Report No.:	RF171116E01
FCC ID:	ACJ96NKX-HNB700
Test Model:	KX-HNB700
Received Date:	Nov. 16, 2017
Test Date:	Nov. 22 to Dec. 12, 2017
Issued Date:	Jan. 11, 2018
Applicant:	Panasonic Corporation of North America
Address:	Two Riverfront Plaza, 9th Floor, Newark, NJ 07102-5490 USA
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
Lab Address:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan R.O.C.
Test Location:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan R.O.C.
FCC Registration / Designation Number:	723255 / TW2022

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Release Control Record

Issue No.	Description	Date Issued
RF171116E01	Original release.	Jan. 11, 2018

1 Certificate of Conformity

Product:	Access point
Brand:	Panasonic
Test Model:	KX-HNB700
Sample Status:	ENGINEERING SAMPLE
Applicant:	Panasonic Corporation of North America
Test Date:	Nov. 22 to Dec. 12, 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 : Mary Ko , **Date:** Jan. 11, 2018

Mary Ko / Specialist

Approved by : , **Date:** Jan. 11, 2018

May Chen / 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 -24.59dB at 0.37266MHz.
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 2390.00MHz.
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(MHF) 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	1.84 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	5.30 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	5.16 dB
	6GHz ~ 18GHz	4.91 dB
	18GHz ~ 40GHz	5.30 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Access point
Brand	Panasonic
Test Model	KX-HNB700
Status of EUT	ENGINEERING SAMPLE
Power Supply Rating	DC 12V from power adapter
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
Modulation Technology	DSSS,OFDM
Transfer Rate	802.11b: up to 11Mbps 802.11g: up to 54Mbps 802.11n: up to 300Mbps
Operating Frequency	2.412 ~ 2.462GHz
Number of Channel	802.11b, 802.11g, 802.11n (HT20): 11 802.11n (HT40): 7
Output Power	745.022 mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter x 1
Data Cable Supplied	RJ45 cable x 1 (Unshielded, 1m)

Note:

1. The EUT must be supplied with a power adapter as following table:

Brand	Model No.	Spec.
CILCK	CPS012D120100U	AC Input: 100-240Vac, 0.4A, 50/60Hz DC Output: 12V, 1A DC Output cable: Unshielded, 1.8m

2. The antennas provided to the EUT, please refer to the following table:

Ant. No.	Antenna Net Gain (dBi)	Frequency Range(GHz)	Antenna Type	Connecter Type
1	2.9	2.4-2.4835	PCB	i-pex(MHF)
2	2.42	2.4-2.4835	PCB	i-pex(MHF)

3. The EUT incorporates a MIMO function:

MODULATION MODE	DATA RATE (MCS)	TX & RX CONFIGURATION	
802.11b	1 ~ 11Mbps	2TX	2RX
802.11g	6 ~ 54Mbps	2TX	2RX
802.11n (HT20)	MCS 0~7	2TX	2RX
	MCS 8~15	2TX	2RX
802.11n (HT40)	MCS 0~7	2TX	2RX
	MCS 8~15	2TX	2RX

4. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

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

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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
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.

802.11b	1 to 11	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	6	DSSS	DBPSK	1

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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	6	DSSS	DBPSK	1

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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
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:

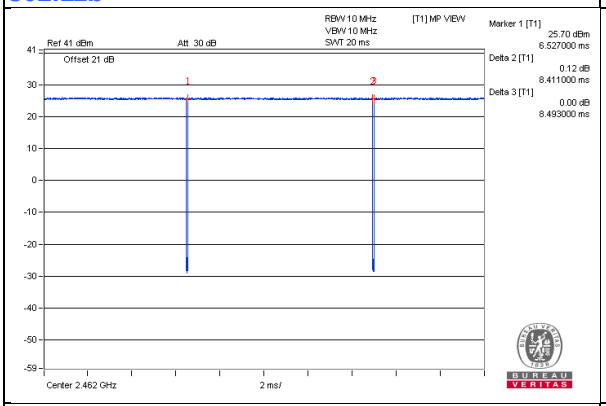
APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	23deg. C, 64%RH	120Vac, 60Hz	Rey Chen
RE<1G	23deg. C, 64%RH	120Vac, 60Hz	Jyunchun Lin
PLC	25deg. C, 75%RH	120Vac, 60Hz	Andy Ho
APCM	25deg. C, 60%RH	120Vac, 60Hz	Anderson Chen

3.3 Duty Cycle of Test Signal

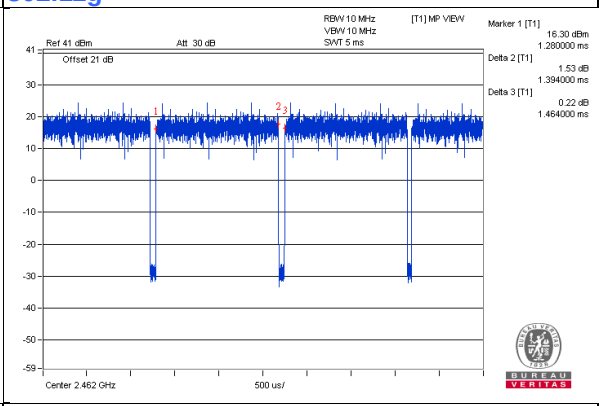
If duty cycle of test signal is ≥ 98 %, duty factor is not required.
If duty cycle of test signal is < 98%, duty factor shall be considered.

802.11b: Duty cycle = 8.411/8.493 = 0.99
802.11g: Duty cycle = 1.394/1.464 = 0.952, Duty factor = 10 * log(1/0.952) = 0.21
802.11n (HT20): Duty cycle = 1.305/1.478 = 0.883, Duty factor = 10 * log(1/0.883) = 0.54
802.11n (HT40): Duty cycle = 0.648/0.699 = 0.927, Duty factor = 10 * log(1/0.927) =

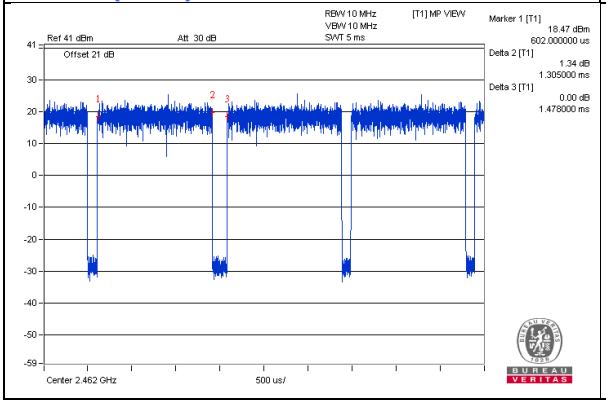
802.11b



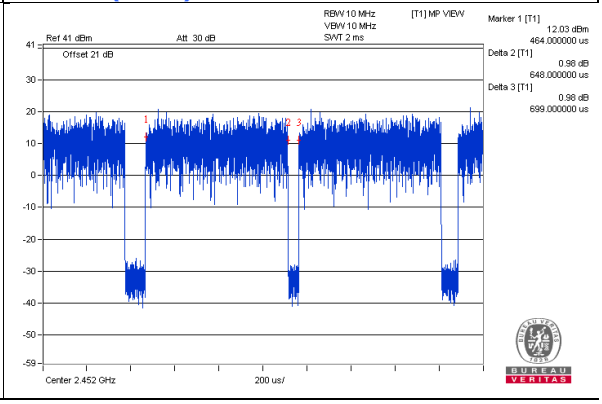
802.11g



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.

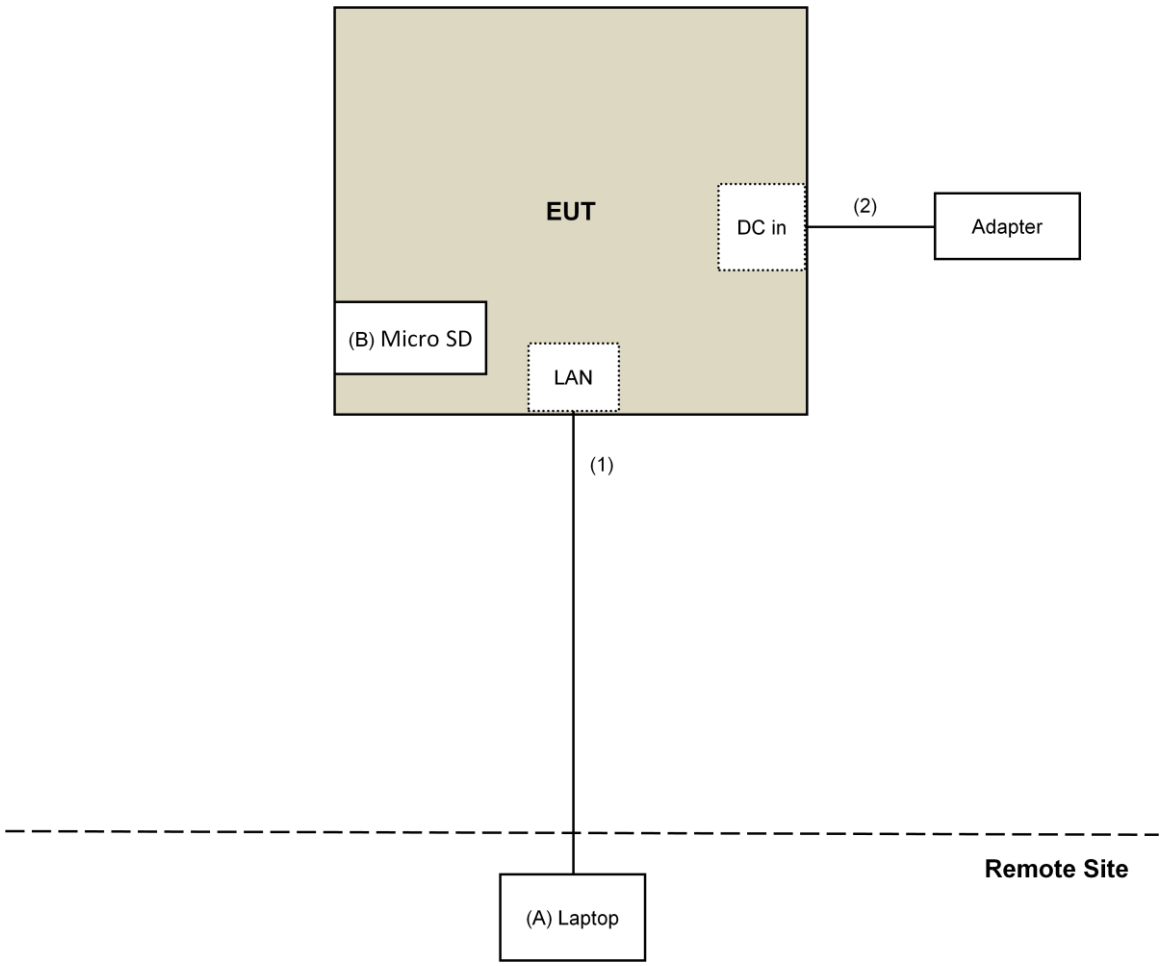
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Laptop	DELL	E5430	HYV4VY1	FCC DoC	Provided by Lab
B.	Micro SD	Gigastone	32GB	NA	NA	Provided by Lab

Note:

1. All power cords of the above support units are non-shielded (1.8m).

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RJ-45 Cable	1	10	No	0	Provided by Lab
2.	DC Cable	1	1.8	No	0	Supplied by client

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 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 20dB under any condition of modulation.

