FCC Test Report

Report No.:	RF160308E11
FCC ID:	I88WAP6806
Test Model:	WAP6806
Received Date:	Mar. 08, 2016
Test Date:	Mar. 22 to Apr. 13, 2016
Issued Date:	May 13, 2016
Applicant:	ZyXEL Communications Corporation
Address:	No. 2, Gongye E. 9th Road Hsinchu Science Park, Hsinchu, Taiwan (R.O.C.)
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 (1):	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan R.O.C.
Test Location (2):	No. 49, Ln. 206, Wende Rd., Shangshan Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan R.O.C.

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Release Control Record

Issue No.	Description	Date Issued
RF160308E11	Original release.	May 13, 2016

1 Certificate of Conformity

Product:	Dual-Band Wireless AC2100 Access Point
Brand:	ZyXEL
Test Model:	WAP6806
Sample Status:	ENGINEERING SAMPLE
Applicant:	ZyXEL Communications Corporation
Test Date:	Mar. 22 to Apr. 13, 2016
Standards:	47 CFR FCC Part 15, Subpart C (Section 15.247) ANSI C63.10: 2013

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

Prepared by : _____ , **Date:** May 13, 2016

Midoli Peng / Specialist

Approved by : _____ , **Date:** May 13, 2016

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 -12.43dB at 0.41563MHz.
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 2488.70MHz, 2483.50MHz & 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 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	Expended Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	1.83 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	5.31 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	3.40 dB
	6GHz ~ 18GHz	3.73 dB
	18GHz ~ 40GHz	4.11 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Dual-Band Wireless AC2100 Access Point
Brand	ZyXEL
Test Model	WAP6806
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 256QAM for OFDM in 11ac mode
Modulation Technology	DSSS,OFDM
Transfer Rate	802.11b: up to 11Mbps 802.11g: up to 54Mbps 802.11n: up to 600Mbps 802.11ac: up to 1733.3Mbps
Operating Frequency	**For 15.407** 5.18 ~ 5.24GHz, 5.745 ~ 5.825GHz
	For 15.247 2.412 ~ 2.462GHz
Number of Channel	**For 15.407** 9 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 4 for 802.11n (HT40), 802.11ac (VHT40) 2 for 802.11ac (VHT80)
	For 15.247 11 for 802.11b, 802.11g, 802.11n (HT20) 7 for 802.11n (HT40)
Output Power	**For 15.407** **5.18 ~ 5.24GHz** **CDD Mode** 620.954mW **Beamforming Mode** 313.331mW **5.745 ~ 5.825GHz** **CDD Mode** 471.699mW **Beamforming Mode** 301.727mW
	For 15.247 **1TX mode** 489.779mW **2TX mode** 832.385mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter x 1
Data Cable Supplied	NA

Note:

1. 2.4GHz and 5GHz technology can transmit at same time.
2. The antennas provided to the EUT, please refer to the following table:

2.4GHz								
No.	Transmitter Circuit	P/N	Ant. Gain (dBi) Including cable loss	Frequency range (MHz to MHz)	Antenna Type	Connecter Type	Cable Loss (dB)	Cable Length (mm)
1	Chain (0)	N2420GSS-PK1-G115UR3	3.32	2400~2483.5	Dipole	IPEX	0.437	115
2	Chain (1)	N2420GS-PK1-B40UR2	3.2	2400~2483.5	Dipole	IPEX	0.152	40
5GHz								
No.	Transmitter Circuit	P/N	Ant. Gain (dBi) Including cable loss	Frequency range (MHz to MHz)	Antenna Type	Connecter Type	Cable Loss (dB)	Cable Length (mm)
3	Chain (0)	N5X20B-PK1-W50U	3.5	5150~5850	Dipole	IPEX	0.25	50
4	Chain (1)	N5X20B-PK1-G45U	3.5	5150~5850	Dipole	IPEX	0.225	45
5	Chain (2)	N5X20B-PK1-G45U	4.39	5150~5850	Dipole	IPEX	0.225	45
6	Chain (3)	N5X20B-PK1-B65U	4.11	5150~5850	Dipole	IPEX	0.325	65

3. The EUT power needs to be supplied from one power adapter, the information is as below table:

Brand	Model No.	Spec.
UMEC	UP0121M-12PA	Input: 100-240V, 0.4A, 50/60Hz Output: 12V, 1A DC output cable(1.5m, unshielded)

4. The power setting are list as below:

Modulation Mode	Frequency (MHz)	Power Setting
802.11b	2412	13
	2437	1D
	2462	13
802.11g	2412	10
	2437	20
	2462	0B
802.11n(HT20)	2412	0A
	2437	1C
	2462	0A
802.11n(HT40)	2422	06
	2437	0B
	2452	06

5. The EUT incorporates a MIMO function.

2.4GHz Band			
MODULATION MODE	**DATA RATE (MCS)**	**TX & RX CONFIGURATION**	
802.11b	1 ~ 11Mbps	1TX (Fixed Chain 0)	1RX
802.11g	6 ~ 54Mbps	1TX (Fixed Chain 0)	1RX
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
5GHz Band			
MODULATION MODE	**DATA RATE (MCS)**	**TX & RX CONFIGURATION**	
802.11a	6 ~ 54Mbps	4TX	4RX
802.11n (HT20)	MCS 0~7	4TX	4RX
	MCS 8~15	4TX	4RX
	MCS 16~23	4TX	4RX
	MCS 24~31	4TX	4RX
802.11n (HT40)	MCS 0~7	4TX	4RX
	MCS 8~15	4TX	4RX
	MCS 16~23	4TX	4RX
	MCS 24~31	4TX	4RX
802.11ac (VHT20)	MCS0~8 Nss=1	4TX	4RX
	MCS0~8 Nss=2	4TX	4RX
	MCS0~9 Nss=3	4TX	4RX
	MCS0~8 Nss=4	4TX	4RX
802.11ac (VHT40)	MCS0~9 Nss=1	4TX	4RX
	MCS0~9 Nss=2	4TX	4RX
	MCS0~9 Nss=3	4TX	4RX
	MCS0~9 Nss=4	4TX	4RX
802.11ac (VHT80)	MCS0~9 Nss=1	4TX	4RX
	MCS0~9 Nss=2	4TX	4RX
	MCS0~9 Nss=3	4TX	4RX
	MCS0~9 Nss=4	4TX	4RX
Note. : All of modulation mode support beamforming function except 2.4GHz and 802.11a modulation mode.			

6. The emission of the simultaneous operation (2.4GHz & 5GHz) has been evaluated and no non-compliance was found.
7. 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

NOTE: The EUT had been pre-tested on the positioned of each 2 axis. The worst case was found when positioned on **Y-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.

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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11n (HT20)	1 to 11	6	OFDM	BPSK	6.5

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)
802.11n (HT20)	1 to 11	6	OFDM	BPSK	6.5

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

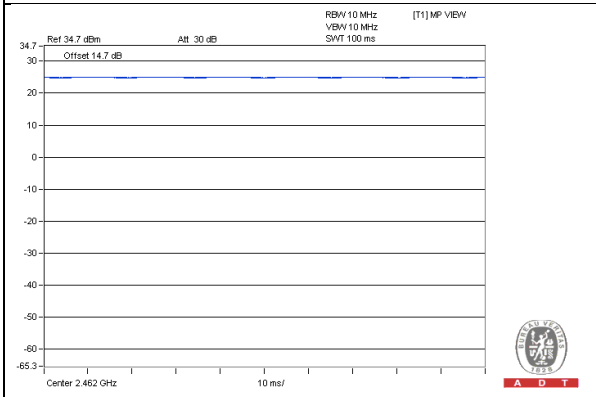
Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	25deg. C, 72%RH	120Vac, 60Hz	Andy Ho
RE<1G	23deg. C, 66%RH	120Vac, 60Hz	Andy Ho
PLC	20deg. C, 60%RH	120Vac, 60Hz	Wythe Lin
APCM	22deg. C, 66%RH	120Vac, 60Hz	Anderson Chen

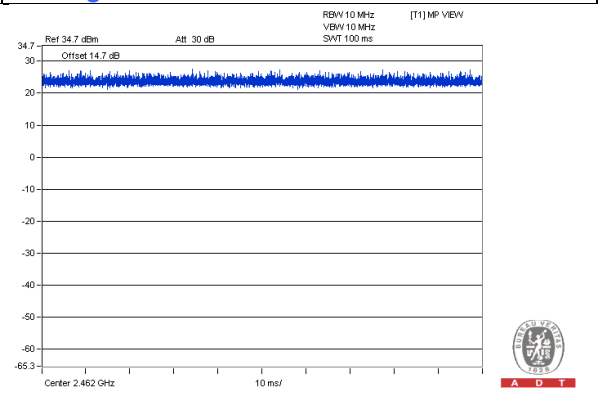
3.3 Duty Cycle of Test Signal

Duty cycle of test signal is 100 %, duty factor is not required.

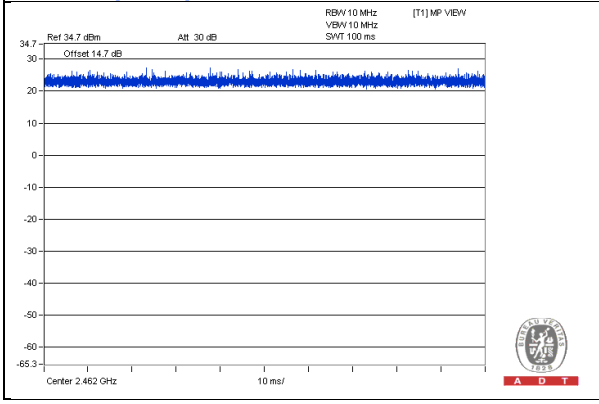
802.11b



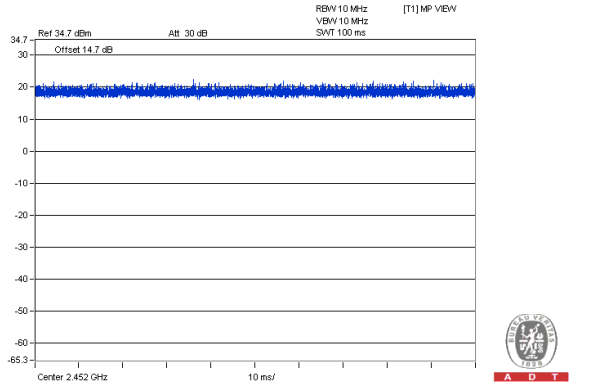
802.11g



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.

