
CH 1



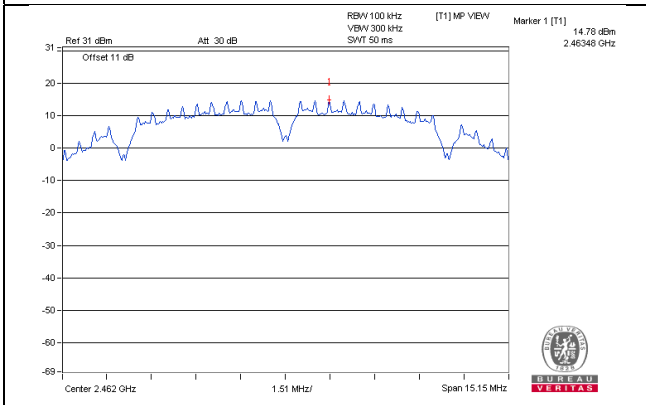


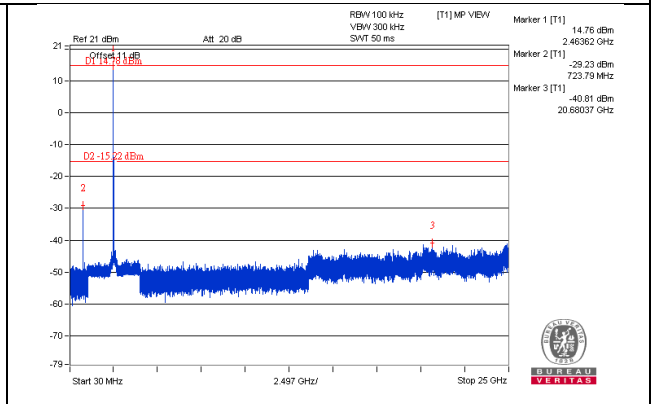
CH 6



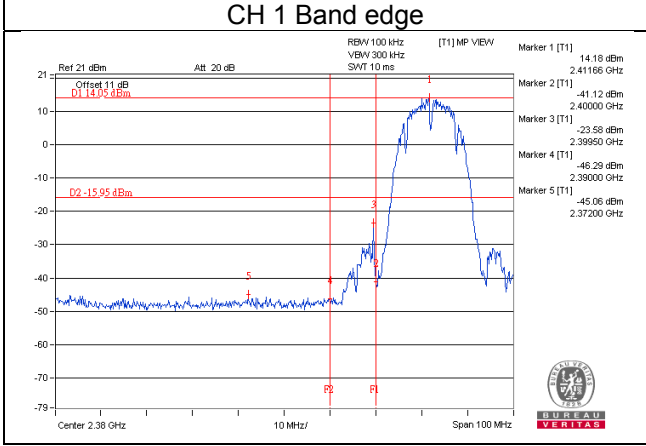


CH 11

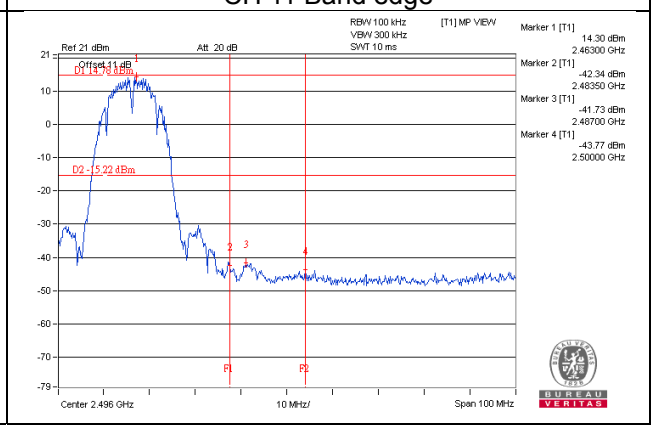




CH 1 Band edge

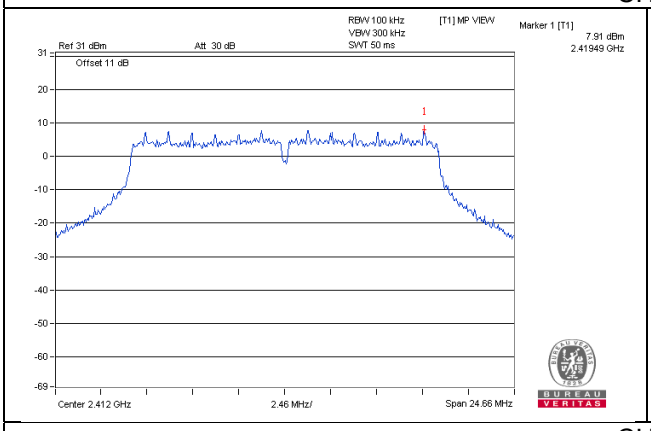


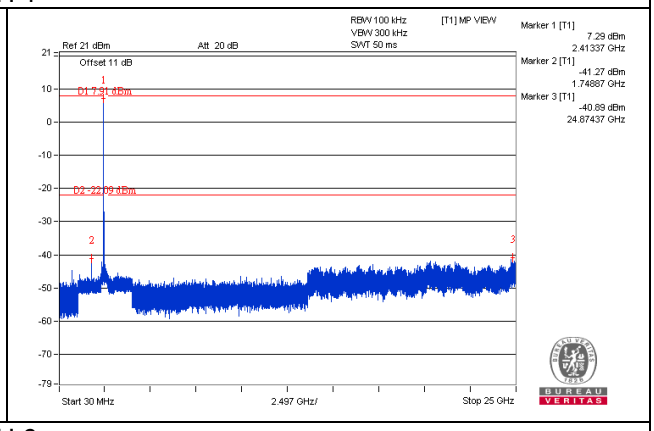
CH 11 Band edge



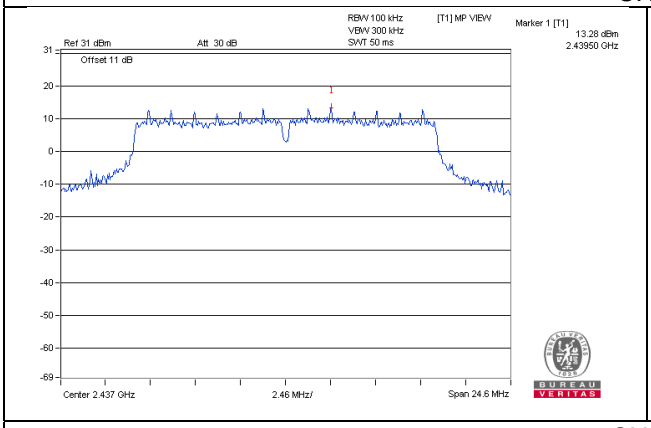
802.11g_Chain 0

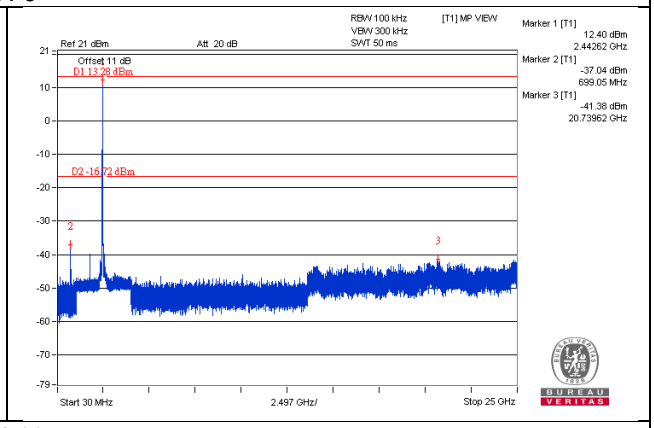
CH 1



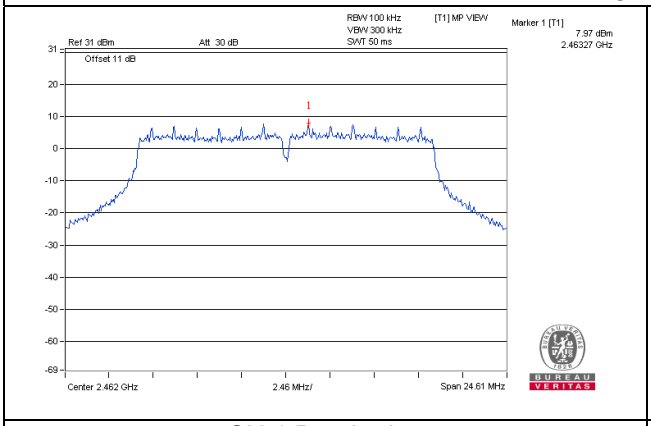


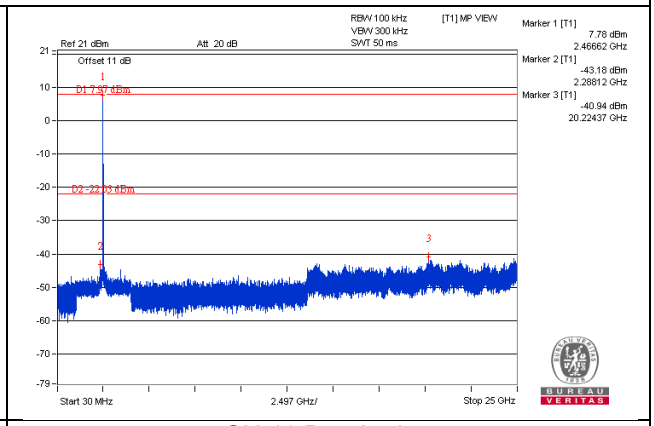
CH 6



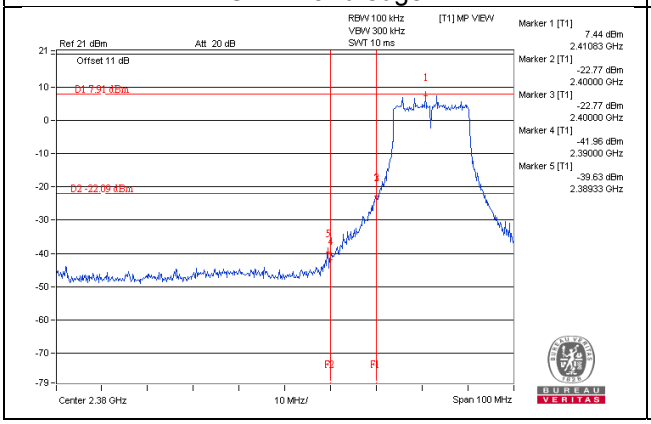