4.1.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Keysight	N9038A	MY54450088	July 08, 2017	July 07, 2018
Pre-Amplifier(*) EMCI	EMC001340	980142	Jan. 20, 2016	Jan. 19, 2018
Loop Antenna(*) Electro-Metrics	EM-6879	264	Dec. 16, 2016	Dec. 15, 2018
RF Cable	NA	LOOPCAB-001 LOOPCAB-002	Jan. 17, 2017	Jan. 16, 2018
Pre-Amplifier Mini-Circuits	ZFL-1000VH2B	AMP-ZFL-01	Nov. 09, 2017	Nov. 08, 2018
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-406	Dec. 13, 2016	Dec. 12, 2017
RF Cable	8D	966-4-1 966-4-2 966-4-3	Apr. 01, 2017	Mar. 31, 2018
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-4-01	Oct. 03, 2017	Oct. 02, 2018
Horn_Antenna SCHWARZBECK	BBHA 9120D	9120D-783	Dec. 27, 2016	Dec. 26, 2017
Pre-Amplifier EMCI	EMC12630SE	980385	Feb. 02, 2017	Feb. 01, 2018
RF Cable	EMC104-SM-SM-1200 EMC104-SM-SM-2000 EMC104-SM-SM-5000	160923 150318 150321	Feb. 02, 2017 Mar. 29, 2017 Mar. 29, 2017	Feb. 01, 2018 Mar. 28, 2018 Mar. 28, 2018
Pre-Amplifier EMCI	EMC184045SE	980387	Feb. 02, 2017	Feb. 01, 2018
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170608	Dec. 15, 2016	Dec. 14, 2017
RF Cable	SUCOFLEX 102	36432/2 36433/2	Jan. 15, 2017	Jan. 14, 2018
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208410	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP02	NA	NA
Spectrum Analyzer R&S	FSV40	100964	July 1, 2017	June 30, 2018
Power meter Anritsu	ML2495A	1014008	May 11, 2017	May 10, 2018
Power sensor Anritsu	MA2411B	0917122	May 11, 2017	May 10, 2018

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 calibration interval of the above test instruments is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. The test was performed in 966 Chamber No. 4.
4. Loop antenna was used for all emissions below 30 MHz.
5. The CANADA Site Registration No. is 20331-2
6. Tested Date: Nov. 22 to Dec. 12, 2017

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 detects 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:

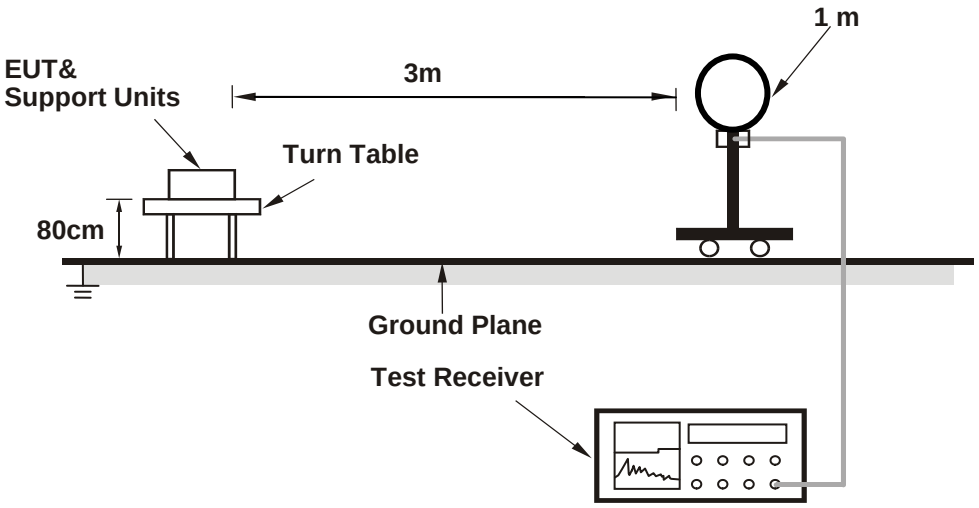
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10Hz (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

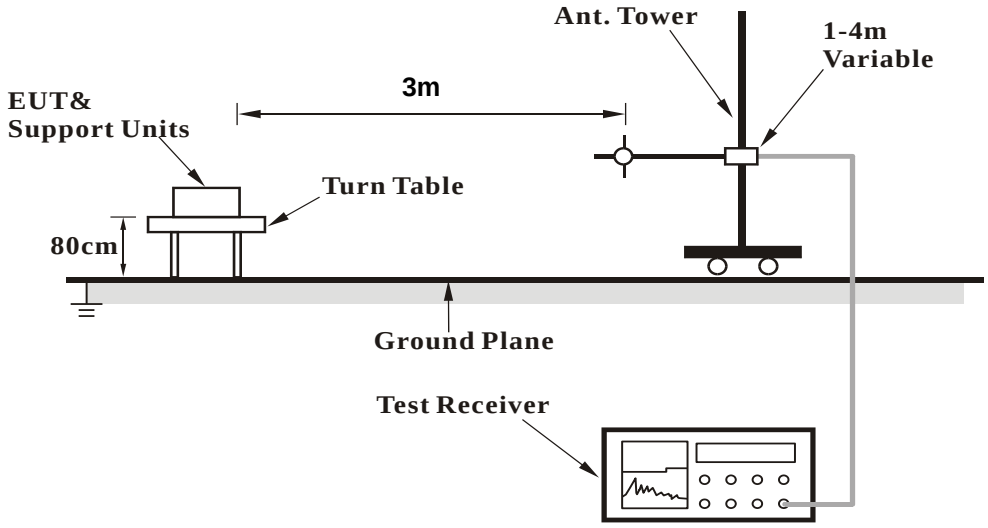
No deviation.

4.1.5 Test Setup

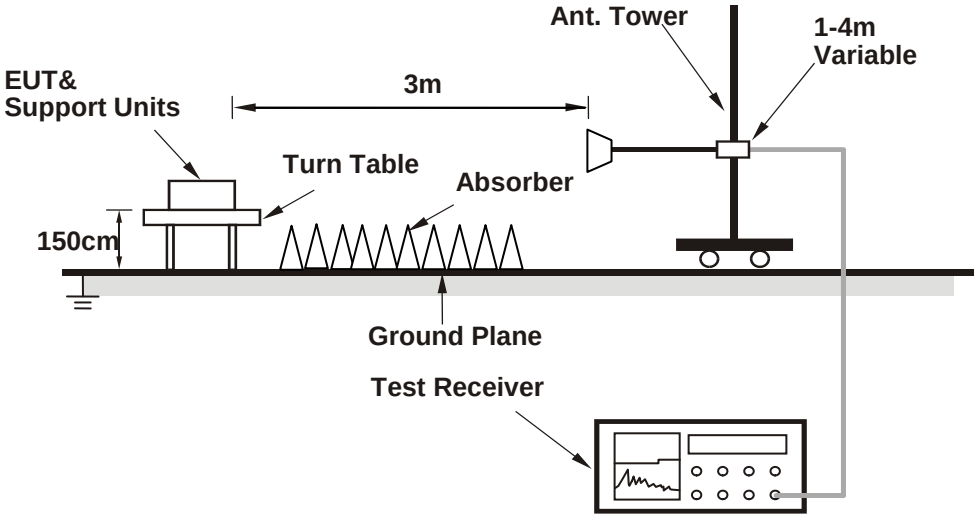
For Radiated emission below 30MHz



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. Connected the EUT with the Laptop which is placed on remote site.
b. Controlling software (MPTool v3.4) has been activated to set the EUT on specific status.

4.1.7 Test Results

Above 1GHz 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	61.2 PK	74.0	-12.8	1.59 H	199	62.5	-1.3
2	2390.00	52.8 AV	54.0	-1.2	1.59 H	199	54.1	-1.3
3	*2412.00	110.8 PK			1.59 H	199	111.9	-1.1
4	*2412.00	107.7 AV			1.59 H	199	108.8	-1.1
5	4824.00	48.7 PK	74.0	-25.3	2.09 H	215	45.5	3.2
6	4824.00	47.3 AV	54.0	-6.7	2.09 H	215	44.1	3.2
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	2390.00	62.4 PK	74.0	-11.6	1.52 V	360	63.7	-1.3
2	**2390.00**	**53.9 AV**	**54.0**	**-0.1**	**1.52 V**	**360**	**55.2**	**-1.3**
3	*2412.00	113.4 PK			1.52 V	360	114.5	-1.1
4	*2412.00	110.5 AV			1.52 V	360	111.6	-1.1
5	4824.00	49.3 PK	74.0	-24.7	2.02 V	140	46.1	3.2
6	4824.00	46.7 AV	54.0	-7.3	2.02 V	140	43.5	3.2

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)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	58.5 PK	74.0	-15.5	1.56 H	195	59.8	-1.3
2	2390.00	50.2 AV	54.0	-3.8	1.56 H	195	51.5	-1.3
3	*2437.00	112.3 PK			1.56 H	195	113.5	-1.2
4	*2437.00	109.3 AV			1.56 H	195	110.5	-1.2
5	2484.60	64.0 PK	74.0	-10.0	1.56 H	195	65.0	-1.0
6	2484.60	52.5 AV	54.0	-1.5	1.56 H	195	53.5	-1.0
7	4874.00	49.5 PK	74.0	-24.5	2.20 H	237	46.2	3.3
8	4874.00	48.1 AV	54.0	-5.9	2.20 H	237	44.8	3.3
9	7311.00	37.2 PK	74.0	-36.8	2.68 H	221	27.4	9.8
10	7311.00	29.5 AV	54.0	-24.5	2.68 H	221	19.7	9.8
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	2390.00	59.7 PK	74.0	-14.3	1.52 V	359	61.0	-1.3
2	2390.00	51.4 AV	54.0	-2.6	1.52 V	359	52.7	-1.3
3	*2437.00	114.9 PK			1.52 V	359	116.1	-1.2
4	*2437.00	112.1 AV			1.52 V	359	113.3	-1.2
5	2484.60	65.3 PK	74.0	-8.7	1.52 V	359	66.3	-1.0
6	2484.60	53.8 AV	54.0	-0.2	1.52 V	359	54.8	-1.0
7	4874.00	48.6 PK	74.0	-25.4	2.07 V	153	45.3	3.3
8	4874.00	46.9 AV	54.0	-7.1	2.07 V	153	43.6	3.3
9	7311.00	37.9 PK	74.0	-36.1	1.85 V	219	28.1	9.8
10	7311.00	29.8 AV	54.0	-24.2	1.85 V	219	20.0	9.8

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) – 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	112.0 PK			1.54 H	202	113.1	-1.1
2	*2462.00	109.0 AV			1.54 H	202	110.1	-1.1
3	2483.50	67.8 PK	74.0	-6.2	1.54 H	202	68.8	-1.0
4	2483.50	47.4 AV	54.0	-6.6	1.54 H	202	48.4	-1.0
5	4924.00	49.1 PK	74.0	-24.9	2.14 H	228	45.6	3.5
6	4924.00	47.7 AV	54.0	-6.3	2.14 H	228	44.2	3.5
7	7386.00	36.8 PK	74.0	-37.2	2.63 H	223	26.9	9.9
8	7386.00	29.0 AV	54.0	-25.0	2.63 H	223	19.1	9.9
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	*2462.00	114.6 PK			1.53 V	360	115.7	-1.1
2	*2462.00	111.8 AV			1.53 V	360	112.9	-1.1
3	2483.50	73.8 PK	74.0	-0.2	1.53 V	360	74.8	-1.0
4	2483.50	48.2 AV	54.0	-5.8	1.53 V	360	49.2	-1.0
5	4924.00	48.9 PK	74.0	-25.1	2.03 V	144	45.4	3.5
6	4924.00	46.6 AV	54.0	-7.4	2.03 V	144	43.1	3.5
7	7386.00	38.1 PK	74.0	-35.9	1.80 V	203	28.2	9.9
8	7386.00	30.1 AV	54.0	-23.9	1.80 V	203	20.2	9.9

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) – 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	72.5 PK	74.0	-1.5	1.50 H	215	73.8	-1.3
2	2390.00	48.3 AV	54.0	-5.7	1.50 H	215	49.6	-1.3
3	*2412.00	108.2 PK			1.50 H	215	109.3	-1.1
4	*2412.00	99.0 AV			1.50 H	215	100.1	-1.1
5	4824.00	42.6 PK	74.0	-31.4	2.98 H	124	39.4	3.2
6	4824.00	31.4 AV	54.0	-22.6	2.98 H	124	28.2	3.2
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	2390.00	73.8 PK	74.0	-0.2	1.62 V	360	75.1	-1.3
2	2390.00	49.5 AV	54.0	-4.5	1.62 V	360	50.8	-1.3
3	*2412.00	110.4 PK			1.62 V	360	111.5	-1.1
4	*2412.00	101.8 AV			1.62 V	360	102.9	-1.1
5	4824.00	36.7 PK	74.0	-37.3	1.38 V	234	33.5	3.2
6	4824.00	25.6 AV	54.0	-28.4	1.38 V	234	22.4	3.2

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)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	71.1 PK	74.0	-2.9	1.54 H	228	72.4	-1.3
2	2390.00	52.0 AV	54.0	-2.0	1.54 H	228	53.3	-1.3
3	*2437.00	114.4 PK			1.54 H	228	115.6	-1.2
4	*2437.00	105.2 AV			1.54 H	228	106.4	-1.2
5	2483.50	72.5 PK	74.0	-1.5	1.54 H	228	73.5	-1.0
6	2483.50	52.5 AV	54.0	-1.5	1.54 H	228	53.5	-1.0
7	4874.00	49.6 PK	74.0	-24.4	2.93 H	133	46.3	3.3
8	4874.00	37.7 AV	54.0	-16.3	2.93 H	133	34.4	3.3
9	7311.00	43.0 PK	74.0	-31.0	2.24 H	263	33.2	9.8
10	7311.00	30.9 AV	54.0	-23.1	2.24 H	263	21.1	9.8
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	2390.00	72.3 PK	74.0	-1.7	1.64 V	259	73.6	-1.3
2	2390.00	53.2 AV	54.0	-0.8	1.64 V	259	54.5	-1.3
3	*2437.00	116.6 PK			1.64 V	259	117.8	-1.2
4	*2437.00	108.0 AV			1.64 V	259	109.2	-1.2
5	2483.50	73.8 PK	74.0	-0.2	1.64 V	259	74.8	-1.0
6	2483.50	53.8 AV	54.0	-0.2	1.64 V	259	54.8	-1.0
7	4874.00	43.9 PK	74.0	-30.1	1.37 V	236	40.6	3.3
8	4874.00	32.7 AV	54.0	-21.3	1.37 V	236	29.4	3.3
9	7311.00	44.8 PK	74.0	-29.2	2.06 V	136	35.0	9.8
10	7311.00	32.4 AV	54.0	-21.6	2.06 V	136	22.6	9.8