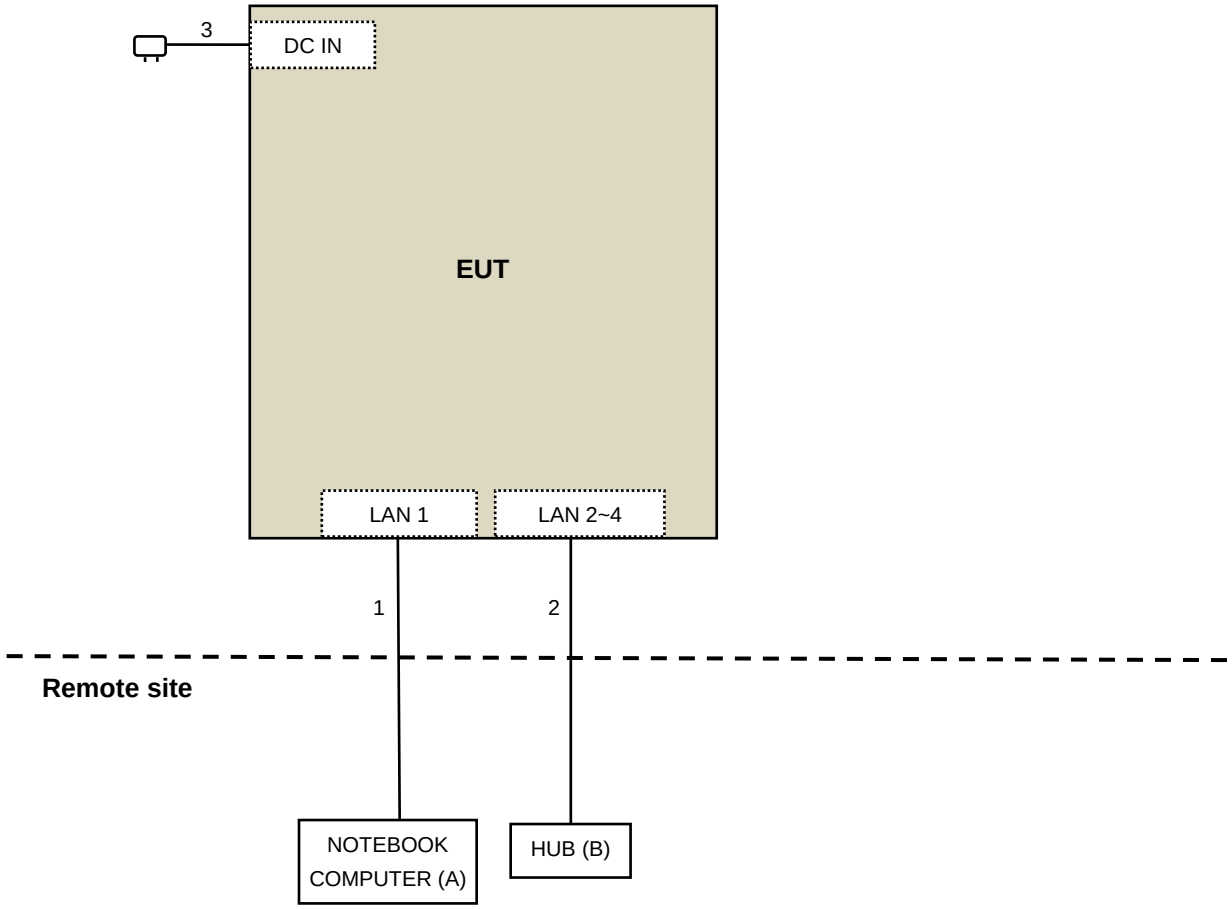
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	NOTEBOOK COMPUTER	HP	Pavilion 14-ab023TU	5CD5340WXZ	FCC DoC	Provided by Lab
B.	HUB	PCI	FX-05EA	NA	NA	Provided by Lab

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.	RJ45 cable	1	10	No	0	Provided by Lab
2.	RJ45 cable	3	10	No	0	Provided by Lab
3.	DC cable	1	1.5	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 v03r05
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

For above 1GHz test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY50010156	Aug. 12, 2015	Aug. 11, 2016
Horn_Antenna SCHWARZBECK	BBHA9120-D	9120D-406	Jan. 20, 2016	Jan. 19, 2017
Pre-Amplifier Agilent	8449B	3008A02465	Apr. 05, 2016	Apr. 04, 2017
RF Cable	EMC104-SM-SM-2000 EMC104-SM-SM-5000 EMC104-SM-SM-5000	150317 150321 150322	Mar. 30, 2016	Mar. 29, 2017
Spectrum Analyzer Keysight	N9030A	MY54490520	July 26, 2015	July 25, 2016
Pre-Amplifier EMCI	EMC184045	980143	Jan. 15, 2016	Jan. 14, 2017
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170608	Jan. 08, 2016	Jan. 07, 2017
RF Cable	SUCOFLEX 102	36432/2 36441/2	Jan. 16, 2016	Jan. 15, 2017
Software	ADT_Radiated _V8.7.07	NA	NA	NA
Antenna Tower & Turn Table CT	NA	NA	NA	NA
Boresight Antenna Fixture	NA	NA	NA	NA
Spectrum Analyzer R&S	FSP40	100060	May 08, 2015	May 07, 2016
Power Meter Anritsu	ML2495A	1014008	Apr. 28, 2015	Apr. 27, 2016
Power Sensor Anritsu	MA2411B	0917122	Apr. 28, 2015	Apr. 27, 2016

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 966 Chamber No. 3.
3. The FCC Site Registration No. is 147459
4. The CANADA Site Registration No. is 20331-1
6. Tested Date: Apr. 06 to 13, 2016

For below 1GHz test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY54450088	July 24, 2015	July 23, 2016
Pre-Amplifier(*) EMCI	EMC001340	980142	Jan. 20, 2016	Jan. 19, 2018
Loop Antenna(*) Electro-Metrics	EM-6879	264	Dec. 16, 2014	Dec. 15, 2016
RF Cable	NA	LOOPCAB-001 LOOPCAB-002	Jan. 18, 2016	Jan. 17, 2017
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-01	Nov. 11, 2015	Nov. 10, 2016
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-406	Jan. 04, 2016	Jan. 03, 2017
RF Cable	8D	966-4-1 966-4-2 966-4-3	Apr. 03, 2015	Apr. 02, 2016
Software	ADT_Radiated _V8.7.07	NA	NA	NA
Antenna Tower & Turn Table CT	NA	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 calibration interval of the above test instruments is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. Loop antenna was used for all emissions below 30 MHz.
4. The test was performed in 966 Chamber No. 4.
5. The FCC Site Registration No. is 292998
6. The CANADA Site Registration No. is 20331-2
7 Tested Date: Mar. 22, 2016

4.1.3 Test Procedures

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

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

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

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

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

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

Note:

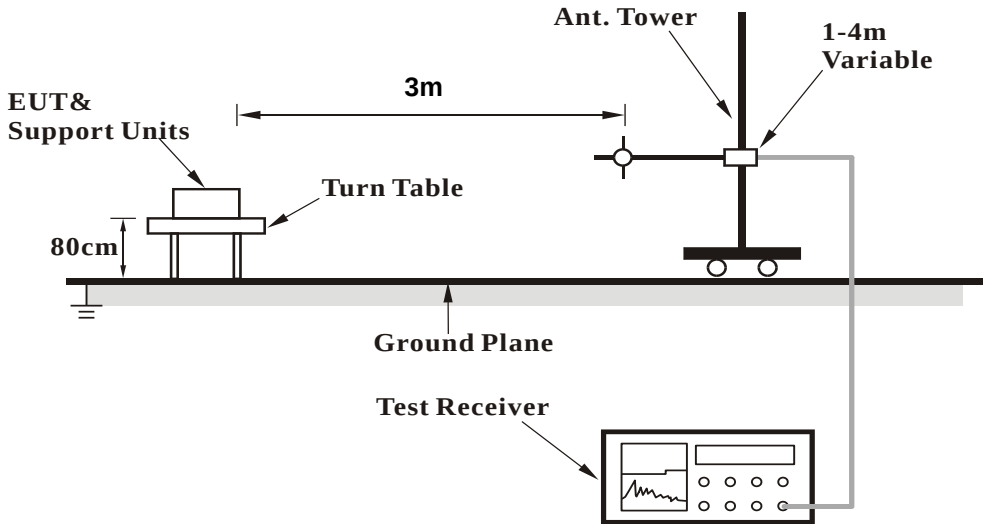
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.1.4 Deviation from Test Standard

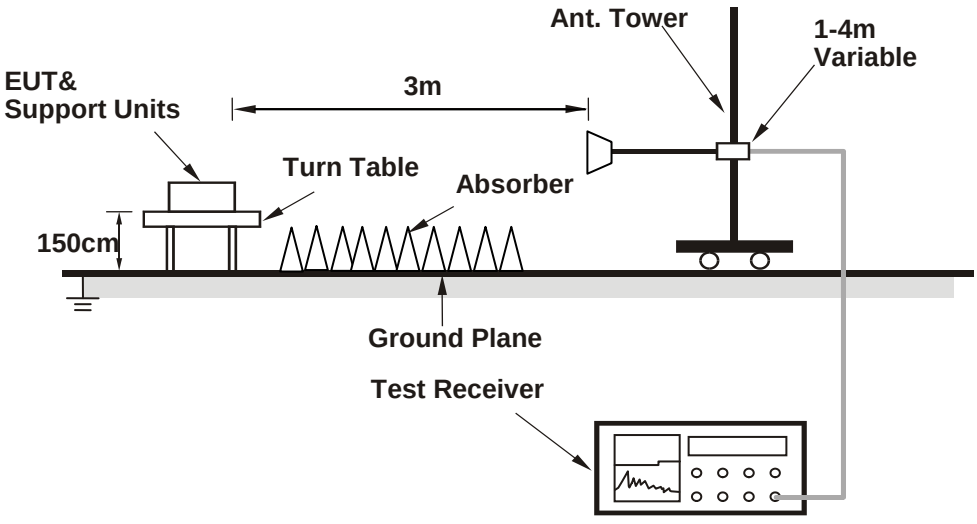
No deviation.

