FCC Test Report

Report No.:	RF160315E16
FCC ID:	YZKECWO7220L
Test Model:	ECWO7220-L
Received Date:	Mar. 15, 2016
Test Date:	Mar. 30 to May 13, 2016
Issued Date:	June 01, 2016
Applicant:	Edgecore Networks Corporation.
Address:	No.1, Creation Rd. III, Hsinchu Science Park, Hsinchu 30077, 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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Testing Laboratory
2022

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Release Control Record

Issue No.	Description	Date Issued
RF160315E16	Original release.	June 01, 2016

1 Certificate of Conformity

Product:	802.11a/ac/b/g/n Outdoor Wireless Access Point
Brand:	Edge-corE
Test Model:	ECWO7220-L
Sample Status:	MASS-PRODUCTION
Applicant:	Edgecore Networks Corporation.
Test Date:	Mar. 30 to May 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 : Wendy Wu , **Date:** June 01, 2016

Wendy Wu / Specialist

Approved by : , **Date:** June 01, 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 -1.32dB at 2.47656MHz.
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 and 2483.50MHz.
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 MMCX not a standard connector.

NOTE: 1. For WLAN: The EUT was operating in 2.412 ~ 2.462GHz, 5.18~5.24 GHz and 5.745~5.825GHz frequencies. This report was recorded the RF parameters including 2.412 ~ 2.462GHz. For the 5.18~5.24 GHz and 5.745~5.825GHz RF parameters was recorded in another test report.

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	1.83 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	802.11a/ac/b/g/n Outdoor Wireless Access Point
Brand	Edge-corE
Test Model	ECWO7220-L
Status of EUT	MASS-PRODUCTION
Power Supply Rating	DC 42.5~57V from POE
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode and VHT (20/40) mode in 2.4GHz
Modulation Technology	DSSS,OFDM
Transfer Rate	802.11b: up to 11Mbps 802.11a/g: up to 54Mbps 802.11n: up to 600Mbps 802.11ac: up to 1300Mbps
Operating Frequency	**For 15.247:** 2.412 ~ 2.462GHz **For 15.407:** 5.18GHz ~ 5.24GHz and 5.745GHz ~ 5.825GHz
Number of Channel	**For 15.247:** 802.11b, 802.11g, 802.11n (HT20), (VHT20): 11 802.11n (HT40), (VHT40): 7 **For 15.407:** 802.11a, 802.11n (HT20), 802.11ac (VHT20): 9 802.11n (HT40), 802.11ac (VHT40): 4 802.11ac (VHT80):2
Output Power	**For 15.247:** 462.001mW **For 15.407:** **5.18GHz ~ 5.24GHz** 31.49mW **5.745GHz ~ 5.825GHz** 858.399mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	NA
Data Cable Supplied	NA

Note:

1. 2.4GHz and 5GHz technology can transmit at same time.
2. The EUT power needs to be supplied from POE, the information is as below table:

POE (Only for test not for sale)		
Brand	Model No.	Spec.
Power Dsine	PD-9501G/AC	Input: 100-240V, 1.5A, 50-60Hz Output: 55V, 1.35A

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

For 2.4GHz								
Antenna No	PCB Chain No.	Brand	Model	Antenna Type	Antenna Connector	Gain (dBi)	Cable Length (mm)	Frequency (GHz to GHz)
1	Chain 0	Accton	OAP1122B-0614-EC 3X3 SKU	Dipole	MMCX	6	175	2.4~2.4835
2	Chain 1	Accton		Dipole	MMCX	5.7	70	2.4~2.4835
3	Chain 2	Accton		Dipole	MMCX	5.4	170	2.4~2.4835
For 5GHz								
Antenna No	PCB Chain No.	Brand	Model	Antenna Type	Antenna Connector	Gain (dBi)	Cable Length (mm)	Frequency (GHz to GHz)
1	Chain 0	Accton	OAP1122B-0614-EC 3X3 SKU	Dipole	MMCX	5.6	205	5.15~5.25
						5.1		5.25~5.35
						5.1		5.47~5.725
						6		5.725~5.85
2	Chain 1	Accton		Dipole	MMCX	5.9	150	5.15~5.25
						5.7		5.25~5.35
						6		5.47~5.725
						5.5		5.725~5.85
3	Chain 2	Accton		Dipole	MMCX	6	75	5.15~5.25
						5.5		5.25~5.35
						5.9		5.47~5.725
						5.5		5.725~5.85

4. The EUT incorporates a MIMO function.

2.4GHz Band			
MODULATION MODE	**DATA RATE (MCS)**	**TX & RX CONFIGURATION**	
802.11b	1 ~ 11Mbps	3TX	3RX
802.11g	6 ~ 54Mbps	3TX	3RX
802.11n (HT20)	MCS 0~7	3TX	3RX
	MCS 8~15	3TX	3RX
	MCS 16~23	3TX	3RX
802.11n (HT40)	MCS 0~7	3TX	3RX
	MCS 8~15	3TX	3RX
	MCS 16~23	3TX	3RX
VHT20	MCS0~8 Nss=1	3TX	3RX
	MCS0~8 Nss=2	3TX	3RX
	MCS0~9 Nss=3	3TX	3RX
VHT40	MCS0~9 Nss=1	3TX	3RX
	MCS0~9 Nss=2	3TX	3RX
	MCS0~9 Nss=3	3TX	3RX
5GHz Band			
MODULATION MODE	**DATA RATE (MCS)**	**TX & RX CONFIGURATION**	
802.11a	6 ~ 54Mbps	3TX	3RX
802.11n (HT20)	MCS 0~7	3TX	3RX
	MCS 8~15	3TX	3RX
	MCS 16~23	3TX	3RX
802.11n (HT40)	MCS 0~7	3TX	3RX
	MCS 8~15	3TX	3RX
	MCS 16~23	3TX	3RX
802.11ac (VHT20)	MCS0~8 Nss=1	3TX	3RX
	MCS0~8 Nss=2	3TX	3RX
	MCS0~9 Nss=3	3TX	3RX
802.11ac (VHT40)	MCS0~9 Nss=1	3TX	3RX
	MCS0~9 Nss=2	3TX	3RX
	MCS0~9 Nss=3	3TX	3RX
802.11ac (VHT80)	MCS0~9 Nss=1	3TX	3RX
	MCS0~9 Nss=2	3TX	3RX
	MCS0~9 Nss=3	3TX	3RX
Note: 1. The modulation and bandwidth are similar for 802.11n mode for 20MHz (40MHz) and 802.11ac mode for 20MHz (40MHz), therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)			

5. 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.

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

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)
802.11g	1 to 11	6	OFDM	BPSK	6

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

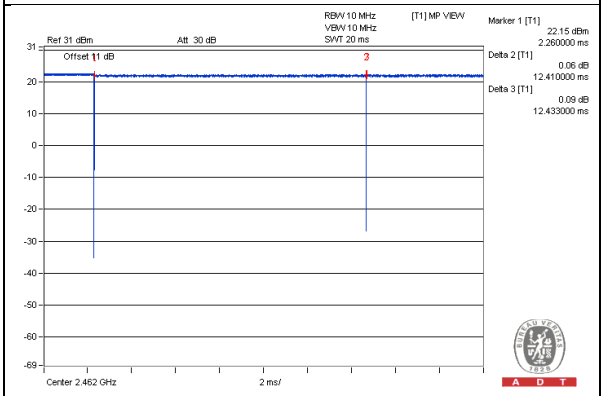
Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY	TEST LOCATION
RE≥1G	25deg. C, 74%RH	120Vac, 60Hz	Andy Ho	1
RE<1G	25deg. C, 73%RH	120Vac, 60Hz	Andy Ho	1
PLC	25deg. C, 62%RH	120Vac, 60Hz	Eagle Chen	2
APCM	21deg. C, 60%RH	120Vac, 60Hz	Anderson Chen	1

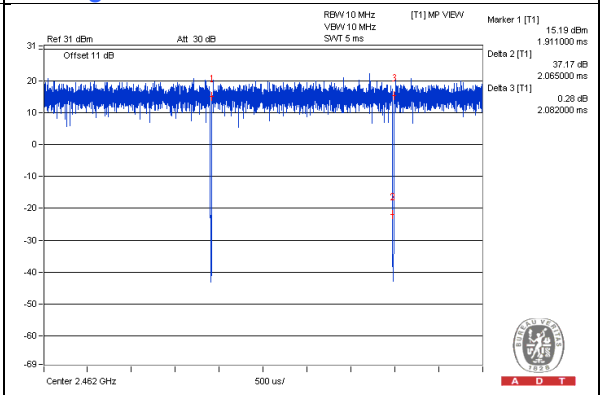
3.3 Duty Cycle of Test Signal

Duty cycle of test signal is ≥ 98 %, duty factor is not required.
802.11b: Duty cycle = 12.41/12.433 = 0.998
802.11g: Duty cycle = 2.065/2.082 = 0.992
802.11n (HT20): Duty cycle = 1.919/1.938 = 0.99
802.11n (HT40): Duty cycle = 0.944/0.961 = 0.982

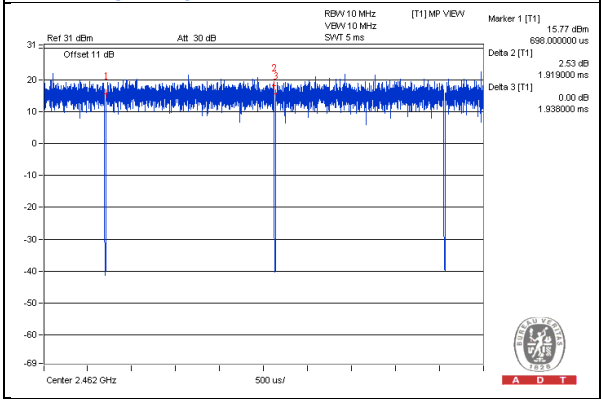
802.11b



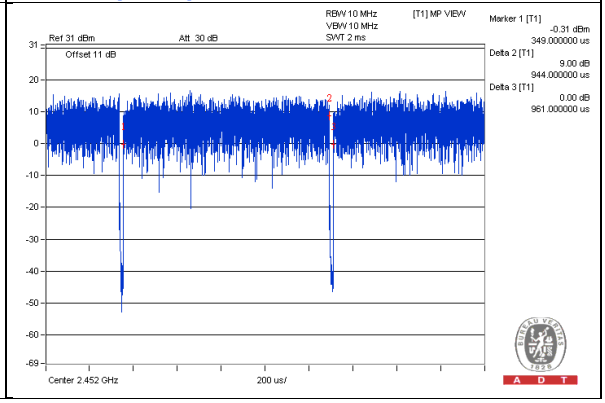
802.11g



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.

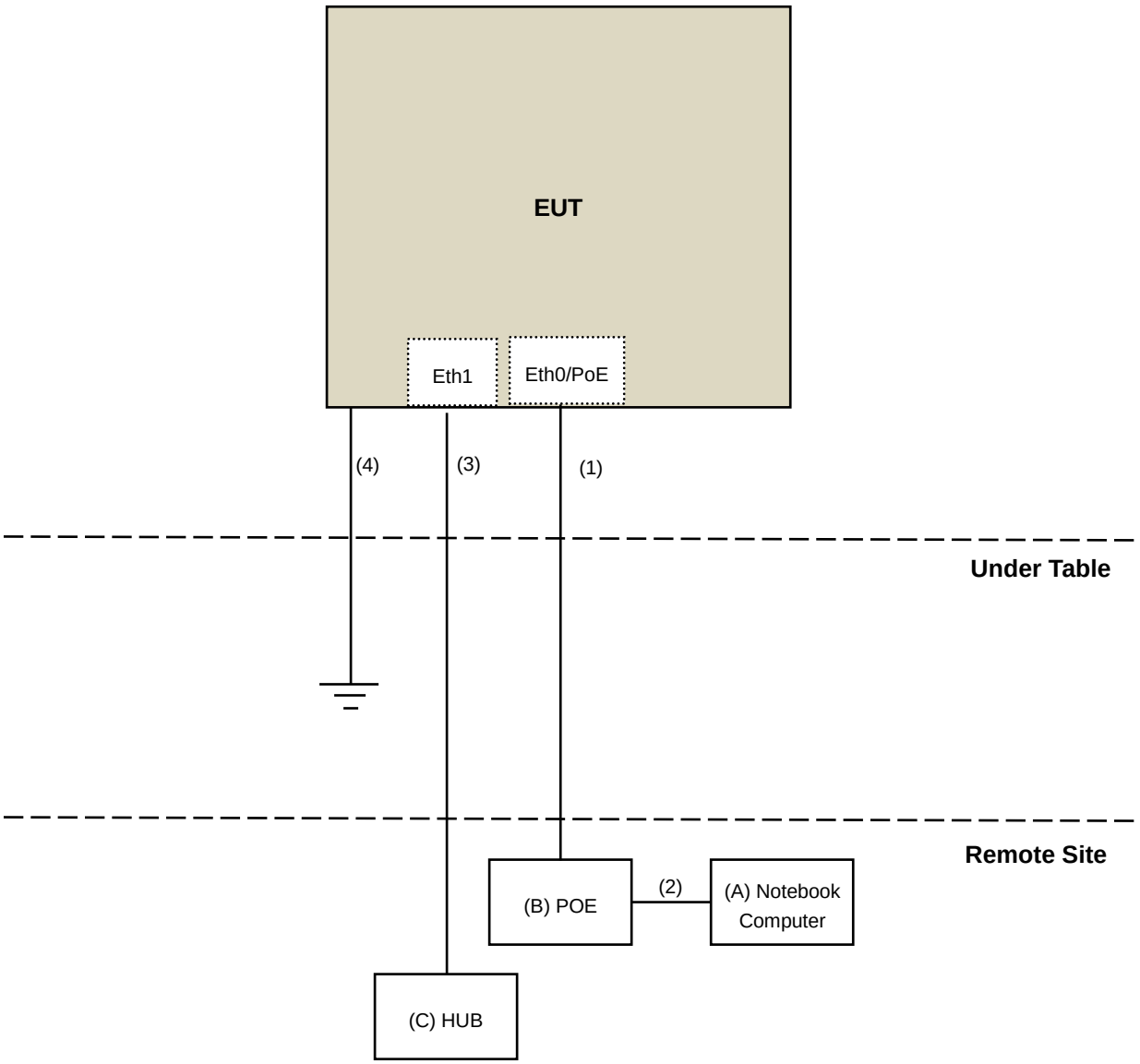
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook Computer	DELL	E5430	HYV4VY1	FCC DoC	Provided by Lab
B.	PoE Adapter	Power Dsine	PD-9501G/AC	NA	NA	Supplied by Client
C.	HUB	ZyXEL	ES-116P	S060H02000215	FCC DoC	Provided by Lab