CH 11

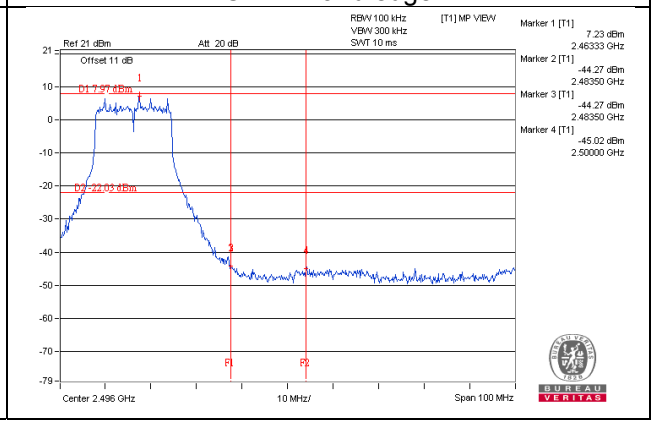




CH 1 Band edge

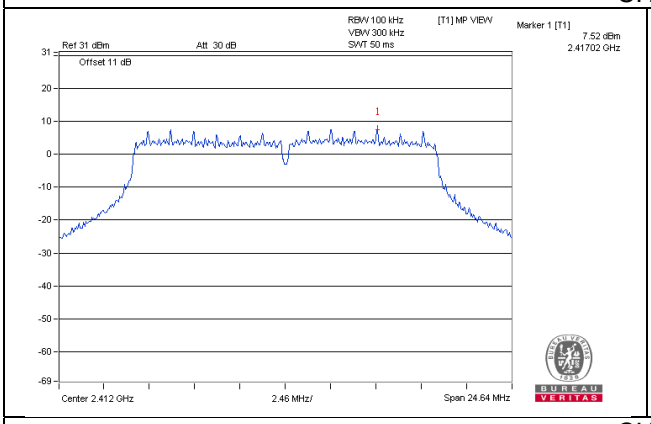


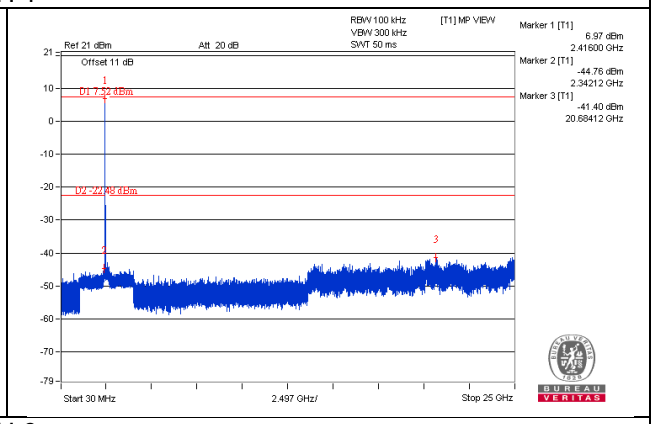
CH 11 Band edge



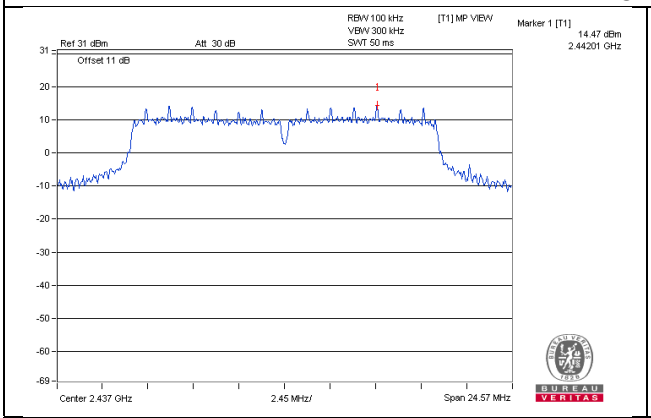
802.11g_Chain 1

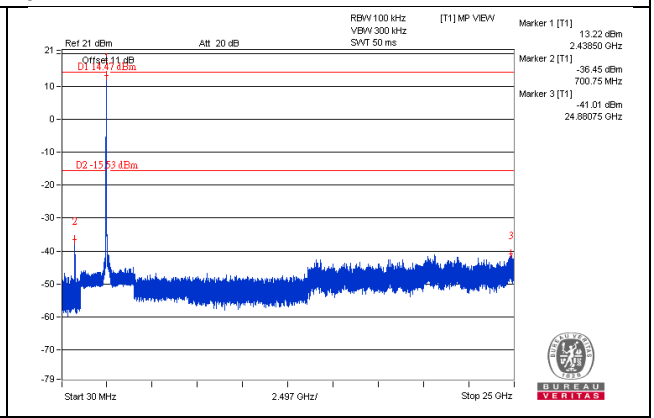
CH 1



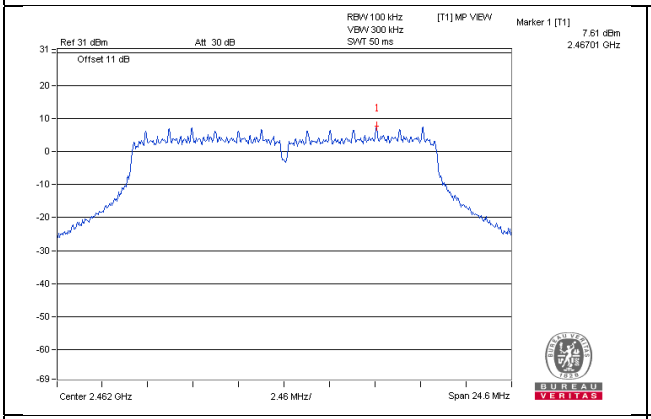


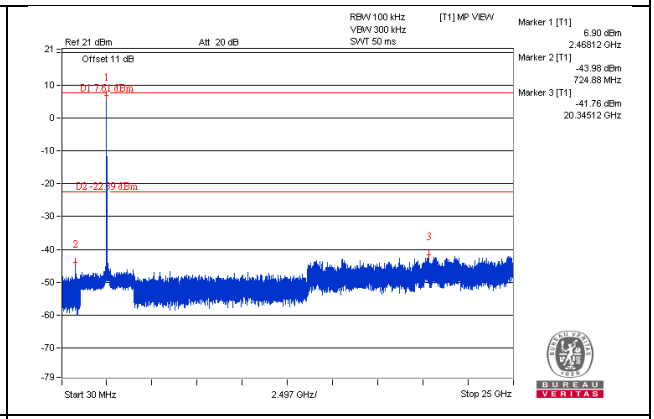
CH 6



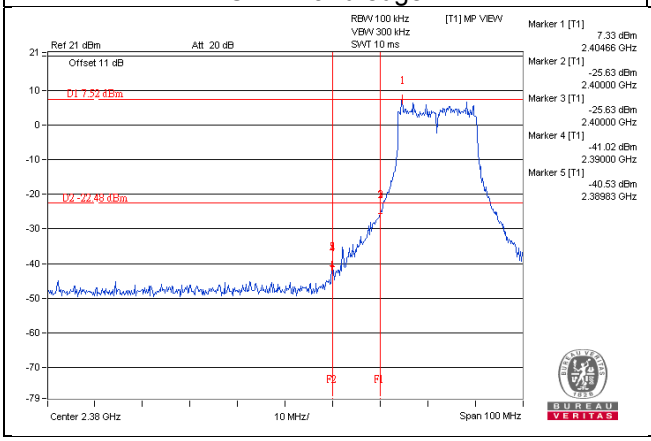


CH 11

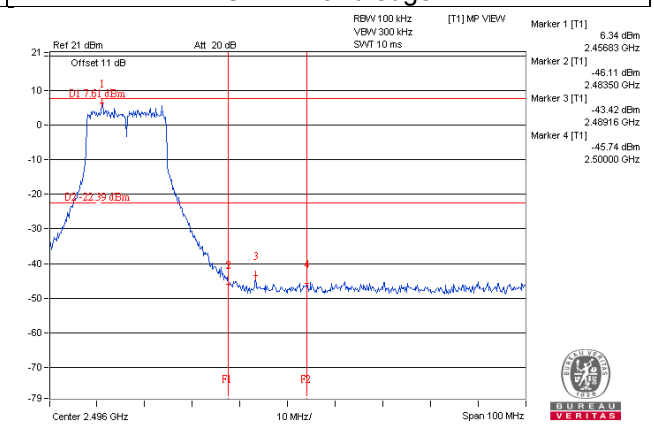




CH 1 Band edge

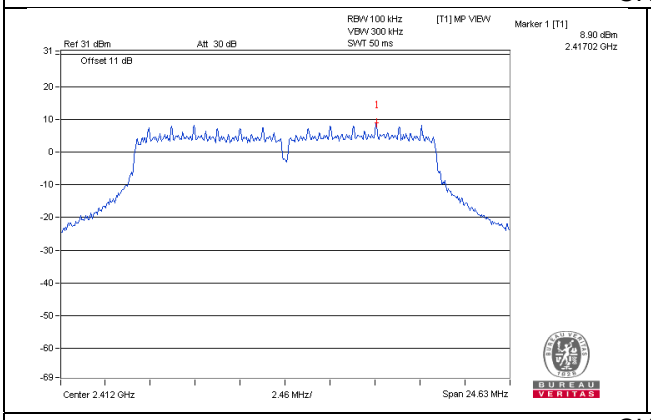