4.1.5 Test Setup

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



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

4.1.6 EUT Operating Conditions

a. Connected the EUT with the support unit A (Notebook Computer) which is placed on remote site.
b. Contorlling software (MT7603 QAV0.0.0.71) 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	45.2 PK	74.0	-28.8	1.06 H	274	51.06	-5.86
2	2390.00	38.3 AV	54.0	-15.7	1.06 H	274	44.16	-5.86
3	*2412.00	95.1 PK			1.06 H	274	100.87	-5.77
4	*2412.00	92.7 AV			1.06 H	274	98.47	-5.77
5	4824.00	50.4 PK	74.0	-23.6	1.51 H	229	50.41	-0.01
6	4824.00	47.5 AV	54.0	-6.5	1.51 H	229	47.51	-0.01
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	59.3 PK	74.0	-14.7	1.22 V	241	65.16	-5.86
2	2390.00	53.6 AV	54.0	-0.4	1.22 V	241	59.46	-5.86
3	*2412.00	111.4 PK			1.22 V	241	117.17	-5.77
4	*2412.00	108.9 AV			1.22 V	241	114.67	-5.77
5	4824.00	51.0 PK	74.0	-23.0	3.06 V	279	51.01	-0.01
6	4824.00	48.0 AV	54.0	-6.0	3.06 V	279	48.01	-0.01

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	2312.00	43.1 PK	74.0	-30.9	1.46 H	213	49.26	-6.16
2	2312.00	37.2 AV	54.0	-16.8	1.46 H	213	43.36	-6.16
3	2388.30	45.9 PK	74.0	-28.1	1.01 H	266	51.76	-5.86
4	2388.30	36.1 AV	54.0	-17.9	1.01 H	266	41.96	-5.86
5	*2437.00	99.3 PK			1.01 H	266	104.98	-5.68
6	*2437.00	96.8 AV			1.01 H	266	102.48	-5.68
7	4874.00	54.8 PK	74.0	-19.2	1.45 H	246	54.69	0.11
8	4874.00	53.1 AV	54.0	-0.9	1.45 H	246	52.99	0.11
9	7311.00	47.5 PK	74.0	-26.5	1.58 H	304	41.24	6.26
10	7311.00	36.6 AV	54.0	-17.4	1.58 H	304	30.34	6.26
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	2312.00	57.2 PK	74.0	-16.8	1.62 V	186	63.36	-6.16
2	2312.00	52.3 AV	54.0	-1.7	1.62 V	186	58.46	-6.16
3	2388.30	60.0 PK	74.0	-14.0	2.02 V	184	65.86	-5.86
4	2388.30	51.7 AV	54.0	-2.3	2.02 V	184	57.56	-5.86
5	*2437.00	115.6 PK			2.02 V	205	121.28	-5.68
6	*2437.00	113.1 AV			2.02 V	205	118.78	-5.68
7	4874.00	55.0 PK	74.0	-19.0	3.33 V	269	54.89	0.11
8	4874.00	53.5 AV	54.0	-0.5	3.33 V	269	53.39	0.11
9	7311.00	47.8 PK	74.0	-26.2	1.54 V	103	41.54	6.26
10	7311.00	36.4 AV	54.0	-17.6	1.54 V	103	30.14	6.26

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	96.4 PK			1.00 H	271	101.98	-5.58
2	*2462.00	93.9 AV			1.00 H	271	99.48	-5.58
3	2488.70	51.6 PK	74.0	-22.4	1.00 H	271	57.10	-5.50
4	2488.70	38.1 AV	54.0	-15.9	1.00 H	271	43.60	-5.50
5	4924.00	51.0 PK	74.0	-23.0	1.50 H	245	50.82	0.18
6	4924.00	47.9 AV	54.0	-6.1	1.50 H	245	47.72	0.18
7	7386.00	47.2 PK	74.0	-26.8	1.62 H	289	40.71	6.49
8	7386.00	36.2 AV	54.0	-17.8	1.62 H	289	29.71	6.49
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	112.7 PK			1.16 V	241	118.28	-5.58
2	*2462.00	110.3 AV			1.16 V	241	115.88	-5.58
3	2488.70	65.6 PK	74.0	-8.4	1.15 V	169	71.10	-5.50
4	**2488.70**	**53.9 AV**	**54.0**	**-0.1**	**1.15 V**	**169**	**59.40**	**-5.50**
5	4924.00	51.2 PK	74.0	-22.8	3.10 V	282	51.02	0.18
6	4924.00	48.2 AV	54.0	-5.8	3.10 V	282	48.02	0.18
7	7386.00	47.7 PK	74.0	-26.3	1.55 V	114	41.21	6.49
8	7386.00	36.1 AV	54.0	-17.9	1.55 V	114	29.61	6.49

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	55.3 PK	74.0	-18.7	1.02 H	266	61.16	-5.86
2	2390.00	37.8 AV	54.0	-16.2	1.02 H	266	43.66	-5.86
3	*2412.00	98.6 PK			1.02 H	266	104.37	-5.77
4	*2412.00	88.0 AV			1.02 H	266	93.77	-5.77
5	4824.00	56.2 PK	74.0	-17.8	1.02 H	281	56.21	-0.01
6	4824.00	42.6 AV	54.0	-11.4	1.02 H	281	42.61	-0.01
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	69.3 PK	74.0	-4.7	2.33 V	217	75.16	-5.86
2	2390.00	53.6 AV	54.0	-0.4	2.33 V	217	59.46	-5.86
3	*2412.00	114.9 PK			2.33 V	217	120.67	-5.77
4	*2412.00	104.4 AV			2.33 V	217	110.17	-5.77
5	4824.00	56.7 PK	74.0	-17.3	3.42 V	267	56.71	-0.01
6	4824.00	42.9 AV	54.0	-11.1	3.42 V	267	42.91	-0.01

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	52.7 PK	74.0	-21.3	1.06 H	259	58.56	-5.86
2	2390.00	37.7 AV	54.0	-16.3	1.06 H	259	43.56	-5.86
3	*2437.00	104.3 PK			1.06 H	259	109.98	-5.68
4	*2437.00	94.1 AV			1.06 H	259	99.78	-5.68
5	2483.50	55.0 PK	74.0	-19.0	1.06 H	259	60.50	-5.50
6	2483.50	39.6 AV	54.0	-14.4	1.06 H	259	45.10	-5.50
7	4874.00	56.1 PK	74.0	-17.9	1.55 H	248	55.99	0.11
8	4874.00	42.2 AV	54.0	-11.8	1.55 H	248	42.09	0.11
9	7311.00	46.8 PK	74.0	-27.2	1.63 H	299	40.54	6.26
10	7311.00	35.5 AV	54.0	-18.5	1.63 H	299	29.24	6.26
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	66.7 PK	74.0	-7.3	1.82 V	216	72.56	-5.86
2	2390.00	53.5 AV	54.0	-0.5	1.82 V	216	59.36	-5.86
3	*2437.00	120.6 PK			1.82 V	216	126.28	-5.68
4	*2437.00	110.5 AV			1.82 V	216	116.18	-5.68
5	2483.50	69.0 PK	74.0	-5.0	1.82 V	216	74.50	-5.50
6	**2483.50**	**53.9 AV**	**54.0**	**-0.1**	**1.82 V**	**216**	**59.40**	**-5.50**
7	4874.00	56.5 PK	74.0	-17.5	3.38 V	270	56.39	0.11
8	4874.00	42.5 AV	54.0	-11.5	3.38 V	270	42.39	0.11
9	7311.00	47.2 PK	74.0	-26.8	1.55 V	122	40.94	6.26
10	7311.00	35.8 AV	54.0	-18.2	1.55 V	122	29.54	6.26

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	97.9 PK			1.12 H	259	103.48	-5.58
2	*2462.00	87.7 AV			1.12 H	259	93.28	-5.58
3	2483.50	55.7 PK	74.0	-18.3	1.12 H	259	61.20	-5.50
4	2483.50	39.4 AV	54.0	-14.6	1.12 H	259	44.90	-5.50
5	4924.00	56.4 PK	74.0	-17.6	1.60 H	247	56.22	0.18
6	4924.00	42.2 AV	54.0	-11.8	1.60 H	247	42.02	0.18
7	7386.00	47.0 PK	74.0	-27.0	1.66 H	288	40.51	6.49
8	7386.00	35.9 AV	54.0	-18.1	1.66 H	288	29.41	6.49
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	114.2 PK			1.17 V	245	119.78	-5.58
2	*2462.00	104.1 AV			1.17 V	245	109.68	-5.58
3	2483.50	69.7 PK	74.0	-4.3	1.17 V	245	75.20	-5.50
4	2483.50	53.7 AV	54.0	-0.3	1.17 V	245	59.20	-5.50
5	4924.00	56.5 PK	74.0	-17.5	3.44 V	275	56.32	0.18
6	4924.00	42.3 AV	54.0	-11.7	3.44 V	275	42.12	0.18
7	7386.00	46.8 PK	74.0	-27.2	1.50 V	114	40.31	6.49
8	7386.00	35.4 AV	54.0	-18.6	1.50 V	114	28.91	6.49

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	70.1 PK	74.0	-3.9	2.00 H	274	75.96	-5.86
2	2390.00	53.6 AV	54.0	-0.4	2.00 H	274	59.46	-5.86
3	*2412.00	113.6 PK			2.00 H	274	119.37	-5.77
4	*2412.00	103.8 AV			2.00 H	274	109.57	-5.77
5	4824.00	59.0 PK	74.0	-15.0	1.42 H	256	59.01	-0.01
6	4824.00	45.4 AV	54.0	-8.6	1.42 H	256	45.41	-0.01
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	68.5 PK	74.0	-5.5	2.35 V	218	74.36	-5.86
2	2390.00	53.3 AV	54.0	-0.7	2.35 V	218	59.16	-5.86
3	*2412.00	113.2 PK			2.35 V	218	118.97	-5.77
4	*2412.00	103.3 AV			2.35 V	218	109.07	-5.77
5	4824.00	57.7 PK	74.0	-16.3	2.23 V	262	57.71	-0.01
6	4824.00	44.2 AV	54.0	-9.8	2.23 V	262	44.21	-0.01

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	69.3 PK	74.0	-4.7	1.97 H	269	75.16	-5.86
2	2390.00	53.8 AV	54.0	-0.2	1.97 H	269	59.66	-5.86
3	*2437.00	122.0 PK			1.97 H	269	127.68	-5.68
4	*2437.00	110.5 AV			1.97 H	269	116.18	-5.68
5	2483.50	69.7 PK	74.0	-4.3	1.97 H	269	75.20	-5.50
6	2483.50	52.5 AV	54.0	-1.5	1.97 H	269	58.00	-5.50
7	4874.00	59.2 PK	74.0	-14.8	1.48 H	244	59.09	0.11
8	4874.00	45.5 AV	54.0	-8.5	1.48 H	244	45.39	0.11
9	7311.00	47.3 PK	74.0	-26.7	1.63 H	304	41.04	6.26
10	7311.00	36.4 AV	54.0	-17.6	1.63 H	304	30.14	6.26
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	69.2 PK	74.0	-4.8	2.65 V	219	75.06	-5.86
2	2390.00	53.4 AV	54.0	-0.6	2.65 V	219	59.26	-5.86
3	*2437.00	121.8 PK			2.65 V	219	127.48	-5.68
4	*2437.00	110.0 AV			2.65 V	219	115.68	-5.68
5	2483.50	67.9 PK	74.0	-6.1	2.65 V	219	73.40	-5.50
6	2483.50	51.8 AV	54.0	-2.2	2.65 V	219	57.30	-5.50
7	4874.00	58.0 PK	74.0	-16.0	2.24 V	249	57.89	0.11
8	4874.00	44.3 AV	54.0	-9.7	2.24 V	249	44.19	0.11
9	7311.00	48.0 PK	74.0	-26.0	1.58 V	92	41.74	6.26
10	7311.00	36.3 AV	54.0	-17.7	1.58 V	92	30.04	6.26

