FCC TEST REPORT

REPORT NO.:	RF140422E17
MODEL NO.:	Live! Titanium-24
FCC ID:	2AB74T24W1
RECEIVED:	Apr. 22, 2014
TESTED:	Apr. 28 to May 09, 2014
ISSUED:	June 11, 2014
APPLICANT:	Genexis B.V.
ADDRESS:	Lodewijkstraat 1a 5652 AC Eindhoven, The Netherlands
ISSUED BY:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
LAB ADDRESS :	No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan, R.O.C.
TEST LOCATION (1):	No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, 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.

This report should not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF140422E17	Original release	June 11, 2014

1. CERTIFICATION

PRODUCT:	Home Gateway
BRAND NAME:	GENEXIS
MODEL NO.:	Live! Titanium-24
TEST SAMPLE:	ENGINEERING SAMPLE
APPLICANT:	Genexis B.V.
TESTED:	Apr. 28 to May 09, 2014
STANDARDS:	**FCC Part 15, Subpart C (Section 15.247)** ANSI C63.10-2009

The above equipment (Model: Live! Titanium-24) 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:** *June 11, 2014*
(Elsie Hsu, Specialist)

APPROVED BY : _____ , **DATE:** *June 11, 2014*
(Ken Lu, Manager)

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART C (SECTION 15.247)			
STANDARD SECTION	**TEST TYPE**	**RESULT**	**REMARK**
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -17.09dB at 4.44531MHz
15.247(d) 15.209	Radiated Emissions	PASS	Meet the requirement of imit. Minimum passing margin is -0.2dB at 4824.00MHz, 4874.00 MHz, 2390.00MHz, 2385.00MHz
15.247(d)	Band Edge Measurement	PASS	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	PASS	Meet the requirement of limit.
15.247(b)	Conducted Output 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:

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Measurement	Value
Conducted emissions	2.86 dB
Radiated emissions (30MHz-1GHz)	5.37 dB
Radiated emissions (1GHz -6GHz)	3.65 dB
Radiated emissions (6GHz -18GHz)	3.88 dB
Radiated emissions (18GHz -40GHz)	4.11 dB

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Home Gateway
MODEL NO.	Live! Titanium-24
POWER SUPPLY	12Vdc from GPON BOB ONT
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS,OFDM
TRANSFER RATE	802.11b: up to 11Mbps 802.11g: up to 54Mbps 802.11n: up to 300Mbps
OPERATING FREQUENCY	2.412 ~ 2.462GHz
NUMBER OF CHANNEL	11 for 802.11b, 802.11g, 802.11n (HT20) 7 for 802.11n (HT40)
MAXIMUM OUTPUT POWER	802.11b: 151.532mW 802.11g: 880.600mW 802.11n (HT20): 817.114mW 802.11n (HT40): 645.052mW
ANTENNA TYPE	Please see NOTE
DATA CABLE	RJ45 cable (unshielded, 1.5m) x 1 RJ11 cable (unshielded, 1.5m) x 1
I/O PORTS	Refer to user's manual
ASSOCIATED DEVICES	NA

NOTE:

1. The antenna provided to the EUT, please refer to the following table:

Transmitter Circuit	Brand	Model	Gain (dBi) Include cable loss	Antenna Type	Connecter Type (External only)	Frequency range (MHz to MHz)	Cable Loss(dB)	Cable Length
Chain (0)	FOXCONN	FX01I16-AH-EF	2.45	PCB	IPEX	2400~2500	3.08dB/m	6cm
Chain (1)	FOXCONN	FX01I17-AH-EF	2.79	PCB	IPEX	2400 - 2500	3.08dB/m	9cm

2. The EUT could be supplied with a GPON BOB ONT as the following table:

Product	Brand	Model No.
GPON BOB ONT	GENEXIS	Hybrid Element-G1030

3. The EUT incorporates a MIMO function without bean forming.

MODULATION MODE	TX/RX FUNCTION
802.11b	2TX/2RX
802.11g	2TX/2RX
802.11n (HT20)	2TX/2RX
802.11n (HT40)	2TX/2RX

4. When the EUT operating in 802.11n, the software operation, which is defined by manufacturer, MCS (Modulation and Coding Schemes) from 0 to 15.
5. The above EUT information was declared by the 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, 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
	PLC	RE < 1G	RE ³ 1G	APCM	OB	
-	√	√	√	√	√	-

Where **PLC:** Power Line Conducted Emission **RE < 1G:** Radiated Emission below 1GHz

RE ³ 1G: Radiated Emission above 1GHz **APCM:** Antenna Port Conducted Measurement

OB: Conducted Out-Band Emission Measurement

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	11	OFDM	BPSK	6

RADIATED EMISSION TEST (BELOW 1 GHz):

☒ 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	11	OFDM	BPSK	6

RADIATED EMISSION TEST (ABOVE 1 GHz):

☒ 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

ANTENNA PORT CONDUCTED MEASUREMENT:

☒ 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

CONDUCTED OUT-BAND EMISSION MEASUREMENT:

☒ 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 (SYSTEM)	Tested by
PLC	25deg. C, 78%RH	120Vac, 60Hz	Ping Liu
RE<1G	22deg. C, 64%RH	120Vac, 60Hz	Robert Cheng
RE≥1G	22deg. C, 67%RH	120Vac, 60Hz	Robert Cheng
APCM	25deg. C, 60%RH	120Vac, 60Hz	Robert Cheng
OB	25deg. C, 60%RH	120Vac, 60Hz	Robert Cheng

3.3 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)

558074 D01 DTS Meas Guidance v03r01

662911 D01 Multiple Transmitter Output v02r01

ANSI C63.10-2009

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.

3.4 DUTY CYCLE OF TEST SIGNAL

Duty cycle of test signal is ≥ 98 %, duty factor is not required.

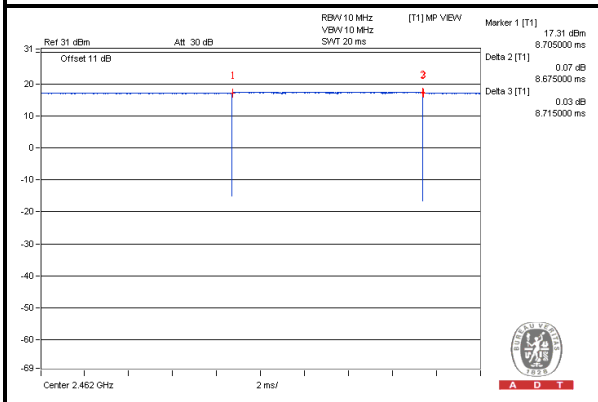
802.11b: Duty cycle = 8.675 ms/8.715 ms = 0.995

802.11g: Duty cycle = 1.435 ms/1.4475 ms = 0.991

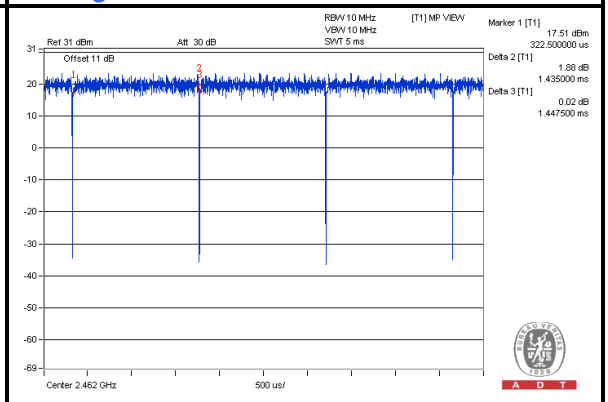
802.11n (HT20): Duty cycle = 1.34625 ms/1.35875 ms = 0.991