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) – 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	107.6 PK			1.53 H	226	108.7	-1.1
2	*2462.00	98.0 AV			1.53 H	226	99.1	-1.1
3	2483.50	72.7 PK	74.0	-1.3	1.53 H	226	73.7	-1.0
4	2483.50	47.4 AV	54.0	-6.6	1.53 H	226	48.4	-1.0
5	4924.00	42.3 PK	74.0	-31.7	2.98 H	127	38.8	3.5
6	4924.00	30.9 AV	54.0	-23.1	2.98 H	127	27.4	3.5
7	7386.00	43.1 PK	74.0	-30.9	2.25 H	269	33.2	9.9
8	7386.00	30.8 AV	54.0	-23.2	2.25 H	269	20.9	9.9
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	*2462.00	109.8 PK			1.56 V	359	110.9	-1.1
2	*2462.00	100.8 AV			1.56 V	359	101.9	-1.1
3	2483.50	73.8 PK	74.0	-0.2	1.56 V	359	74.8	-1.0
4	2483.50	48.5 AV	54.0	-5.5	1.56 V	359	49.5	-1.0
5	4924.00	36.8 PK	74.0	-37.2	1.41 V	222	33.3	3.5
6	4924.00	25.6 AV	54.0	-28.4	1.41 V	222	22.1	3.5
7	7386.00	44.6 PK	74.0	-29.4	2.07 V	131	34.7	9.9
8	7386.00	32.0 AV	54.0	-22.0	2.07 V	131	22.1	9.9

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) – 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	72.7 PK	74.0	-1.3	1.47 H	209	74.0	-1.3
2	2390.00	49.6 AV	54.0	-4.4	1.47 H	209	50.9	-1.3
3	*2412.00	108.3 PK			1.47 H	209	109.4	-1.1
4	*2412.00	99.3 AV			1.47 H	209	100.4	-1.1
5	4824.00	42.8 PK	74.0	-31.2	3.03 H	138	39.6	3.2
6	4824.00	31.6 AV	54.0	-22.4	3.03 H	138	28.4	3.2
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	**2390.00**	**73.9 PK**	**74.0**	**-0.1**	**1.51 V**	**359**	**75.2**	**-1.3**
2	2390.00	50.8 AV	54.0	-3.2	1.51 V	359	52.1	-1.3
3	*2412.00	111.1 PK			1.51 V	359	112.2	-1.1
4	*2412.00	101.6 AV			1.51 V	359	102.7	-1.1
5	4824.00	36.3 PK	74.0	-37.7	1.44 V	237	33.1	3.2
6	4824.00	25.2 AV	54.0	-28.8	1.44 V	237	22.0	3.2

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)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	69.4 PK	74.0	-4.6	1.58 H	234	70.7	-1.3
2	2390.00	52.6 AV	54.0	-1.4	1.58 H	234	53.9	-1.3
3	*2437.00	114.0 PK			1.58 H	234	115.2	-1.2
4	*2437.00	104.6 AV			1.58 H	234	105.8	-1.2
5	2483.50	70.5 PK	74.0	-3.5	1.58 H	234	71.5	-1.0
6	2483.50	52.3 AV	54.0	-1.7	1.58 H	234	53.3	-1.0
7	4874.00	49.5 PK	74.0	-24.5	2.99 H	118	46.2	3.3
8	4874.00	37.4 AV	54.0	-16.6	2.99 H	118	34.1	3.3
9	7311.00	43.0 PK	74.0	-31.0	2.21 H	261	33.2	9.8
10	7311.00	31.1 AV	54.0	-22.9	2.21 H	261	21.3	9.8
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	2390.00	70.6 PK	74.0	-3.4	1.72 V	360	71.9	-1.3
2	2390.00	53.8 AV	54.0	-0.2	1.72 V	360	55.1	-1.3
3	*2437.00	117.5 PK			1.72 V	360	118.7	-1.2
4	*2437.00	107.3 AV			1.72 V	360	108.5	-1.2
5	2483.50	71.7 PK	74.0	-2.3	1.72 V	360	72.7	-1.0
6	2483.50	53.5 AV	54.0	-0.5	1.72 V	360	54.5	-1.0
7	4874.00	43.7 PK	74.0	-30.3	1.37 V	222	40.4	3.3
8	4874.00	32.5 AV	54.0	-21.5	1.37 V	222	29.2	3.3
9	7311.00	45.4 PK	74.0	-28.6	2.02 V	122	35.6	9.8
10	7311.00	32.8 AV	54.0	-21.2	2.02 V	122	23.0	9.8

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) – 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	109.1 PK			1.60 H	234	110.2	-1.1
2	*2462.00	99.8 AV			1.60 H	234	100.9	-1.1
3	2483.50	72.5 PK	74.0	-1.5	1.60 H	234	73.5	-1.0
4	2483.50	51.5 AV	54.0	-2.5	1.60 H	234	52.5	-1.0
5	4924.00	42.6 PK	74.0	-31.4	2.99 H	120	39.1	3.5
6	4924.00	31.0 AV	54.0	-23.0	2.99 H	120	27.5	3.5
7	7386.00	42.5 PK	74.0	-31.5	2.28 H	273	32.6	9.9
8	7386.00	30.4 AV	54.0	-23.6	2.28 H	273	20.5	9.9
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	*2462.00	112.5 PK			1.52 V	359	113.6	-1.1
2	*2462.00	102.5 AV			1.52 V	359	103.6	-1.1
3	2483.50	73.7 PK	74.0	-0.3	1.52 V	359	74.7	-1.0
4	2483.50	51.8 AV	54.0	-2.2	1.52 V	359	52.8	-1.0
5	4924.00	36.8 PK	74.0	-37.2	1.38 V	221	33.3	3.5
6	4924.00	25.7 AV	54.0	-28.3	1.38 V	221	22.2	3.5
7	7386.00	44.7 PK	74.0	-29.3	2.05 V	124	34.8	9.9
8	7386.00	32.2 AV	54.0	-21.8	2.05 V	124	22.3	9.9

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) – 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	72.6 PK	74.0	-1.4	1.64 H	228	73.9	-1.3
2	2390.00	50.0 AV	54.0	-4.0	1.64 H	228	51.3	-1.3
3	*2422.00	105.0 PK			1.64 H	228	106.3	-1.3
4	*2422.00	95.3 AV			1.64 H	228	96.6	-1.3
5	4844.00	43.1 PK	74.0	-30.9	3.01 H	132	39.8	3.3
6	4844.00	31.3 AV	54.0	-22.7	3.01 H	132	28.0	3.3
7	7266.00	42.6 PK	74.0	-31.4	2.32 H	273	32.8	9.8
8	7266.00	30.6 AV	54.0	-23.4	2.32 H	273	20.8	9.8
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	2390.00	73.8 PK	74.0	-0.2	1.65 V	360	75.1	-1.3
2	2390.00	51.2 AV	54.0	-2.8	1.65 V	360	52.5	-1.3
3	*2422.00	107.6 PK			1.65 V	360	108.9	-1.3
4	*2422.00	98.0 AV			1.65 V	360	99.3	-1.3
5	4844.00	36.4 PK	74.0	-37.6	1.43 V	210	33.1	3.3
6	4844.00	25.5 AV	54.0	-28.5	1.43 V	210	22.2	3.3
7	7266.00	45.0 PK	74.0	-29.0	2.03 V	113	35.2	9.8
8	7266.00	32.6 AV	54.0	-21.4	2.03 V	113	22.8	9.8

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) – 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)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

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	66.8 PK	74.0	-7.2	1.64 H	222	67.8	-1.0
2	2390.00	51.3 AV	54.0	-2.7	1.64 H	222	52.3	-1.0
3	*2437.00	110.7 PK			1.64 H	222	112.1	-1.4
4	*2437.00	101.1 AV			1.64 H	222	102.5	-1.4
5	2483.50	68.3 PK	74.0	-5.7	1.64 H	222	69.5	-1.2
6	2483.50	52.7 AV	54.0	-1.3	1.64 H	222	53.9	-1.2
7	4874.00	42.2 PK	74.0	-31.8	3.03 H	132	38.9	3.3
8	4874.00	30.5 AV	54.0	-23.5	3.03 H	132	27.2	3.3
9	7311.00	42.6 PK	74.0	-31.4	2.23 H	270	32.6	10.0
10	7311.00	30.5 AV	54.0	-23.5	2.23 H	270	20.5	10.0
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	67.9 PK	74.0	-6.1	1.55 V	352	68.9	-1.0
2	**2390.00**	**53.9 AV**	**54.0**	**-0.1**	**1.55 V**	**352**	**54.9**	**-1.0**
3	*2437.00	112.2 PK			1.31 V	10	113.6	-1.4
4	*2437.00	102.1 AV			1.31 V	10	103.5	-1.4
5	2483.50	57.8 PK	74.0	-16.2	1.55 V	352	59.0	-1.2
6	2483.50	53.8 AV	54.0	-0.2	1.55 V	352	55.0	-1.2
7	4874.00	36.1 PK	74.0	-37.9	1.35 V	234	32.8	3.3
8	4874.00	25.3 AV	54.0	-28.7	1.35 V	234	22.0	3.3
9	7311.00	44.3 PK	74.0	-29.7	2.03 V	139	34.3	10.0
10	7311.00	32.0 AV	54.0	-22.0	2.03 V	139	22.0	10.0

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) – 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	107.6 PK			1.61 H	232	108.7	-1.1
2	*2452.00	97.9 AV			1.61 H	232	99.0	-1.1
3	2483.50	72.6 PK	74.0	-1.4	1.61 H	232	73.6	-1.0
4	2483.50	51.5 AV	54.0	-2.5	1.61 H	232	52.5	-1.0
5	4904.00	42.7 PK	74.0	-31.3	2.97 H	122	39.2	3.5
6	4904.00	30.9 AV	54.0	-23.1	2.97 H	122	27.4	3.5
7	7356.00	42.3 PK	74.0	-31.7	2.27 H	258	32.4	9.9
8	7356.00	30.5 AV	54.0	-23.5	2.27 H	258	20.6	9.9
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	*2452.00	111.4 PK			1.69 V	358	112.5	-1.1
2	*2452.00	100.6 AV			1.69 V	358	101.7	-1.1
3	2483.50	73.8 PK	74.0	-0.2	1.69 V	358	74.8	-1.0
4	2483.50	52.7 AV	54.0	-1.3	1.69 V	358	53.7	-1.0
5	4904.00	36.3 PK	74.0	-37.7	1.42 V	215	32.8	3.5
6	4904.00	25.4 AV	54.0	-28.6	1.42 V	215	21.9	3.5
7	7356.00	44.9 PK	74.0	-29.1	2.00 V	110	35.0	9.9
8	7356.00	32.7 AV	54.0	-21.3	2.00 V	110	22.8	9.9

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) – 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 Data:

802.11b

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 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	34.37	36.1 QP	40.0	-3.9	3.00 H	262	44.7	-8.6
2	108.84	26.0 QP	43.5	-17.5	1.50 H	264	36.9	-10.9
3	143.27	25.8 QP	43.5	-17.7	2.00 H	61	33.8	-8.0
4	250.00	24.0 QP	46.0	-22.0	1.50 H	120	33.3	-9.3
5	640.01	31.2 QP	46.0	-14.8	1.50 H	360	30.8	0.4
6	937.70	32.9 QP	46.0	-13.1	1.00 H	68	28.3	4.6
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	58.78	29.2 QP	40.0	-10.8	2.00 V	15	37.6	-8.4
2	81.17	29.0 QP	40.0	-11.0	1.00 V	329	41.9	-12.9
3	143.30	28.4 QP	43.5	-15.1	1.00 V	340	36.4	-8.0
4	640.01	33.0 QP	46.0	-13.0	1.00 V	313	32.6	0.4
5	779.40	31.3 QP	46.0	-14.7	1.00 V	172	28.8	2.5
6	909.62	33.9 QP	46.0	-12.1	1.00 V	360	29.7	4.2

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.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver R&S	ESCS 30	847124/029	Nov. 01, 2017	Oct. 31, 2018
Line-Impedance Stabilization Network (for EUT) R&S	ESH3-Z5	848773/004	Nov. 15, 20167	Nov. 14, 2018
Line-Impedance Stabilization Network (for Peripheral) R&S	ENV216	100072	June 03, 2017	June 02, 2018
50 ohms Terminator	N/A	EMC-02	Sep. 22, 2017	Sep. 21, 2018
RF Cable	5D-FB	COCCAB-001	Sep. 29, 2017	Sep. 28, 2018
10 dB PAD Mini-Circuits	HAT-10+	CONATT-004	June 18, 2017	June 17, 2018
Software BVADT	BVADT_Cond_ V7.3.7.4	NA	NA	NA

Note:
1. The calibration interval of the above test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Shielded Room No. 1.
3 Tested Date: Nov. 25, 2017

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.

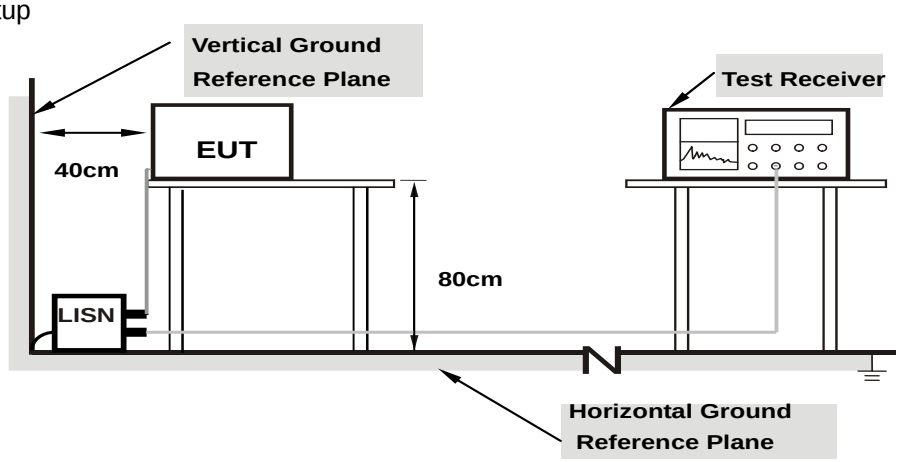
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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.