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.	Console cable	1	1	No	0	Supplied by Client
2.	RJ45 cable	1	10	No	0	Provided by Lab
3.	RJ45 cable	1	10	No	0	Provided by Lab
4.	RJ45 cable	1	3	No	0	Provided by Lab

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

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY50010156	Aug. 12, 2015	Aug. 11, 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-1000VH2B	AMP-ZFL-07	May 07, 2016	May 06, 2017
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-156	Jan. 04, 2016	Jan. 03, 2017
RF Cable	8D	966-3-1 966-3-2 966-3-3	Apr. 02, 2016	Apr. 01, 2017
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 Max-Full	MF-7802	MF780208406	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Spectrum Analyzer R&S	FSP40	100060	May 11, 2016	May 10, 2017
Power meter Anritsu	ML2495A	1014008	May 5, 2016	May 4, 2017
Power sensor Anritsu	MA2411B	0917122	May 5, 2016	May 4, 2017

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. *The 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. 3.
4. The FCC Site Registration No. is 147459
5 Loop antenna was used for all emissions below 30 MHz.
6. The CANADA Site Registration No. is 20331-1
7. Tested Date: May 12 to 14, 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:

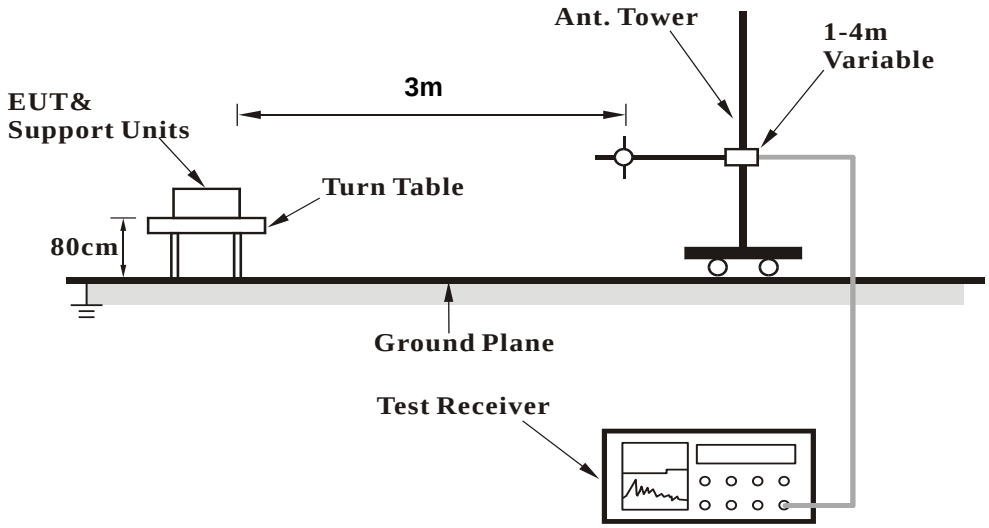
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
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

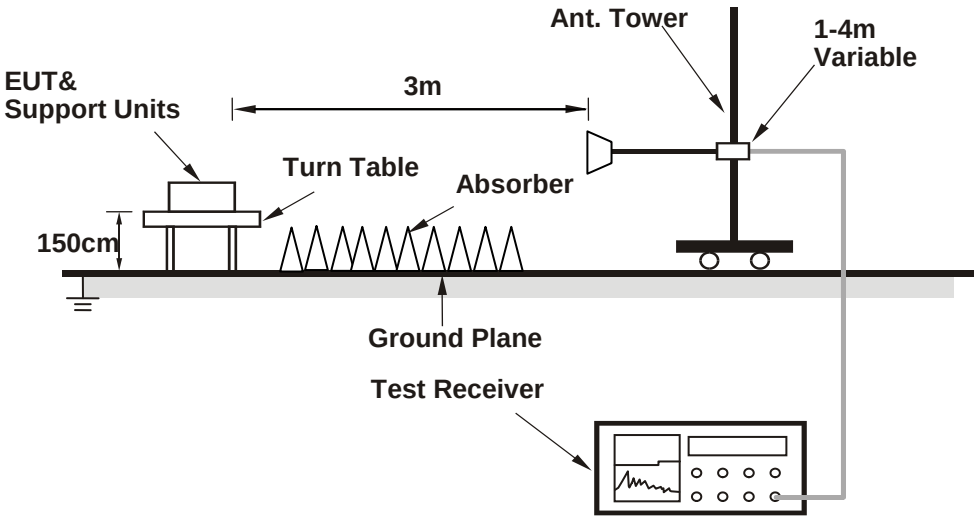
No deviation.

4.1.5 Test Set Up

<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

1. Connect the EUT with the support unit A (Notebook Computer) which is placed on remote site.
2. Controlling software (Mtool.exe (2.0.2.7)) 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	52.6 PK	74.0	-21.4	2.07 H	71	56.80	-4.20
2	2390.00	43.6 AV	54.0	-10.4	2.07 H	71	47.80	-4.20
3	*2412.00	102.3 PK			2.07 H	71	106.40	-4.10
4	*2412.00	99.7 AV			2.07 H	71	103.80	-4.10
5	4824.00	41.7 PK	74.0	-32.3	1.64 H	119	39.40	2.30
6	4824.00	27.6 AV	54.0	-26.4	1.64 H	119	25.30	2.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	62.5 PK	74.0	-11.5	1.53 V	305	66.70	-4.20
2	**2390.00**	**53.9 AV**	**54.0**	**-0.1**	**1.53 V**	**305**	**58.10**	**-4.20**
3	*2412.00	116.8 PK			1.53 V	305	120.90	-4.10
4	*2412.00	114.2 AV			1.53 V	305	118.30	-4.10
5	4824.00	40.4 PK	74.0	-33.6	1.56 V	57	38.10	2.30
6	4824.00	28.0 AV	54.0	-26.0	1.56 V	57	25.70	2.30

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2312.76	46.6 PK	74.0	-27.4	2.02 H	71	51.10	-4.50
2	2312.76	42.5 AV	54.0	-11.5	2.02 H	71	47.00	-4.50
3	*2437.00	104.0 PK			2.01 H	57	108.00	-4.00
4	*2437.00	101.3 AV			2.01 H	57	105.30	-4.00
5	4874.00	41.4 PK	74.0	-32.6	1.69 H	118	38.90	2.50
6	4874.00	27.5 AV	54.0	-26.5	1.69 H	118	25.00	2.50
7	7311.00	47.7 PK	74.0	-26.3	1.43 H	221	38.80	8.90
8	7311.00	32.8 AV	54.0	-21.2	1.43 H	221	23.90	8.90
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2312.76	57.0 PK	74.0	-17.0	1.68 V	304	61.50	-4.50
2	2312.76	53.5 AV	54.0	-0.5	1.68 V	304	58.00	-4.50
3	*2437.00	118.5 PK			1.50 V	304	122.50	-4.00
4	*2437.00	115.8 AV			1.50 V	304	119.80	-4.00
5	4874.00	40.9 PK	74.0	-33.1	1.53 V	47	38.40	2.50
6	4874.00	28.4 AV	54.0	-25.6	1.53 V	47	25.90	2.50
7	7311.00	46.4 PK	74.0	-27.6	1.49 V	265	37.50	8.90
8	7311.00	33.0 AV	54.0	-21.0	1.49 V	265	24.10	8.90

REMARKS:

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

CHANNEL	TX Channel 11	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	2329.44	47.6 PK	74.0	-26.4	1.99 H	82	52.10	-4.50
2	2329.44	40.3 AV	54.0	-13.7	1.99 H	82	44.80	-4.50
3	*2462.00	103.1 PK			2.00 H	67	107.20	-4.10
4	*2462.00	100.6 AV			2.00 H	67	104.70	-4.10
5	2483.50	50.9 PK	74.0	-23.1	2.00 H	67	54.90	-4.00
6	2483.50	37.9 AV	54.0	-16.1	2.00 H	67	41.90	-4.00
7	4924.00	41.1 PK	74.0	-32.9	1.70 H	123	38.60	2.50
8	4924.00	27.5 AV	54.0	-26.5	1.70 H	123	25.00	2.50
9	7386.00	47.9 PK	74.0	-26.1	1.42 H	221	38.60	9.30
10	7386.00	33.0 AV	54.0	-21.0	1.42 H	221	23.70	9.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2329.44	58.2 PK	74.0	-15.8	1.63 V	306	62.70	-4.50
2	2329.44	53.1 AV	54.0	-0.9	1.63 V	306	57.60	-4.50
3	*2462.00	117.6 PK			1.56 V	153	121.70	-4.10
4	*2462.00	115.1 AV			1.56 V	153	119.20	-4.10
5	2483.50	62.0 PK	74.0	-12.0	1.56 V	153	66.00	-4.00
6	2483.50	51.8 AV	54.0	-2.2	1.56 V	153	55.80	-4.00
7	4924.00	41.1 PK	74.0	-32.9	1.50 V	39	38.60	2.50
8	4924.00	28.8 AV	54.0	-25.2	1.50 V	39	26.30	2.50
9	7386.00	46.5 PK	74.0	-27.5	1.44 V	251	37.20	9.30
10	7386.00	33.3 AV	54.0	-20.7	1.44 V	251	24.00	9.30

REMARKS:

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

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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	61.9 PK	74.0	-12.1	1.97 H	74	66.10	-4.20
2	2390.00	39.6 AV	54.0	-14.4	1.97 H	74	43.80	-4.20
3	*2412.00	103.6 PK			1.97 H	74	107.70	-4.10
4	*2412.00	92.4 AV			1.97 H	74	96.50	-4.10
5	4824.00	41.7 PK	74.0	-32.3	1.70 H	106	39.40	2.30
6	4824.00	27.9 AV	54.0	-26.1	1.70 H	106	25.60	2.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	73.3 PK	74.0	-0.7	1.50 V	192	77.50	-4.20
2	2390.00	51.8 AV	54.0	-2.2	1.50 V	192	56.00	-4.20
3	*2412.00	118.0 PK			1.50 V	192	122.10	-4.10
4	*2412.00	106.9 AV			1.50 V	192	111.00	-4.10
5	4824.00	40.8 PK	74.0	-33.2	1.51 V	35	38.50	2.30
6	4824.00	28.4 AV	54.0	-25.6	1.51 V	35	26.10	2.30

REMARKS:

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

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	58.4 PK	74.0	-15.6	1.94 H	73	62.60	-4.20
2	2390.00	38.7 AV	54.0	-15.3	1.94 H	73	42.90	-4.20
3	*2437.00	109.1 PK			1.94 H	73	113.10	-4.00
4	*2437.00	98.0 AV			1.94 H	73	102.00	-4.00
5	2483.50	63.0 PK	74.0	-11.0	1.94 H	73	67.00	-4.00
6	2483.50	36.5 AV	54.0	-17.5	1.94 H	73	40.50	-4.00
7	4874.00	41.7 PK	74.0	-32.3	1.74 H	113	39.20	2.50
8	4874.00	27.8 AV	54.0	-26.2	1.74 H	113	25.30	2.50
9	7311.00	48.1 PK	74.0	-25.9	1.42 H	217	39.20	8.90
10	7311.00	33.2 AV	54.0	-20.8	1.42 H	217	24.30	8.90
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	71.4 PK	74.0	-2.6	1.50 V	118	75.60	-4.20
2	2390.00	52.1 AV	54.0	-1.9	1.50 V	118	56.30	-4.20
3	*2437.00	123.6 PK			1.50 V	118	127.60	-4.00
4	*2437.00	112.5 AV			1.50 V	118	116.50	-4.00
5	2483.50	73.8 PK	74.0	-0.2	1.50 V	118	77.80	-4.00
6	2483.50	49.1 AV	54.0	-4.9	1.50 V	118	53.10	-4.00
7	4874.00	41.4 PK	74.0	-32.6	1.51 V	38	38.90	2.50
8	4874.00	28.9 AV	54.0	-25.1	1.51 V	38	26.40	2.50
9	7311.00	47.0 PK	74.0	-27.0	1.50 V	255	38.10	8.90
10	7311.00	33.4 AV	54.0	-20.6	1.50 V	255	24.50	8.90

REMARKS:

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

CHANNEL	TX Channel 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	103.2 PK			1.94 H	78	107.30	-4.10
2	*2462.00	92.0 AV			1.94 H	78	96.10	-4.10
3	2483.50	62.1 PK	74.0	-11.9	1.94 H	78	66.10	-4.00
4	2483.50	37.0 AV	54.0	-17.0	1.94 H	78	41.00	-4.00
5	4924.00	41.4 PK	74.0	-32.6	1.71 H	120	38.90	2.50
6	4924.00	27.7 AV	54.0	-26.3	1.71 H	120	25.20	2.50
7	7386.00	48.1 PK	74.0	-25.9	1.47 H	211	38.80	9.30
8	7386.00	33.1 AV	54.0	-20.9	1.47 H	211	23.80	9.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	117.7 PK			1.42 V	118	121.80	-4.10
2	*2462.00	106.5 AV			1.42 V	118	110.60	-4.10
3	2483.50	73.5 PK	74.0	-0.5	1.42 V	118	77.50	-4.00
4	2483.50	49.6 AV	54.0	-4.4	1.42 V	118	53.60	-4.00
5	4924.00	41.2 PK	74.0	-32.8	1.53 V	30	38.70	2.50
6	4924.00	28.8 AV	54.0	-25.2	1.53 V	30	26.30	2.50
7	7386.00	46.3 PK	74.0	-27.7	1.47 V	266	37.00	9.30
8	7386.00	33.0 AV	54.0	-21.0	1.47 V	266	23.70	9.30

REMARKS:

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

802.11n (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	60.9 PK	74.0	-13.1	1.92 H	90	65.10	-4.20
2	2390.00	41.3 AV	54.0	-12.7	1.92 H	90	45.50	-4.20
3	*2412.00	102.0 PK			1.92 H	90	106.10	-4.10
4	*2412.00	90.6 AV			1.92 H	90	94.70	-4.10
5	4824.00	42.3 PK	74.0	-31.7	1.65 H	129	40.00	2.30
6	4824.00	28.4 AV	54.0	-25.6	1.65 H	129	26.10	2.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	72.2 PK	74.0	-1.8	1.53 V	202	76.40	-4.20
2	2390.00	53.7 AV	54.0	-0.3	1.53 V	202	57.90	-4.20
3	*2412.00	116.5 PK			1.53 V	202	120.60	-4.10
4	*2412.00	105.1 AV			1.53 V	202	109.20	-4.10
5	4824.00	41.0 PK	74.0	-33.0	1.51 V	34	38.70	2.30
6	4824.00	28.5 AV	54.0	-25.5	1.51 V	34	26.20	2.30

REMARKS:

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

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	60.1 PK	74.0	-13.9	1.91 H	105	64.30	-4.20
2	2390.00	37.8 AV	54.0	-16.2	1.91 H	105	42.00	-4.20
3	*2437.00	107.8 PK			1.91 H	105	111.80	-4.00
4	*2437.00	96.6 AV			1.91 H	105	100.60	-4.00
5	2483.50	63.5 PK	74.0	-10.5	1.91 H	105	67.50	-4.00
6	2483.50	36.1 AV	54.0	-17.9	1.91 H	105	40.10	-4.00
7	4874.00	41.6 PK	74.0	-32.4	1.63 H	142	39.10	2.50
8	4874.00	28.0 AV	54.0	-26.0	1.63 H	142	25.50	2.50
9	7311.00	48.6 PK	74.0	-25.4	1.47 H	222	39.70	8.90
10	7311.00	33.6 AV	54.0	-20.4	1.47 H	222	24.70	8.90
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	71.5 PK	74.0	-2.5	1.50 V	203	75.70	-4.20
2	2390.00	50.1 AV	54.0	-3.9	1.50 V	203	54.30	-4.20
3	*2437.00	122.3 PK			1.50 V	203	126.30	-4.00
4	*2437.00	111.1 AV			1.50 V	203	115.10	-4.00
5	**2483.50**	**73.9 PK**	**74.0**	**-0.1**	**1.50 V**	**203**	**77.90**	**-4.00**
6	2483.50	48.4 AV	54.0	-5.6	1.50 V	203	52.40	-4.00
7	4874.00	41.3 PK	74.0	-32.7	1.54 V	35	38.80	2.50
8	4874.00	28.7 AV	54.0	-25.3	1.54 V	35	26.20	2.50
9	7311.00	46.8 PK	74.0	-27.2	1.53 V	274	37.90	8.90
10	7311.00	33.5 AV	54.0	-20.5	1.53 V	274	24.60	8.90

REMARKS:

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

CHANNEL	TX Channel 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	101.9 PK			1.93 H	100	106.00	-4.10
2	*2462.00	90.6 AV			1.93 H	100	94.70	-4.10
3	2483.50	62.0 PK	74.0	-12.0	1.93 H	100	66.00	-4.00
4	2483.50	41.5 AV	54.0	-12.5	1.93 H	100	45.50	-4.00
5	4924.00	41.5 PK	74.0	-32.5	1.69 H	135	39.00	2.50
6	4924.00	27.9 AV	54.0	-26.1	1.69 H	135	25.40	2.50
7	7386.00	48.7 PK	74.0	-25.3	1.51 H	212	39.40	9.30
8	7386.00	33.6 AV	54.0	-20.4	1.51 H	212	24.30	9.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	116.4 PK			1.49 V	44	120.50	-4.10
2	*2462.00	105.1 AV			1.49 V	44	109.20	-4.10
3	2483.50	73.4 PK	74.0	-0.6	1.49 V	44	77.40	-4.00
4	2483.50	53.8 AV	54.0	-0.2	1.49 V	44	57.80	-4.00
5	4924.00	41.0 PK	74.0	-33.0	1.54 V	40	38.50	2.50
6	4924.00	28.6 AV	54.0	-25.4	1.54 V	40	26.10	2.50
7	7386.00	46.7 PK	74.0	-27.3	1.47 V	264	37.40	9.30
8	7386.00	33.3 AV	54.0	-20.7	1.47 V	264	24.00	9.30

REMARKS:

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

802.11n (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	61.4 PK	74.0	-12.6	1.99 H	103	65.60	-4.20
2	2390.00	41.5 AV	54.0	-12.5	1.99 H	103	45.70	-4.20
3	*2422.00	96.3 PK			1.99 H	103	100.40	-4.10
4	*2422.00	84.4 AV			1.99 H	103	88.50	-4.10
5	4844.00	41.1 PK	74.0	-32.9	1.68 H	124	38.80	2.30
6	4844.00	27.7 AV	54.0	-26.3	1.68 H	124	25.40	2.30
7	7266.00	49.0 PK	74.0	-25.0	1.55 H	202	40.20	8.80
8	7266.00	33.9 AV	54.0	-20.1	1.55 H	202	25.10	8.80
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	72.7 PK	74.0	-1.3	1.90 V	128	76.90	-4.20
2	**2390.00**	**53.9 AV**	**54.0**	**-0.1**	**1.90 V**	**128**	**58.10**	**-4.20**
3	*2422.00	110.8 PK			1.90 V	128	114.90	-4.10
4	*2422.00	98.9 AV			1.90 V	128	103.00	-4.10
5	4844.00	41.0 PK	74.0	-33.0	1.58 V	47	38.70	2.30
6	4844.00	28.9 AV	54.0	-25.1	1.58 V	47	26.60	2.30
7	7266.00	47.0 PK	74.0	-27.0	1.51 V	253	38.20	8.80
8	7266.00	33.3 AV	54.0	-20.7	1.51 V	253	24.50	8.80

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	61.6 PK	74.0	-12.4	1.94 H	93	65.80	-4.20
2	2390.00	41.3 AV	54.0	-12.7	1.94 H	93	45.50	-4.20
3	*2437.00	102.9 PK			1.94 H	93	106.90	-4.00
4	*2437.00	90.1 AV			1.94 H	93	94.10	-4.00
5	2483.50	60.8 PK	74.0	-13.2	1.94 H	93	64.80	-4.00
6	2483.50	40.2 AV	54.0	-13.8	1.94 H	93	44.20	-4.00
7	4874.00	40.7 PK	74.0	-33.3	1.64 H	131	38.20	2.50
8	4874.00	27.5 AV	54.0	-26.5	1.64 H	131	25.00	2.50
9	7311.00	49.0 PK	74.0	-25.0	1.59 H	194	40.10	8.90
10	7311.00	33.8 AV	54.0	-20.2	1.59 H	194	24.90	8.90
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	73.2 PK	74.0	-0.8	1.61 V	43	77.40	-4.20
2	2390.00	53.6 AV	54.0	-0.4	1.61 V	43	57.80	-4.20
3	*2437.00	117.4 PK			1.61 V	43	121.40	-4.00
4	*2437.00	104.6 AV			1.61 V	43	108.60	-4.00
5	2483.50	72.0 PK	74.0	-2.0	1.61 V	43	76.00	-4.00
6	2483.50	52.4 AV	54.0	-1.6	1.61 V	43	56.40	-4.00
7	4874.00	40.9 PK	74.0	-33.1	1.53 V	32	38.40	2.50
8	4874.00	28.6 AV	54.0	-25.4	1.53 V	32	26.10	2.50
9	7311.00	46.9 PK	74.0	-27.1	1.51 V	268	38.00	8.90
10	7311.00	33.2 AV	54.0	-20.8	1.51 V	268	24.30	8.90

REMARKS:

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

CHANNEL	TX Channel 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	99.0 PK			1.94 H	83	103.10	-4.10
2	*2452.00	86.7 AV			1.94 H	83	90.80	-4.10
3	2483.50	62.2 PK	74.0	-11.8	1.94 H	83	66.20	-4.00
4	2483.50	38.7 AV	54.0	-15.3	1.94 H	83	42.70	-4.00
5	4904.00	40.5 PK	74.0	-33.5	1.64 H	142	38.00	2.50
6	4904.00	27.1 AV	54.0	-26.9	1.64 H	142	24.60	2.50
7	7356.00	48.8 PK	74.0	-25.2	1.62 H	200	39.60	9.20
8	7356.00	33.4 AV	54.0	-20.6	1.62 H	200	24.20	9.20
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	113.3 PK			1.45 V	200	117.40	-4.10
2	*2452.00	101.0 AV			1.45 V	200	105.10	-4.10
3	2483.50	73.4 PK	74.0	-0.6	1.45 V	200	77.40	-4.00
4	2483.50	51.3 AV	54.0	-2.7	1.45 V	200	55.30	-4.00
5	4904.00	41.4 PK	74.0	-32.6	1.47 V	31	38.90	2.50
6	4904.00	28.9 AV	54.0	-25.1	1.47 V	31	26.40	2.50
7	7356.00	46.6 PK	74.0	-27.4	1.46 V	275	37.40	9.20
8	7356.00	32.9 AV	54.0	-21.1	1.46 V	275	23.70	9.20

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:

802.11g

CHANNEL	TX Channel 6	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	below 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	71.61	31.9 QP	40.0	-8.1	2.00 H	119	33.29	-1.35
2	172.40	33.3 QP	43.5	-10.2	2.00 H	104	32.93	0.37
3	263.99	35.6 QP	46.0	-10.4	1.00 H	302	35.15	0.43
4	300.00	35.4 QP	46.0	-10.6	1.00 H	360	33.63	1.79
5	461.99	34.9 QP	46.0	-11.1	1.50 H	20	29.08	5.81
6	958.94	38.1 QP	46.0	-7.9	1.00 H	343	23.93	14.16
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	37.84	36.3 QP	40.0	-3.7	1.00 V	360	36.18	0.15
2	72.00	35.7 QP	40.0	-4.3	1.00 V	135	37.18	-1.51
3	264.01	34.3 QP	46.0	-11.7	1.50 V	340	33.91	0.43
4	396.03	33.9 QP	46.0	-12.1	1.50 V	360	29.87	4.01
5	461.99	37.3 QP	46.0	-8.7	1.00 V	191	31.51	5.81
6	1000.00	39.6 QP	54.0	-14.4	1.00 V	295	24.94	14.68

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	100287	Apr. 17, 2015	Apr. 16, 2016
Line-Impedance Stabilization Network (for EUT) SCHWARZBECK	NSLK-8127	8127-523	Oct. 02, 2015	Oct. 01, 2016
Line-Impedance Stabilization Network (for Peripheral) R&S	ENV216	100071	Nov. 11, 2015	Nov. 10, 2016
RF Cable	5D-FB	COACAB-001	May 25, 2015	May 24, 2016
50 ohms Terminator	50	3	Oct. 21, 2015	Oct. 20, 2016
50 ohms Terminator	N/A	EMC-04	Oct. 28, 2015	Oct. 27, 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. A.
3. The VCCI Con A Registration No. is C-817.
4. Tested Date: Mar. 30, 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.

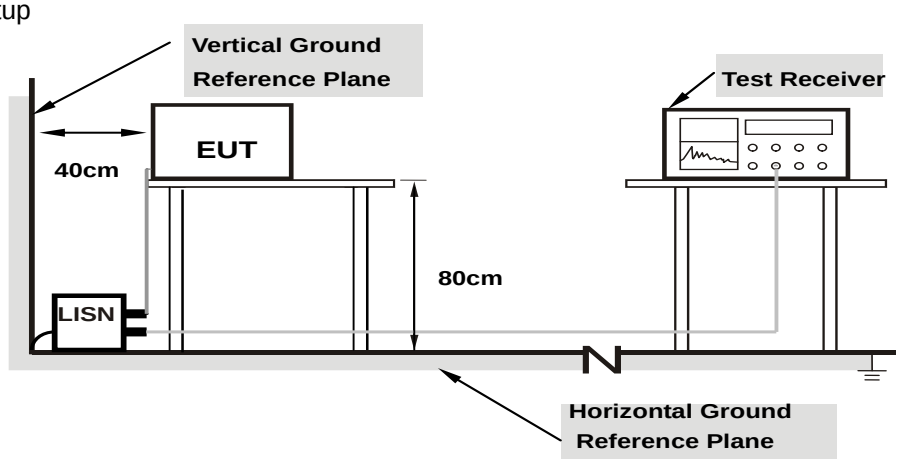
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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.