802.11n (HT40): Duty cycle = 0.6665 ms/0.675 ms = 0.987

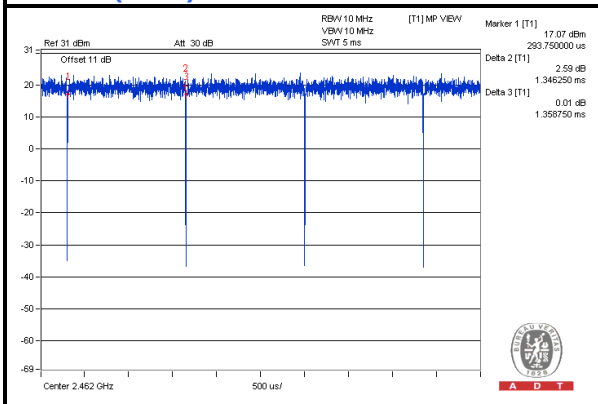
802.11b



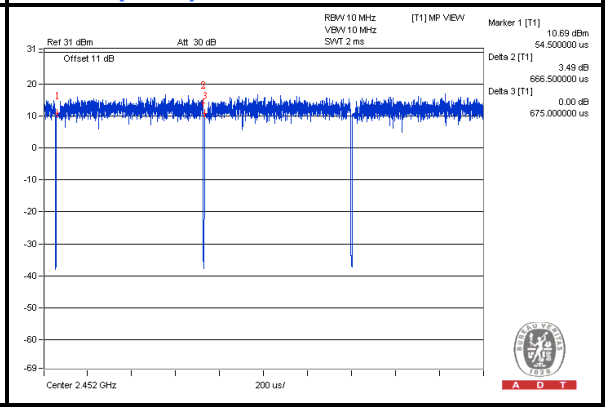
802.11g



802.11n (HT20)



802.11n (HT40)



3.5 DESCRIPTION OF SUPPORT UNITS

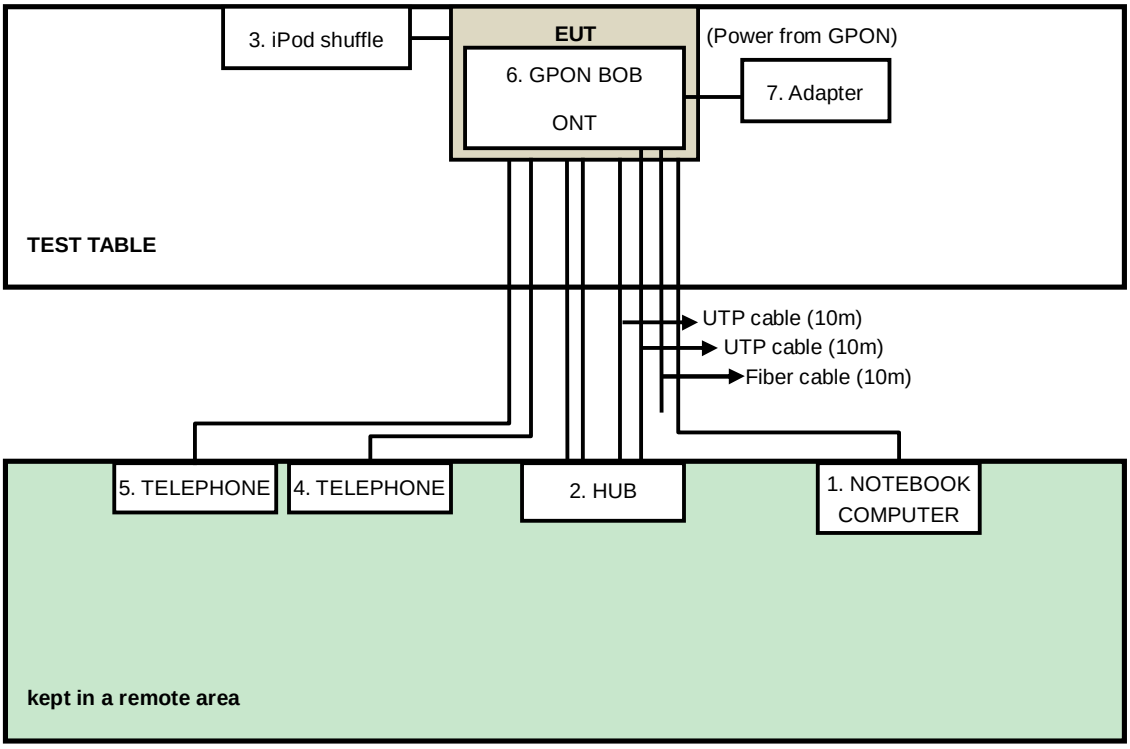
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

No.	Product	Brand	Model No.	Serial No.	FCC ID
1	NOTEBOOK COMPUTER	DELL	PP32LA	FSLB32S	FCC DoC
2	HUB	ZyXEL	ES-116P	S060H02000215	FCC DoC
3	iPod shuffle	Apple	MC749TA/A	CC4DMFJUDFDM	NA
4	TELEPHONE	WONDER	WD-303	7C17KA 04011	NA
5	TELEPHONE	WONDER	WD-303	7C17KA 04440	NA
6	GPON BOB ONT	Genexis	Hybrid Element-G1030	NA	NA
7	Adapter	APD	WA-24R12FU	NA	NA

No.	Signal cable description
1	UTP cable (10m)
2	UTP cable (10m)
3	Cable (0.1m)
4	RJ11 cable (10m)
5	RJ11 cable (10m)
6	DC line (1.4m)
7	DC output cable (unshielded, 1.5m)

Note: The power cords of the above support units were unshielded (1.8m).

3.6 CONFIGURATION OF SYSTEM UNDER TEST



4. TEST TYPES AND RESULTS

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	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 0.50 MHz.

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver LIG NEX1	ER-265	L09068005	July 22, 2013	July 21, 2014
Line-Impedance Stabilization Network (for EUT) SCHWARZBECK	NSLK8127	8127-522	Sep. 05, 2013	Sep. 04, 2014
Line-Impedance Stabilization Network (for Peripheral)	ENV216	100072	June 06, 2013	June 05, 2014
RF Cable (JYEBAO)	5DFB	CONCAB-003	Mar. 07, 2014	Mar. 06, 2015
50 ohms Terminator	50	EMC-03	Sep. 24, 2013	Sep. 23, 2014
Software ADT	BV ADT_Cond_V7.3.7.3	NA	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Shielded Room No. C.
3. The VCCI Con C Registration No. is C-3611.
4. Tested Date: Apr. 28, 2014

4.1.3 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.
b. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
c. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
d. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) were not recorded.

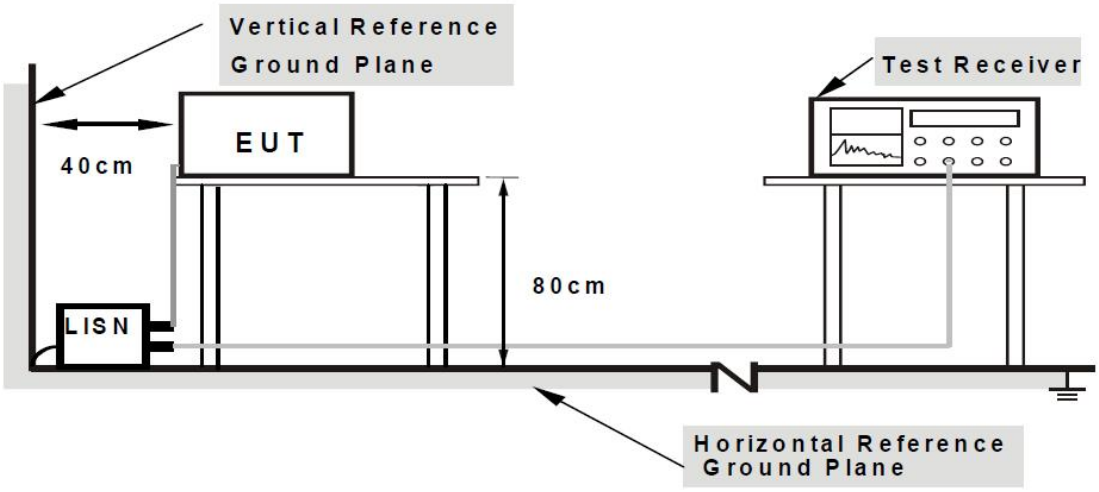
NOTE:

1. The resolution bandwidth of test receiver is 9kHz for Quasi-peak detection (QP) & Average detection (AV).

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



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

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.1.6 EUT OPERATING CONDITIONS

1. Placed the EUT on testing table.
2. Prepared computer systems (support units 1~5) to act as communication partner.
3. The communication partner ran test program “RT5x9xQA.exe” to enable EUT under transmission/receiving condition continuously.