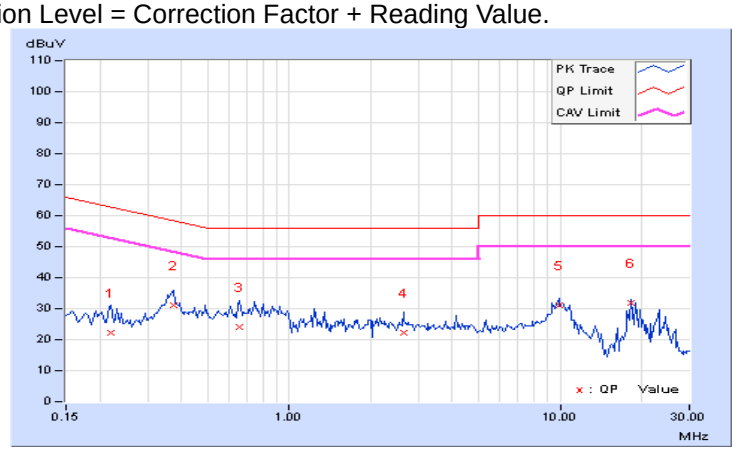
4.2.7 Test Results

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	0.22031	0.15	22.25	13.17	22.40	13.32	62.81	52.81	-40.41	-39.49
2	**0.37266**	**0.18**	**30.96**	**23.67**	**31.14**	**23.85**	**58.44**	**48.44**	**-27.30**	**-24.59**
3	0.65391	0.21	23.68	16.49	23.89	16.70	56.00	46.00	-32.11	-29.30
4	2.64063	0.29	22.00	11.74	22.29	12.03	56.00	46.00	-33.71	-33.97
5	9.93750	0.84	30.22	18.14	31.06	18.98	60.00	50.00	-28.94	-31.02
6	18.30469	1.49	30.39	21.85	31.88	23.34	60.00	50.00	-28.12	-26.66

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.

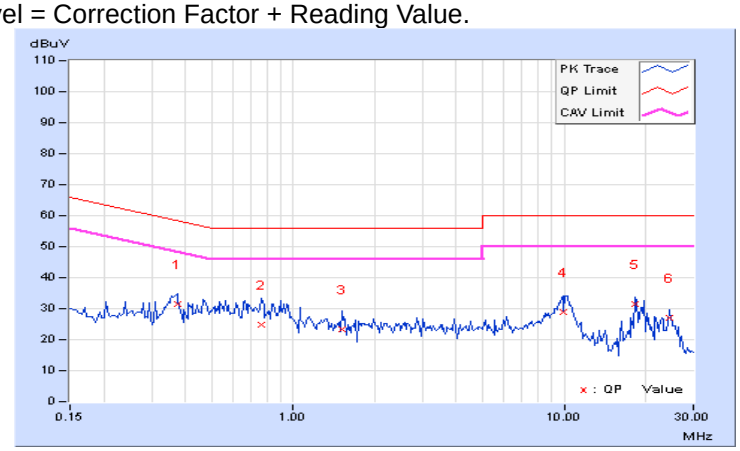


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

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	0.37266	0.18	31.12	20.19	31.30	20.37	58.44	48.44	-27.14	-28.07
2	0.76719	0.20	24.48	12.14	24.68	12.34	56.00	46.00	-31.32	-33.66
3	1.51953	0.24	23.04	10.91	23.28	11.15	56.00	46.00	-32.72	-34.85
4	9.97266	0.76	28.07	14.53	28.83	15.29	60.00	50.00	-31.17	-34.71
5	18.30469	1.23	30.31	21.59	31.54	22.82	60.00	50.00	-28.46	-27.18
6	24.35156	1.31	25.83	20.80	27.14	22.11	60.00	50.00	-32.86	-27.89

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.

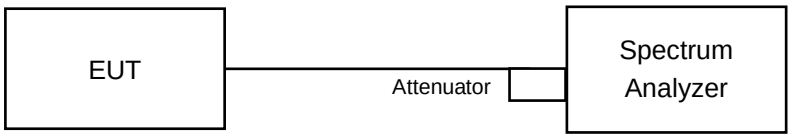


4.3 6dB Bandwidth Measurement

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 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		
1	2412	9.17	10.03	0.5	Pass
6	2437	9.63	10.09	0.5	Pass
11	2462	9.63	9.63	0.5	Pass

802.11g

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	16.40	16.41	0.5	Pass
6	2437	16.38	16.37	0.5	Pass
11	2462	16.37	16.38	0.5	Pass

802.11n (HT20)

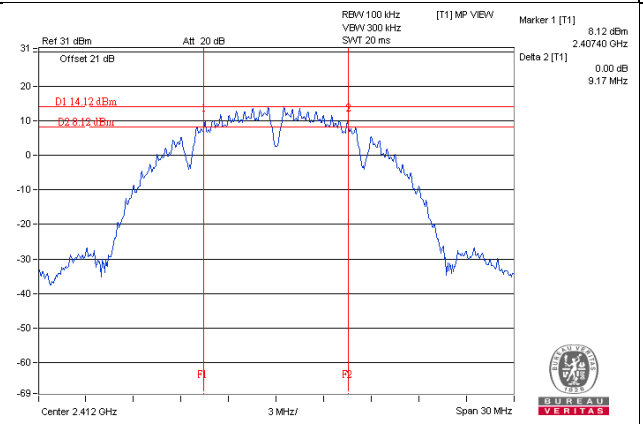
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	17.13	17.14	0.5	Pass
6	2437	16.79	17.00	0.5	Pass
11	2462	17.03	17.14	0.5	Pass

802.11n (HT40)

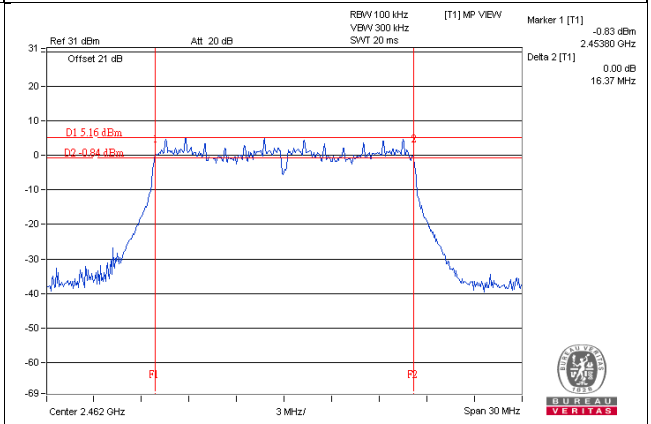
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
3	2422	36.02	35.74	0.5	Pass
6	2437	35.91	35.66	0.5	Pass
9	2452	36.08	35.70	0.5	Pass

Spectrum Plot of Worst Value

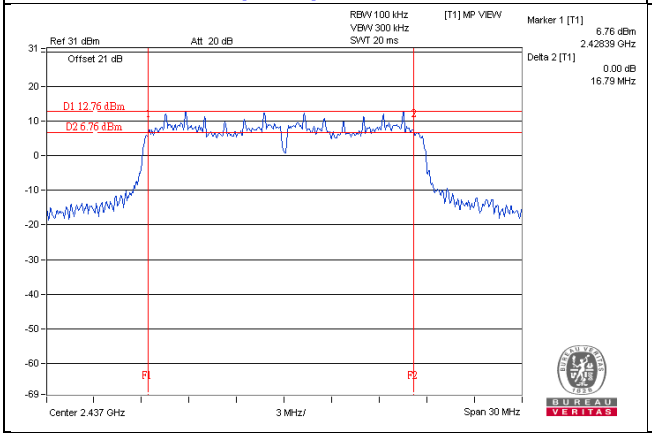
802.11b / Chain 0 : CH1



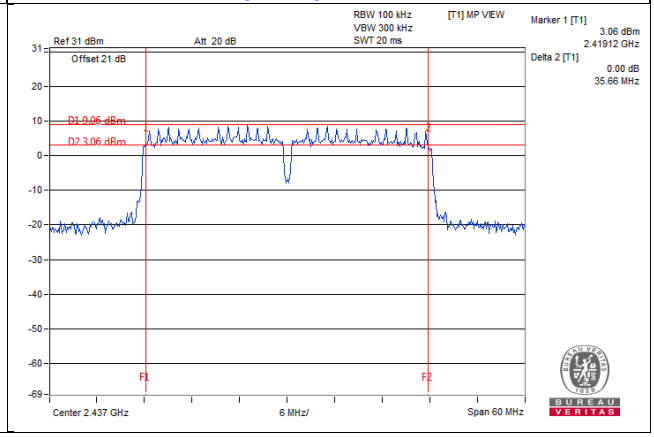
802.11g / Chain 0 : CH11



802.11n (HT20) / Chain 0 : CH6

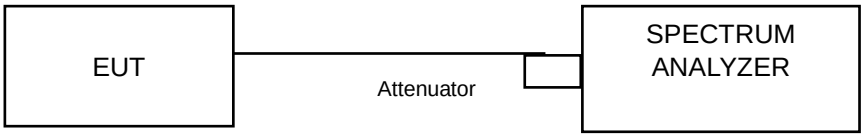


802.11n (HT40) / Chain 1 : CH6



4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with resolution bandwidth in the range of 1% to 5% of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth and set the detector to sampling. The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 %of the total mean power of a given emission.

4.4.4 Deviation from Test Standard

No deviation.

4.4.5 EUT Operating Conditions

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

4.4.6 Test Results

802.11b

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
1	2412	15.00	15.00
6	2437	15.12	15.12
11	2462	14.88	14.88

802.11g

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
1	2412	16.80	16.68
6	2437	17.04	17.16
11	2462	16.68	16.56

802.11n (HT20)

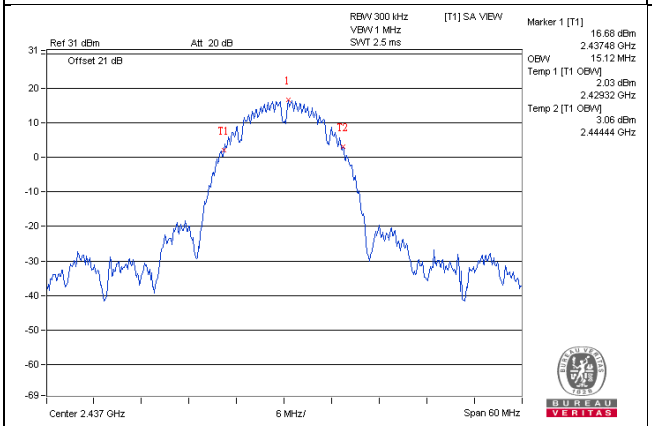
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
1	2412	17.64	17.64
6	2437	18.12	18.48
11	2462	17.64	17.64

802.11n (HT40)

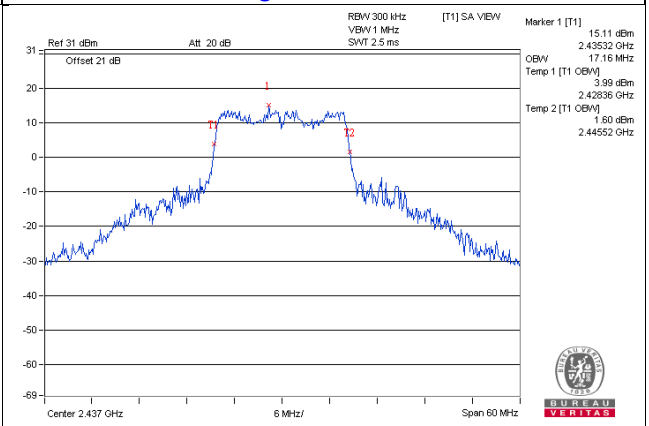
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
3	2422	36.24	36.24
6	2437	36.24	36.72
9	2452	36.24	36.24

Spectrum Plot of Worst Value

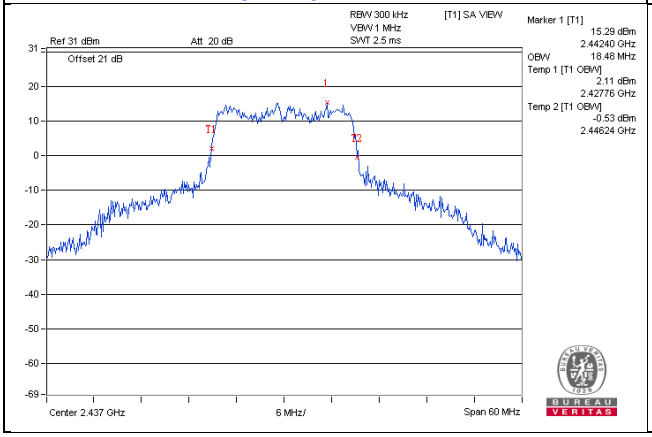
802.11b / Chain 1 : CH6



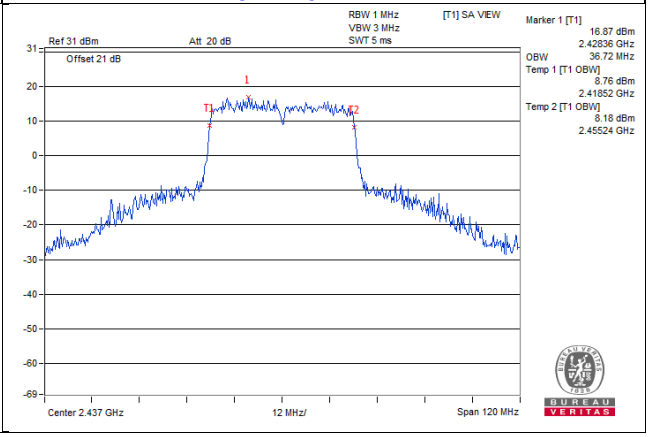
802.11g / Chain 1 : CH6



802.11n (HT20) / Chain 1 : CH6



802.11n (HT40) / Chain 1 : CH6



4.5 Conducted Output Power Measurement

4.5.1 Limits of Conducted Output Power Measurement

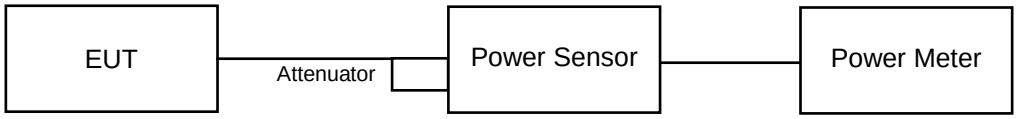
For systems using digital modulation in the 2400–2483.5 MHz bands: 1 Watt (30dBm)

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.