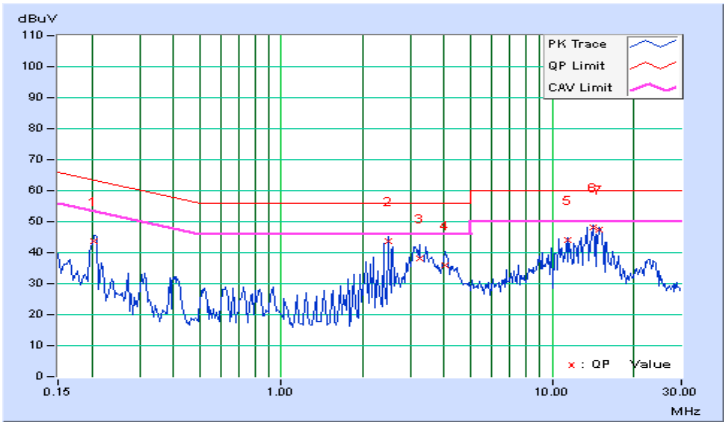
4.2.7 Test Results

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

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	0.20469	10.23	33.40	21.75	43.63	31.98	63.42	53.42	-19.79	-21.44
2	2.47656	10.35	33.38	18.39	43.73	28.74	56.00	46.00	-12.27	-17.26
3	3.22656	10.42	27.81	19.44	38.23	29.86	56.00	46.00	-17.77	-16.14
4	4.01563	10.49	25.43	16.55	35.92	27.04	56.00	46.00	-20.08	-18.96
5	11.35547	10.68	33.24	32.83	43.92	43.51	60.00	50.00	-16.08	-6.49
6	14.25391	10.83	37.48	37.28	48.31	48.11	60.00	50.00	-11.69	-1.89
7	14.98047	10.87	36.59	36.24	47.46	47.11	60.00	50.00	-12.54	-2.89

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.

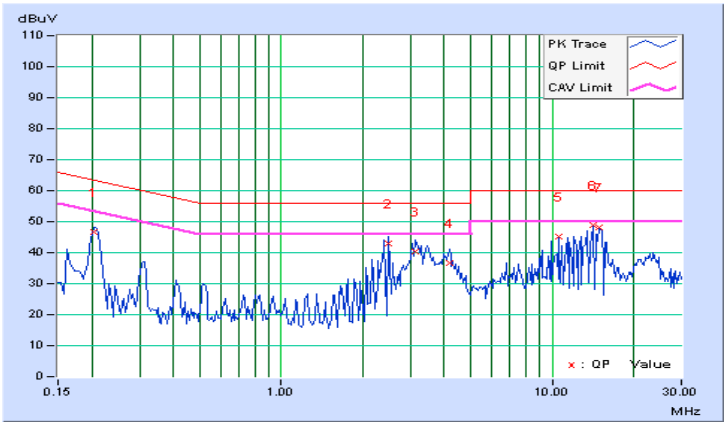


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

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	0.20469	10.31	36.42	24.10	46.73	34.41	63.42	53.42	-16.69	-19.01
2	2.48438	10.43	32.65	18.35	43.08	28.78	56.00	46.00	-12.92	-17.22
3	3.13672	10.48	29.79	21.17	40.27	31.65	56.00	46.00	-15.73	-14.35
4	4.16016	10.55	26.08	17.88	36.63	28.43	56.00	46.00	-19.37	-17.57
5	10.62891	10.67	34.49	34.20	45.16	44.87	60.00	50.00	-14.84	-5.13
6	**14.25391**	**10.84**	**37.98**	**37.84**	**48.82**	**48.68**	**60.00**	**50.00**	**-11.18**	**-1.32**
7	14.97906	10.87	37.28	37.08	48.15	47.95	60.00	50.00	-11.85	-2.05

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.

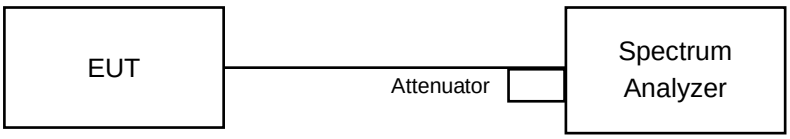


4.3 6dB Bandwidth Measurement

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	Chain 2		
1	2412	8.56	8.13	8.55	0.5	PASS
6	2437	8.11	8.12	8.13	0.5	PASS
11	2462	8.10	8.10	8.54	0.5	PASS

802.11g

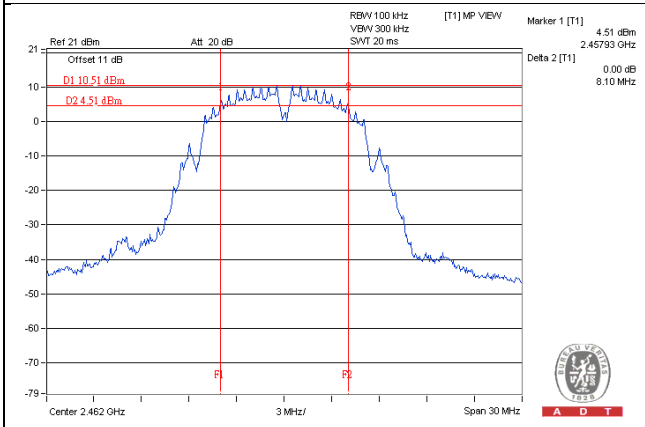
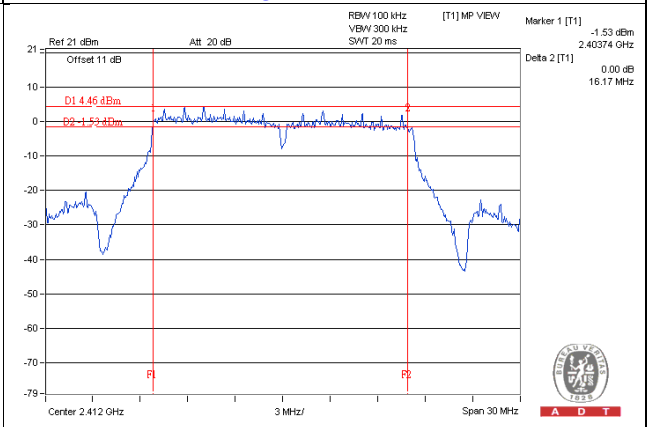
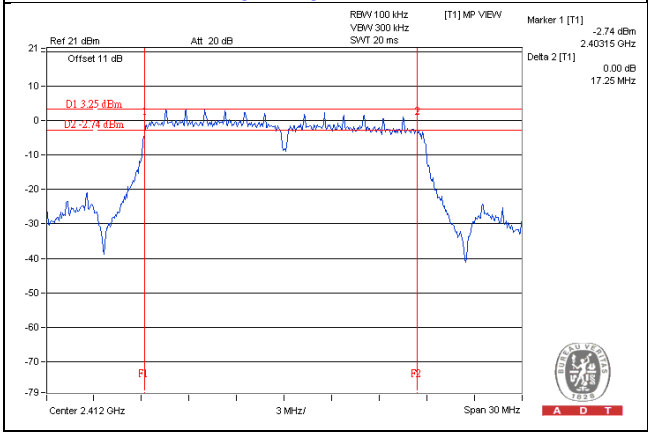
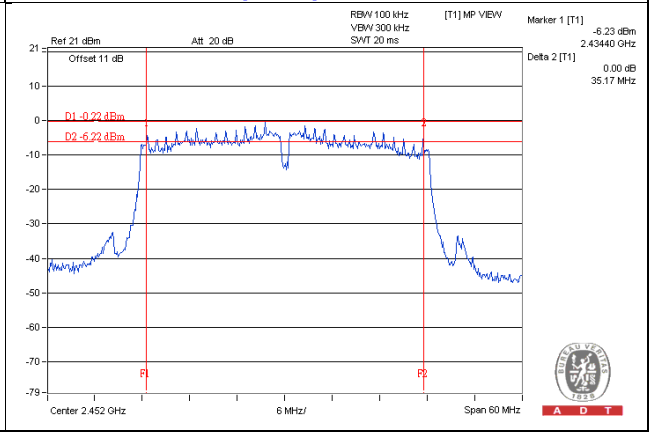
Channel	Frequency (MHz)	6db Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
1	2412	16.17	16.37	16.40	0.5	PASS
6	2437	16.46	16.42	16.43	0.5	PASS
11	2462	16.38	16.39	16.40	0.5	PASS

802.11n (HT20)

Channel	Frequency (MHz)	6db Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
1	2412	17.25	17.25	17.27	0.5	Pass
6	2437	17.67	17.65	17.65	0.5	Pass
11	2462	17.40	17.67	17.41	0.5	Pass

802.11n (HT40)

Channel	Frequency (MHz)	6db Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
3	2422	35.95	36.50	36.52	0.5	Pass
6	2437	36.54	36.55	36.54	0.5	Pass
9	2452	35.39	35.91	35.17	0.5	Pass

Spectrum Plot of Worst Value	
802.11b / Chain 0 : CH11	**802.11g / Chain 0 : CH1**
	
802.11n (HT20) / Chain 0 : CH1	**802.11n (HT40) / Chain 2 : CH9**
	

4.4 Conducted Output Power Measurement

4.4.1 Limits of Conducted Output Power Measurement

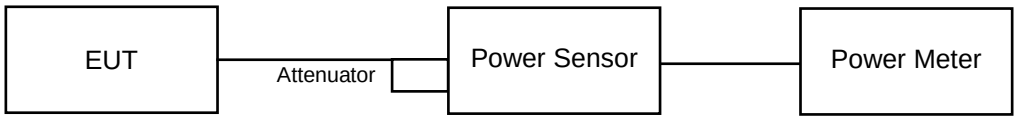
For systems using digital modulation in the 2400–2483.5 MHz bands: 1 Watt (30dBm)

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

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

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

4.4.2 Test Setup



4.4.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.4 Test Procedures

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

4.4.5 Deviation from Test Standard

No deviation.

4.4.6 EUT Operating Conditions

Same as Item 4.3.6.

4.4.7 Test Results

802.11b

Chan.	Chan. Freq. (MHz)	Avg. Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
1	2412	17.47	17.52	18.11	177.055	22.48	30	Pass
6	2437	19.25	19.28	19.78	263.923	24.21	30	Pass
11	2462	19.17	19.01	19.57	252.793	24.03	30	Pass

802.11g

Chan.	Chan. Freq. (MHz)	Avg. Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
1	2412	15.60	15.41	16.25	113.232	20.54	30	Pass
6	2437	21.52	21.78	22.29	462.001	26.65	30	Pass
11	2462	14.57	14.91	15.31	93.579	19.71	30	Pass

802.11n (HT20)

Chan.	Chan. Freq. (MHz)	Avg. Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
1	2412	14.55	14.85	14.93	90.176	19.55	30	Pass
6	2437	21.11	21.01	21.59	399.517	26.02	30	Pass
11	2462	14.90	15.44	15.35	100.175	20.01	30	Pass

802.11n (HT40)

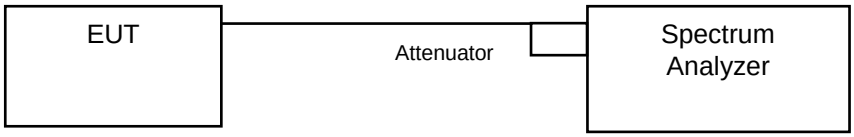
Chan.	Chan. Freq. (MHz)	Avg. Power (dBm)			Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
3	2422	11.99	11.98	12.88	50.997	17.08	30	Pass
6	2437	17.78	17.98	18.74	197.602	22.96	30	Pass
9	2452	13.30	13.27	13.54	65.206	18.14	30	Pass

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

TX chain	Channel	Freq. (MHz)	PSD (dBm/10kHz)	10 log (N=3) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	1	2412	-8.25	4.77	-3.48	3.53	Pass
	6	2437	-6.77	4.77	-2.00	3.53	Pass
	11	2462	-6.99	4.77	-2.22	3.53	Pass
1	1	2412	-10.54	4.77	-5.77	3.53	Pass
	6	2437	-8.91	4.77	-4.14	3.53	Pass
	11	2462	-8.68	4.77	-3.91	3.53	Pass
2	1	2412	-10.29	4.77	-5.52	3.53	Pass
	6	2437	-8.51	4.77	-3.74	3.53	Pass
	11	2462	-8.20	4.77	-3.43	3.53	Pass

NOTE: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2$ / 3] = 10.47dBi > 6dBi , so the power limit shall be reduced to 8-(10.47-6) = 3.53dBm.

802.11g

TX chain	Channel	Freq. (MHz)	PSD (dBm/10kHz)	10 log (N=3) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	1	2412	-14.64	4.77	-9.87	3.53	Pass
	6	2437	-8.73	4.77	-3.96	3.53	Pass
	11	2462	-15.26	4.77	-10.49	3.53	Pass
1	1	2412	-14.21	4.77	-9.44	3.53	Pass
	6	2437	-9.16	4.77	-4.39	3.53	Pass
	11	2462	-15.21	4.77	-10.44	3.53	Pass
2	1	2412	-13.78	4.77	-9.01	3.53	Pass
	6	2437	-8.13	4.77	-3.36	3.53	Pass
	11	2462	-14.72	4.77	-9.95	3.53	Pass

NOTE: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2$ / 3] = 10.47dBi > 6dBi , so the power limit shall be reduced to 8-(10.47-6) = 3.53dBm.