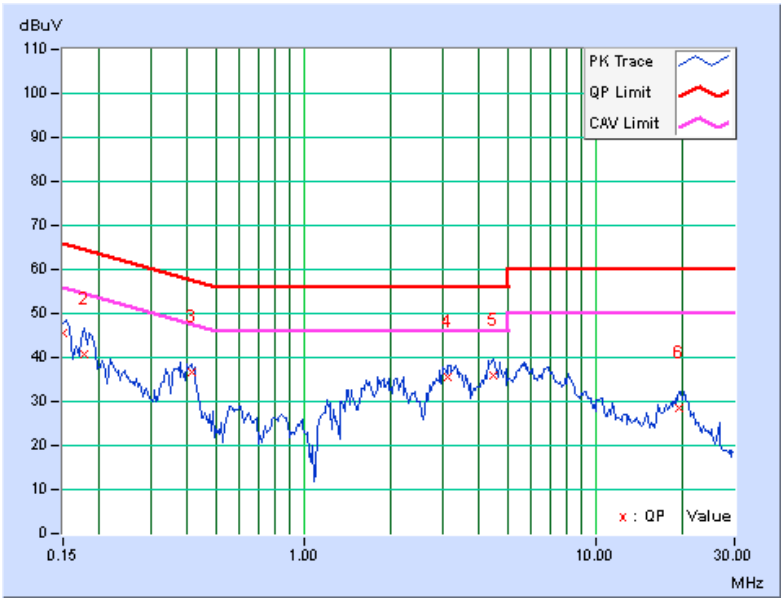
4.1.7 TEST RESULTS

PHASE	Line (L)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	0.06	45.49	34.85	45.55	34.91	66.00	56.00	-20.45	-21.09
2	0.17734	0.06	40.63	29.22	40.69	29.28	64.61	54.61	-23.92	-25.33
3	0.41172	0.07	36.47	29.35	36.54	29.42	57.61	47.61	-21.07	-18.19
4	3.12500	0.17	35.38	27.88	35.55	28.05	56.00	46.00	-20.45	-17.95
5	**4.44531**	**0.21**	**35.80**	**28.70**	**36.01**	**28.91**	**56.00**	**46.00**	**-19.99**	**-17.09**
6	19.34375	0.64	27.79	22.60	28.43	23.24	60.00	50.00	-31.57	-26.76

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

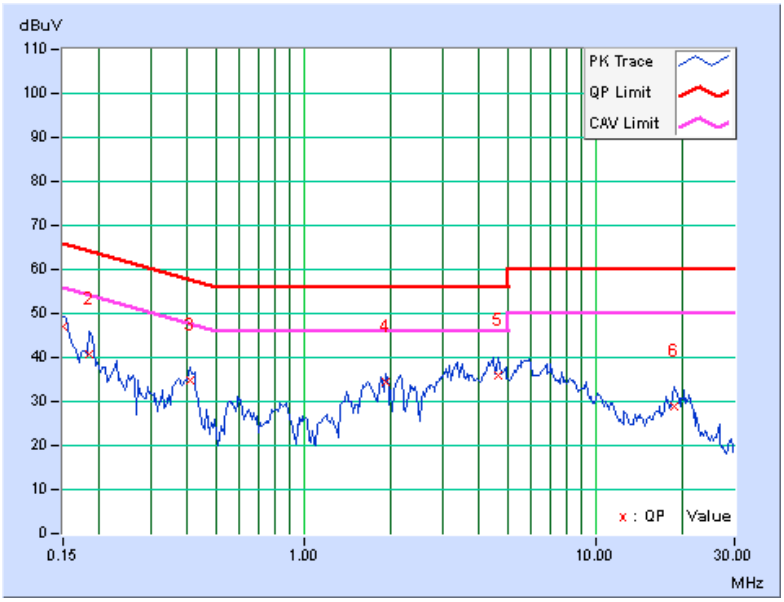


PHASE	Neutral (N)	DETECTOR FUNCTION	Quasi-Peak (QP) / Average (AV)

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	0.07	46.83	37.43	46.90	37.50	66.00	56.00	-19.10	-18.50
2	0.18516	0.06	40.73	33.65	40.79	33.71	64.25	54.25	-23.46	-20.54
3	0.40781	0.07	34.57	26.72	34.64	26.79	57.69	47.69	-23.05	-20.90
4	1.91406	0.14	34.21	25.88	34.35	26.02	56.00	46.00	-21.65	-19.98
5	4.64844	0.22	35.56	28.26	35.78	28.48	56.00	46.00	-20.22	-17.52
6	18.63672	0.62	28.18	22.39	28.80	23.01	60.00	50.00	-31.20	-26.99

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



4.2 RADIATED EMISSION AND BANDEDGE MEASUREMENT

4.2.1 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 20dB 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.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
MXE EMI Receiver Agilent	N9038A	MY51210105	Jan. 21, 2014	Jan. 20, 2015
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-03	Nov. 13, 2013	Nov. 12, 2014
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-360	Feb. 26, 2014	Feb. 25, 2015
RF Cable	NA	CHGCAB_001	Oct. 05, 2013	Oct. 04, 2014
Spectrum Analyzer R&S	FSV40	100964	July 15, 2013	July 14, 2014
Horn_Antenna AISI	AIH.8018	0000320091110	Nov. 18, 2013	Nov. 17, 2014
Pre-Amplifier Agilent	8449B	3008A02578	June 25, 2013	June 24, 2014
RF Cable	NA	RF104-201 RF104-203 RF104-204	Dec. 12, 2013	Dec. 11, 2014
Spectrum Analyzer Agilent	E4446A	MY48250253	Aug. 28, 2013	Aug. 27, 2014
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Nov. 13, 2013	Nov. 12, 2014
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Oct. 08, 2013	Oct. 07, 2014
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 horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3. The test was performed in 966 Chamber No. G.
4. The FCC Site Registration No. is 966073.
5. The VCCI Site Registration No. is G-137.
6. The CANADA Site Registration No. is IC 7450H-2.
7. Tested Date: May 07, 2014

4.2.3 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters 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:

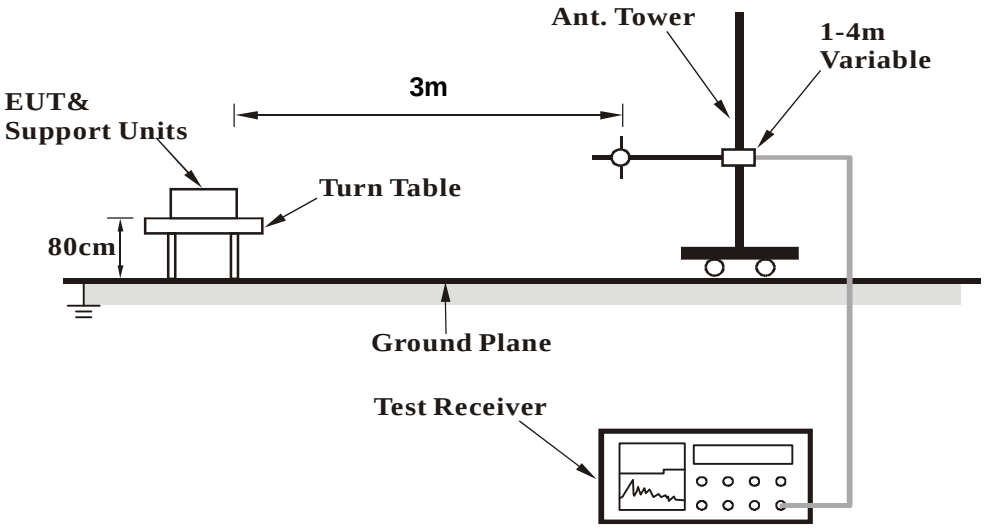
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.2.4 DEVIATION FROM TEST STANDARD