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test 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.

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

Same as Item 4.3.6.

4.5.7 Test Results

802.11b

Chan.	Frequency (MHz)	Avg. Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass/Fail
		Chain 0	Chain 1				
1	2412	23.45	23.73	457.357	26.60	30.00	Pass
6	2437	25.60	25.82	745.022	28.72	30.00	Pass
11	2462	23.65	23.21	441.15	26.45	30.00	Pass

802.11g

Chan.	Frequency (MHz)	Avg. Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass/Fail
		Chain 0	Chain 1				
1	2412	17.87	18.03	124.768	20.96	30.00	Pass
6	2437	23.09	22.86	396.901	25.99	30.00	Pass
11	2462	16.05	16.08	80.823	19.08	30.00	Pass

802.11n (HT20)

Chan.	Frequency (MHz)	Avg. Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass/Fail
		Chain 0	Chain 1				
1	2412	17.82	17.98	123.34	20.91	30.00	Pass
6	2437	23.72	23.36	452.275	26.55	30.00	Pass
11	2462	17.95	17.84	123.187	20.91	30.00	Pass

802.11n (HT40)

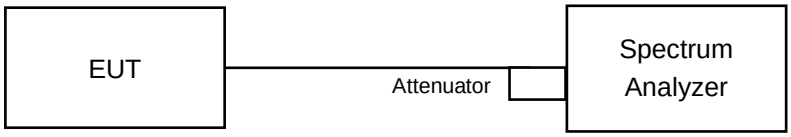
Chan.	Frequency (MHz)	Avg. Power (dBm)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass/Fail
		Chain 0	Chain 1				
3	2422	16.68	17.33	100.634	20.03	30.00	Pass
6	2437	22.01	22.13	322.16	25.08	30.00	Pass
9	2452	17.23	17.98	115.651	20.63	30.00	Pass

4.6 Power Spectral Density Measurement

4.6.1 Limits of Power Spectral Density Measurement

The Maximum of Power Spectral Density Measurement is 8dBm in any 3 kHz.

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

802.11b

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.

802.11g, 802.11n (HT20), 802.11n (HT40)

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.

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

Same as Item 4.3.6

4.6.7 Test Results

802.11b

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	1	2412	-7.97	3.01	-4.96	8.00	Pass
	6	2437	-6.34	3.01	-3.33	8.00	Pass
	11	2462	-8.58	3.01	-5.57	8.00	Pass
1	1	2412	-7.08	3.01	-4.07	8.00	Pass
	6	2437	-6.78	3.01	-3.77	8.00	Pass
	11	2462	-7.98	3.01	-4.97	8.00	Pass

Note: 1. Directional gain = 10 log[$(10^{G0/20} + 10^{G1/20})^2$ / 2] = 5.67dBi < 6dBi , so the power density limit shall be not reduced.

802.11g

TX chain	Channel	Freq. (MHz)	PSD W/O Duty Factor (dBm/3kHz)	10 log (N=2) dB	Duty Factor (dB)	TOTAL PSD With Duty Factor (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	1	2412	-13.69	3.01	0.21	-10.47	8.00	Pass
	6	2437	-9.03	3.01	0.21	-5.81	8.00	Pass
	11	2462	-15.13	3.01	0.21	-11.91	8.00	Pass
1	1	2412	-14.73	3.01	0.21	-11.51	8.00	Pass
	6	2437	-9.65	3.01	0.21	-6.43	8.00	Pass
	11	2462	-15.97	3.01	0.21	-12.75	8.00	Pass

Note: 1. Directional gain = 10 log[$(10^{G0/20} + 10^{G1/20})^2$ / 2] = 5.67dBi < 6dBi , so the power density limit shall be not reduced.

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

802.11n (HT20)

TX chain	Channel	Freq. (MHz)	PSD W/O Duty Factor (dBm/3kHz)	10 log (N=2) dB	Duty Factor (dB)	TOTAL PSD With Duty Factor (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	1	2412	-13.16	3.01	0.54	-9.61	8.00	Pass
	6	2437	-10.00	3.01	0.54	-6.45	8.00	Pass
	11	2462	-14.88	3.01	0.54	-11.33	8.00	Pass
1	1	2412	-15.42	3.01	0.54	-11.87	8.00	Pass
	6	2437	-8.29	3.01	0.54	-4.74	8.00	Pass
	11	2462	-15.72	3.01	0.54	-12.17	8.00	Pass

Note: 1. Directional gain = 10 log[$(10^{G0/20} + 10^{G1/20})^2$ / 2] = 5.67dBi < 6dBi , so the power density limit shall be not reduced.

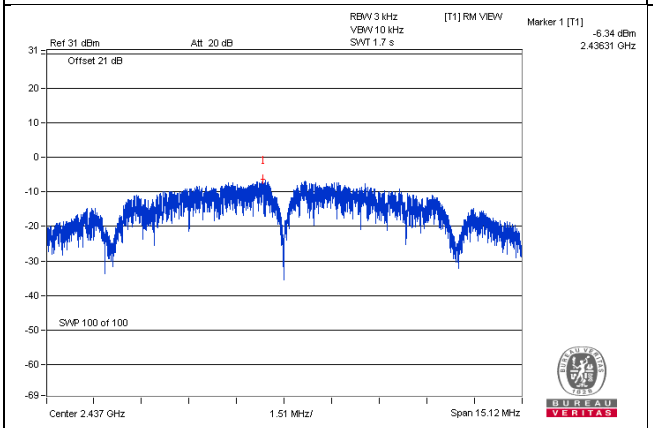
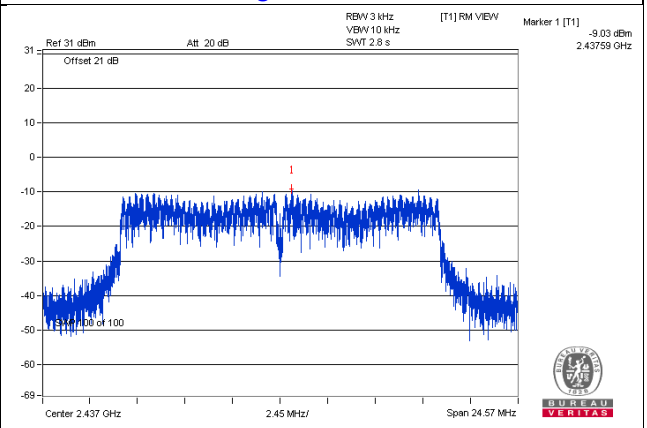
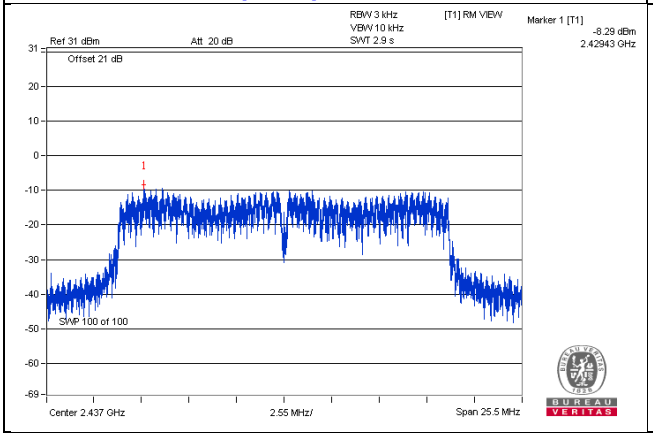
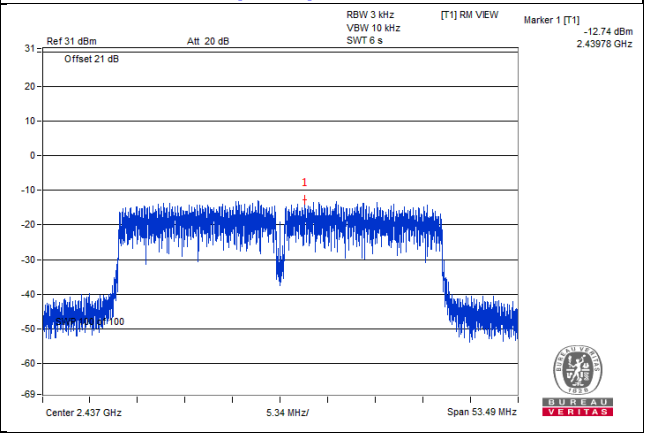
2. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

TX chain	Channel	Freq. (MHz)	PSD W/O Duty Factor (dBm/3kHz)	10 log (N=2) dB	Duty Factor (dB)	TOTAL PSD With Duty Factor (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	3	2422	-18.48	3.01	0.33	-15.14	8.00	Pass
	6	2437	-12.84	3.01	0.33	-9.50	8.00	Pass
	9	2452	-18.24	3.01	0.33	-14.90	8.00	Pass
1	3	2422	-18.05	3.01	0.33	-14.71	8.00	Pass
	6	2437	-12.74	3.01	0.33	-9.40	8.00	Pass
	9	2452	-17.24	3.01	0.33	-13.90	8.00	Pass

Note: 1. Directional gain = 10 log[$(10^{G0/20} + 10^{G1/20})^2$ / 2] = 5.67dBi < 6dBi , so the power density limit shall be not reduced.

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

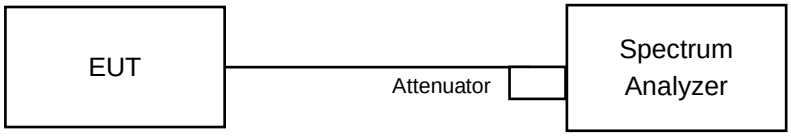
Spectrum Plot of Worst Value	
802.11b / Chain 0 : CH6	**802.11g / Chain 0 : CH6**
	
802.11n (HT20) / Chain 1 : CH6	**802.11n (HT40) / Chain 1 : CH6**
	

4.7 Conducted Out of Band Emission Measurement

4.7.1 Limits of Conducted Out of Band Emission Measurement

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

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 Test Procedure

MEASUREMENT PROCEDURE REF

1. Set the RBW = 100 kHz.
2. Set the VBW ≥ 300 kHz.
3. Detector = peak.
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.

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

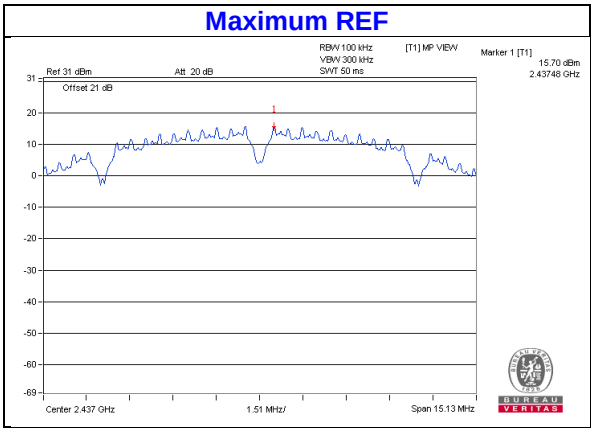
Same as Item 4.3.6

4.7.7 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.