802.11n (HT20)

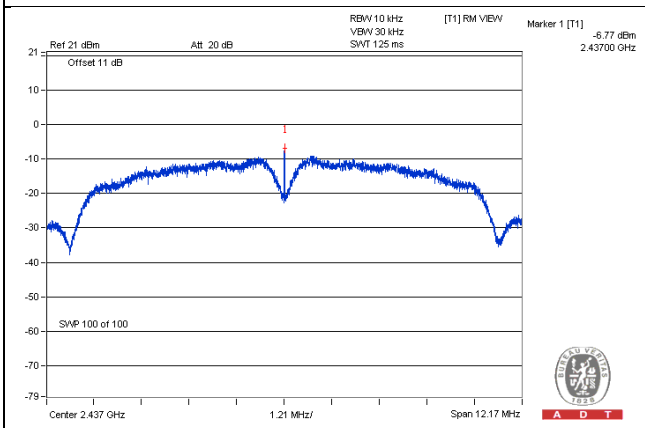
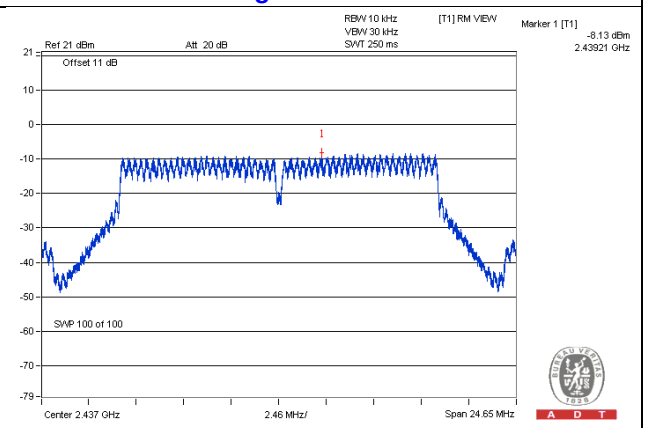
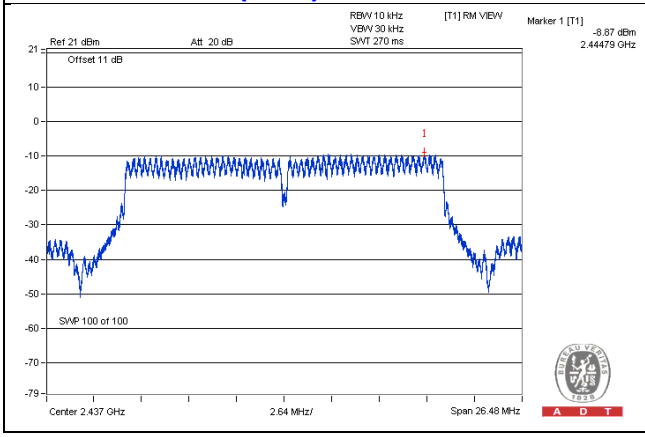
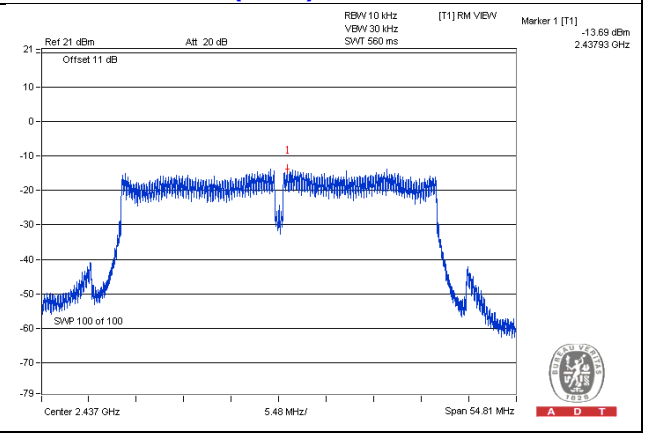
TX chain	Channel	Freq. (MHz)	PSD (dBm/10kHz)	10 log (N=3) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	1	2412	-15.88	4.77	-11.11	3.53	Pass
	6	2437	-9.42	4.77	-4.65	3.53	Pass
	11	2462	-15.88	4.77	-11.11	3.53	Pass
1	1	2412	-16.45	4.77	-11.68	3.53	Pass
	6	2437	-9.80	4.77	-5.03	3.53	Pass
	11	2462	-15.54	4.77	-10.77	3.53	Pass
2	1	2412	-15.20	4.77	-10.43	3.53	Pass
	6	2437	-8.87	4.77	-4.10	3.53	Pass
	11	2462	-15.21	4.77	-10.44	3.53	Pass

NOTE: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2$ / 3] = 10.47dBi > 6dBi , so the power limit shall be reduced to 8-(10.47-6) = 3.53dBm.

802.11n (HT40)

TX chain	Channel	Freq. (MHz)	PSD (dBm/10kHz)	10 log (N=3) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	3	2422	-20.41	4.77	-15.64	3.53	Pass
	6	2437	-14.67	4.77	-9.90	3.53	Pass
	9	2452	-18.69	4.77	-13.92	3.53	Pass
1	3	2422	-20.69	4.77	-15.92	3.53	Pass
	6	2437	-15.00	4.77	-10.23	3.53	Pass
	9	2452	-19.05	4.77	-14.28	3.53	Pass
2	3	2422	-20.11	4.77	-15.34	3.53	Pass
	6	2437	-13.69	4.77	-8.92	3.53	Pass
	9	2452	-19.34	4.77	-14.57	3.53	Pass

NOTE: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2$ / 3] = 10.47dBi > 6dBi , so the power limit shall be reduced to 8-(10.47-6) = 3.53dBm.

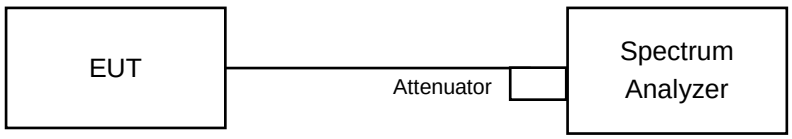
Spectrum Plot of Worst Value	
802.11b / Chain 0 : CH6	**802.11g / Chain 2 : CH6**
	
802.11n (HT20) / Chain 2 : CH6	**802.11n (HT40) / Chain 2 : CH6**
	

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

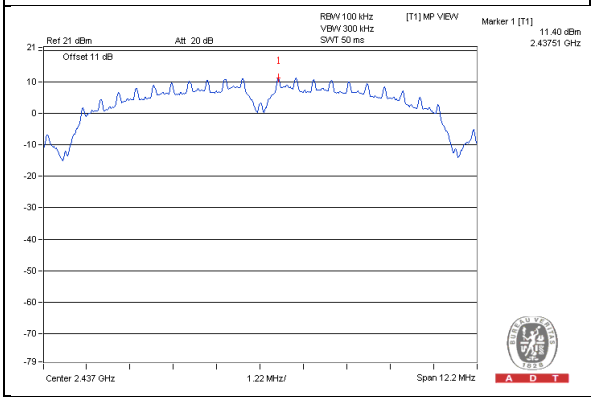
Same as Item 4.3.6

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.