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	116.9 PK			1.87 H	269	122.48	-5.58
2	*2462.00	104.6 AV			1.87 H	269	110.18	-5.58
3	2483.50	73.2 PK	74.0	-0.8	1.87 H	269	78.70	-5.50
4	**2483.50**	**53.9 AV**	**54.0**	**-0.1**	**1.87 H**	**269**	**59.40**	**-5.50**
5	4924.00	58.9 PK	74.0	-15.1	1.49 H	230	58.72	0.18
6	4924.00	45.0 AV	54.0	-9.0	1.49 H	230	44.82	0.18
7	7386.00	46.8 PK	74.0	-27.2	1.60 H	289	40.31	6.49
8	7386.00	36.0 AV	54.0	-18.0	1.60 H	289	29.51	6.49
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	115.2 PK			1.76 V	185	120.78	-5.58
2	*2462.00	104.2 AV			1.76 V	185	109.78	-5.58
3	2483.50	71.4 PK	74.0	-2.6	1.76 V	185	76.90	-5.50
4	2483.50	53.8 AV	54.0	-0.2	1.76 V	185	59.30	-5.50
5	4924.00	57.4 PK	74.0	-16.6	2.26 V	252	57.22	0.18
6	4924.00	43.9 AV	54.0	-10.1	2.26 V	252	43.72	0.18
7	7386.00	48.5 PK	74.0	-25.5	1.62 V	100	42.01	6.49
8	7386.00	36.5 AV	54.0	-17.5	1.62 V	100	30.01	6.49

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	68.4 PK	74.0	-5.6	1.77 H	275	74.26	-5.86
2	**2390.00**	**53.9 AV**	**54.0**	**-0.1**	**1.77 H**	**275**	**59.76**	**-5.86**
3	*2422.00	110.1 PK			1.77 H	275	115.83	-5.73
4	*2422.00	98.0 AV			1.77 H	275	103.73	-5.73
5	4844.00	58.9 PK	74.0	-15.1	1.55 H	236	58.86	0.04
6	4844.00	44.7 AV	54.0	-9.3	1.55 H	236	44.66	0.04
7	7266.00	46.5 PK	74.0	-27.5	1.59 H	280	40.33	6.17
8	7266.00	35.8 AV	54.0	-18.2	1.59 H	280	29.63	6.17
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	67.3 PK	74.0	-6.7	1.75 V	212	73.16	-5.86
2	2390.00	53.8 AV	54.0	-0.2	1.75 V	212	59.66	-5.86
3	*2422.00	108.3 PK			1.75 V	212	114.03	-5.73
4	*2422.00	98.1 AV			1.75 V	212	103.83	-5.73
5	4844.00	57.2 PK	74.0	-16.8	2.26 V	265	57.16	0.04
6	4844.00	44.0 AV	54.0	-10.0	2.26 V	265	43.96	0.04
7	7266.00	48.6 PK	74.0	-25.4	1.66 V	87	42.43	6.17
8	7266.00	36.9 AV	54.0	-17.1	1.66 V	87	30.73	6.17

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	1.98 H	274	76.96	-5.86
2	2390.00	53.6 AV	54.0	-0.4	1.98 H	274	59.46	-5.86
3	*2437.00	113.8 PK			1.98 H	274	119.48	-5.68
4	*2437.00	101.7 AV			1.98 H	274	107.38	-5.68
5	2483.50	68.1 PK	74.0	-5.9	1.98 H	274	73.60	-5.50
6	2483.50	50.8 AV	54.0	-3.2	1.98 H	274	56.30	-5.50
7	4874.00	58.9 PK	74.0	-15.1	1.52 H	245	58.79	0.11
8	4874.00	44.9 AV	54.0	-9.1	1.52 H	245	44.79	0.11
9	7311.00	46.6 PK	74.0	-27.4	1.61 H	276	40.34	6.26
10	7311.00	35.9 AV	54.0	-18.1	1.61 H	276	29.64	6.26
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	66.7 PK	74.0	-7.3	2.67 V	220	72.56	-5.86
2	2390.00	52.8 AV	54.0	-1.2	2.67 V	220	58.66	-5.86
3	*2437.00	112.4 PK			2.67 V	220	118.08	-5.68
4	*2437.00	101.8 AV			2.67 V	220	107.48	-5.68
5	2483.50	65.0 PK	74.0	-9.0	2.67 V	220	70.50	-5.50
6	2483.50	50.5 AV	54.0	-3.5	2.67 V	220	56.00	-5.50
7	4874.00	56.7 PK	74.0	-17.3	2.29 V	256	56.59	0.11
8	4874.00	43.7 AV	54.0	-10.3	2.29 V	256	43.59	0.11
9	7311.00	48.0 PK	74.0	-26.0	1.64 V	77	41.74	6.26
10	7311.00	36.6 AV	54.0	-17.4	1.64 V	77	30.34	6.26

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	111.5 PK			1.93 H	280	117.13	-5.63
2	*2452.00	99.1 AV			1.93 H	280	104.73	-5.63
3	2483.50	66.8 PK	74.0	-7.2	1.93 H	280	72.30	-5.50
4	2483.50	53.2 AV	54.0	-0.8	1.93 H	280	58.70	-5.50
5	4904.00	59.4 PK	74.0	-14.6	1.49 H	238	59.22	0.18
6	4904.00	45.2 AV	54.0	-8.8	1.49 H	238	45.02	0.18
7	7356.00	46.6 PK	74.0	-27.4	1.61 H	281	40.20	6.40
8	7356.00	36.1 AV	54.0	-17.9	1.61 H	281	29.70	6.40
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	108.8 PK			1.93 V	182	114.43	-5.63
2	*2452.00	98.6 AV			1.93 V	182	104.23	-5.63
3	2483.50	68.7 PK	74.0	-5.3	1.93 V	182	74.20	-5.50
4	**2483.50**	**53.9 AV**	**54.0**	**-0.1**	**1.93 V**	**182**	**59.40**	**-5.50**
5	4904.00	57.1 PK	74.0	-16.9	2.24 V	270	56.92	0.18
6	4904.00	44.1 AV	54.0	-9.9	2.24 V	270	43.92	0.18
7	7356.00	47.8 PK	74.0	-26.2	1.69 V	81	41.40	6.40
8	7356.00	36.2 AV	54.0	-17.8	1.69 V	81	29.80	6.40

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:

802.11n (HT20)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	**FREQ. (MHz)**	**EMISSION LEVEL (dBuV/m)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA HEIGHT (m)**	**TABLE ANGLE (Degree)**	**RAW VALUE (dBuV)**	**CORRECTION FACTOR (dB/m)**
1	32.64	34.2 QP	40.0	-5.8	1.00 H	70	44.06	-9.86
2	108.76	28.9 QP	43.5	-14.6	1.50 H	284	40.50	-11.60
3	375.00	33.8 QP	46.0	-12.2	1.00 H	323	39.77	-5.98
4	799.99	37.2 QP	46.0	-8.8	1.00 H	235	34.79	2.41
5	874.99	36.5 QP	46.0	-9.5	2.50 H	360	33.14	3.38
6	999.98	35.7 QP	54.0	-18.4	2.00 H	326	30.82	4.83
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	38.12	36.9 QP	40.0	-3.1	1.00 V	27	46.19	-9.27
2	108.81	33.9 QP	43.5	-9.6	1.00 V	107	45.49	-11.60
3	375.00	35.5 QP	46.0	-10.5	1.50 V	221	41.47	-5.98
4	800.01	35.9 QP	46.0	-10.1	1.50 V	298	33.46	2.41
5	875.02	38.7 QP	46.0	-7.3	1.00 V	115	35.31	3.39
6	997.50	37.9 QP	54.0	-16.1	1.00 V	253	33.04	4.84

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	Oct 23, 2015	Oct. 22, 2016
Line-Impedance Stabilization Network (for EUT) SCHWARZBECK	NSLK-8127	8127-522	Sep. 01, 2015	Aug. 31, 2016
Line-Impedance Stabilization Network (for Peripheral) R&S	ENV216	100072	June 11, 2015	June 10, 2016
RF Cable	5D-FB	COCCAB-001	Mar. 08, 2016	Mar. 07, 2017
10 dB PAD Mini-Circuits	HAT-10+	CONATT-002	Sep. 14, 2015	Sep. 13, 2016
50 ohms Terminator	N/A	EMC-03	Sep. 23, 2015	Sep. 22, 2016
50 ohms Terminator	N/A	EMC-02	Oct. 01, 2015	Sep. 30, 2016
50 ohms Terminator	E1-011315	13	Dec. 11 2015	Dec. 10 2016
Software BVADT	BVADT_Cond_ V7.3.7.3	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. C.
3 The VCCI Con C Registration No. is C-3611.
4 Tested Date: Mar. 29, 2016

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.

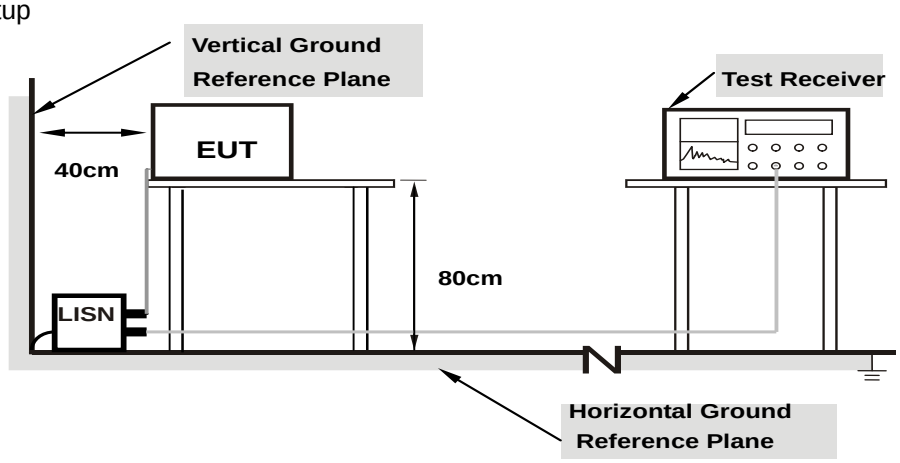
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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.