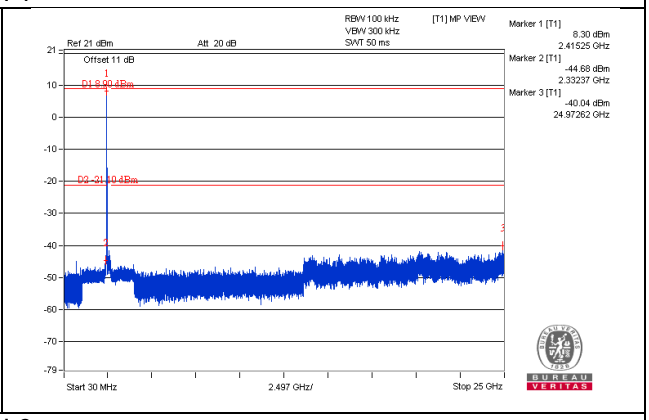
CH 11 Band edge



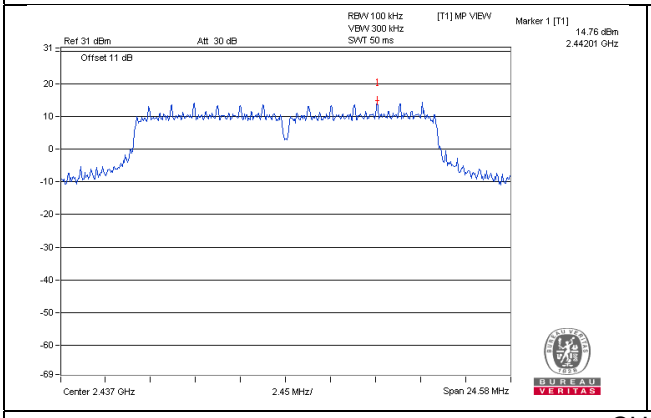
802.11g_Chain 2

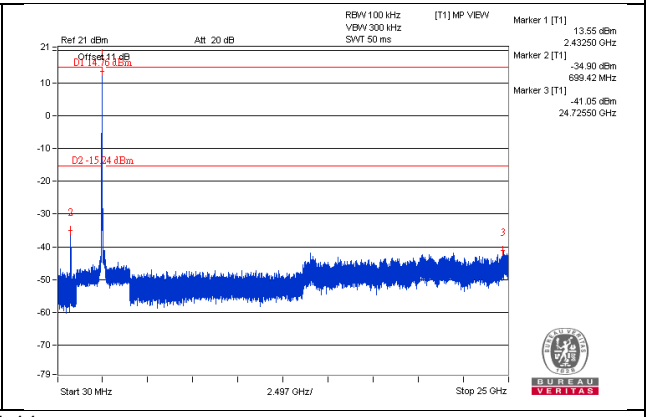
CH 1



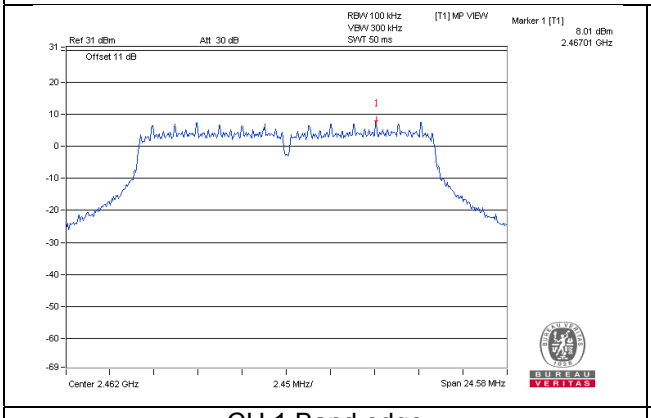


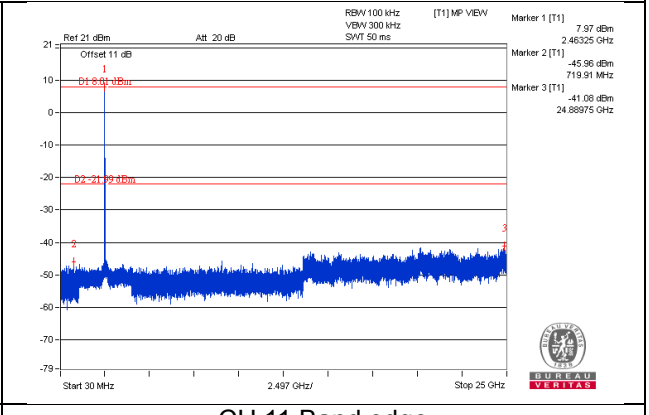
CH 6



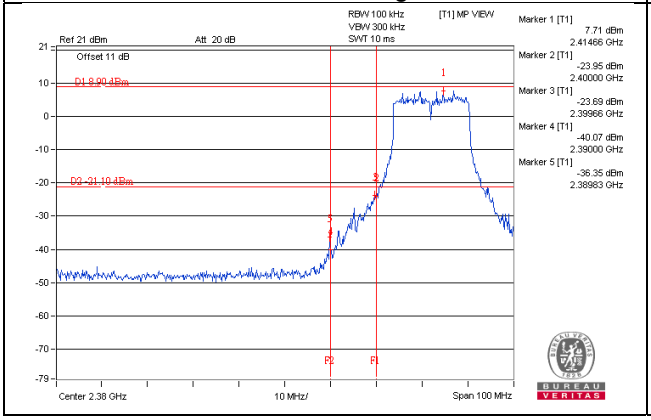


CH 11

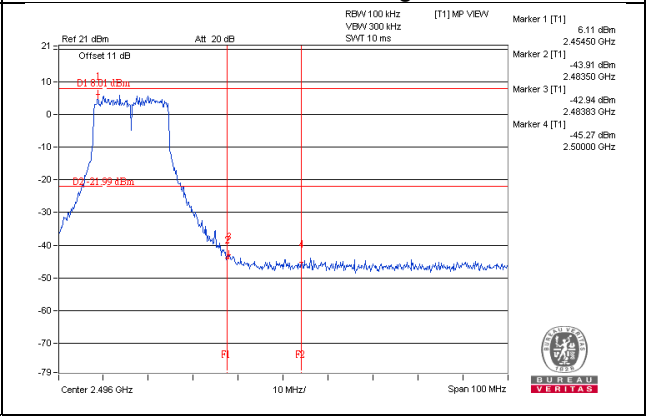




CH 1 Band edge

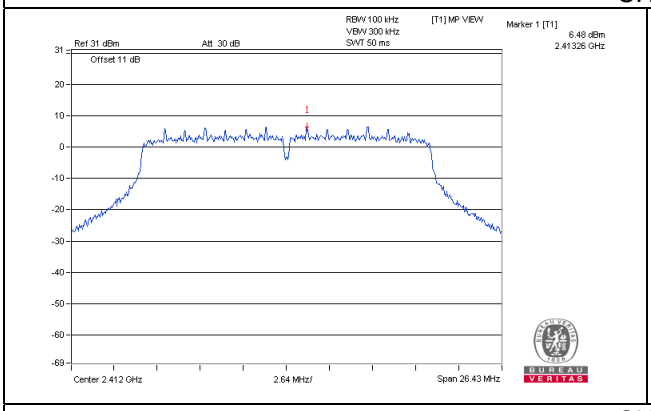


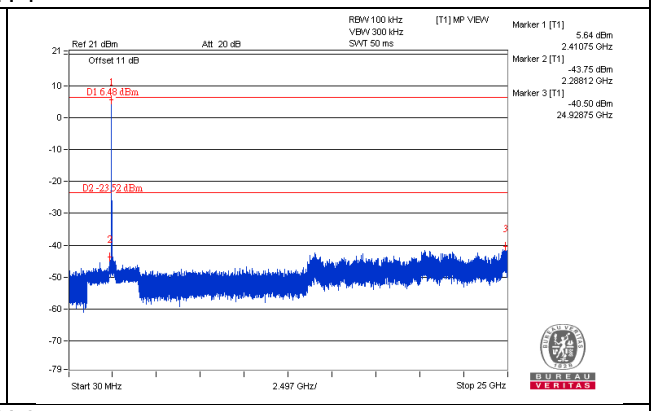
CH 11 Band edge



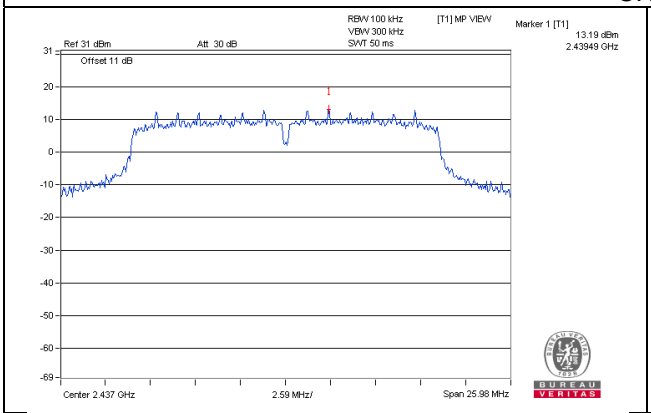
802.11n (HT20)_Chain 0