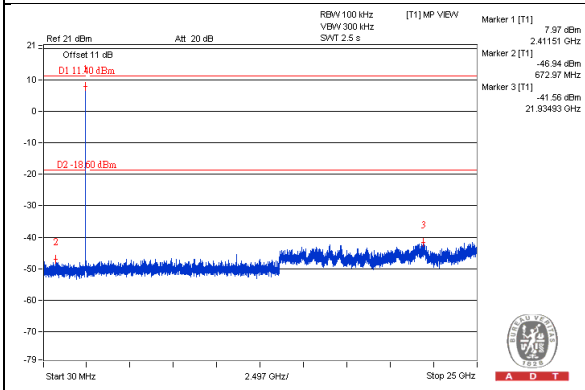
802.11b

Maximum REF

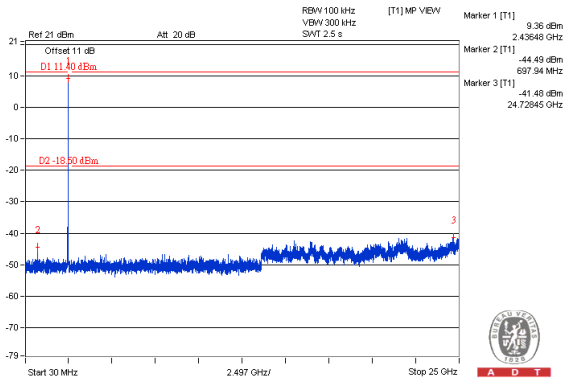


Chain 0

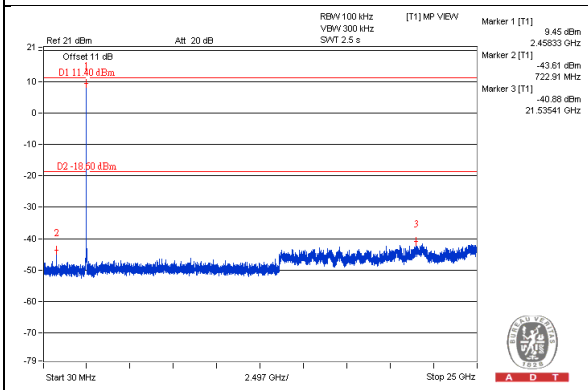
CH 1



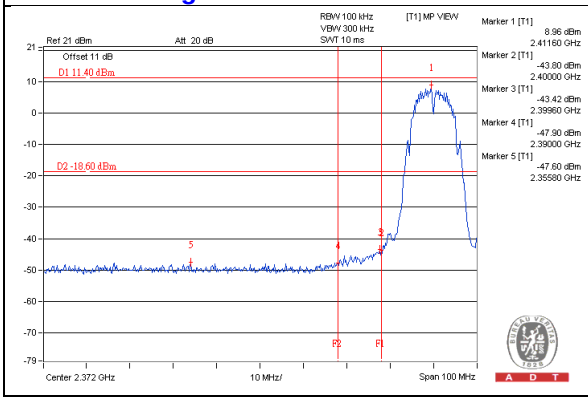
CH 6



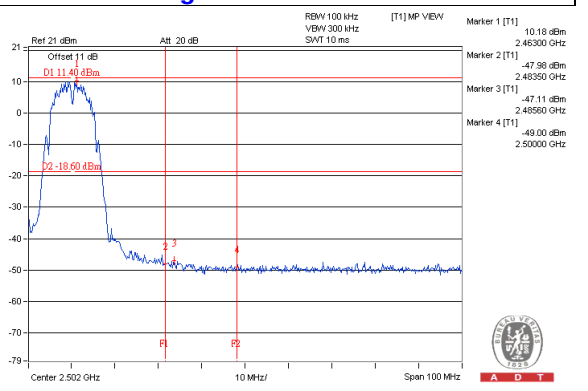
CH 11



CH 1 Band edge

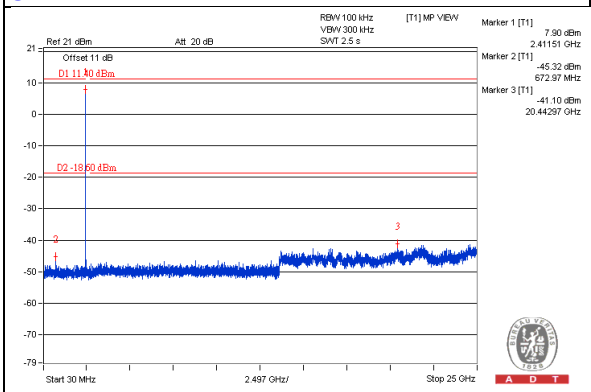


CH 11 Band edge

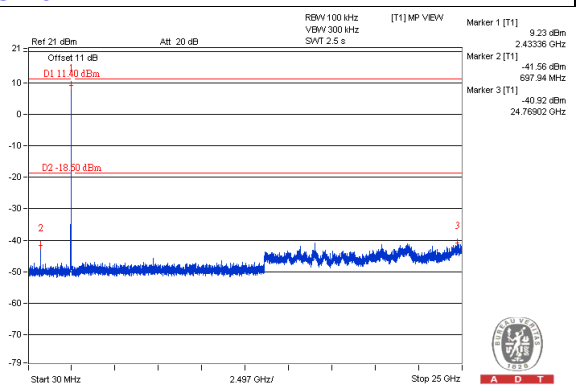


Chain 1

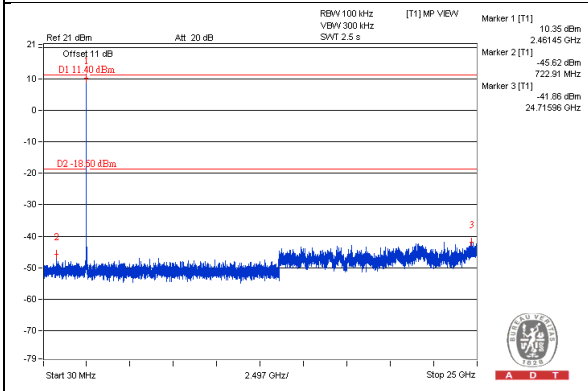
CH 1



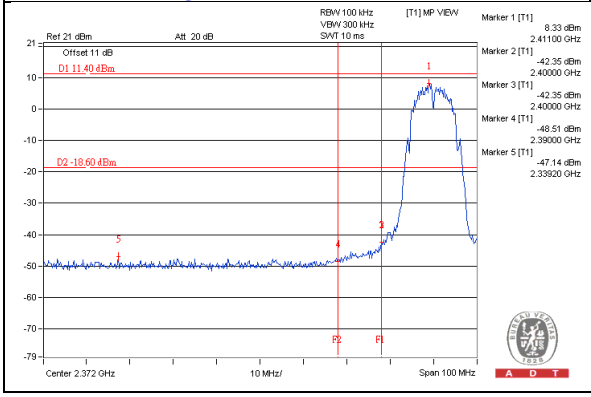
CH 6



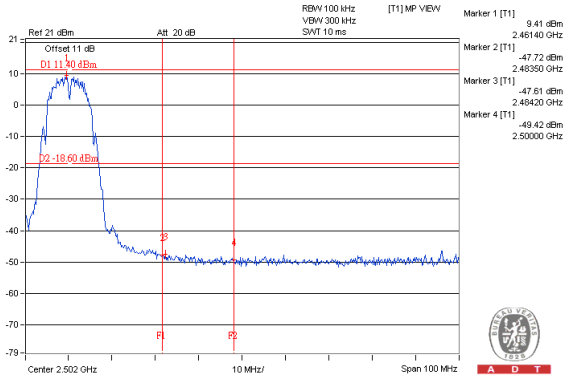
CH 11



CH 1 Band edge

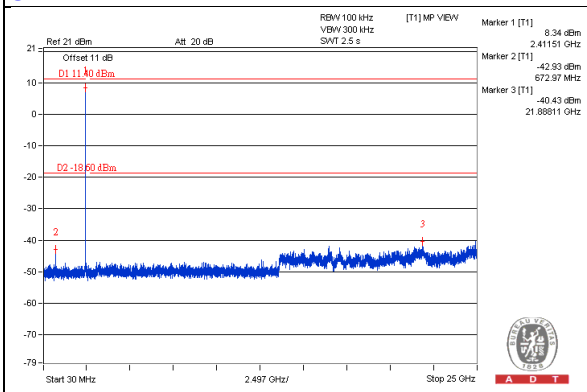


CH 11 Band edge

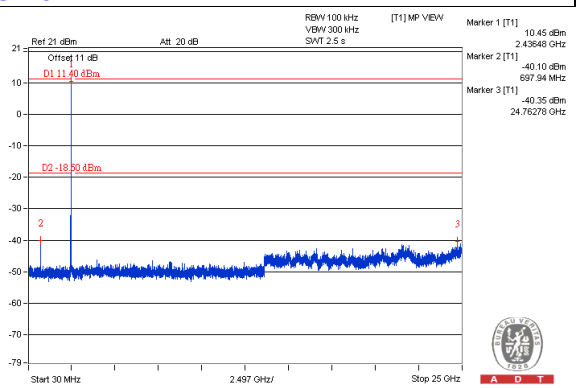


Chain 2

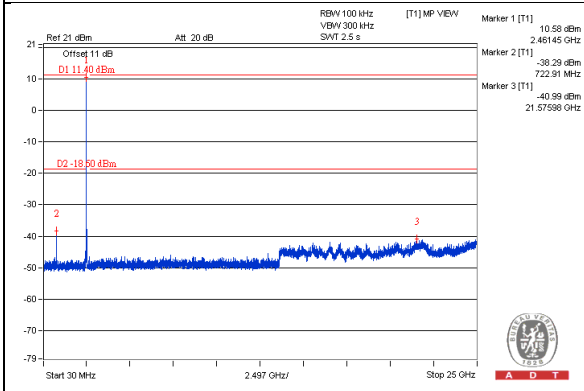
CH 1



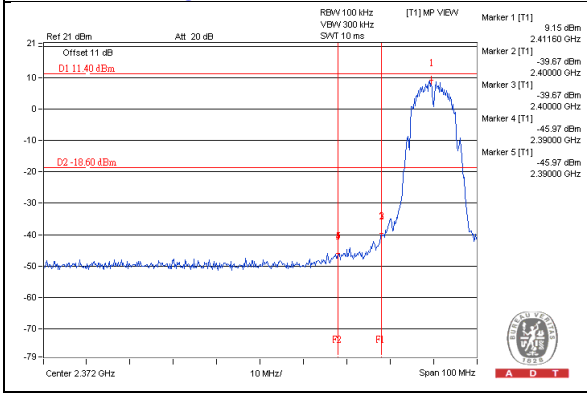
CH 6



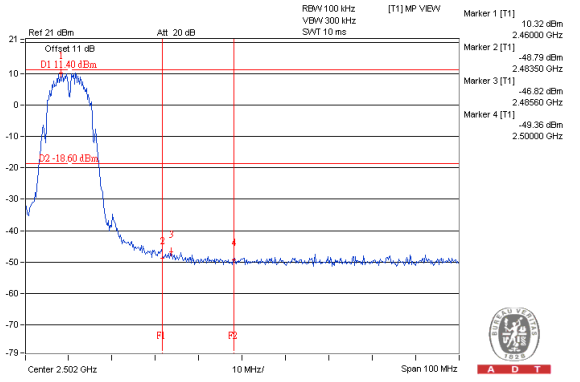
CH 11



CH 1 Band edge

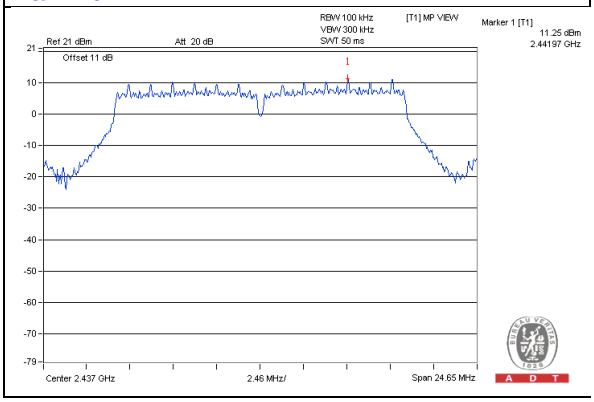


CH 11 Band edge



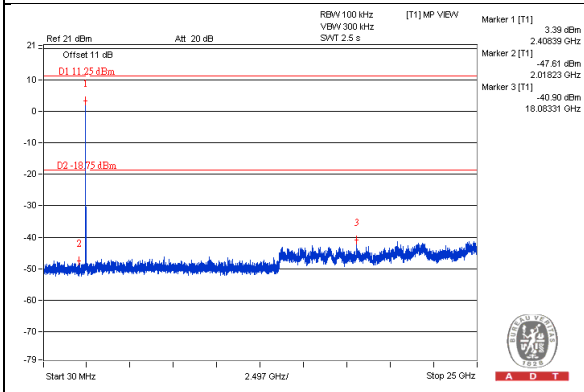
802.11g

Maximum REF

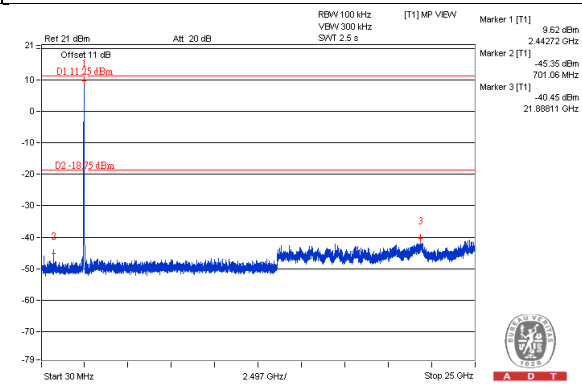


Chain 0

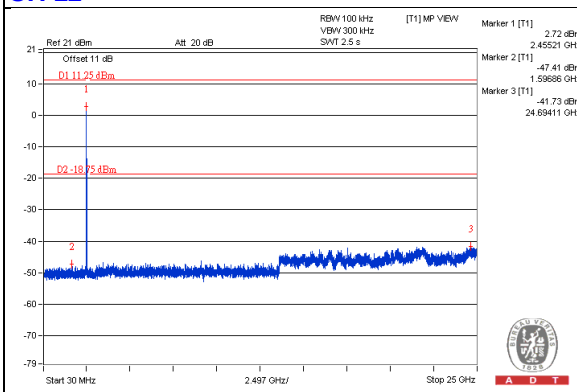
CH 1



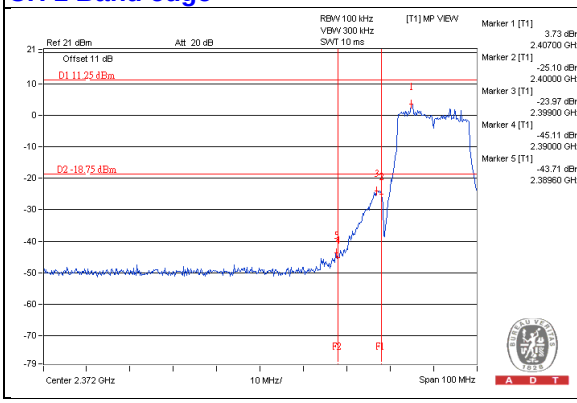
CH 6



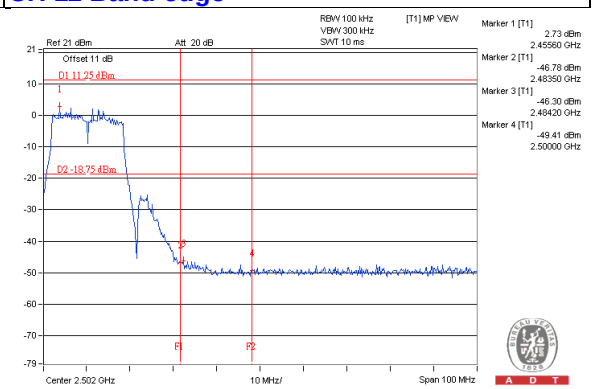
CH 11



CH 1 Band edge

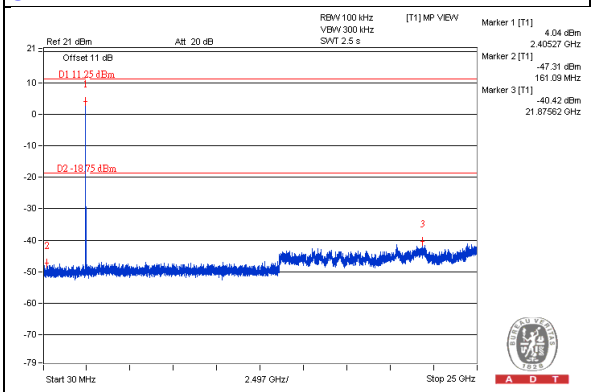


CH 11 Band edge

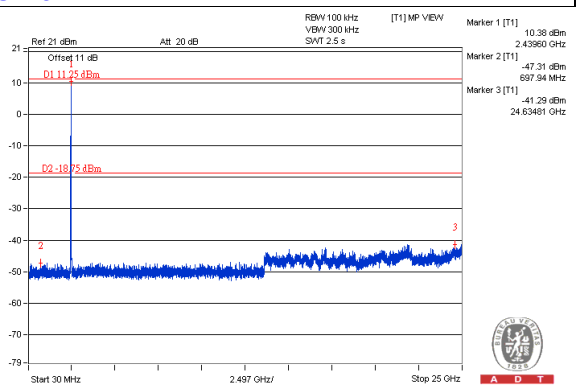


Chain 1

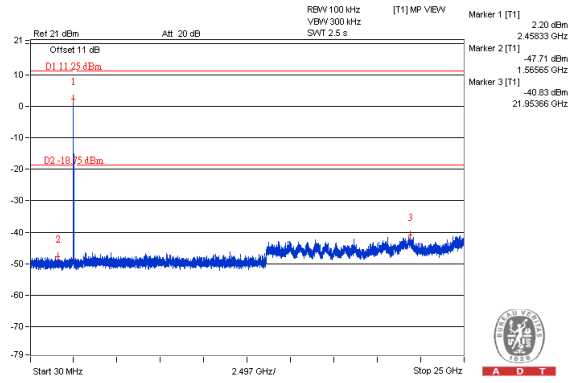
CH 1



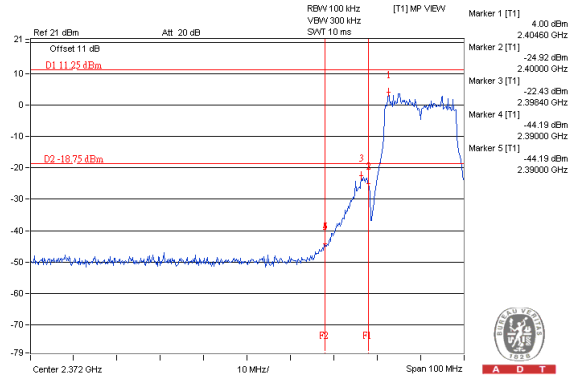