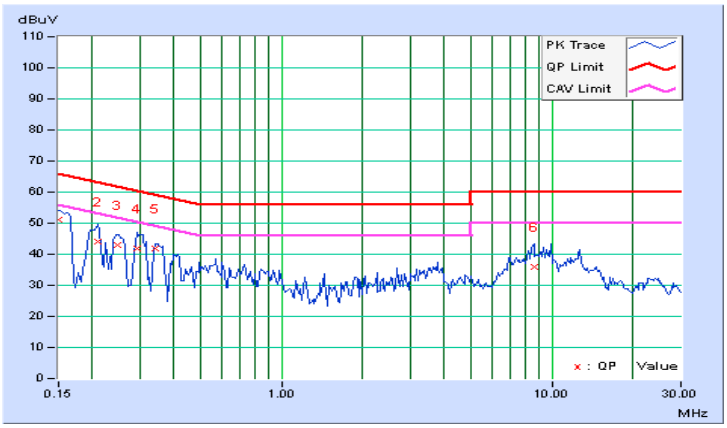
4.2.7 Test Results

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

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.44	40.77	30.76	51.21	41.20	66.00	56.00	-14.79	-14.80
2	0.20859	10.40	33.81	22.88	44.21	33.28	63.26	53.26	-19.05	-19.98
3	0.24766	10.41	32.46	20.67	42.87	31.08	61.84	51.84	-18.97	-20.76
4	0.29453	10.41	31.54	17.54	41.95	27.95	60.40	50.40	-18.44	-22.44
5	0.34141	10.42	31.41	16.58	41.83	27.00	59.17	49.17	-17.34	-22.17
6	8.59766	10.85	25.09	18.94	35.94	29.79	60.00	50.00	-24.06	-20.21

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

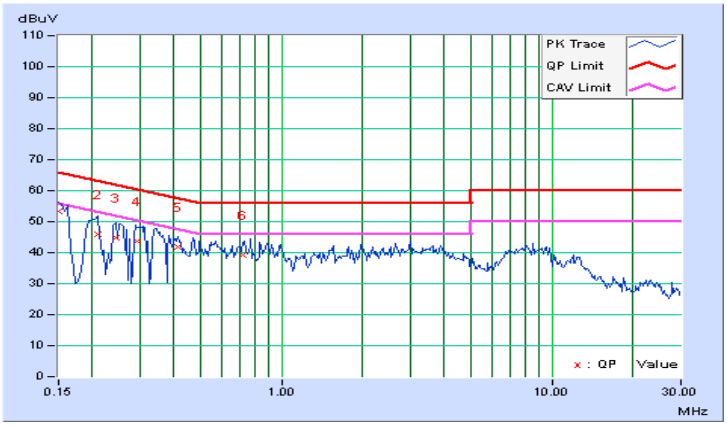


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.44	42.72	32.63	53.16	43.07	66.00	56.00	-12.84	-12.93
2	0.20859	10.45	35.60	27.65	46.05	38.10	63.26	53.26	-17.21	-15.16
3	0.24375	10.46	34.49	25.58	44.95	36.04	61.97	51.97	-17.02	-15.93
4	0.29453	10.46	33.20	26.56	43.66	37.02	60.40	50.40	-16.73	-13.37
5	**0.41563**	**10.48**	**31.39**	**24.63**	**41.87**	**35.11**	**57.54**	**47.54**	**-15.67**	**-12.43**
6	0.72422	10.45	28.98	22.92	39.43	33.37	56.00	46.00	-16.57	-12.63

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

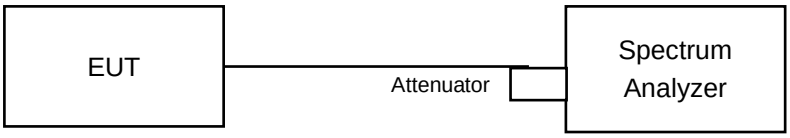


4.3 6dB Bandwidth Measurement

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
1	2412	9.55	0.5	PASS
6	2437	10.01	0.5	PASS
11	2462	9.09	0.5	PASS

802.11g

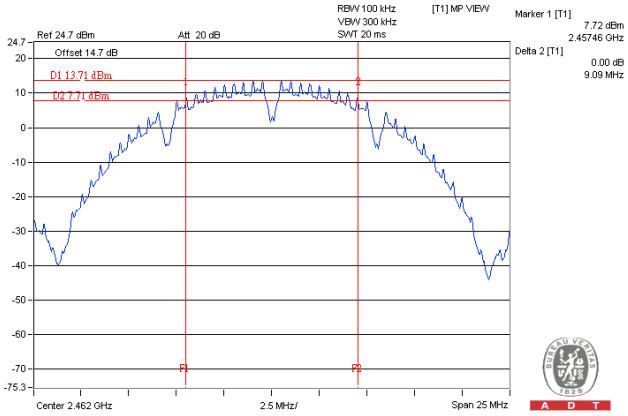
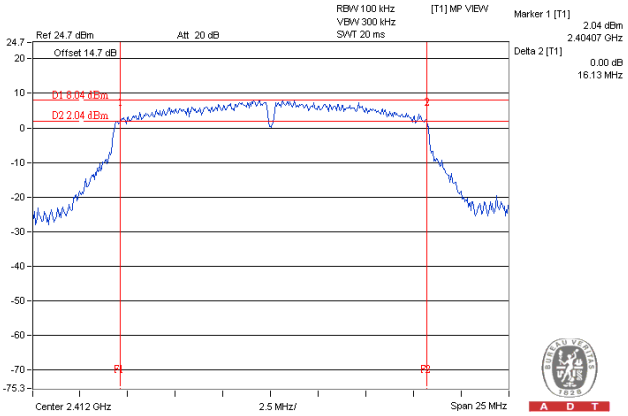
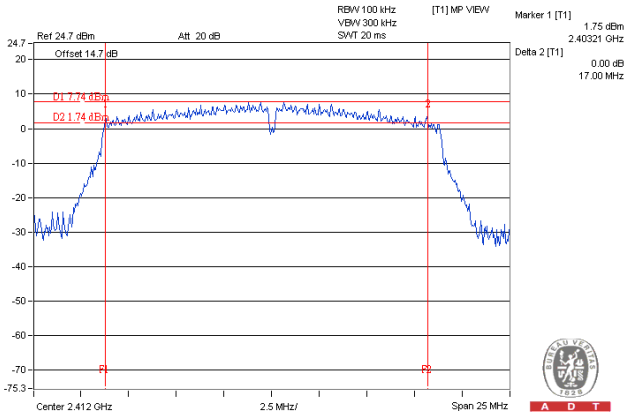
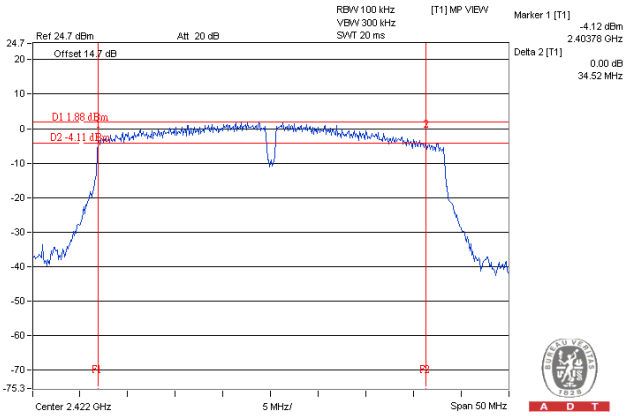
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	16.13	0.5	PASS
6	2437	16.35	0.5	PASS
11	2462	16.32	0.5	PASS

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
1	2412	17.36	17.00	0.5	Pass
6	2437	17.61	17.61	0.5	Pass
11	2462	17.12	17.19	0.5	Pass

802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
3	2422	36.10	34.52	0.5	Pass
6	2437	35.54	34.78	0.5	Pass
9	2452	35.83	35.81	0.5	Pass

Spectrum Plot of Worst Value	
802.11b / CH11	**802.11g / CH1**
	
802.11n (HT20) / Chain 1 : CH1	**802.11n (HT40) / Chain 1 : CH3**
	

4.4 Conducted Output Power Measurement

4.4.1 Limits of Conducted Output Power Measurement

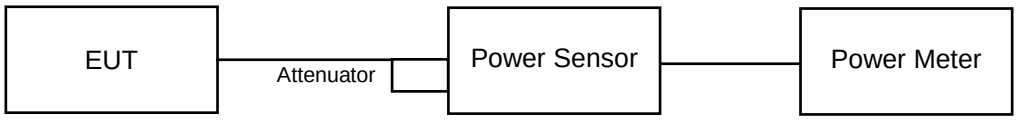
For systems using digital modulation in the 2400–2483.5 MHz bands: 1 Watt (30dBm)

Per KDB 662911 D01 Multiple Transmitter Output Method of conducted output power measurement on IEEE 802.11 devices,

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

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

4.4.2 Test Setup



4.4.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.4 Test Procedures

A 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 (mW)	Average Power (dBm)	Limit (dBm)	Pass/Fail
1	2412	164.059	22.15	30	Pass
6	2437	428.549	26.32	30	Pass
11	2462	195.884	22.92	30	Pass

802.11g

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass/Fail
1	2412	145.546	21.63	30	Pass
6	2437	489.779	26.90	30	Pass
11	2462	110.154	20.42	30	Pass

802.11n (HT20)

Chan.	Freq. (MHz)	Average Power (mW)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
1	2412	18.75	20.29	181.894	22.60	30	Pass
6	2437	25.78	26.57	832.385	29.20	30	Pass
11	2462	18.95	20.20	183.237	22.63	30	Pass

802.11n (HT40)

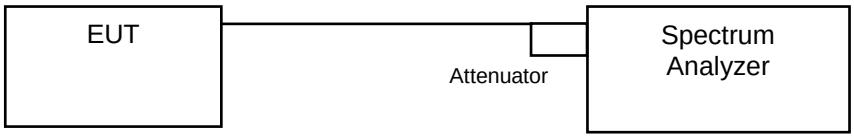
Chan.	Freq. (MHz)	Average Power (mW)		Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
3	2422	16.09	16.95	90.189	19.55	30	Pass
6	2437	18.85	20.14	180.012	22.55	30	Pass
9	2452	17.03	17.22	103.189	20.14	30	Pass

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

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.

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

Channel	Freq. (MHz)	PSD (dBm/10kHz)	Limit (dBm/3kHz)	Pass /Fail
1	2412	-10.15	8	Pass
6	2437	-5.69	8	Pass
11	2462	-9.18	8	Pass

802.11g

Channel	Freq. (MHz)	PSD (dBm/10kHz)	Limit (dBm/3kHz)	Pass /Fail
1	2412	-11.14	8	Pass
6	2437	-5.64	8	Pass
11	2462	-13.34	8	Pass

802.11n (HT20)