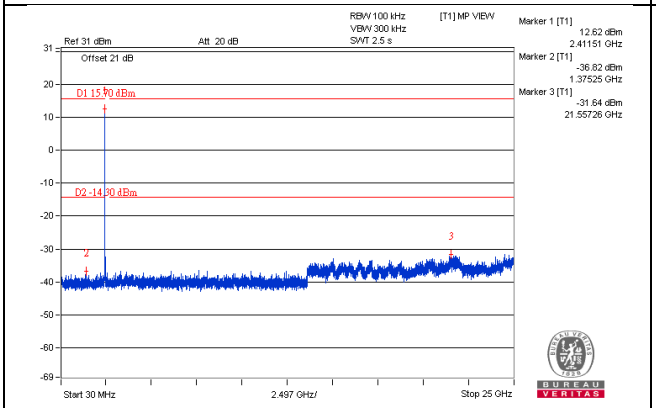
802.11b

Maximum REF

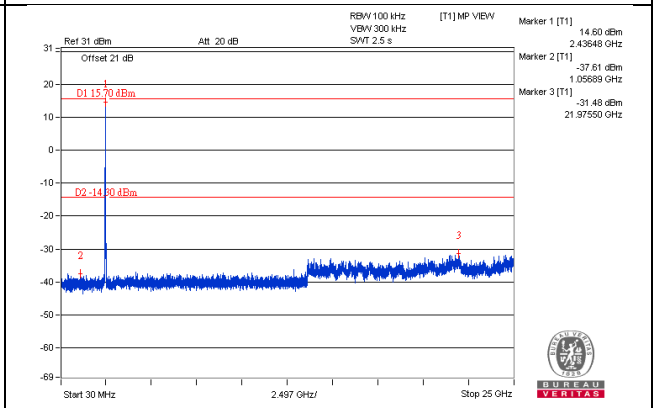


Chain 0

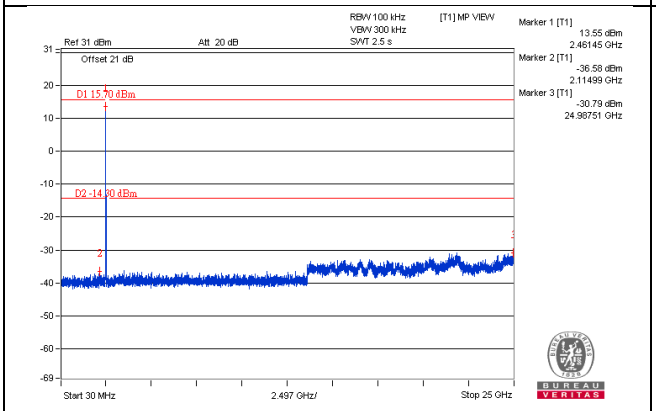
CH 1



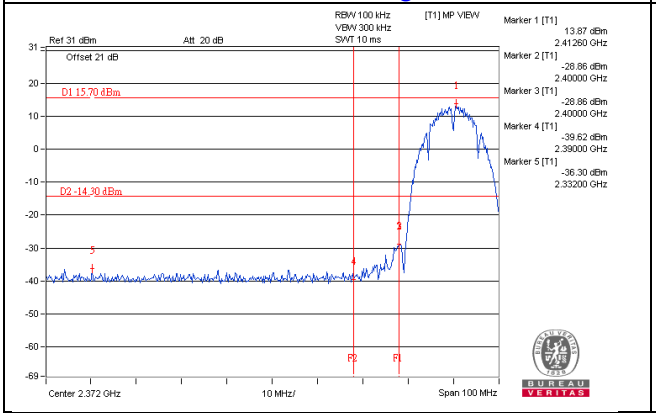
CH 6



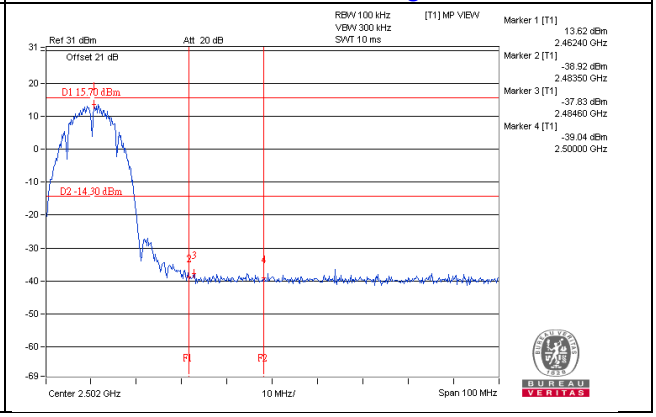
CH 11



CH 1 Band edge

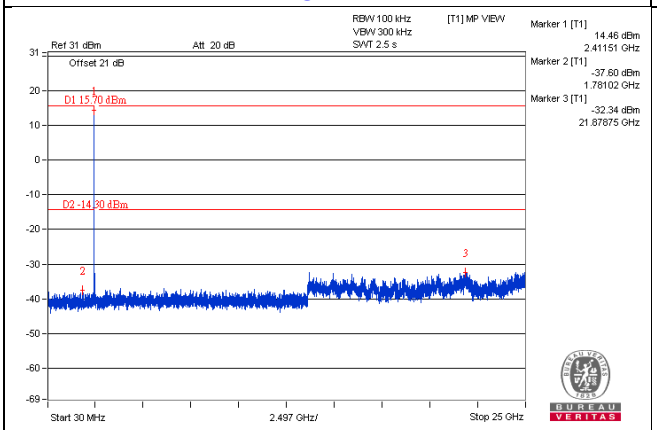


CH 11 Band edge

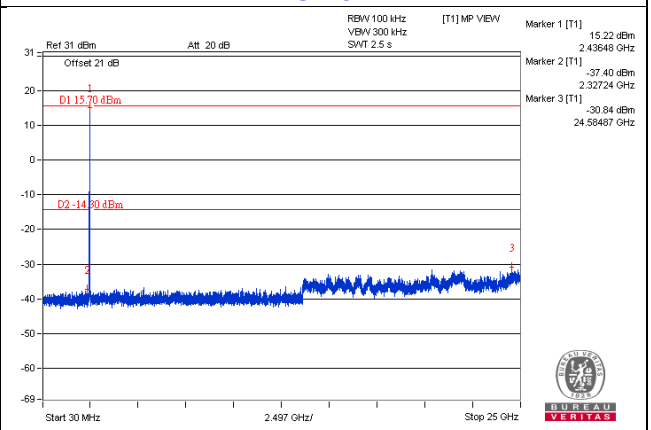


Chain 1

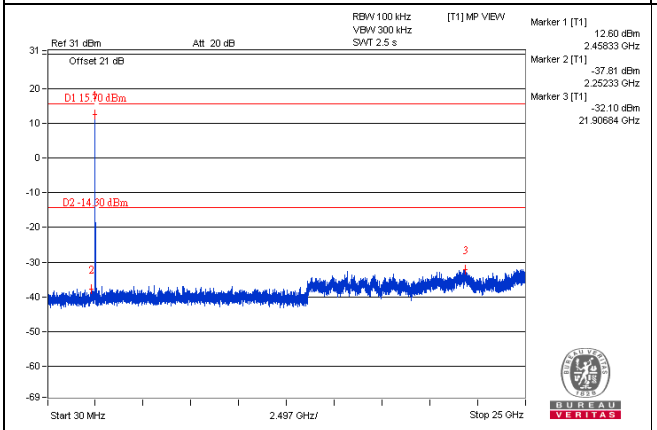
CH 1



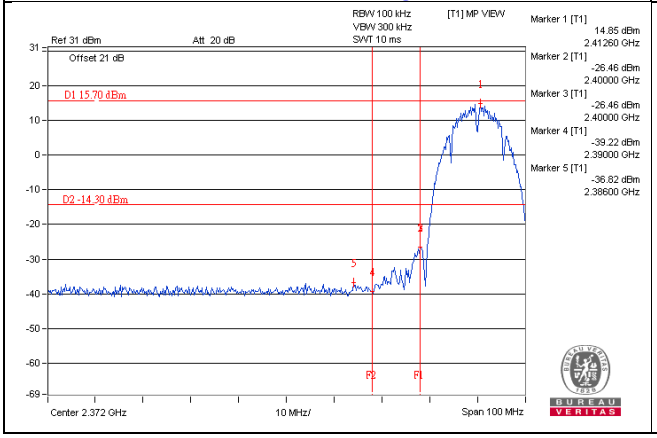
CH 6



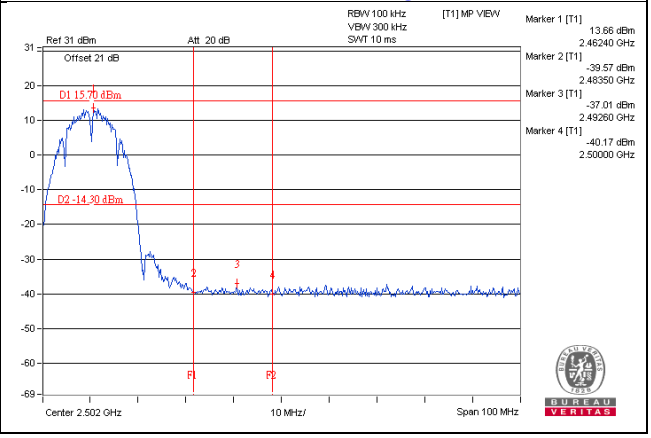
CH 11



CH 1 Band edge

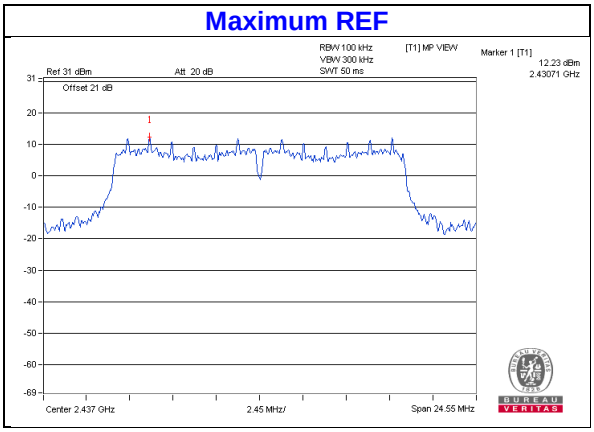


CH 11 Band edge



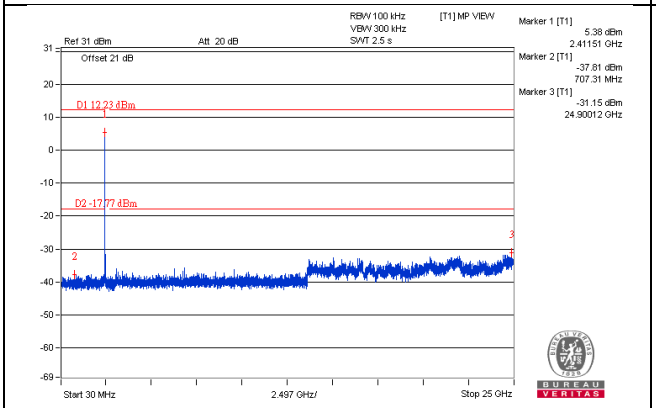