CH 6



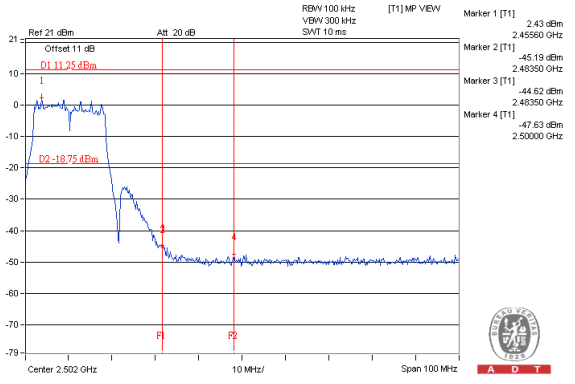
CH 11



CH 1 Band edge

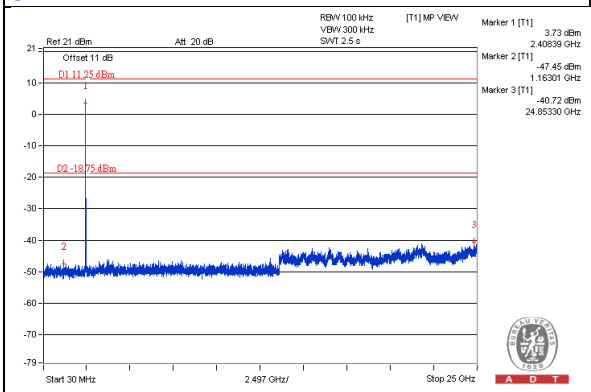


CH 11 Band edge

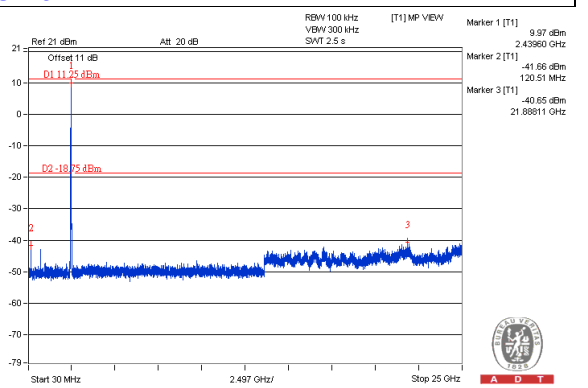


Chain 2

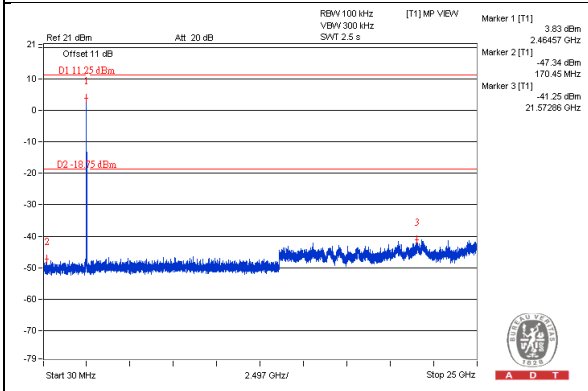
CH 1



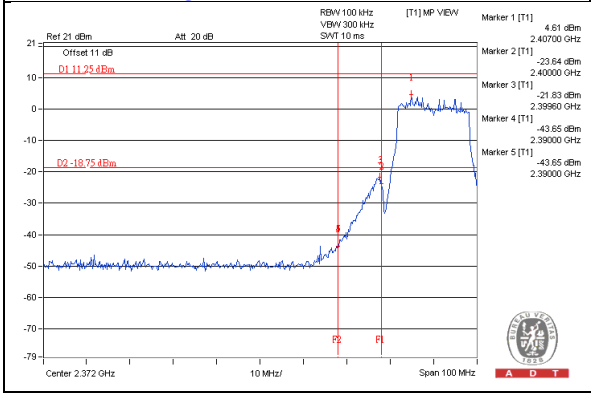
CH 6



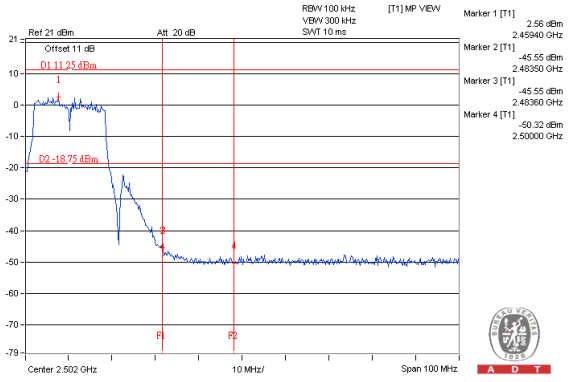
CH 11



CH 1 Band edge

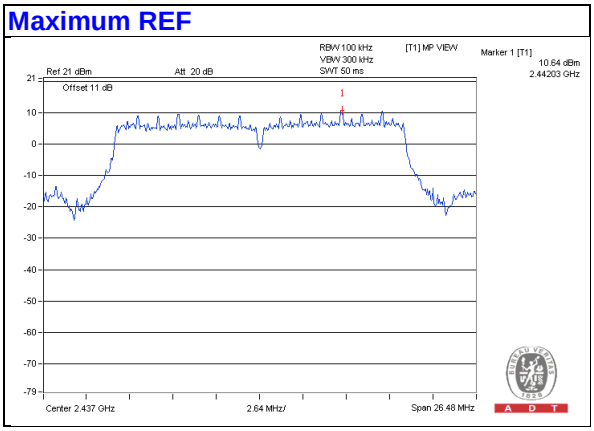


CH 11 Band edge



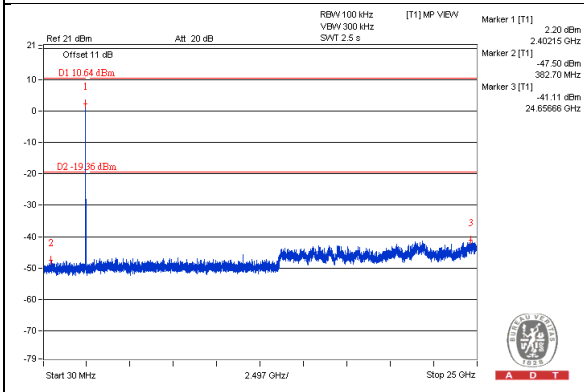
802.11n (HT20)

Maximum REF

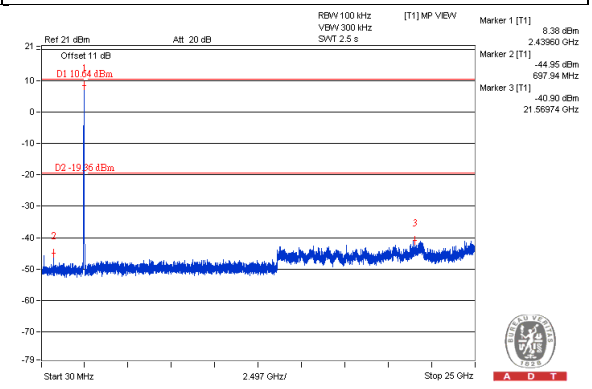


Chain 0

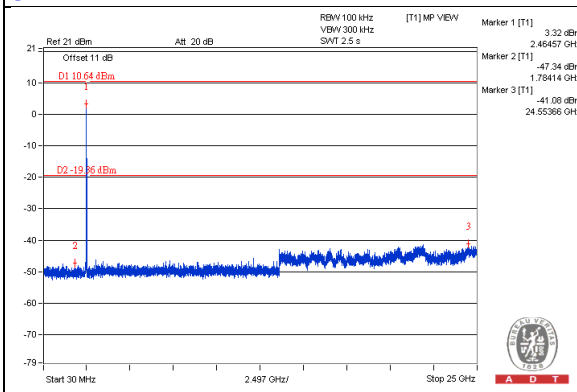
CH 1



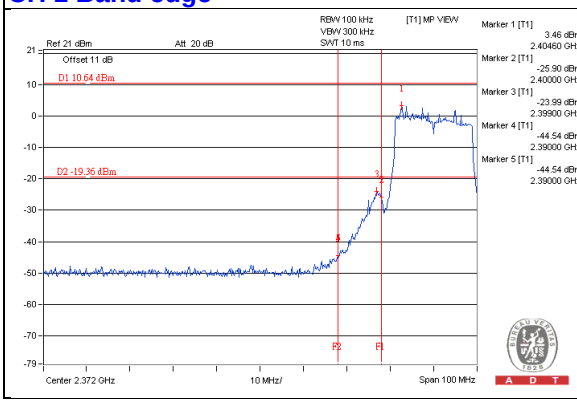
CH 6



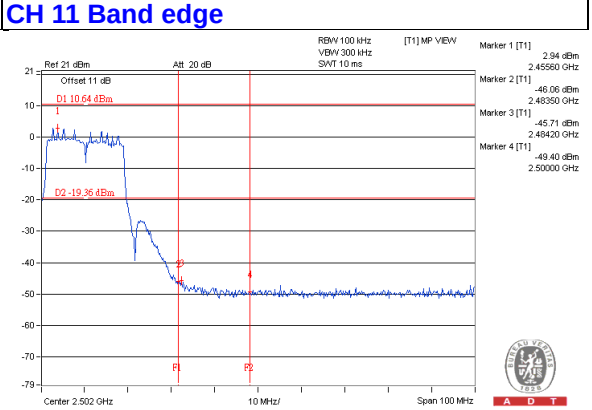
CH 11



CH 1 Band edge

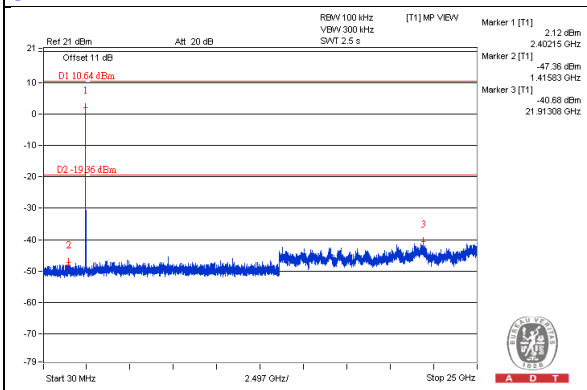


CH 11 Band edge

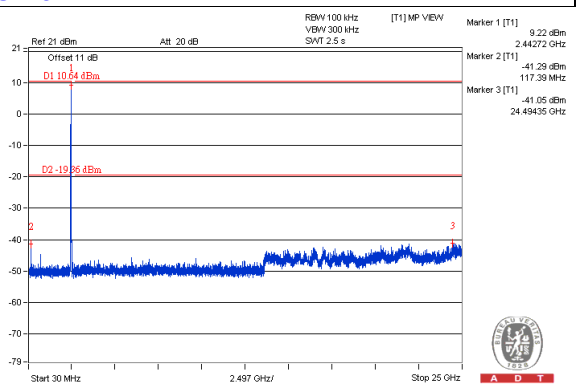


Chain 1

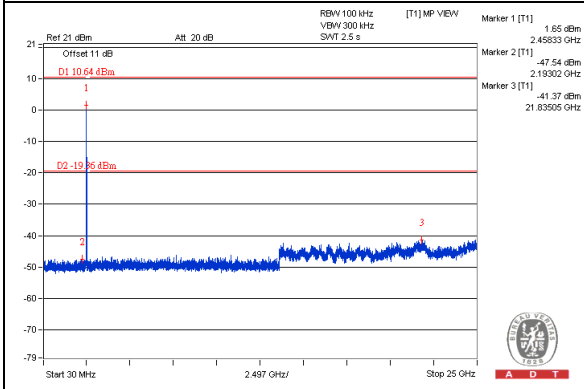
CH 1



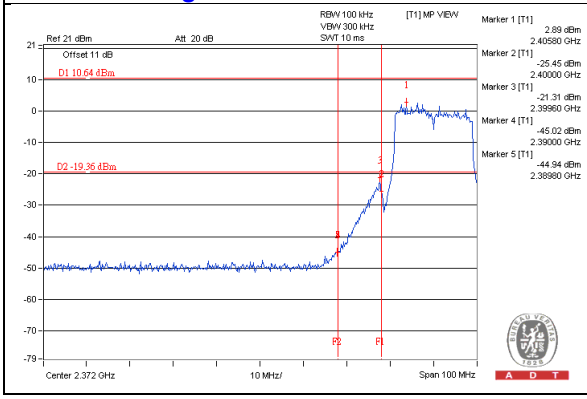
CH 6



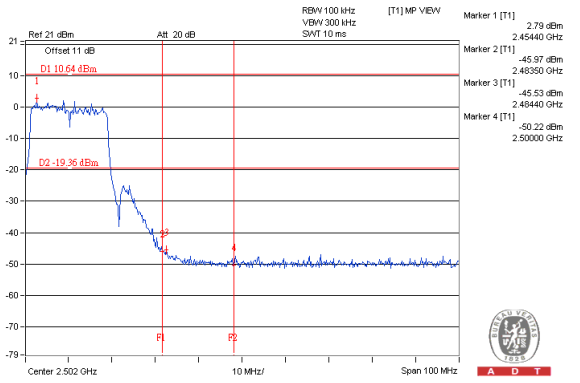
CH 11



CH 1 Band edge

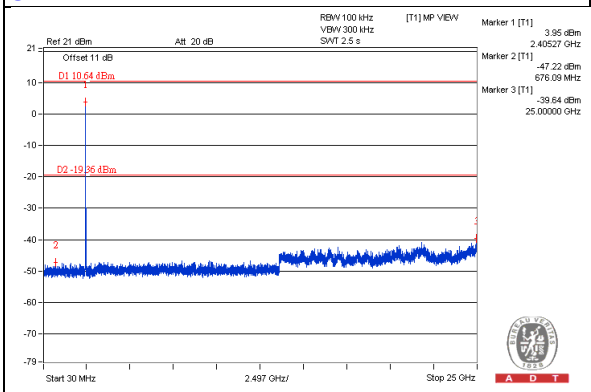


CH 11 Band edge

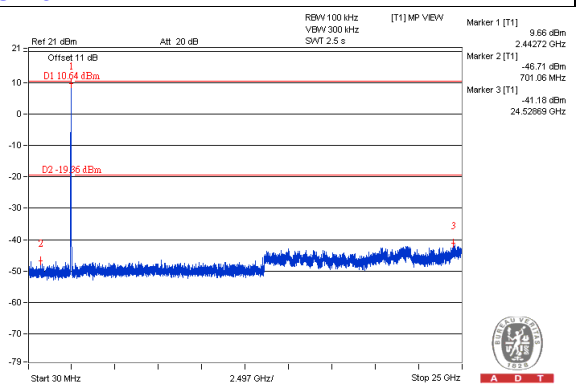


Chain 2

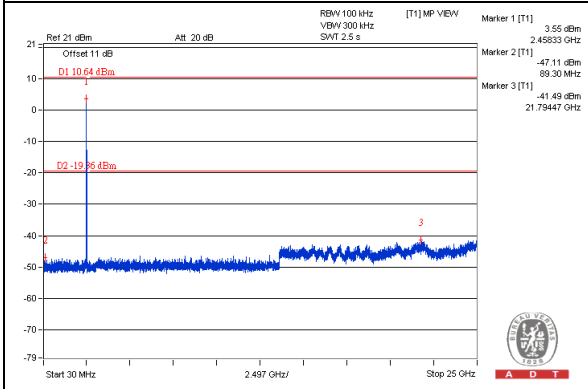
CH 1



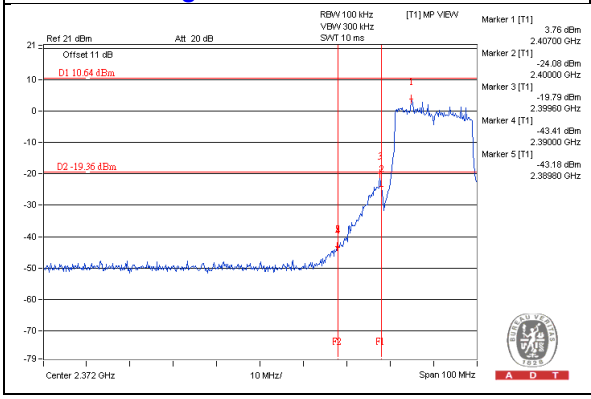
CH 6



CH 11



CH 1 Band edge



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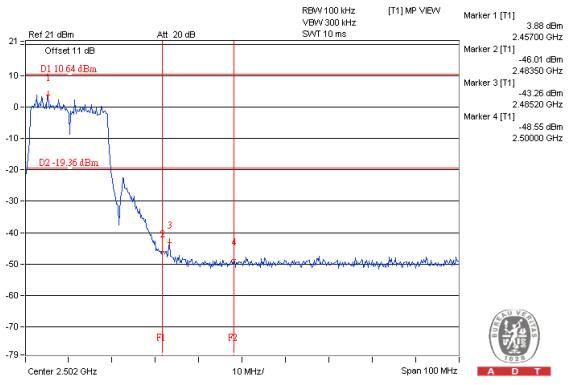
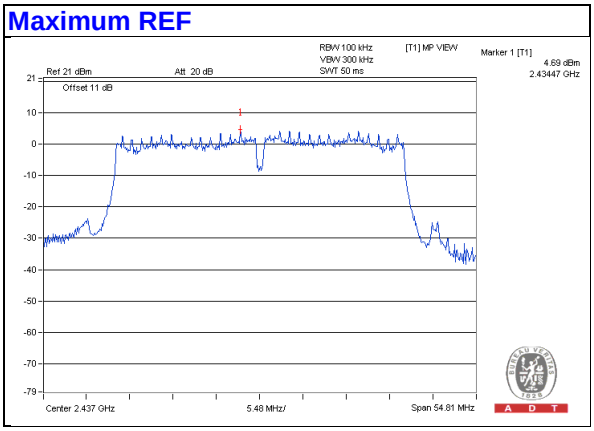