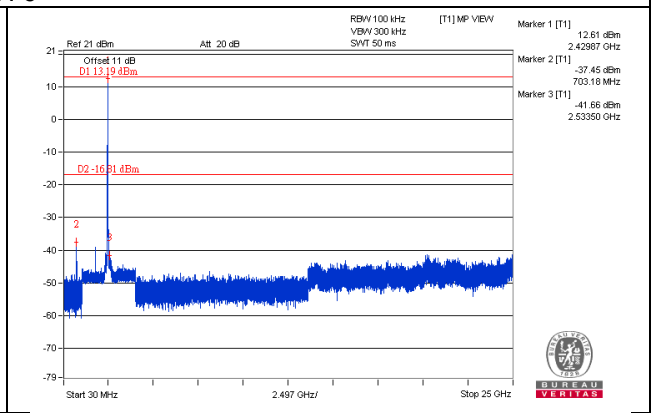
CH 1



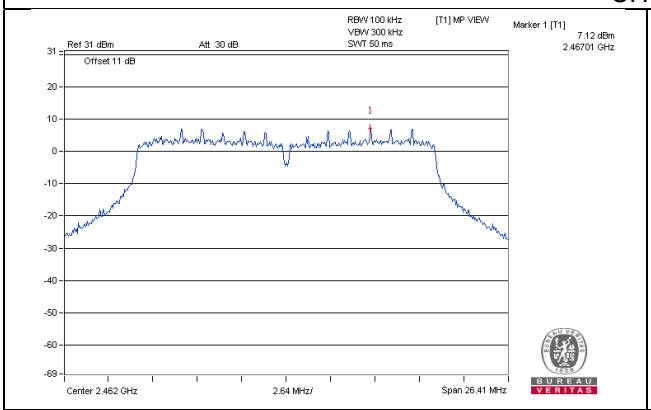


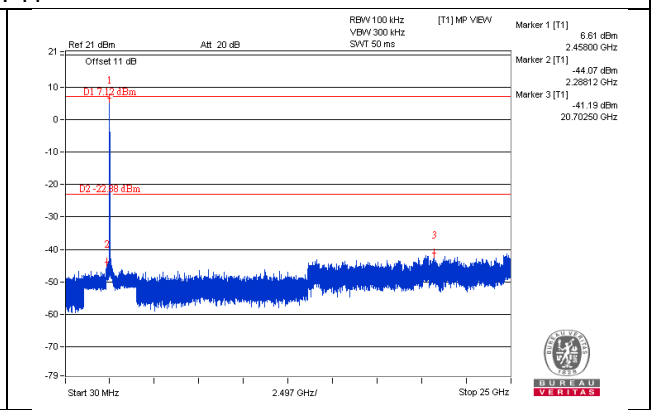
CH 6



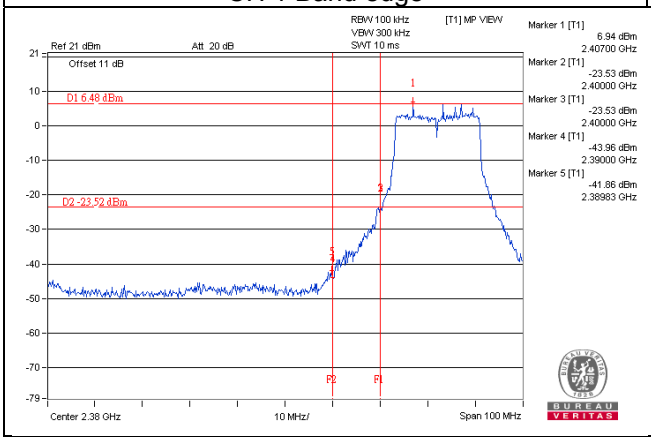


CH 11

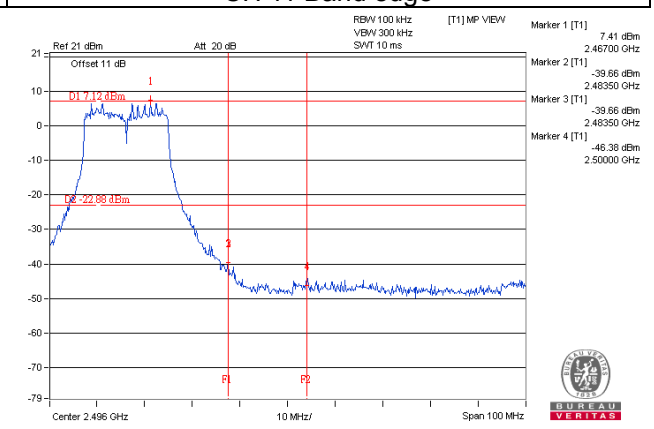




CH 1 Band edge

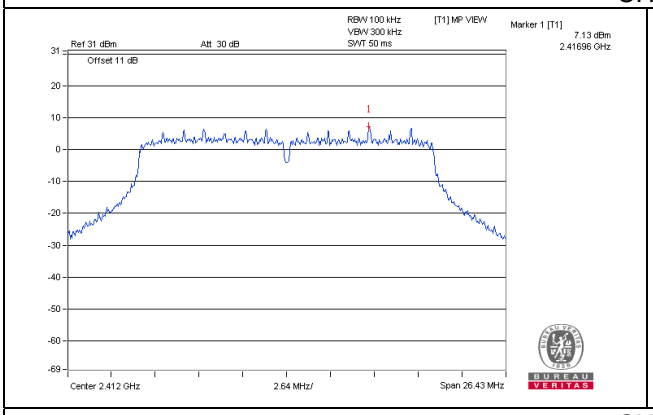


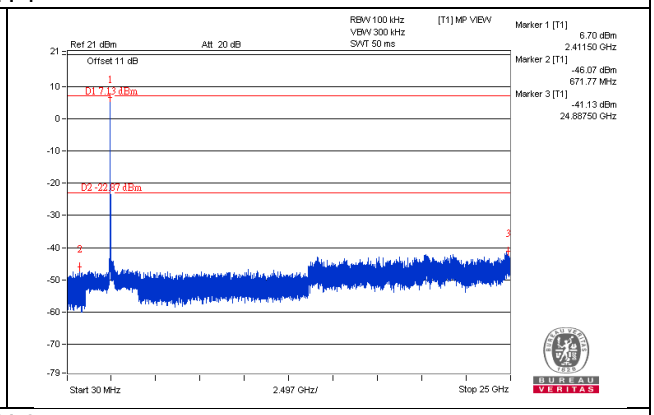
CH 11 Band edge



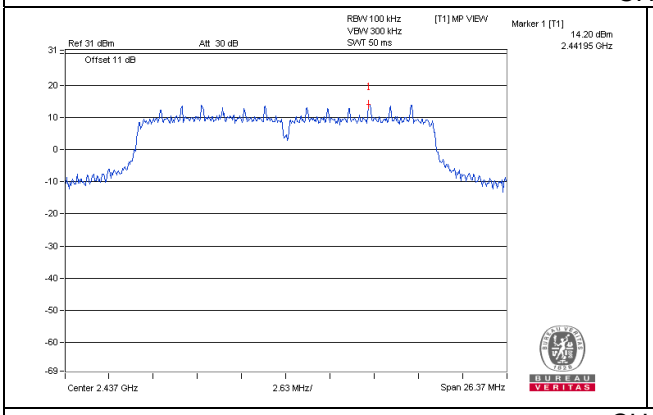
802.11n (HT20)_Chain 1

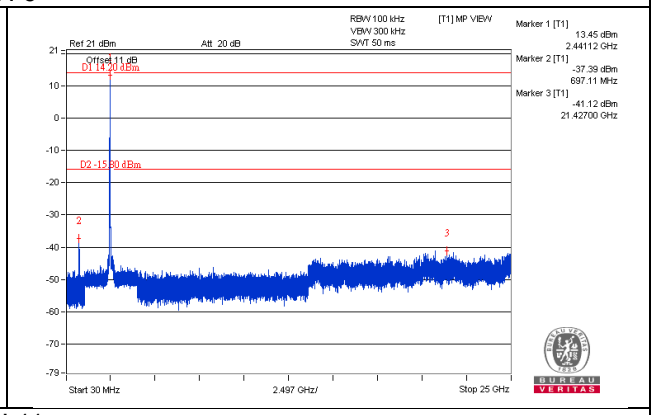
CH 1



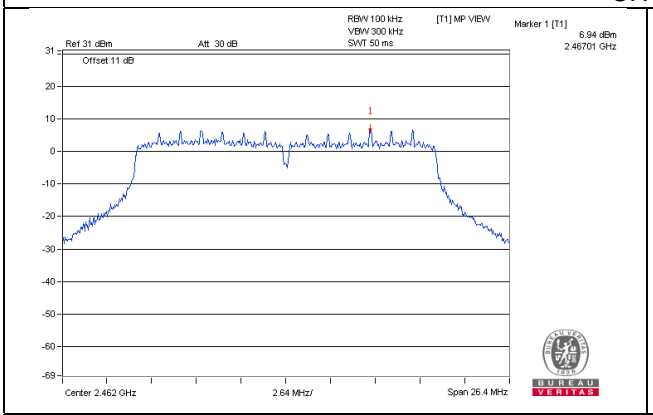


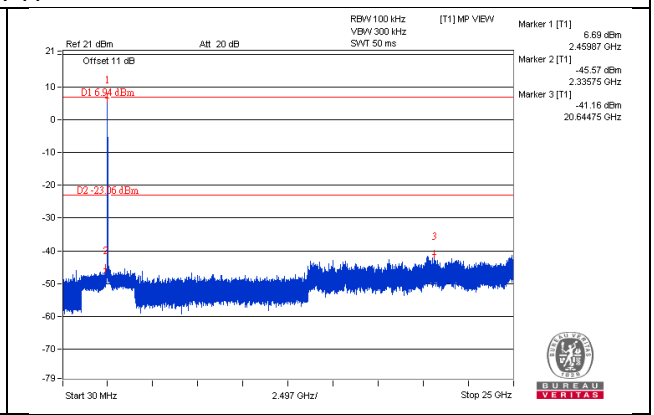