802.11g

Maximum REF

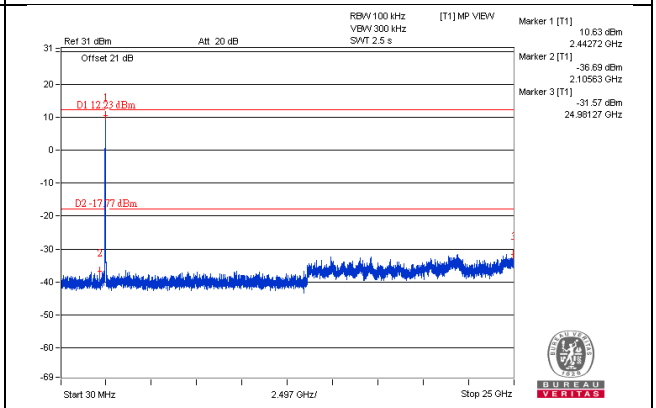


Chain 0

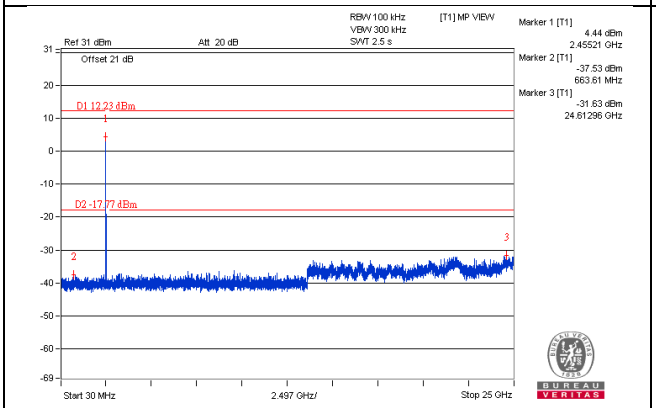
CH 1



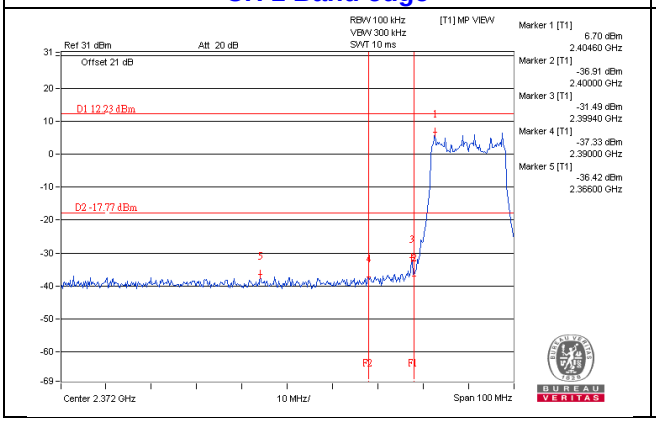
CH 6



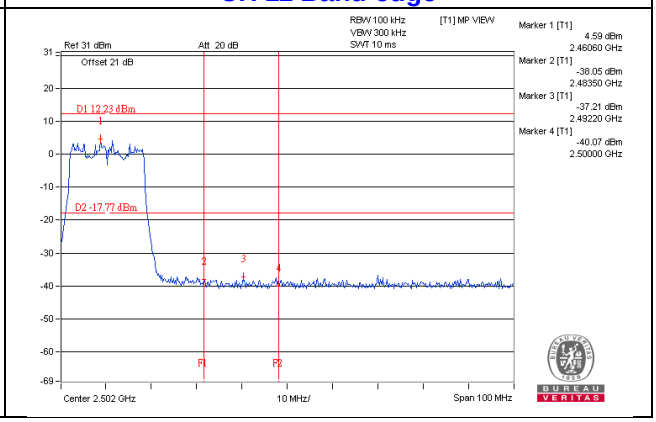
CH 11



CH 1 Band edge

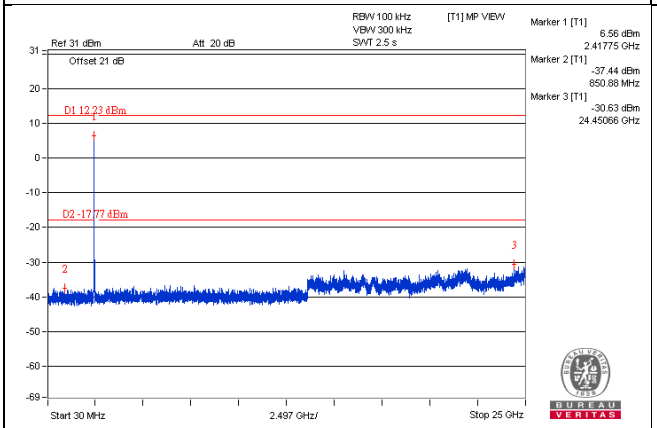


CH 11 Band edge

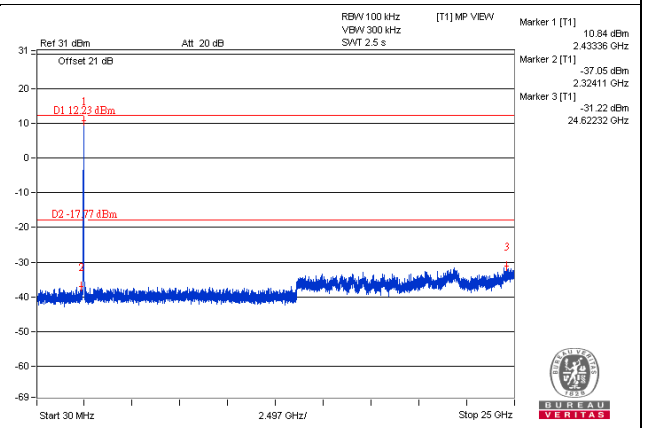


Chain 1

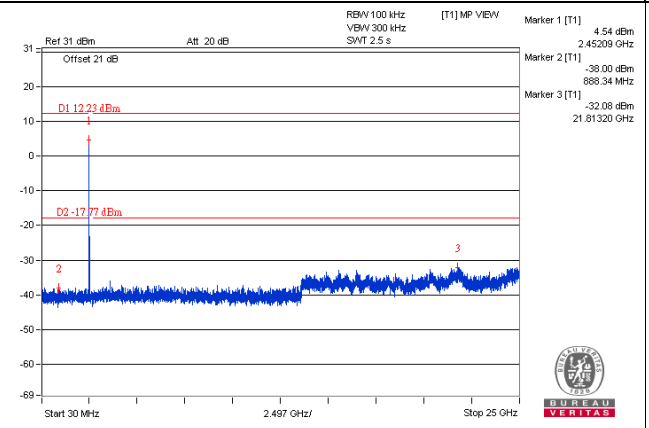
CH 1



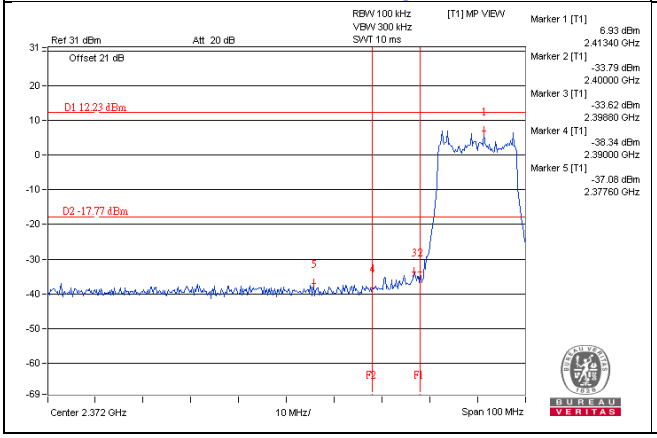
CH 6



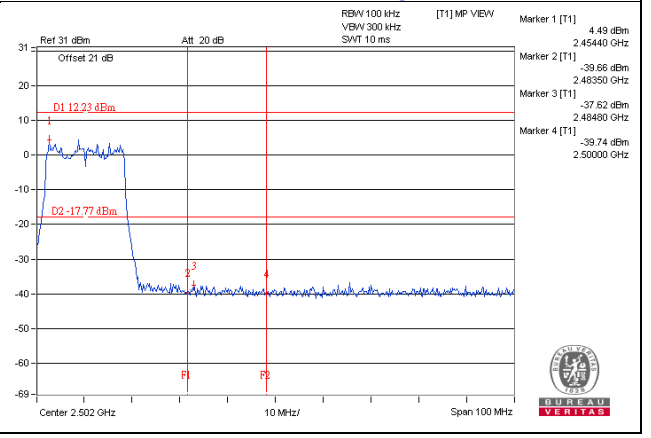
CH 11



CH 1 Band edge

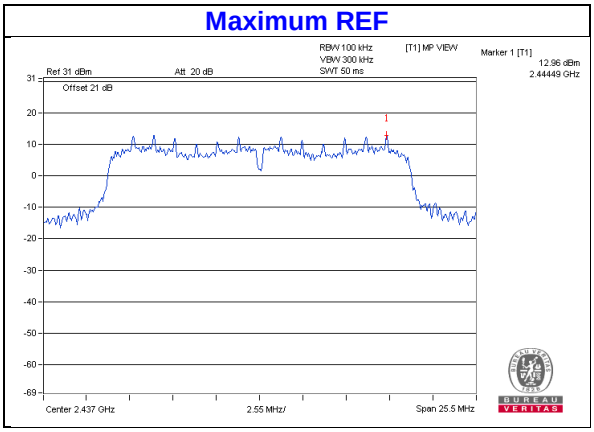


CH 11 Band edge



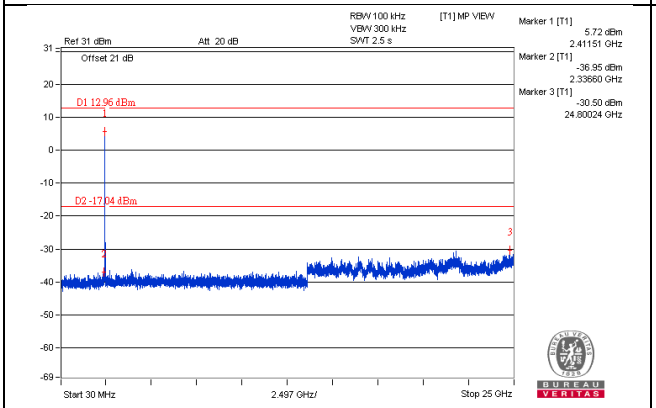
802.11n (HT20)