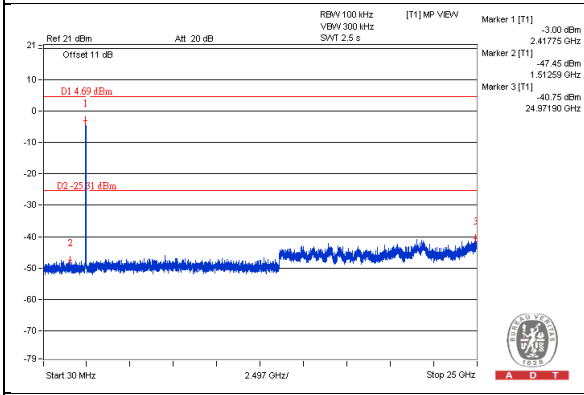
802.11n (HT40)

Maximum REF

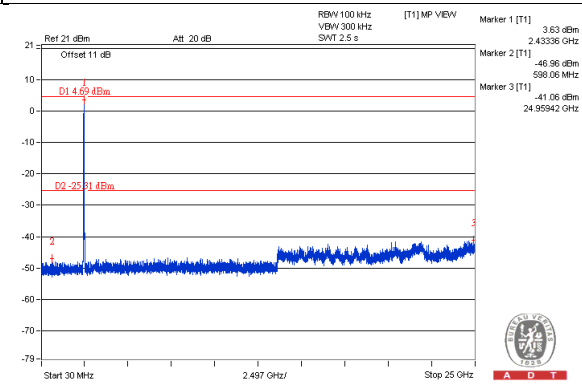


Chain 0

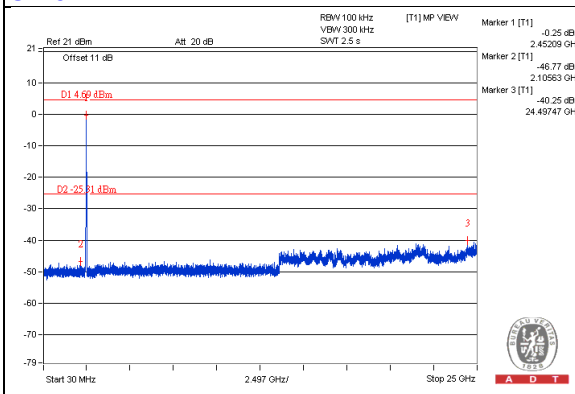
CH 3



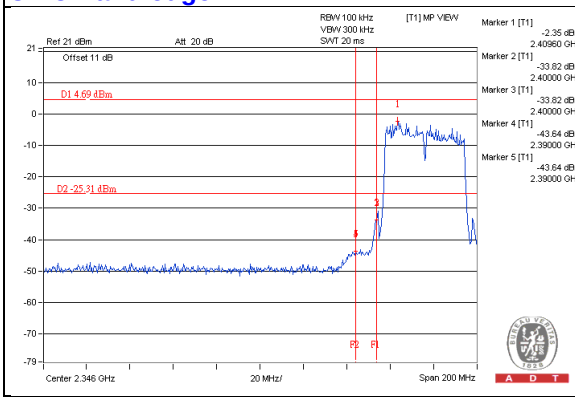
CH 6



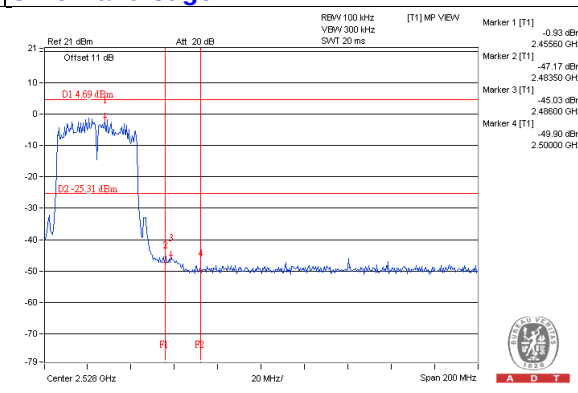
CH 9



CH 3 Band edge

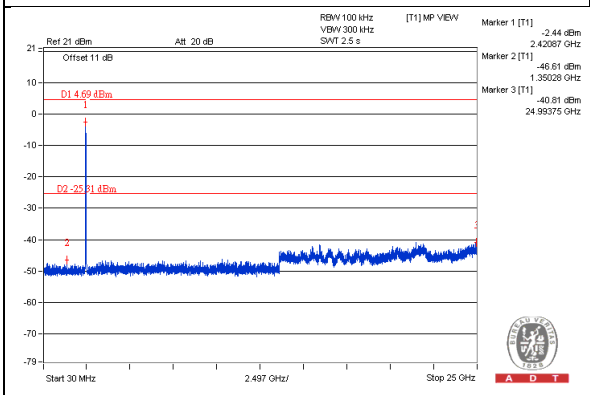


CH 9 Band edge

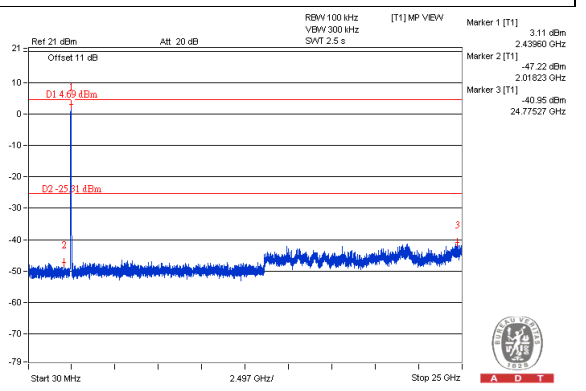


Chain 1

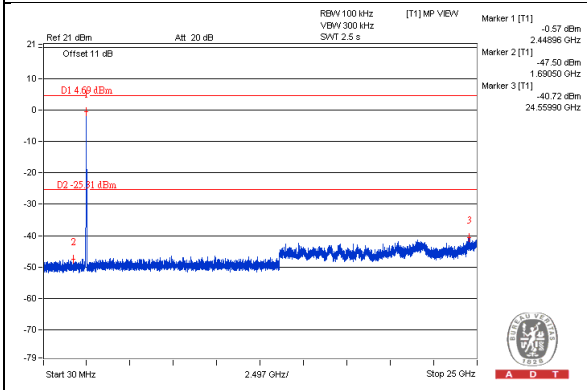
CH 3



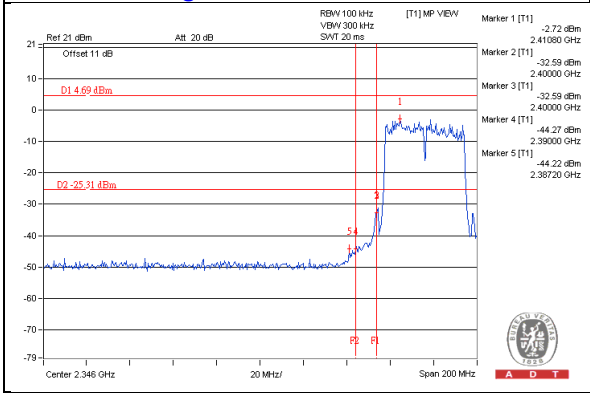
CH 6



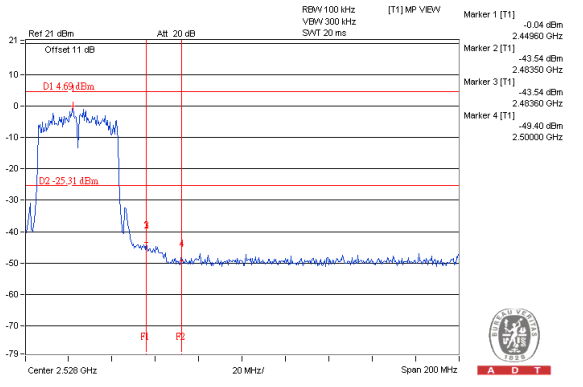
CH 9



CH 3 Band edge

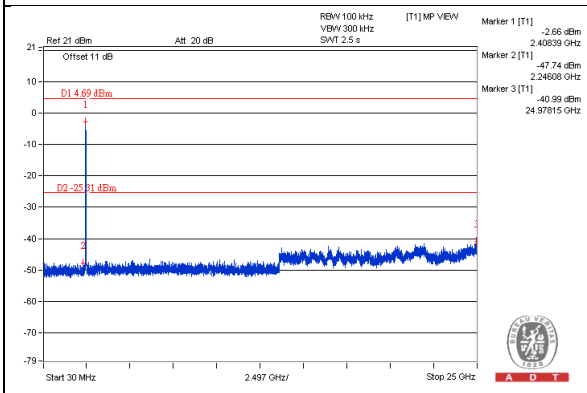


CH 9 Band edge

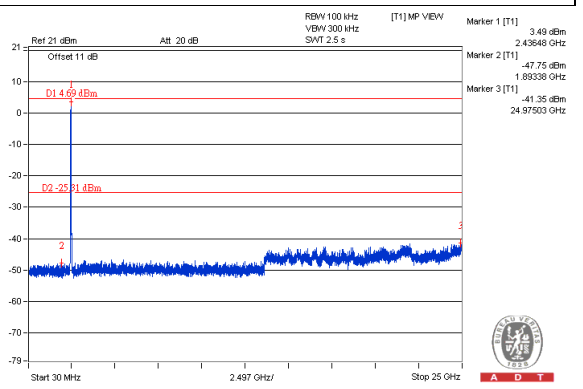


Chain 2

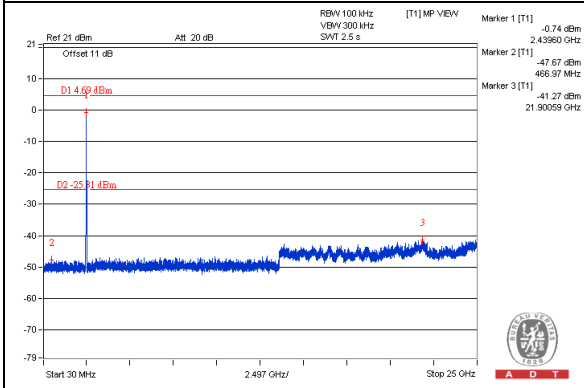
CH 3



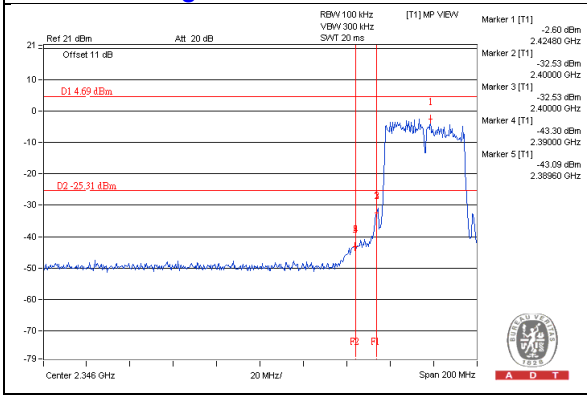
CH 6



CH 9



CH 3 Band edge



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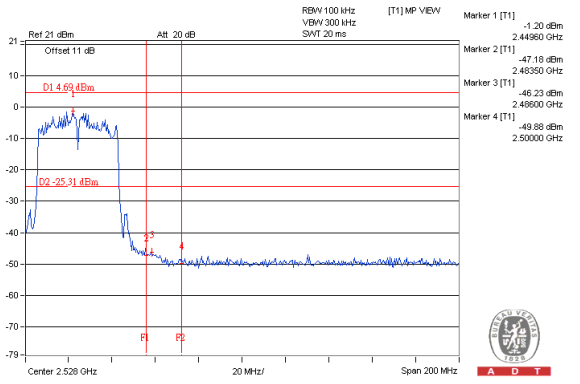

5 Pictures of Test Arrangements

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

Appendix – Information on the Testing Laboratories

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

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

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

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

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