CH 6



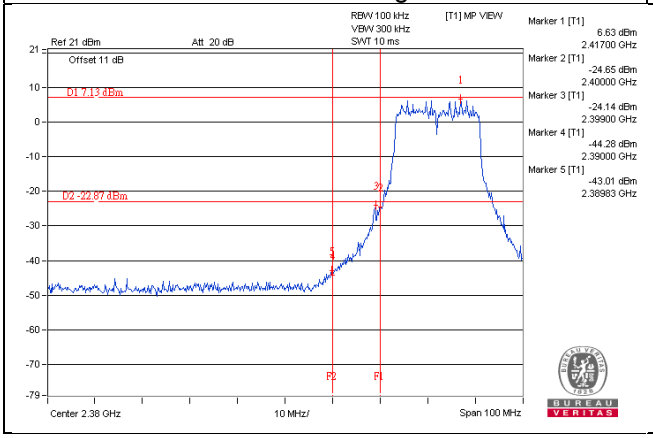


CH 11

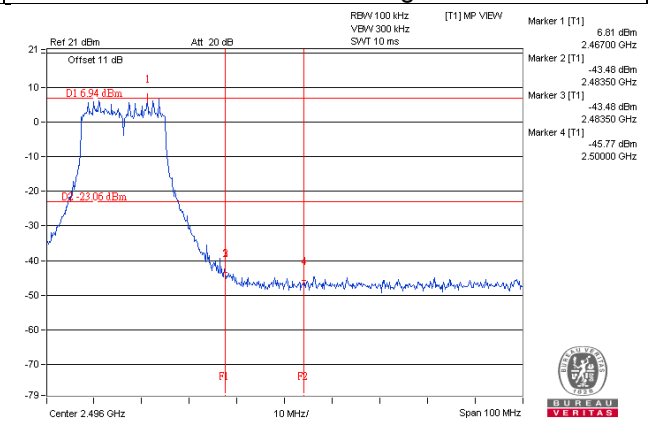




CH 1 Band edge

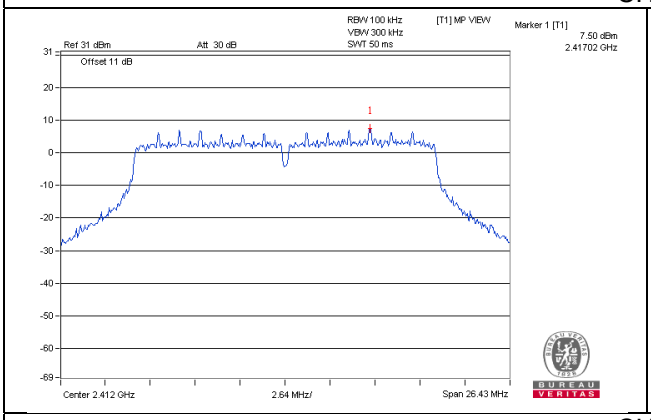


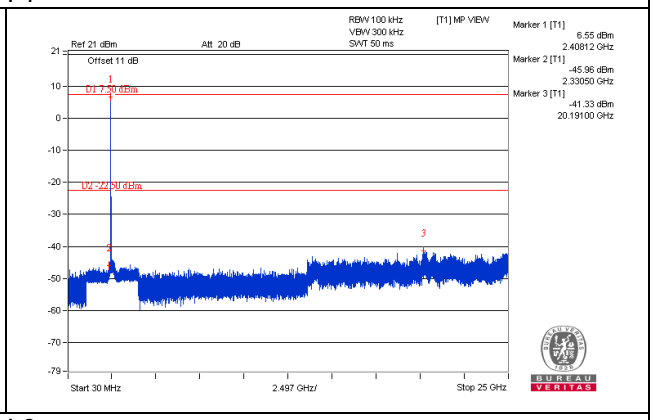
CH 11 Band edge



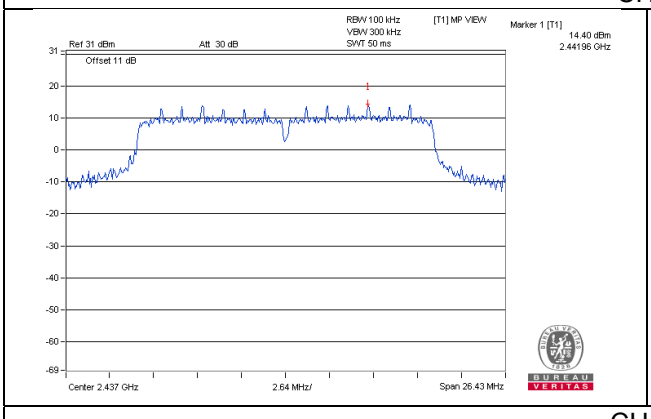
802.11n (HT20)_Chain 2

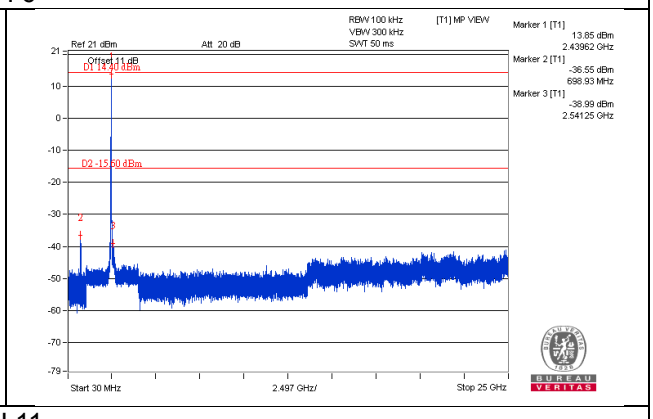
CH 1



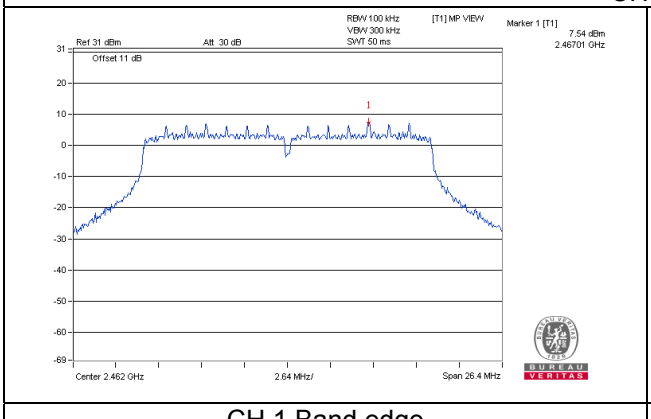


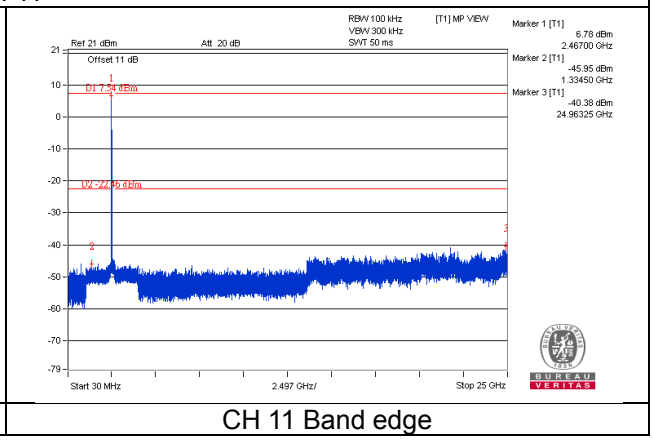
CH 6



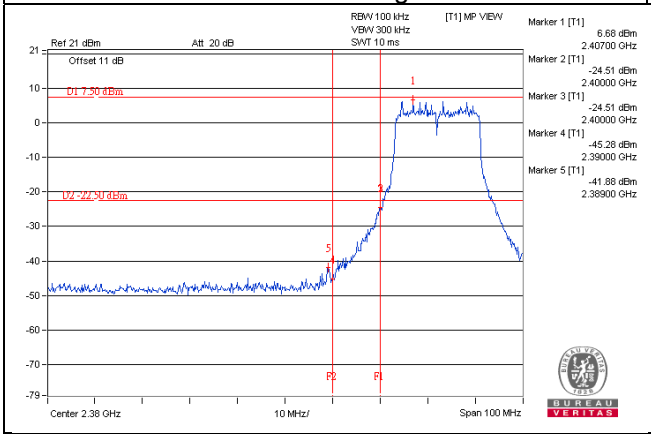


CH 11

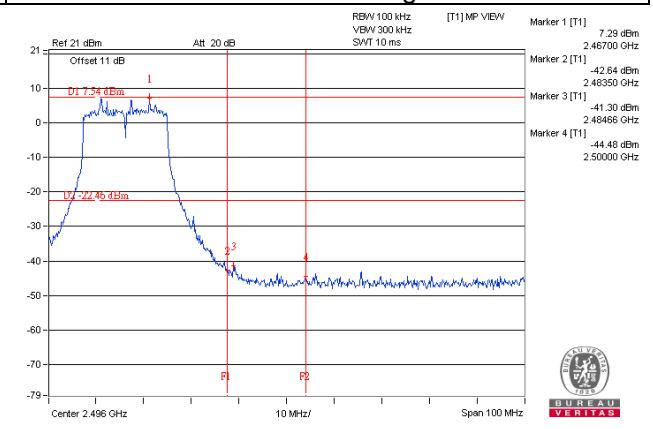




CH 1 Band edge