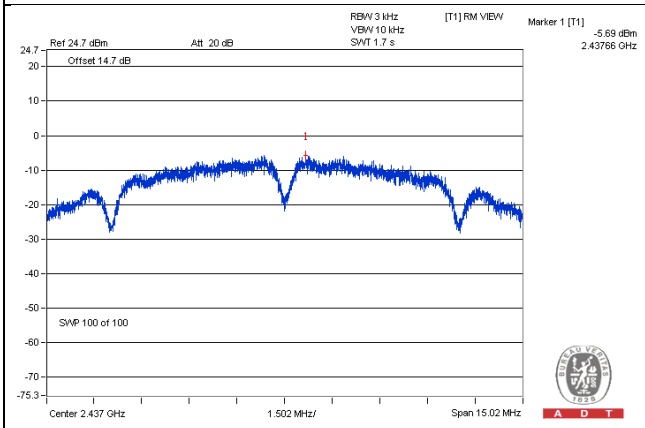
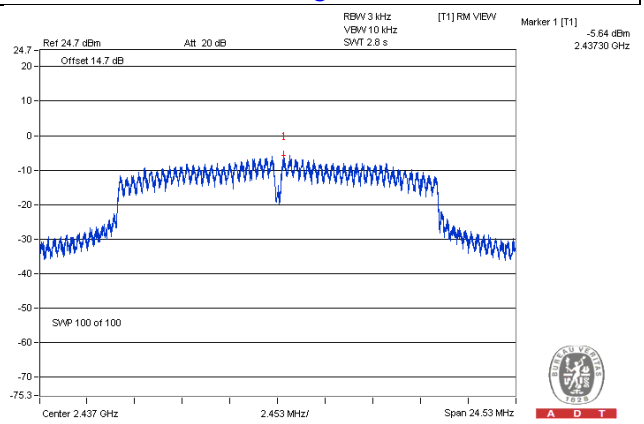
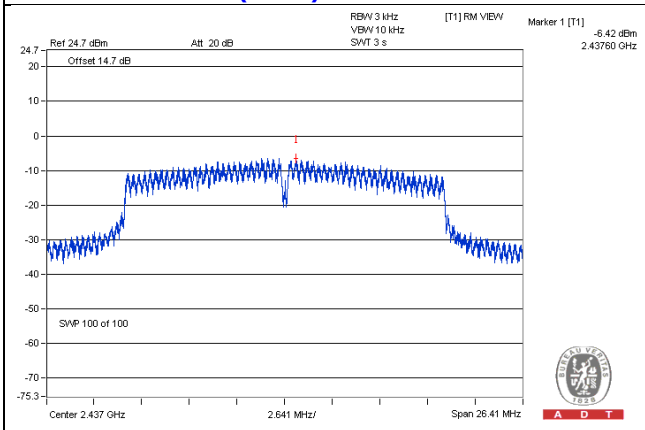
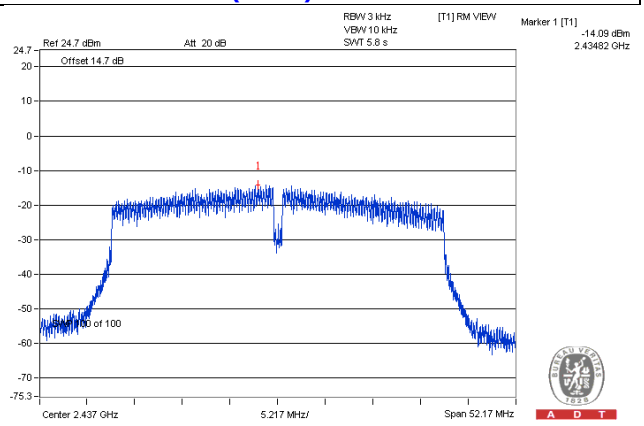
TX chain	Channel	Freq. (MHz)	PSD (dBm/10kHz)	10 log (N=2) dB	Total PSD (dBm/10kHz)	Limit (dBm/3kHz)	Pass /Fail
0	1	2412	-14.89	3.01	-11.88	7.73	Pass
	6	2437	-6.96	3.01	-3.95	7.73	Pass
	11	2462	-13.92	3.01	-10.91	7.73	Pass
1	1	2412	-12.57	3.01	-9.56	7.73	Pass
	6	2437	-6.42	3.01	-3.41	7.73	Pass
	11	2462	-12.53	3.01	-9.52	7.73	Pass

NOTE: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 6.27dBi > 6dBi , so the power limit shall be reduced to 8-(6.27-6) = 7.73dBm.

802.11n (HT40)

TX chain	Channel	Freq. (MHz)	PSD (dBm/10kHz)	10 log (N=2) dB	Total PSD (dBm/10kHz)	Limit (dBm/3kHz)	Pass /Fail
0	3	2422	-19.59	3.01	-16.58	7.73	Pass
	6	2437	-16.14	3.01	-13.13	7.73	Pass
	9	2452	-18.67	3.01	-15.66	7.73	Pass
1	3	2422	-18.23	3.01	-15.22	7.73	Pass
	6	2437	-14.09	3.01	-11.08	7.73	Pass
	9	2452	-18.58	3.01	-15.57	7.73	Pass

NOTE: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 6.27dBi > 6dBi , so the power limit shall be reduced to 8-(6.27-6) = 7.73dBm.

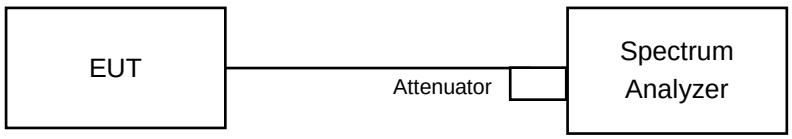
Spectrum Plot of Worst Value	
802.11b / CH6	**802.11g / CH6**
	
802.11n (HT20) / Chain 1 : CH6	**802.11n (HT40) / Chain 1 : CH6**
	

4.6 Conducted Out of Band Emission Measurement

4.6.1 Limits of Conducted Out of Band Emission Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

MEASUREMENT PROCEDURE REF

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

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

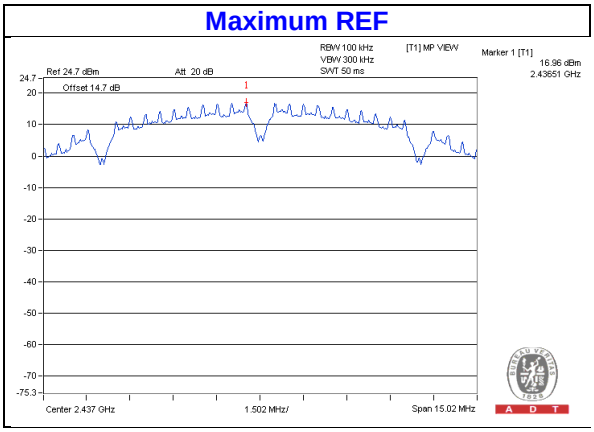
Same as Item 4.3.6

4.6.7 Test Results

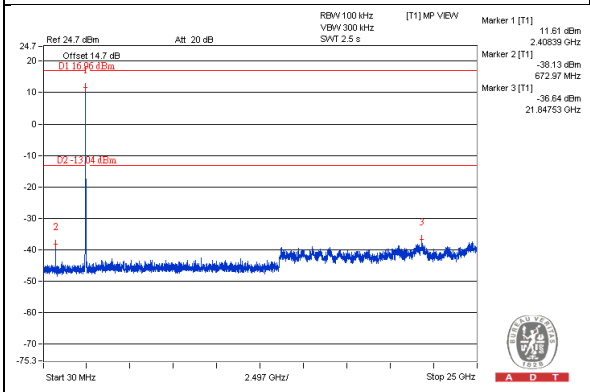
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 30dB offset below D1. It shows compliance with the requirement.