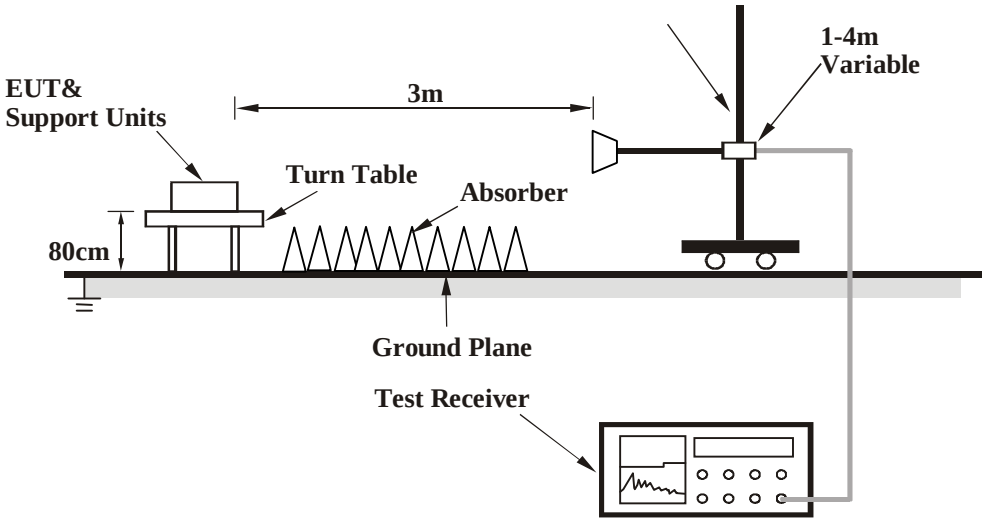
No deviation

4.2.5 TEST SETUP

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6

4.2.7 TEST RESULTS

BELOW 1GHz WORST-CASE DATA

802.11g

CHANNEL	TX Channel 11	**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	330.02	40.1 QP	46.0	-5.9	1.00 H	285	51.60	-11.47
2	359.99	39.5 QP	46.0	-6.5	1.00 H	129	50.28	-10.80
3	500.01	41.7 QP	46.0	-4.3	1.50 H	21	49.04	-7.36
4	539.98	42.1 QP	46.0	-3.9	1.50 H	319	48.65	-6.59
5	599.97	41.9 QP	46.0	-4.1	1.50 H	304	46.80	-4.89
6	812.50	40.5 QP	46.0	-5.5	1.00 H	279	41.77	-1.24
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	374.98	40.9 QP	46.0	-5.1	1.50 V	0	51.16	-10.24
2	405.00	41.9 QP	46.0	-4.1	1.50 V	271	51.51	-9.63
3	419.99	41.4 QP	46.0	-4.6	1.50 V	270	50.53	-9.12
4	500.01	41.7 QP	46.0	-4.3	1.00 V	245	49.04	-7.36
5	600.02	42.9 QP	46.0	-3.1	1.00 V	306	47.75	-4.89
6	625.00	40.5 QP	46.0	-5.5	1.00 V	53	44.88	-4.41

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

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	2356.00	48.8 PK	74.0	-25.2	1.14 H	214	50.65	-1.85
2	2356.00	37.9 AV	54.0	-16.1	1.14 H	214	39.75	-1.85
3	*2412.00	106.4 PK			1.14 H	214	108.00	-1.60
4	*2412.00	103.8 AV			1.14 H	214	105.40	-1.60
5	4824.00	51.1 PK	74.0	-22.9	1.48 H	327	43.90	7.20
6	4824.00	46.8 AV	54.0	-7.2	1.48 H	327	39.60	7.20
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	2356.00	50.7 PK	74.0	-23.3	1.06 V	20	52.55	-1.85
2	2356.00	39.1 AV	54.0	-14.9	1.06 V	20	40.95	-1.85
3	*2412.00	107.3 PK			1.00 V	338	108.90	-1.60
4	*2412.00	104.3 AV			1.00 V	338	105.90	-1.60
5	4824.00	56.3 PK	74.0	-17.7	1.10 V	28	49.10	7.20
6	**4824.00**	**53.8 AV**	**54.0**	**-0.2**	**1.10 V**	**28**	**46.60**	**7.20**

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.

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	*2437.00	107.2 PK			1.14 H	218	108.69	-1.49
2	*2437.00	103.2 AV			1.14 H	218	104.69	-1.49
3	4874.00	51.3 PK	74.0	-22.7	1.55 H	335	43.97	7.33
4	4874.00	47.0 AV	54.0	-7.0	1.55 H	335	39.67	7.33
5	7311.00	54.5 PK	74.0	-19.5	1.02 H	73	39.54	14.96
6	7311.00	42.1 AV	54.0	-11.9	1.02 H	73	27.14	14.96
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	107.9 PK			1.00 V	338	109.39	-1.49
2	*2437.00	103.9 AV			1.00 V	338	105.39	-1.49
3	4874.00	56.7 PK	74.0	-17.3	1.10 V	28	49.37	7.33
4	**4874.00**	**53.8 AV**	**54.0**	**-0.2**	**1.10 V**	**28**	**46.47**	**7.33**
5	7311.00	49.9 PK	74.0	-24.1	1.00 V	31	34.94	14.96
6	7311.00	38.6 AV	54.0	-15.4	1.00 V	31	23.64	14.96

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	*2462.00	106.1 PK			1.14 H	219	107.48	-1.38
2	*2462.00	102.6 AV			1.14 H	219	103.98	-1.38
3	2483.50	49.3 PK	74.0	-24.7	1.14 H	219	50.58	-1.28
4	2483.50	38.0 AV	54.0	-16.0	1.14 H	219	39.28	-1.28
5	4924.00	51.1 PK	74.0	-22.9	1.51 H	323	43.63	7.47
6	4924.00	46.9 AV	54.0	-7.1	1.51 H	323	39.43	7.47
7	7386.00	53.9 PK	74.0	-20.1	1.05 H	60	39.01	14.89
8	7386.00	41.7 AV	54.0	-12.3	1.05 H	60	26.81	14.89
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	106.5 PK			1.00 V	336	107.88	-1.38
2	*2462.00	103.1 AV			1.00 V	336	104.48	-1.38
3	2483.50	50.4 PK	74.0	-23.6	1.00 V	336	51.68	-1.28
4	2483.50	39.2 AV	54.0	-14.8	1.00 V	336	40.48	-1.28
5	4924.00	56.1 PK	74.0	-17.9	1.08 V	35	48.63	7.47
6	4924.00	53.4 AV	54.0	-0.6	1.08 V	35	45.93	7.47
7	7386.00	50.4 PK	74.0	-23.6	1.01 V	38	35.51	14.89
8	7386.00	38.9 AV	54.0	-15.1	1.01 V	38	24.01	14.89

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)
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	2359.00	64.7 PK	74.0	-9.3	1.33 H	77	66.54	-1.84
2	2359.00	51.9 AV	54.0	-2.1	1.33 H	77	53.74	-1.84
3	2390.00	72.1 PK	74.0	-1.9	1.13 H	214	73.80	-1.70
4	2390.00	53.5 AV	54.0	-0.5	1.13 H	214	55.20	-1.70
5	*2412.00	110.9 PK			1.13 H	214	112.50	-1.60
6	*2412.00	98.3 AV			1.13 H	214	99.90	-1.60
7	4824.00	53.2 PK	74.0	-20.8	1.32 H	76	46.00	7.20
8	4824.00	38.8 AV	54.0	-15.2	1.32 H	76	31.60	7.20
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	2359.00	60.7 PK	74.0	-13.3	1.00 V	349	62.54	-1.84
2	2359.00	51.9 AV	54.0	-2.1	1.00 V	349	53.74	-1.84
3	2390.00	71.4 PK	74.0	-2.6	1.06 V	346	73.10	-1.70
4	2390.00	53.1 AV	54.0	-0.9	1.06 V	346	54.80	-1.70
5	*2412.00	110.4 PK			1.06 V	346	112.00	-1.60
6	*2412.00	97.8 AV			1.06 V	346	99.40	-1.60
7	4824.00	54.5 PK	74.0	-19.5	1.00 V	31	47.30	7.20
8	4824.00	40.2 AV	54.0	-13.8	1.00 V	31	33.00	7.20

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.