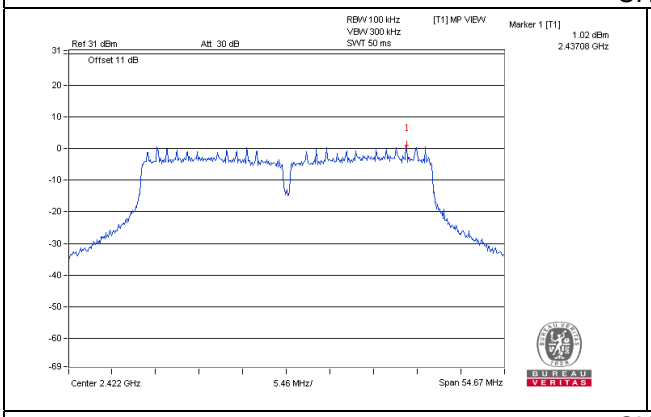


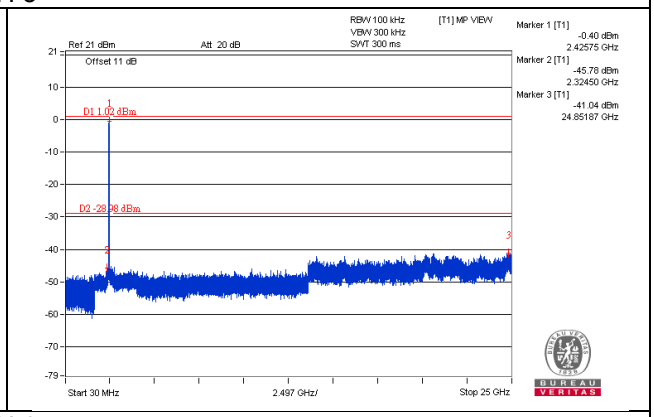
CH 11 Band edge



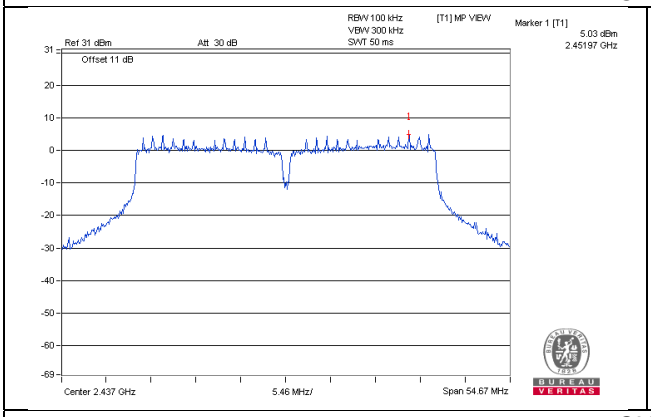
802.11n (HT40)_Chain 0

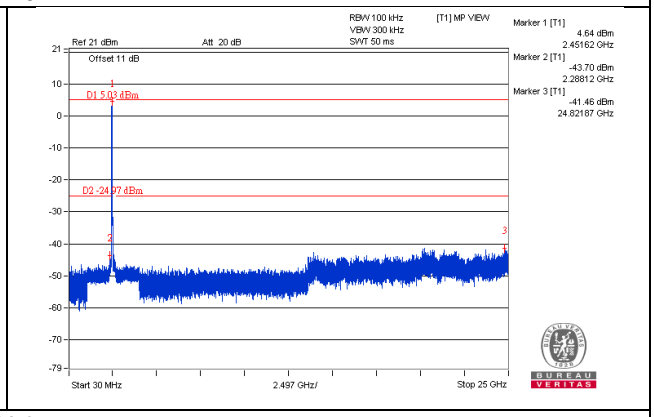
CH 3



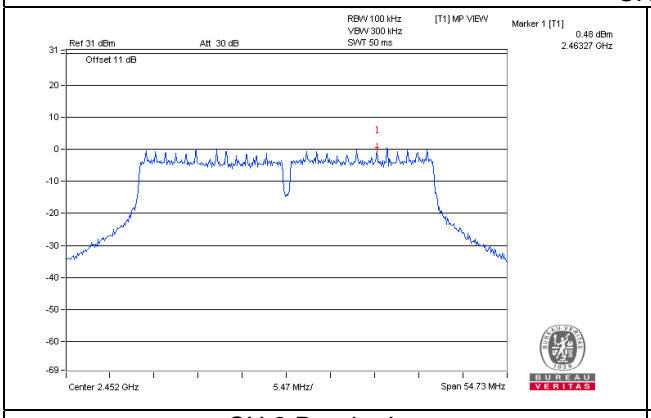


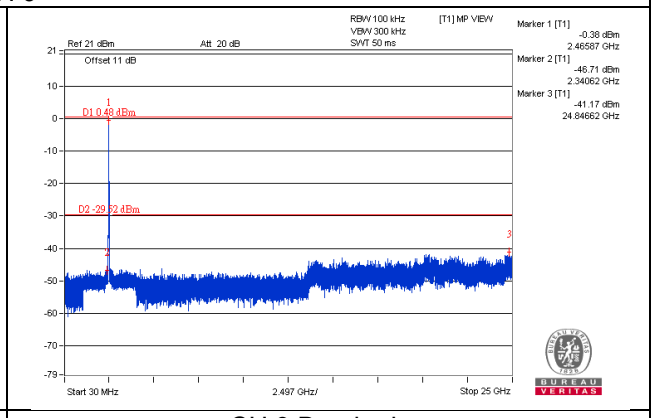
CH 6



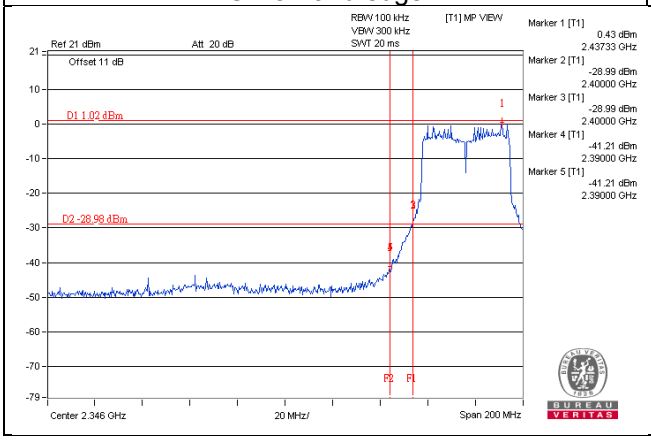


CH 9

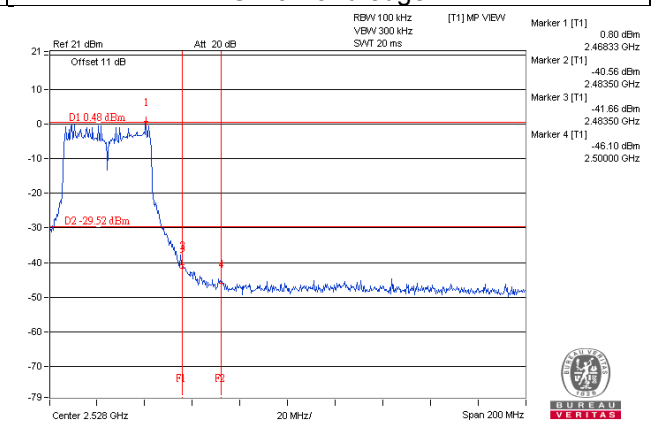




CH 3 Band edge

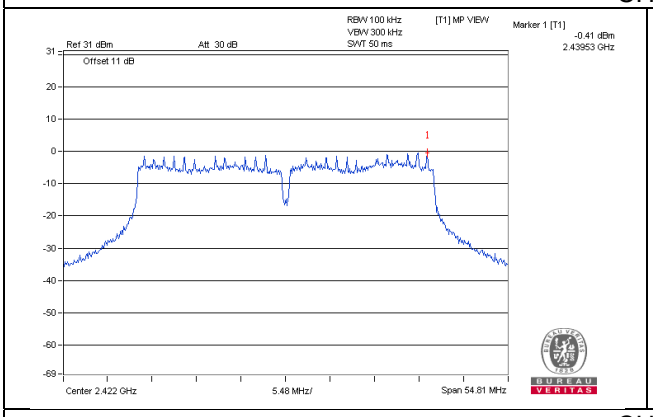


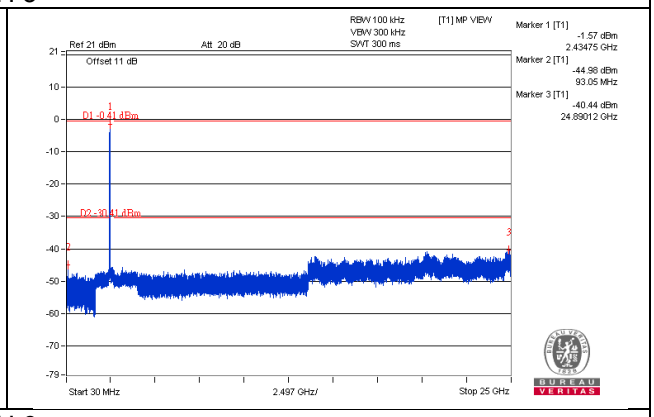
CH 9 Band edge



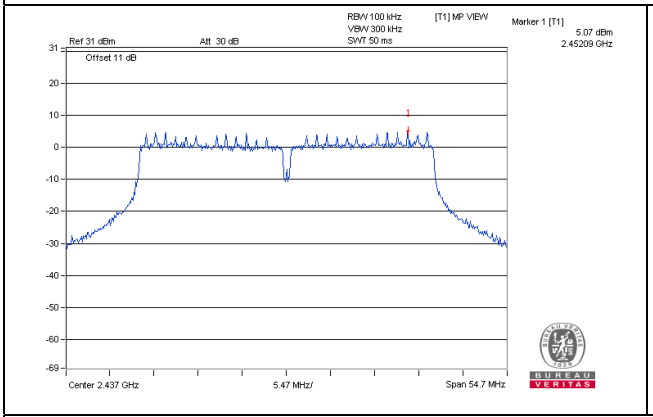