802.11b

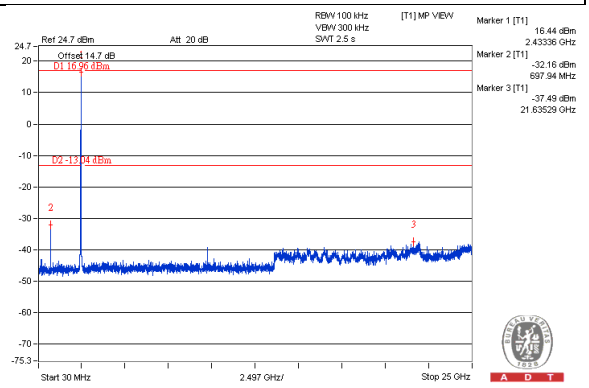
Maximum REF



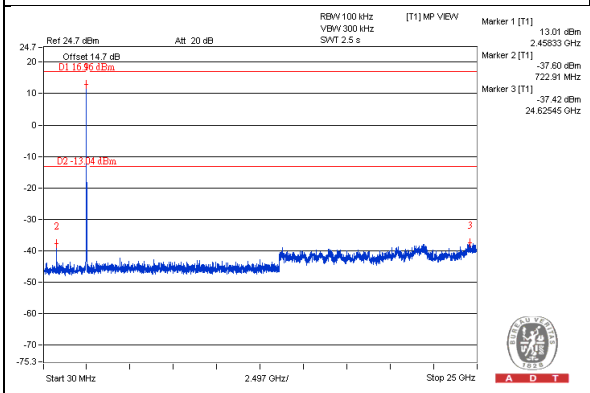
CH 1



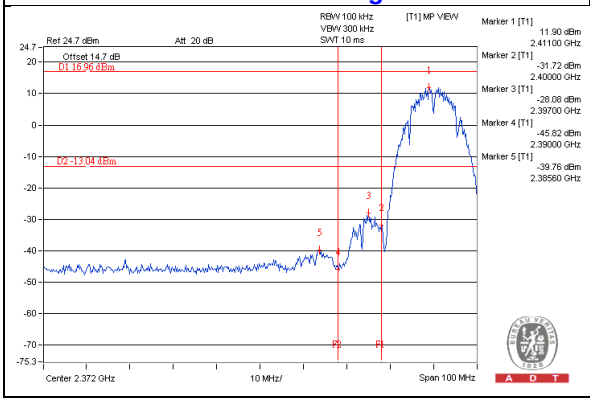
CH 6



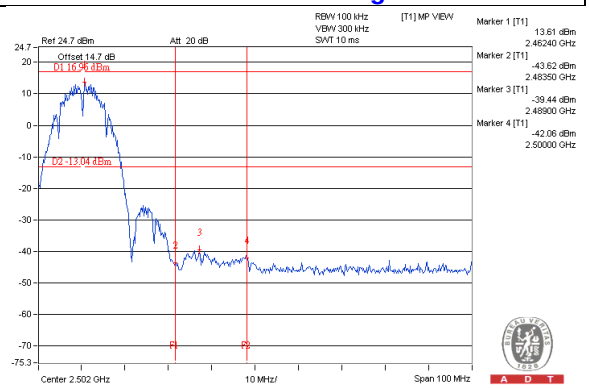
CH 11



CH 1 Band edge

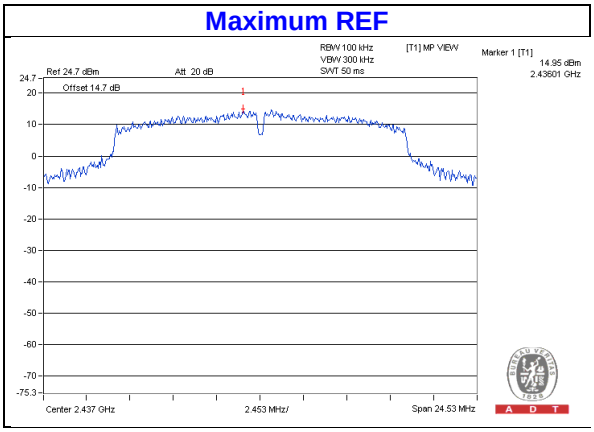


CH 11 Band edge

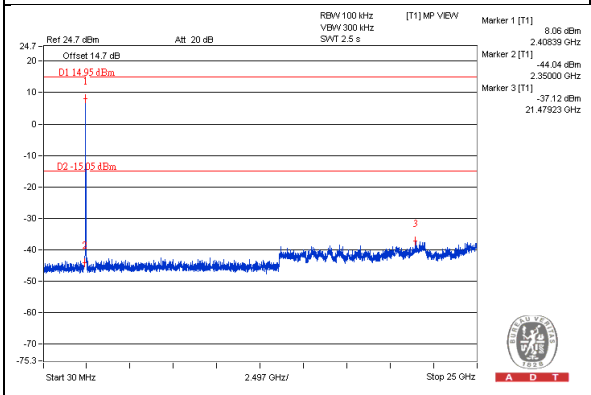


802.11g

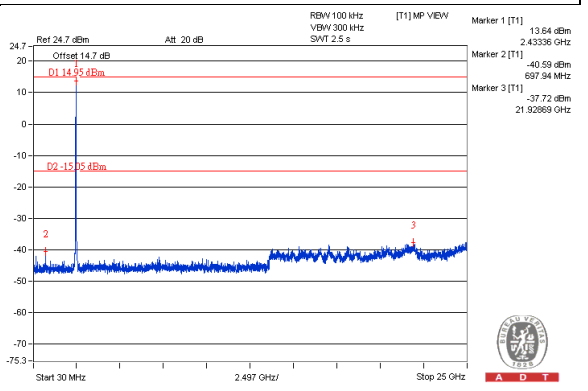
Maximum REF



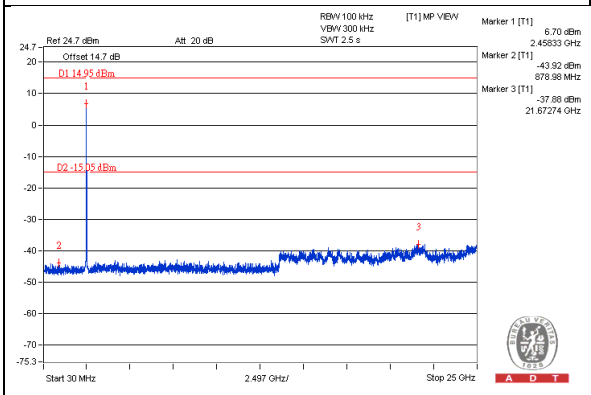
CH 1



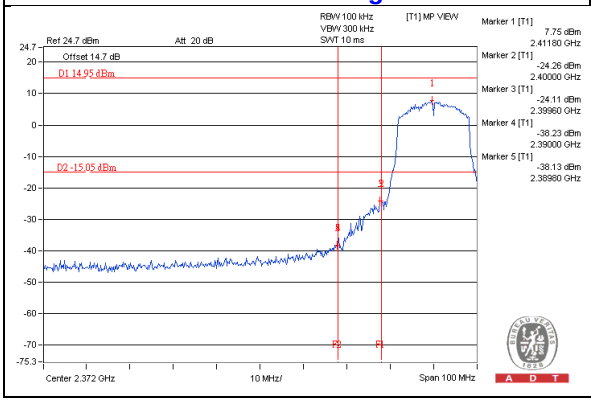
CH 6



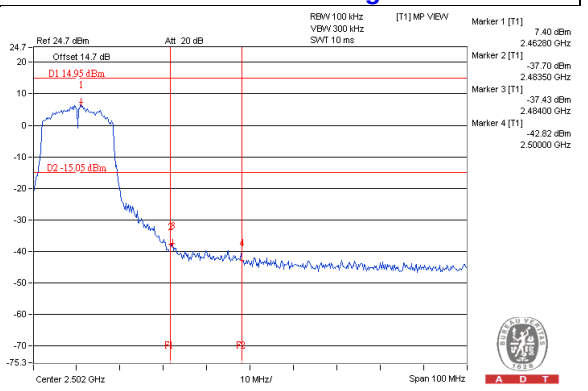
CH 11



CH 1 Band edge

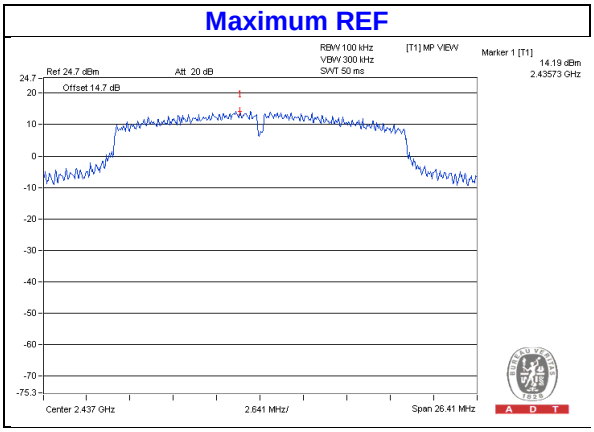


CH 11 Band edge

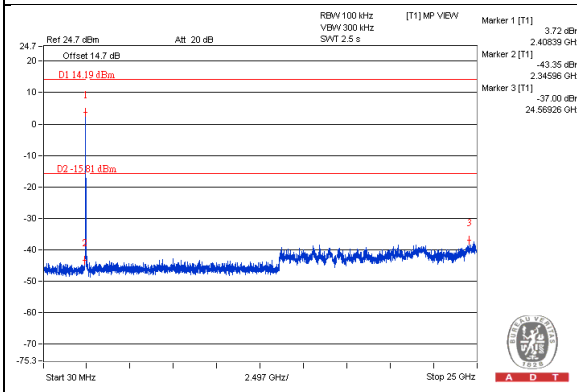


802.11n (HT20) / Chain 0

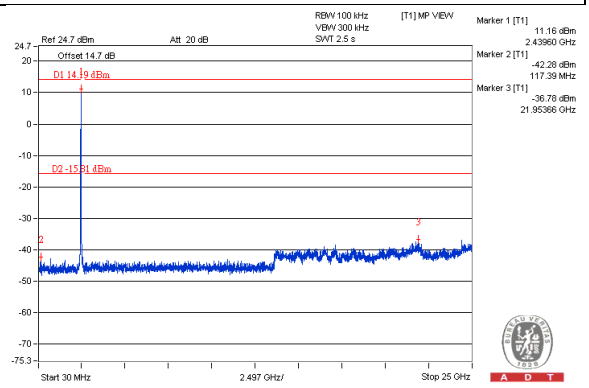
Maximum REF



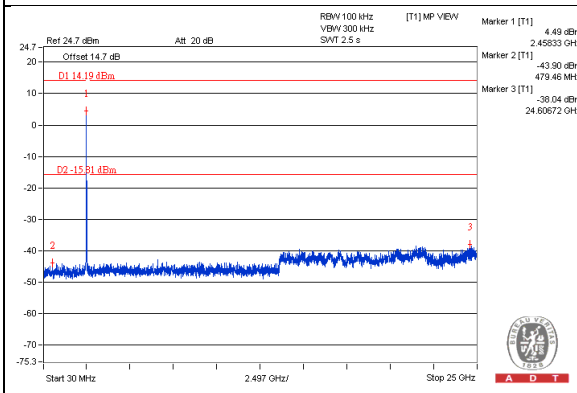
CH 1



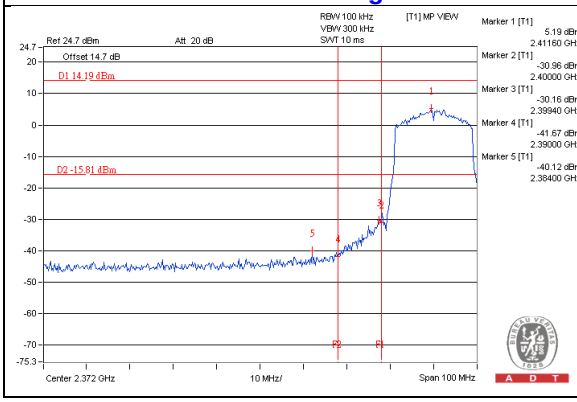
CH 6



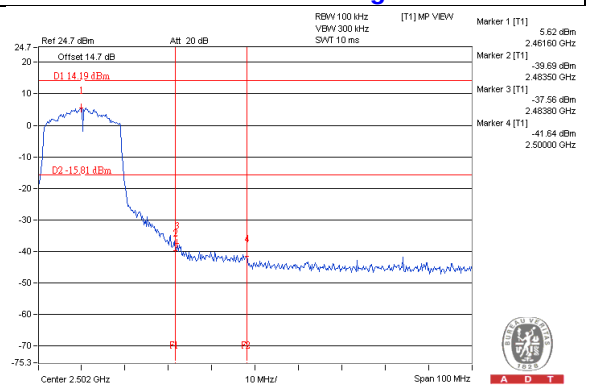
CH 11



CH 1 Band edge

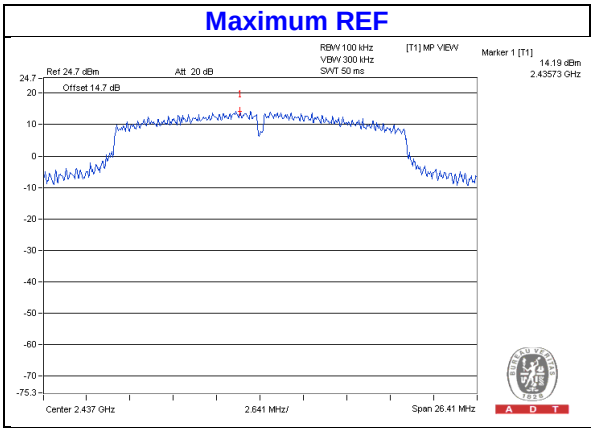


CH 11 Band edge

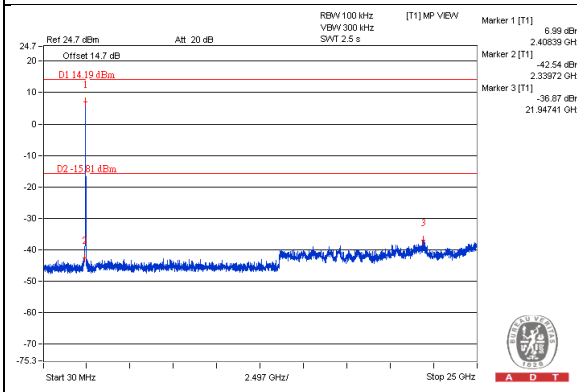


802.11n (HT20) / Chain 1

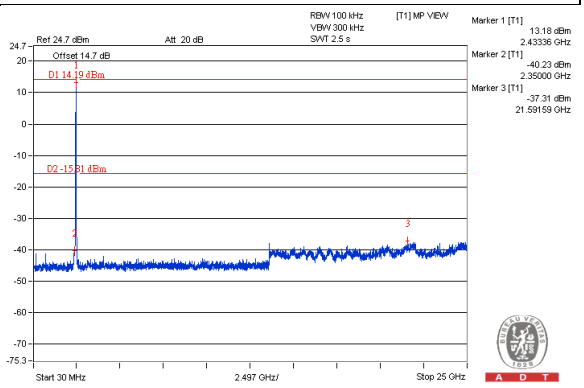