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	2385.00	64.3 PK	74.0	-9.7	1.36 H	64	66.02	-1.72
2	2385.00	53.7 AV	54.0	-0.3	1.36 H	64	55.42	-1.72
3	*2437.00	112.1 PK			1.08 H	222	113.59	-1.49
4	*2437.00	99.3 AV			1.08 H	222	100.79	-1.49
5	2489.00	63.5 PK	74.0	-10.5	1.08 H	222	64.76	-1.26
6	2489.00	52.1 AV	54.0	-1.9	1.08 H	222	53.36	-1.26
7	4874.00	52.8 PK	74.0	-21.2	1.35 H	67	45.47	7.33
8	4874.00	38.7 AV	54.0	-15.3	1.35 H	67	31.37	7.33
9	7311.00	53.7 PK	74.0	-20.3	1.00 H	71	38.74	14.96
10	7311.00	41.9 AV	54.0	-12.1	1.00 H	71	26.94	14.96
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	2385.00	64.5 PK	74.0	-9.5	1.00 V	297	66.22	-1.72
2	2385.00	53.0 AV	54.0	-1.0	1.00 V	297	54.72	-1.72
3	*2437.00	111.1 PK			1.00 V	337	112.59	-1.49
4	*2437.00	98.4 AV			1.00 V	337	99.89	-1.49
5	2489.00	63.4 PK	74.0	-10.6	1.00 V	337	64.66	-1.26
6	2489.00	51.1 AV	54.0	-2.9	1.00 V	337	52.36	-1.26
7	4874.00	55.1 PK	74.0	-18.9	1.08 V	33	47.77	7.33
8	4874.00	40.6 AV	54.0	-13.4	1.08 V	33	33.27	7.33
9	7311.00	53.2 PK	74.0	-20.8	1.00 V	204	38.24	14.96
10	7311.00	41.1 AV	54.0	-12.9	1.00 V	204	26.14	14.96

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	*2462.00	111.0 PK			1.07 H	214	112.38	-1.38
2	*2462.00	98.4 AV			1.07 H	214	99.78	-1.38
3	2483.50	71.3 PK	74.0	-2.7	1.07 H	214	72.58	-1.28
4	2483.50	53.2 AV	54.0	-0.8	1.07 H	214	54.48	-1.28
5	4924.00	52.9 PK	74.0	-21.1	1.34 H	59	45.43	7.47
6	4924.00	38.7 AV	54.0	-15.3	1.34 H	59	31.23	7.47
7	7386.00	53.1 PK	74.0	-20.9	1.00 H	73	38.21	14.89
8	7386.00	41.5 AV	54.0	-12.5	1.00 H	73	26.61	14.89
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	110.8 PK			1.00 V	330	112.18	-1.38
2	*2462.00	97.7 AV			1.00 V	330	99.08	-1.38
3	2483.50	69.1 PK	74.0	-4.9	1.00 V	330	70.38	-1.28
4	2483.50	49.6 AV	54.0	-4.4	1.00 V	330	50.88	-1.28
5	4924.00	54.9 PK	74.0	-19.1	1.05 V	1	47.43	7.47
6	4924.00	40.5 AV	54.0	-13.5	1.05 V	1	33.03	7.47
7	7386.00	53.1 PK	74.0	-20.9	1.01 V	208	38.21	14.89
8	7386.00	41.5 AV	54.0	-12.5	1.01 V	208	26.61	14.89

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)
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	2359.00	65.4 PK	74.0	-8.6	1.35 H	66	67.24	-1.84
2	2359.00	52.7 AV	54.0	-1.3	1.35 H	66	54.54	-1.84
3	2390.00	72.9 PK	74.0	-1.1	1.14 H	212	74.60	-1.70
4	**2390.00**	**53.8 AV**	**54.0**	**-0.2**	**1.14 H**	**212**	**55.50**	**-1.70**
5	*2412.00	109.1 PK			1.14 H	212	110.70	-1.60
6	*2412.00	97.0 AV			1.14 H	212	98.60	-1.60
7	4824.00	52.2 PK	74.0	-21.8	1.31 H	46	45.00	7.20
8	4824.00	38.3 AV	54.0	-15.7	1.31 H	46	31.10	7.20
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	2359.00	61.1 PK	74.0	-12.9	1.04 V	337	62.94	-1.84
2	2359.00	52.0 AV	54.0	-2.0	1.04 V	337	53.84	-1.84
3	2390.00	71.8 PK	74.0	-2.2	1.02 V	333	73.50	-1.70
4	2390.00	53.4 AV	54.0	-0.6	1.02 V	333	55.10	-1.70
5	*2412.00	108.6 PK			1.02 V	333	110.20	-1.60
6	*2412.00	96.7 AV			1.02 V	333	98.30	-1.60
7	4824.00	55.1 PK	74.0	-18.9	1.04 V	40	47.90	7.20
8	4824.00	40.4 AV	54.0	-13.6	1.04 V	40	33.20	7.20

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.

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	2385.00	64.4 PK	74.0	-9.6	1.32 H	53	66.12	-1.72
2	**2385.00**	**53.8 AV**	**54.0**	**-0.2**	**1.32 H**	**53**	**55.52**	**-1.72**
3	*2437.00	109.4 PK			1.14 H	212	110.89	-1.49
4	*2437.00	98.1 AV			1.14 H	212	99.59	-1.49
5	2489.00	63.5 PK	74.0	-10.5	1.29 H	75	64.76	-1.26
6	2489.00	50.4 AV	54.0	-3.6	1.29 H	75	51.66	-1.26
7	4874.00	52.4 PK	74.0	-21.6	1.36 H	37	45.07	7.33
8	4874.00	38.4 AV	54.0	-15.6	1.36 H	37	31.07	7.33
9	7311.00	53.7 PK	74.0	-20.3	1.00 H	85	38.74	14.96
10	7311.00	41.9 AV	54.0	-12.1	1.00 H	85	26.94	14.96
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	2385.00	64.4 PK	74.0	-9.6	1.04 V	268	66.12	-1.72
2	2385.00	53.0 AV	54.0	-1.0	1.04 V	268	54.72	-1.72
3	*2437.00	109.8 PK			1.03 V	345	111.29	-1.49
4	*2437.00	97.8 AV			1.03 V	345	99.29	-1.49
5	2489.00	62.3 PK	74.0	-11.7	1.04 V	325	63.56	-1.26
6	2489.00	50.4 AV	54.0	-3.6	1.04 V	325	51.66	-1.26
7	4874.00	54.2 PK	74.0	-19.8	1.04 V	28	46.87	7.33
8	4874.00	40.2 AV	54.0	-13.8	1.04 V	28	32.87	7.33
9	7311.00	52.6 PK	74.0	-21.4	1.03 V	186	37.64	14.96
10	7311.00	40.6 AV	54.0	-13.4	1.03 V	186	25.64	14.96