802.11n (HT40)_Chain 1

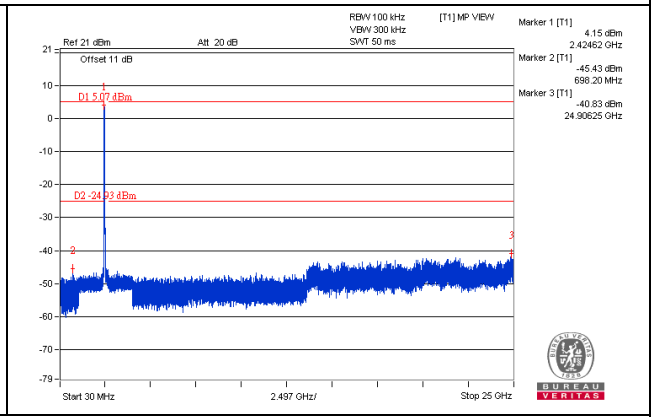
CH 3



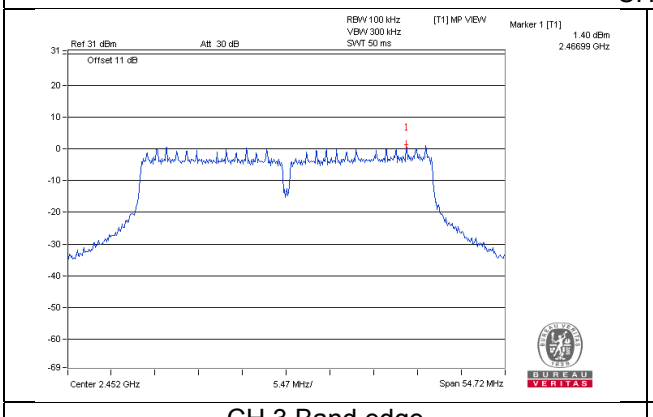


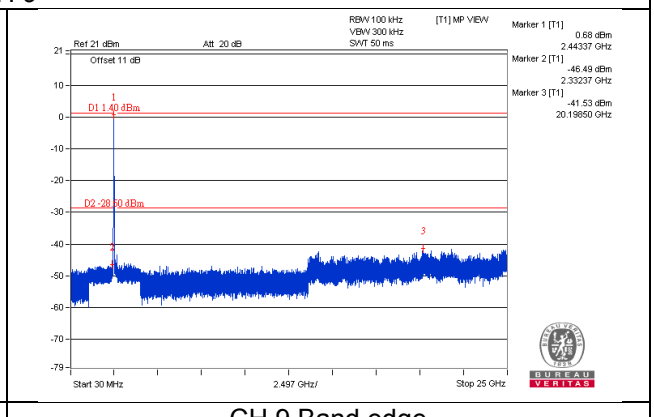
CH 6



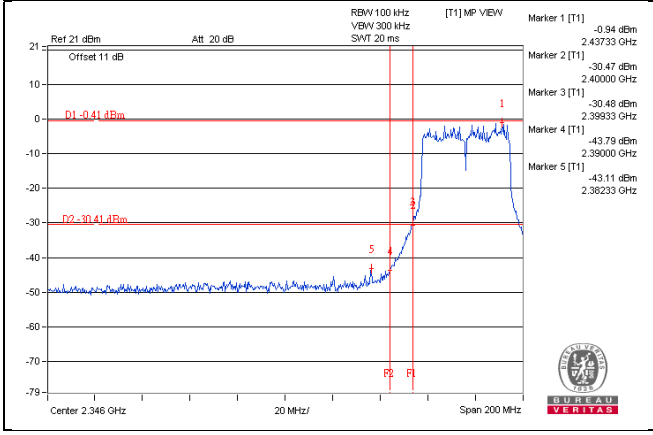


CH 9

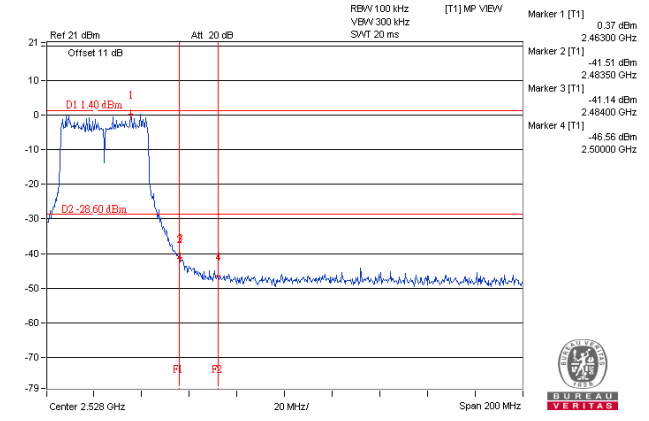




CH 3 Band edge

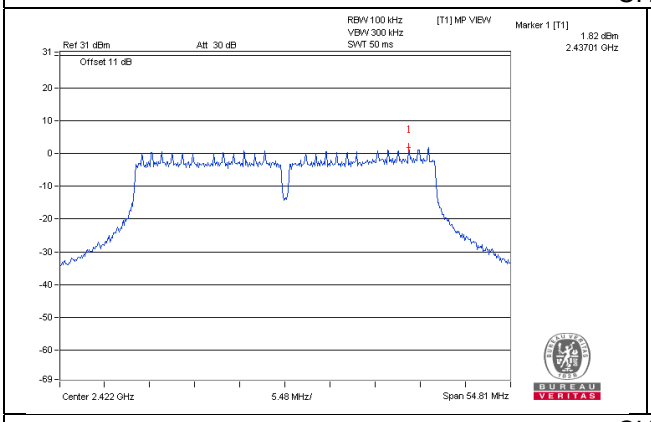


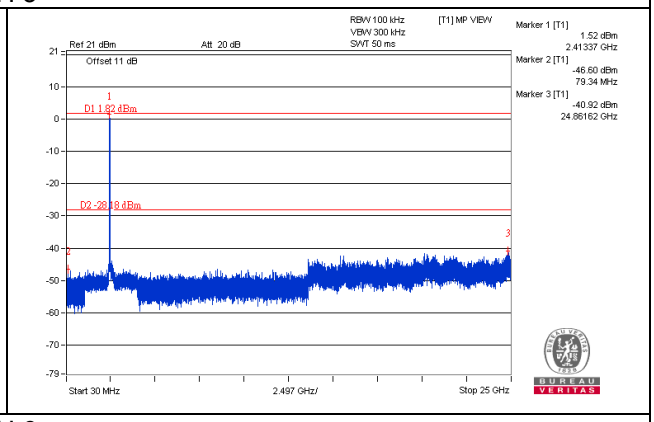
CH 9 Band edge



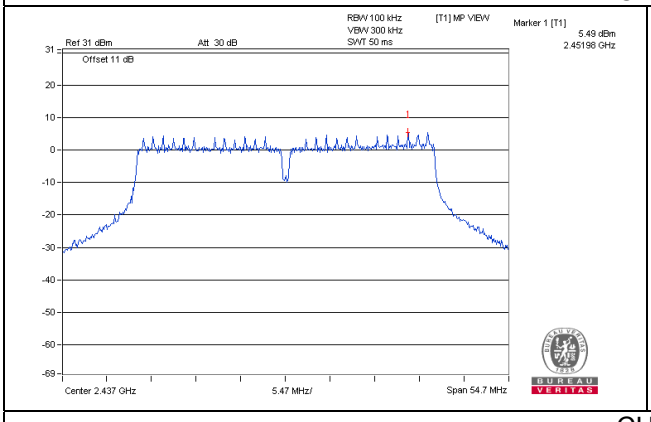
802.11n (HT40)_Chain 2

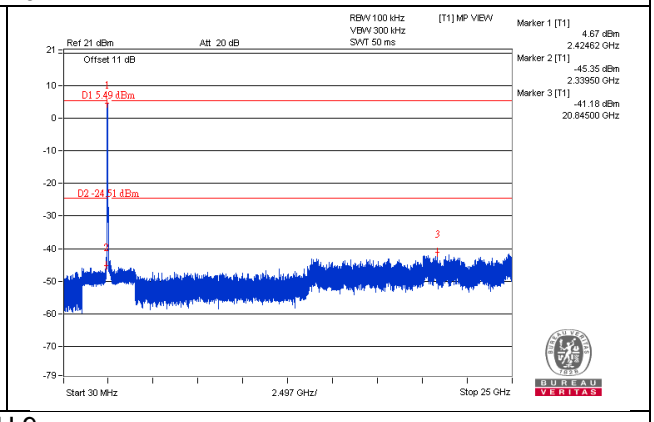
CH 3



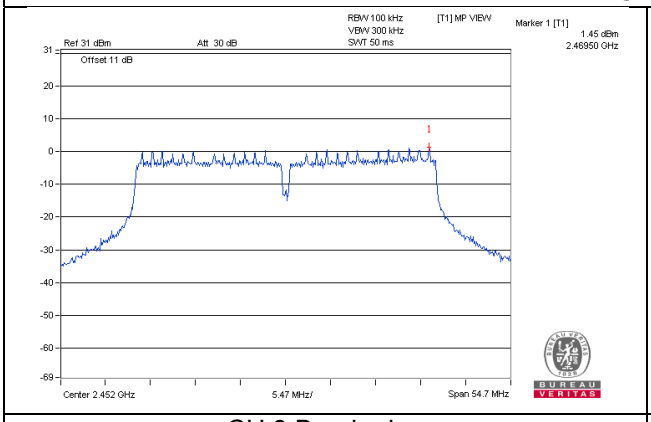