Maximum REF



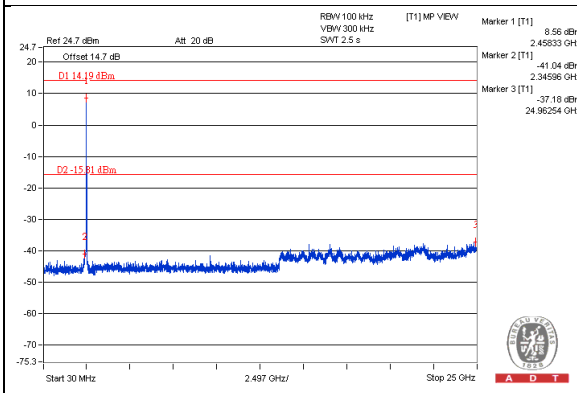
CH 1



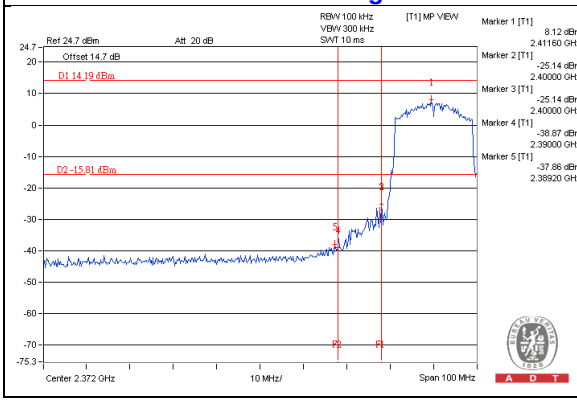
CH 6



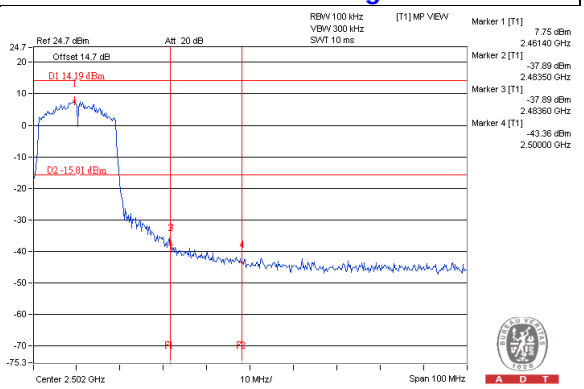
CH 11



CH 1 Band edge

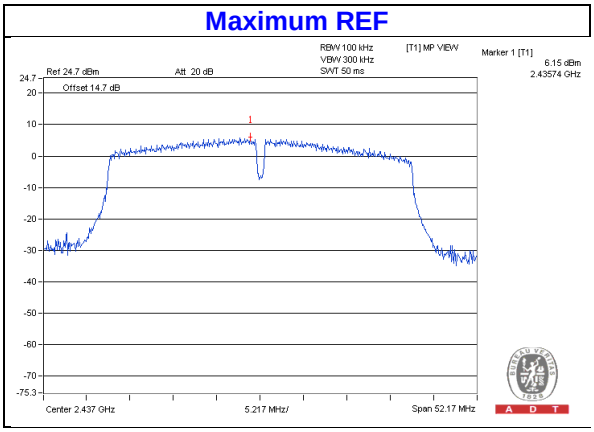


CH 11 Band edge

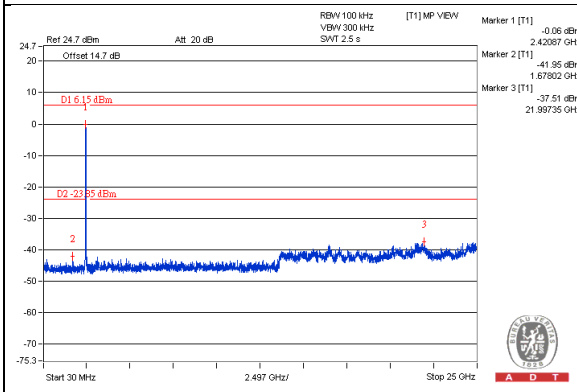


802.11n (HT40) / Chain 0

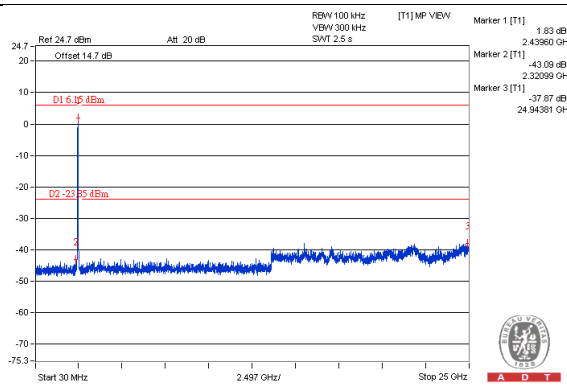
Maximum REF



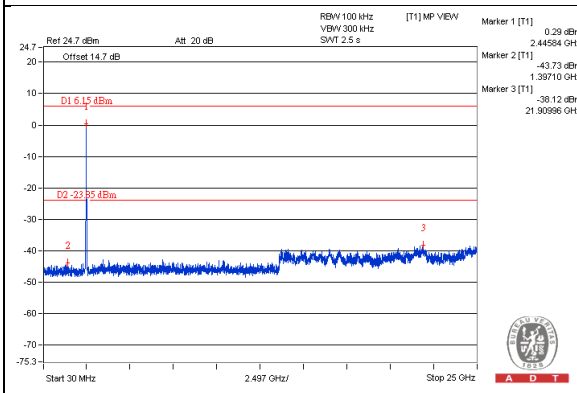
CH 3



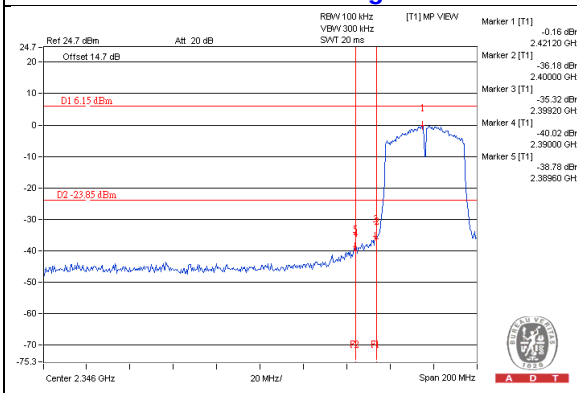
CH 6



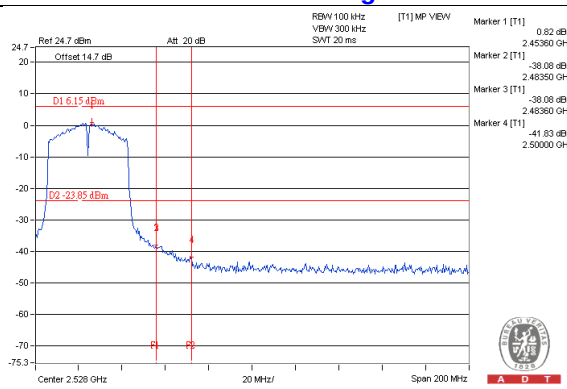
CH 9



CH 3 Band edge

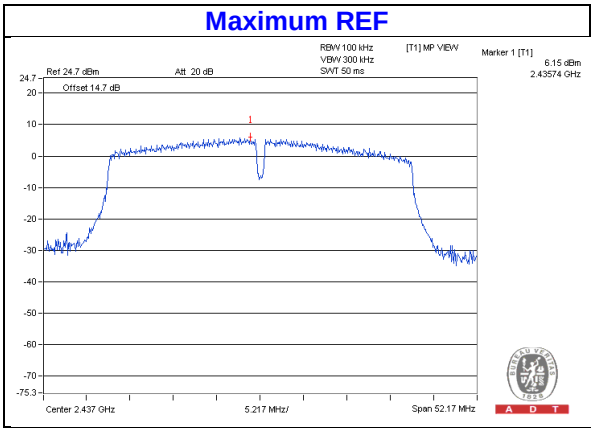


CH 9 Band edge

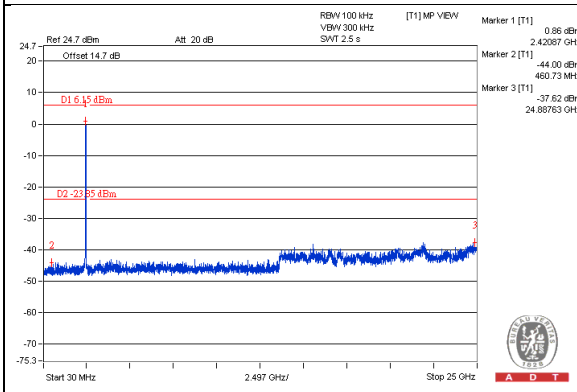


802.11n (HT40) / Chain 1

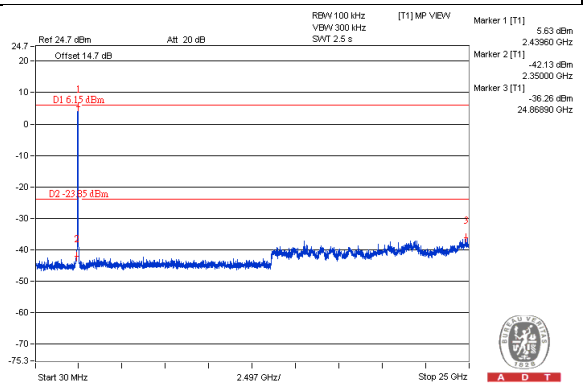
Maximum REF



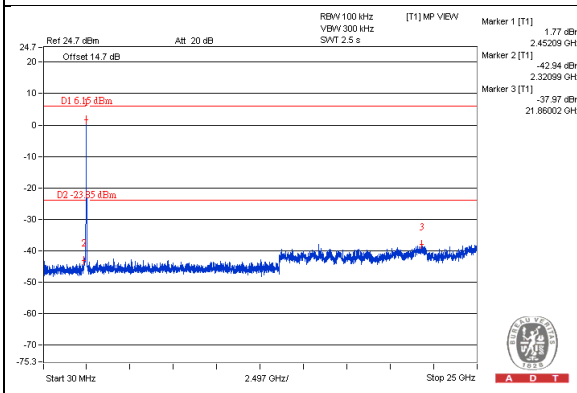
CH 3



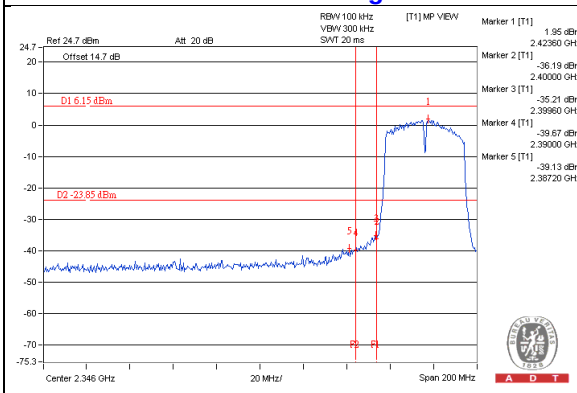
CH 6



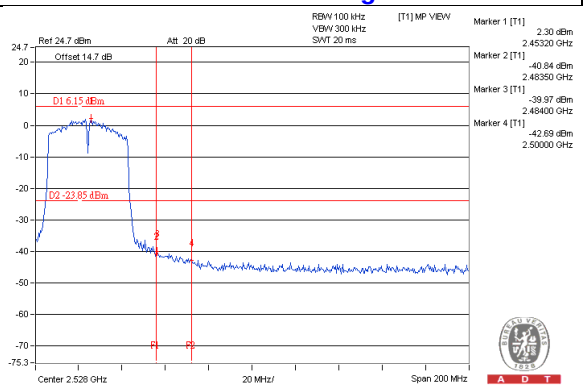
CH 9



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
Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab
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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