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	*2462.00	109.3 PK			1.09 H	214	110.68	-1.38
2	*2462.00	97.6 AV			1.09 H	214	98.98	-1.38
3	2483.50	73.1 PK	74.0	-0.9	1.09 H	214	74.38	-1.28
4	2483.50	50.7 AV	54.0	-3.3	1.09 H	214	51.98	-1.28
5	4924.00	53.0 PK	74.0	-21.0	1.33 H	56	45.53	7.47
6	4924.00	38.7 AV	54.0	-15.3	1.33 H	56	31.23	7.47
7	7386.00	53.5 PK	74.0	-20.5	1.00 H	57	38.61	14.89
8	7386.00	41.8 AV	54.0	-12.2	1.00 H	57	26.91	14.89
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	108.8 PK			1.00 V	337	110.18	-1.38
2	*2462.00	97.1 AV			1.00 V	337	98.48	-1.38
3	2483.50	70.2 PK	74.0	-3.8	1.00 V	337	71.48	-1.28
4	2483.50	50.3 AV	54.0	-3.7	1.00 V	337	51.58	-1.28
5	4924.00	54.1 PK	74.0	-19.9	1.13 V	28	46.63	7.47
6	4924.00	39.7 AV	54.0	-14.3	1.13 V	28	32.23	7.47
7	7386.00	52.5 PK	74.0	-21.5	1.00 V	196	37.61	14.89
8	7386.00	40.6 AV	54.0	-13.4	1.00 V	196	25.71	14.89

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	71.9 PK	74.0	-2.1	1.13 H	208	73.60	-1.70
2	2390.00	53.6 AV	54.0	-0.4	1.13 H	208	55.30	-1.70
3	*2422.00	103.7 PK			1.13 H	208	105.25	-1.55
4	*2422.00	91.4 AV			1.13 H	208	92.95	-1.55
5	4844.00	52.0 PK	74.0	-22.0	1.38 H	61	44.76	7.24
6	4844.00	37.8 AV	54.0	-16.2	1.38 H	61	30.56	7.24
7	7266.00	53.2 PK	74.0	-20.8	1.00 H	81	38.18	15.02
8	7266.00	41.3 AV	54.0	-12.7	1.00 H	81	26.28	15.02
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	71.3 PK	74.0	-2.7	1.01 V	337	73.00	-1.70
2	2390.00	52.1 AV	54.0	-1.9	1.01 V	337	53.80	-1.70
3	*2422.00	103.5 PK			1.01 V	337	105.05	-1.55
4	*2422.00	90.3 AV			1.01 V	337	91.85	-1.55
5	4844.00	52.1 PK	74.0	-21.9	1.06 V	23	44.86	7.24
6	4844.00	38.1 AV	54.0	-15.9	1.06 V	23	30.86	7.24
7	7266.00	53.4 PK	74.0	-20.6	1.05 V	201	38.38	15.02
8	7266.00	41.5 AV	54.0	-12.5	1.05 V	201	26.48	15.02

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	70.4 PK	74.0	-3.6	1.13 H	225	72.10	-1.70
2	2390.00	53.5 AV	54.0	-0.5	1.13 H	225	55.20	-1.70
3	*2437.00	105.4 PK			1.13 H	225	106.89	-1.49
4	*2437.00	93.3 AV			1.13 H	225	94.79	-1.49
5	2483.50	67.2 PK	74.0	-6.8	1.09 H	214	68.48	-1.28
6	2483.50	48.3 AV	54.0	-5.7	1.09 H	214	49.58	-1.28
7	4874.00	52.6 PK	74.0	-21.4	1.36 H	58	45.27	7.33
8	4874.00	38.4 AV	54.0	-15.6	1.36 H	58	31.07	7.33
9	7311.00	53.3 PK	74.0	-20.7	1.00 H	69	38.34	14.96
10	7311.00	41.4 AV	54.0	-12.6	1.00 H	69	26.44	14.96
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	69.6 PK	74.0	-4.4	1.00 V	337	71.30	-1.70
2	2390.00	50.8 AV	54.0	-3.2	1.00 V	337	52.50	-1.70
3	*2437.00	104.8 PK			1.00 V	337	106.29	-1.49
4	*2437.00	92.7 AV			1.00 V	337	94.19	-1.49
5	2483.50	65.1 PK	74.0	-8.9	1.00 V	337	66.38	-1.28
6	2483.50	46.4 AV	54.0	-7.6	1.00 V	337	47.68	-1.28
7	4874.00	53.1 PK	74.0	-20.9	1.01 V	35	45.77	7.33
8	4874.00	38.6 AV	54.0	-15.4	1.01 V	35	31.27	7.33
9	7311.00	53.2 PK	74.0	-20.8	1.00 V	210	38.24	14.96
10	7311.00	41.4 AV	54.0	-12.6	1.00 V	210	26.44	14.96

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)
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	*2452.00	102.6 PK			1.08 H	215	104.02	-1.42
2	*2452.00	91.0 AV			1.08 H	215	92.42	-1.42
3	2483.50	71.3 PK	74.0	-2.7	1.08 H	215	72.58	-1.28
4	2483.50	53.1 AV	54.0	-0.9	1.08 H	215	54.38	-1.28
5	4904.00	52.4 PK	74.0	-21.6	1.36 H	79	44.99	7.41
6	4904.00	38.5 AV	54.0	-15.5	1.36 H	79	31.09	7.41
7	7356.00	54.0 PK	74.0	-20.0	1.00 H	58	39.09	14.91
8	7356.00	41.9 AV	54.0	-12.1	1.00 H	58	26.99	14.91
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	102.1 PK			1.01 V	337	103.52	-1.42
2	*2452.00	90.6 AV			1.01 V	337	92.02	-1.42
3	2483.50	69.7 PK	74.0	-4.3	1.01 V	337	70.98	-1.28
4	2483.50	49.6 AV	54.0	-4.4	1.01 V	337	50.88	-1.28
5	4904.00	53.3 PK	74.0	-20.7	1.00 V	28	45.89	7.41
6	4904.00	38.5 AV	54.0	-15.5	1.00 V	28	31.09	7.41
7	7356.00	52.7 PK	74.0	-21.3	1.04 V	195	37.79	14.91
8	7356.00	40.7 AV	54.0	-13.3	1.04 V	195	25.79	14.91

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.

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 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100036	Jan. 21, 2014	Jan. 20, 2015

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. Tested date : May 09, 2014

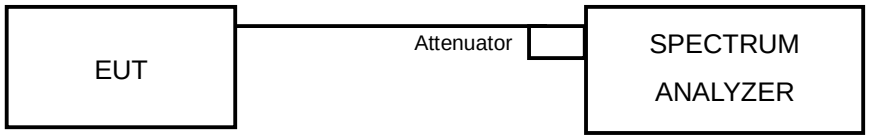
4.3.3 TEST PROCEDURE

1. Set resolution bandwidth (RBW) = 100kHz
2. Set the video bandwidth (VBW) ≥ 3 x RBW, Detector = Peak.
3. Trace mode = max hold.
4. Sweep = auto couple.
5. 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

4.3.4 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP



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 RESULTS

802.11b

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
1	2412	11.12	10.17	0.5	PASS
6	2437	10.21	11.15	0.5	PASS
11	2462	11.15	12.09	0.5	PASS