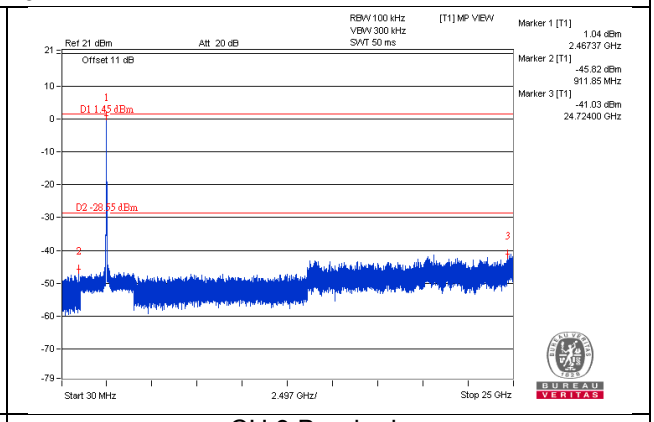
CH 6



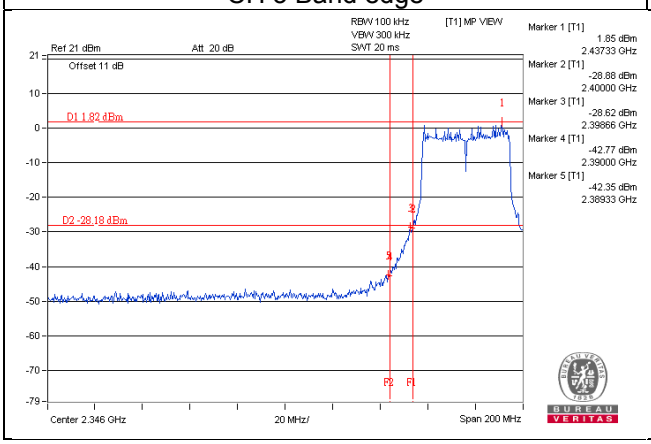


CH 9

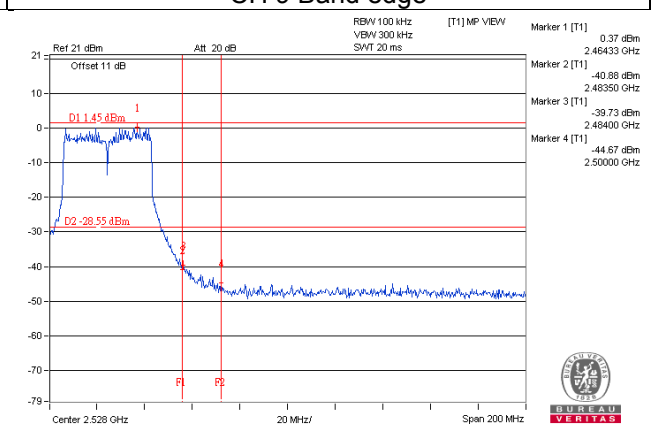




CH 3 Band edge



CH 9 Band edge



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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Tel: 886-2-26052180
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Tel: 886-3-6668565
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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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