Maximum REF

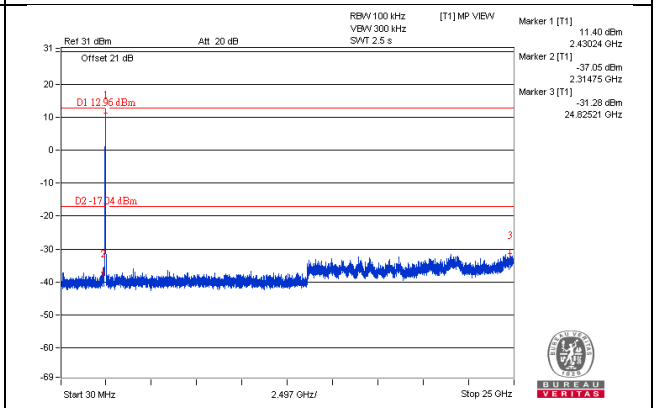


Chain 0

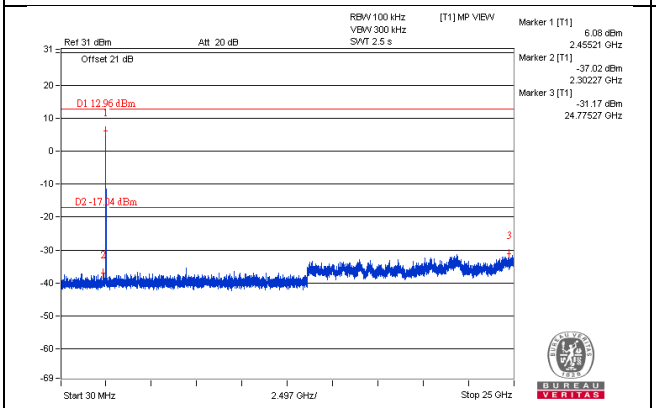
CH 1



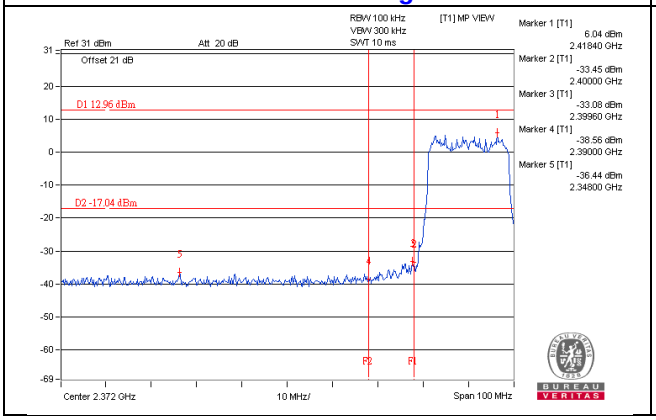
CH 6



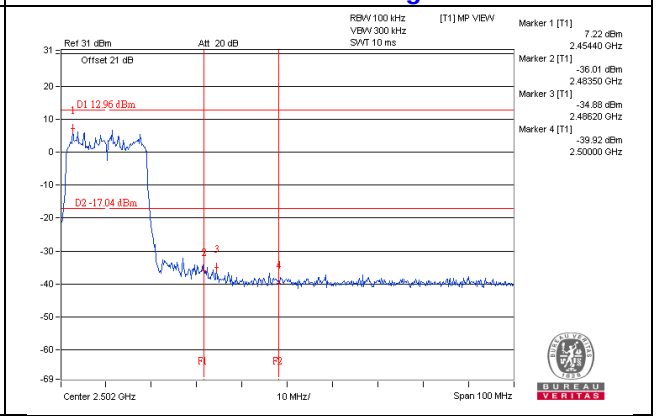
CH 11



CH 1 Band edge

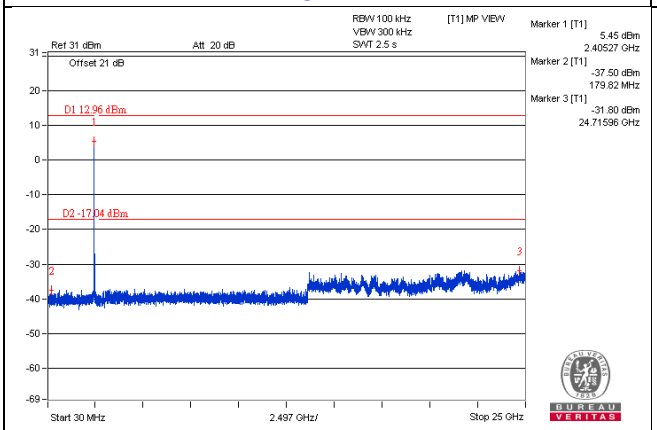


CH 11 Band edge

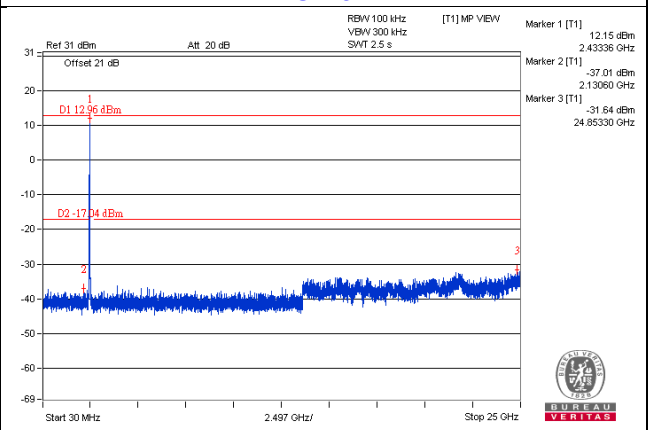


Chain 1

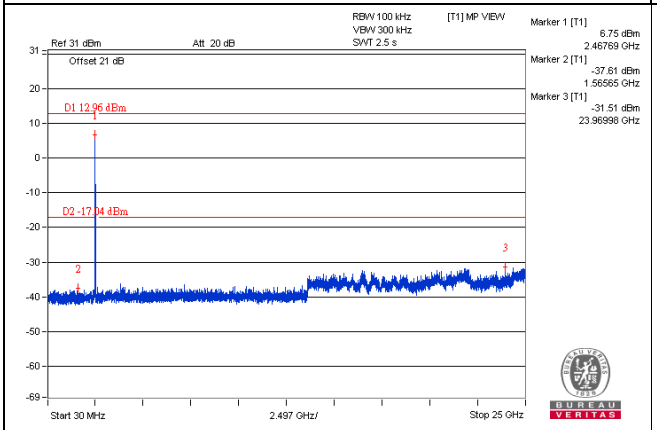
CH 1



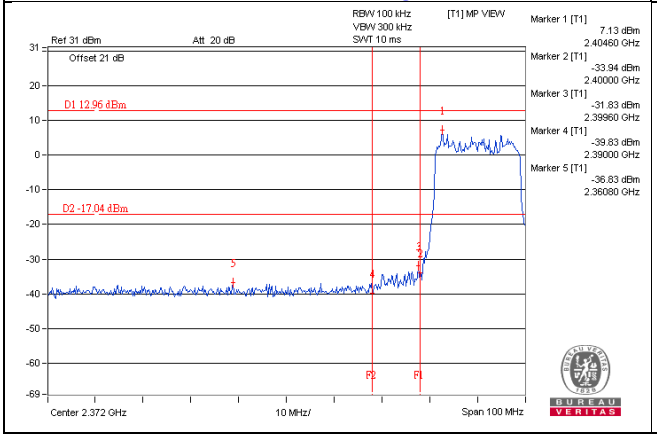
CH 6



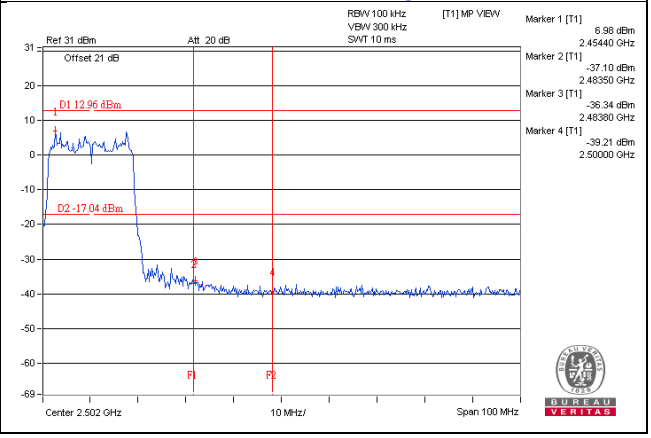
CH 11



CH 1 Band edge

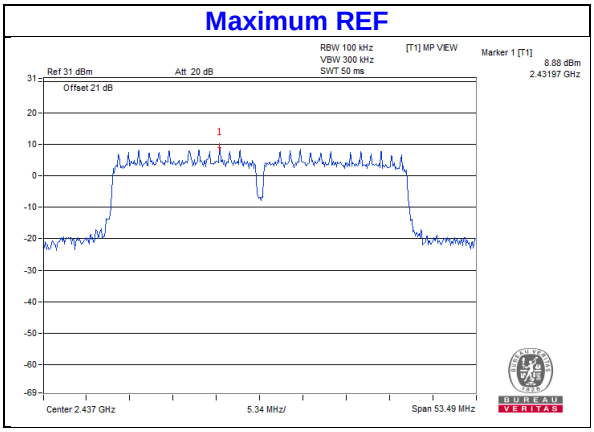


CH 11 Band edge



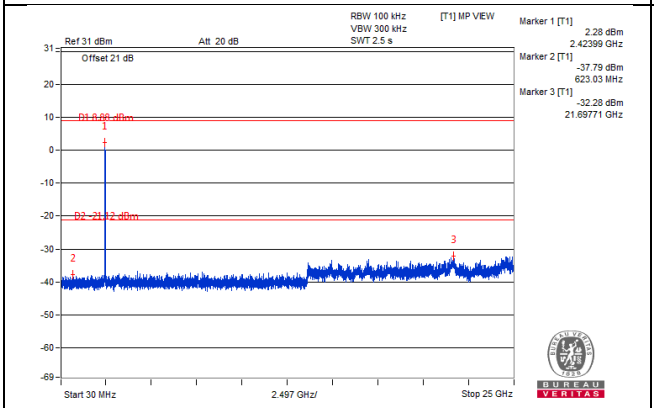
802.11n (HT40)

Maximum REF

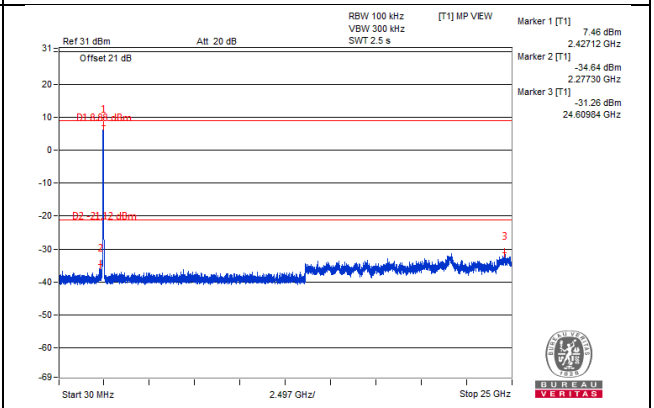


Chain 0

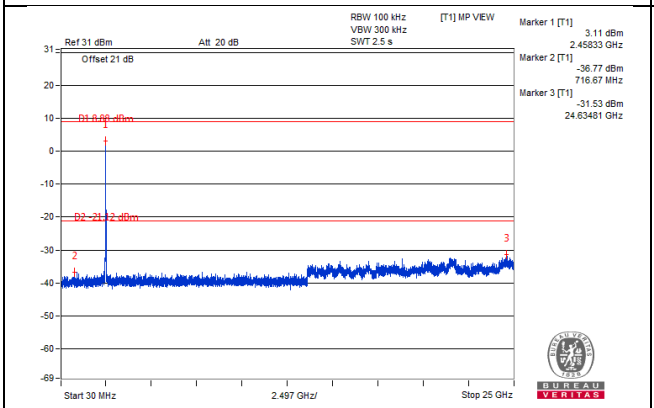
CH 3



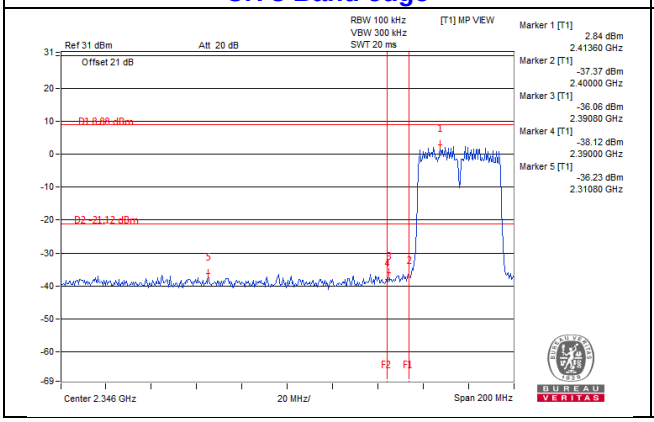
CH 6



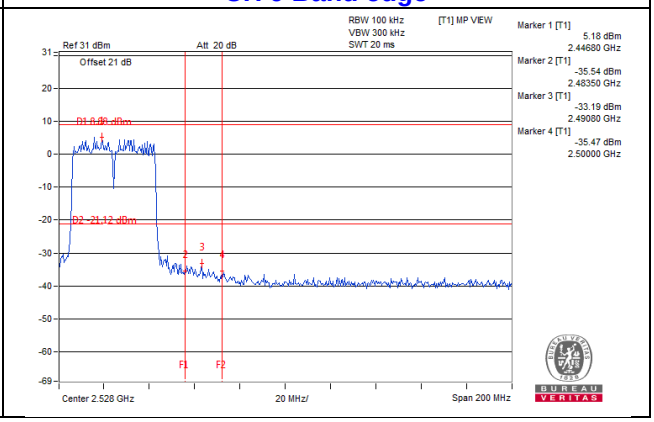
CH 9



CH 3 Band edge

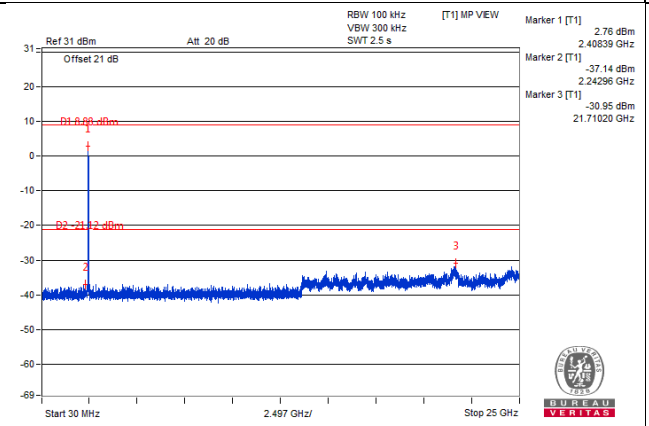


CH 9 Band edge

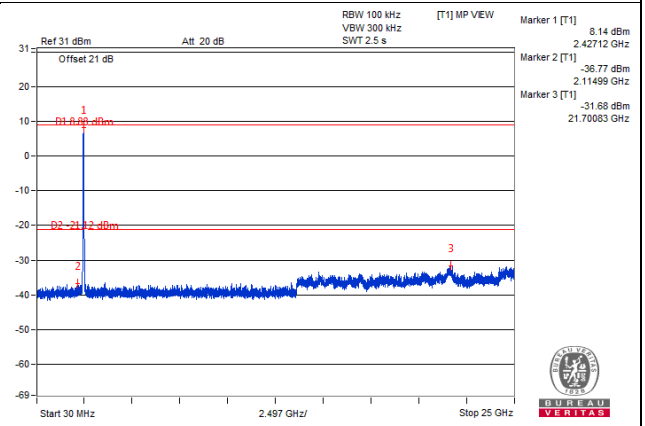


Chain 1

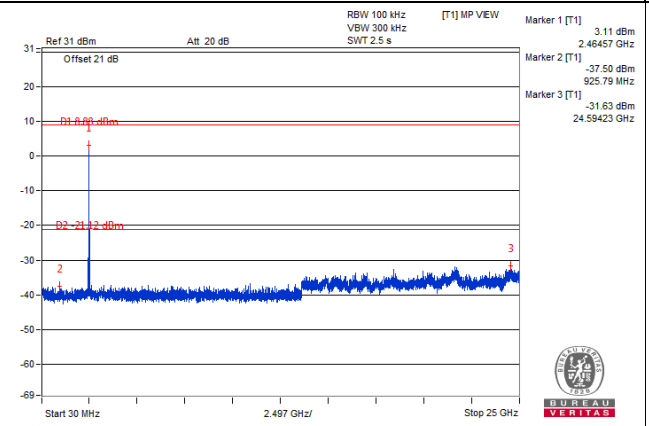
CH 3



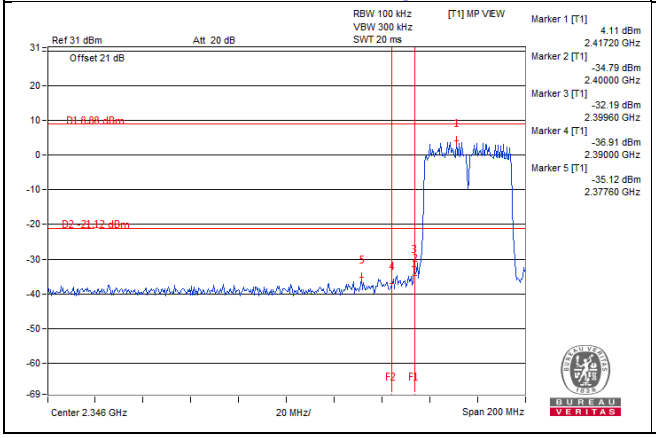
CH 6



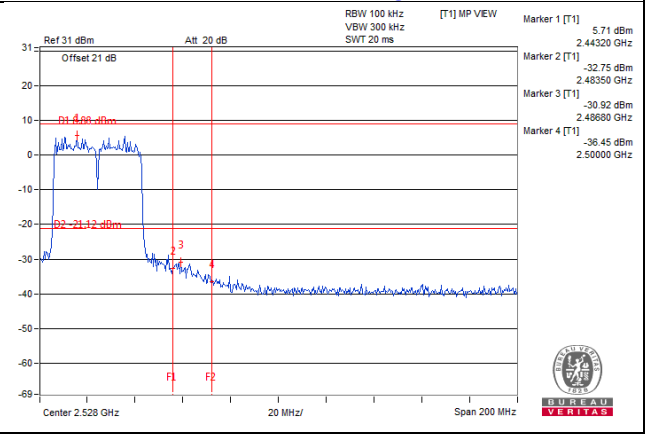
CH 9



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 FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

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

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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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