802.11g

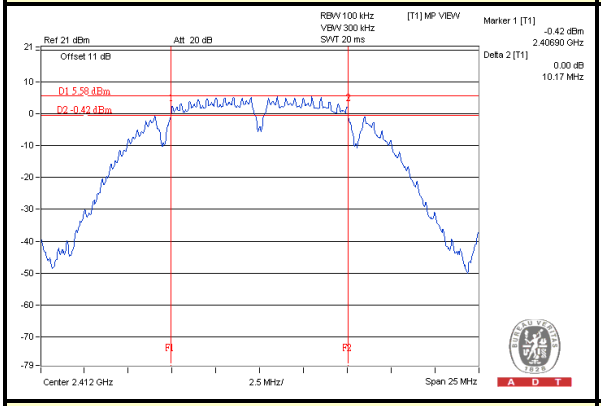
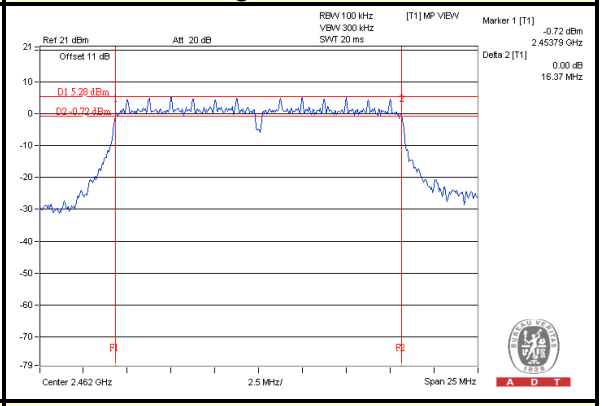
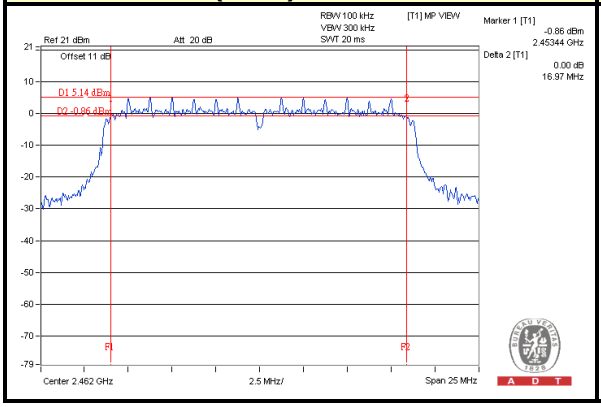
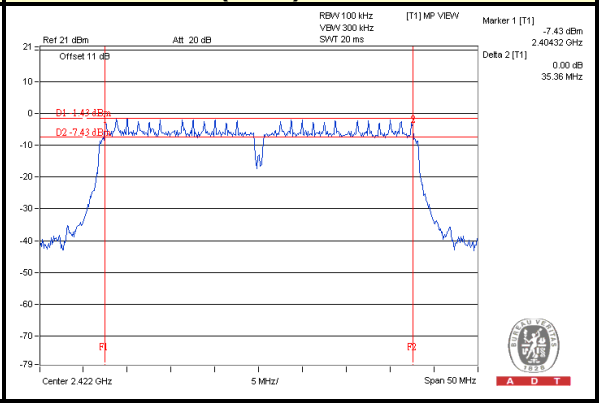
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
1	2412	16.38	16.38	0.5	PASS
6	2437	16.38	16.38	0.5	PASS
11	2462	16.37	16.37	0.5	PASS

802.11n (HT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
1	2412	16.98	17.01	0.5	PASS
6	2437	16.98	16.98	0.5	PASS
11	2462	16.97	17.08	0.5	PASS

802.11n (HT40)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
3	2422	35.51	35.36	0.5	PASS
6	2437	35.37	35.37	0.5	PASS
9	2452	35.36	35.67	0.5	PASS

SPECTRUM PLOT OF WORST VALUE	
802.11b / CHAIN1-CH1	**802.11g / CHAIN1-CH11**
	
802.11n (HT20) / CHAIN0-CH11	**802.11n (HT40) / CHAIN1-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 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Power Meter	ML2495A	1014008	Apr. 30, 2014	Apr. 29, 2015
Power Sensor	MA2411B	0917122	Apr. 30, 2014	Apr. 29, 2015

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. Tested date : May 09, 2014

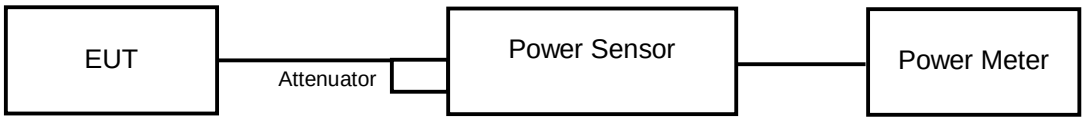
4.4.3 TEST PROCEDURES

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

4.4.4 DEVIATION FROM TEST STANDARD

No deviation.

4.4.5 TEST SETUP



4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6

4.4.7 TEST RESULTS

FOR PEAK POWER

802.11b

CHANNEL	FREQUENCY (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
1	2412	19.31	18.21	151.532	21.81	30	PASS
6	2437	18.84	18.01	139.801	21.46	30	PASS
11	2462	18.41	17.95	131.716	21.20	30	PASS

802.11g

CHANNEL	FREQUENCY (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
1	2412	26.01	25.83	781.850	28.93	30	PASS
6	2437	26.15	26.37	845.609	29.27	30	PASS
11	2462	26.03	26.81	880.600	29.45	30	PASS

802.11n (HT20)

CHANNEL	FREQUENCY (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
1	2412	25.35	24.37	616.295	27.90	30	PASS
6	2437	26.10	25.89	795.530	29.01	30	PASS
11	2462	25.77	26.43	817.114	29.12	30	PASS

802.11n (HT40)

CHANNEL	FREQUENCY (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
3	2422	23.35	23.24	427.135	26.31	30	PASS
6	2437	25.16	25.01	645.052	28.10	30	PASS
9	2452	23.01	23.37	417.256	26.20	30	PASS

FOR AVERAGE POWER

802.11b

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1		
1	2412	17.06	16.01	90.718	19.58
6	2437	16.69	15.81	84.773	19.28
11	2462	16.21	15.76	79.453	19.00

802.11g

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1		
1	2412	17.41	16.79	102.834	20.12
6	2437	18.01	17.27	116.574	20.67
11	2462	18.29	17.77	127.294	21.05

802.11n (HT20)

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1		
1	2412	16.64	15.57	82.190	19.15
6	2437	17.98	17.25	115.894	20.64
11	2462	17.81	17.67	118.874	20.75

802.11n (HT40)

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1		
3	2422	13.77	13.47	46.056	16.63
6	2437	17.11	16.57	96.798	19.86
9	2452	15.01	14.69	61.140	17.86

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 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S Spectrum Analyzer	FSP40	100036	Jan. 21, 2014	Jan. 20, 2015

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. Tested date : May 09, 2014

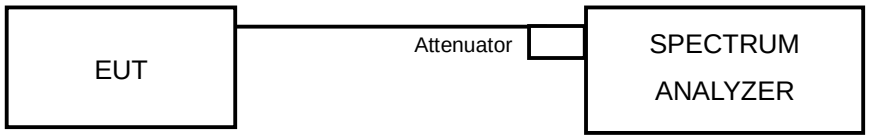
4.5.3 TEST PROCEDURE

1. Set the RBW = 3 kHz, VBW =10 kHz, Detector = peak.
2. Sweep time = auto couple, Trace mode = max hold, allow trace to fully stabilize.
3. Use the peak marker function to determine the maximum amplitude level.

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITION

Same as Item 4.3.6

4.5.7 TEST RESULTS

802.11b

TX CHAIN	CHANNEL	FREQUENCY (MHz)	PSD (dBm)	10 log (N=2) dB	TOTAL PSD (dBm)	LIMIT (dBm)	PASS /FAIL
0	1	2412	-6.16	3.01	-3.15	8	PASS
	6	2437	-5.82	3.01	-2.81	8	PASS
	11	2462	-7.07	3.01	-4.06	8	PASS
1	1	2412	-6.89	3.01	-3.88	8	PASS
	6	2437	-7.26	3.01	-4.25	8	PASS
	11	2462	-7.75	3.01	-4.74	8	PASS

NOTE: Directional gain = 10 log[(10Chain$^{0/20}$ + 10Chain$^{1/20}$)^2 / 2]= 5.63dBi < 6dBi , so the power density limit shall not be reduced.

802.11g

TX CHAIN	CHANNEL	FREQUENCY (MHz)	PSD (dBm)	10 log (N=2) dB	TOTAL PSD (dBm)	LIMIT (dBm)	PASS /FAIL
0	1	2412	-10.47	3.01	-7.46	8	PASS
	6	2437	-10.07	3.01	-7.06	8	PASS
	11	2462	-8.83	3.01	-5.82	8	PASS
1	1	2412	-10.73	3.01	-7.72	8	PASS
	6	2437	-10.23	3.01	-7.22	8	PASS
	11	2462	-8.94	3.01	-5.93	8	PASS

NOTE: Directional gain = 10 log[(10Chain$^{0/20}$ + 10Chain$^{1/20}$)^2 / 2]= 5.63dBi < 6dBi , so the power density limit shall not be reduced.

802.11n (HT20)

TX CHAIN	CHANNEL	FREQUENCY (MHz)	PSD (dBm)	10 log (N=2) dB	TOTAL PSD (dBm)	LIMIT (dBm)	PASS /FAIL
0	1	2412	-10.71	3.01	-7.70	8	PASS
	6	2437	-9.72	3.01	-6.71	8	PASS
	11	2462	-9.95	3.01	-6.94	8	PASS
1	1	2412	-11.41	3.01	-8.40	8	PASS
	6	2437	-9.68	3.01	-6.67	8	PASS
	11	2462	-10.26	3.01	-7.25	8	PASS

NOTE: Directional gain = 10 log[(10Chain$^{0/20}$ + 10Chain$^{1/20}$)^2 / 2]= 5.63dBi < 6dBi , so the power density limit shall not be reduced.

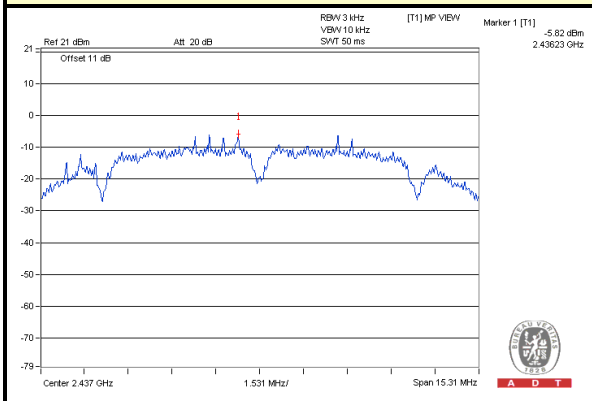
802.11n (HT40)

TX CHAIN	CHANNEL	FREQUENCY (MHz)	PSD (dBm)	10 log (N=2) dB	TOTAL PSD (dBm)	LIMIT (dBm)	PASS /FAIL
0	3	2422	-16.43	3.01	-13.42	8	PASS
	6	2437	-13.52	3.01	-10.51	8	PASS
	9	2452	-15.72	3.01	-12.71	8	PASS
1	3	2422	-17.23	3.01	-14.22	8	PASS
	6	2437	-13.45	3.01	-10.44	8	PASS
	9	2452	-15.56	3.01	-12.55	8	PASS

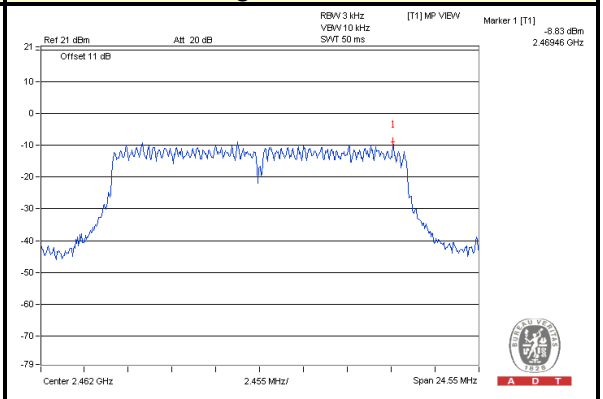
NOTE: Directional gain = 10 log[(10Chain$^{0/20}$ + 10Chain$^{1/20}$)^2 / 2]= 5.63dBi < 6dBi , so the power density limit shall not be reduced.

SPECTRUM PLOT OF WORST VALUE

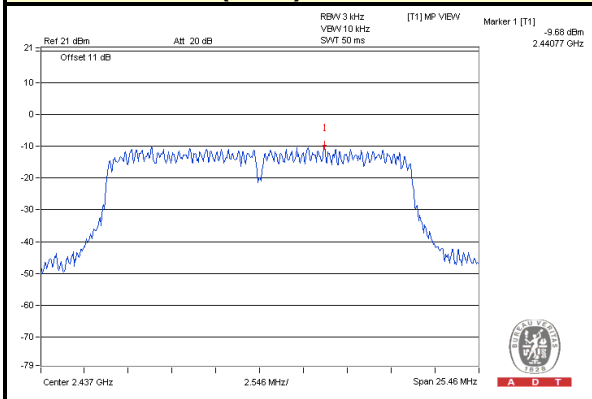
802.11b / CHAIN0-CH6



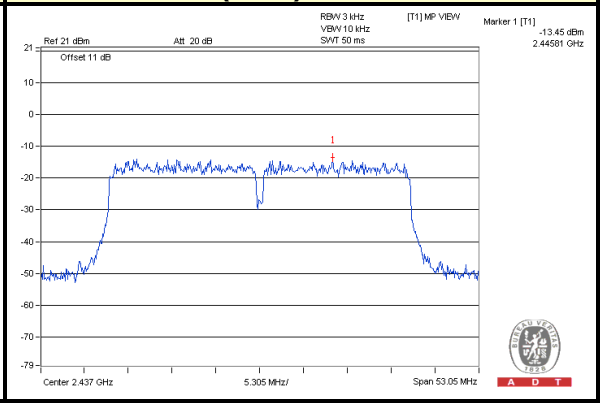
802.11g / CHAIN0-CH11



802.11n (HT20) / CHAIN1-CH6



802.11n (HT40) / CHAIN1-CH6



4.6 CONDUCTED OUT-BAND EMISSION MEASUREMENT

4.6.1 LIMITS OF CONDUCTED OUT-BAND EMISSION MEASUREMENT

Below 20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

4.6.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S Spectrum Analyzer	FSP40	100036	Jan. 21, 2014	Jan. 20, 2015

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. Tested date : May 09, 2014

4.6.3 TEST PROCEDURE

Measurement Procedure - Reference Level

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.

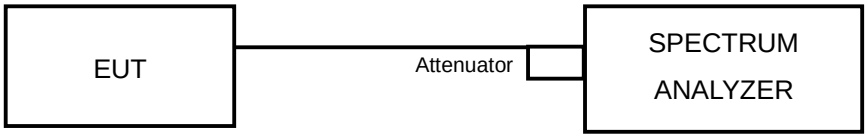
Measurement Procedure –Unwanted Emission Level

1. Set RBW = 100 kHz.
2. Set VBW ≥ 300 kHz.
3. Set span to encompass the spectrum to be examined
4. Detector = peak.
5. Trace Mode = max hold.
6. Sweep = auto couple.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

4.6.5 TEST SETUP



4.6.6 EUT OPERATING CONDITION

Same as Item 4.3.6

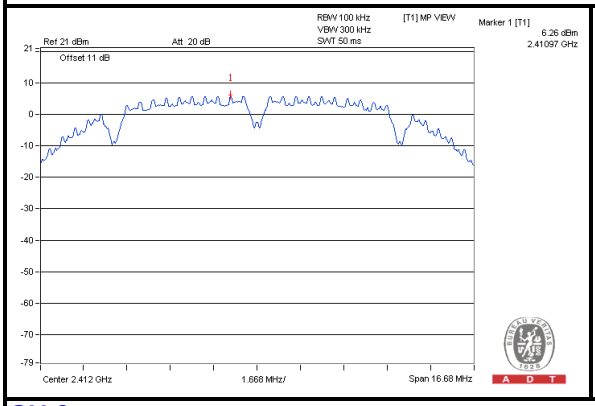
4.6.7 TEST RESULTS

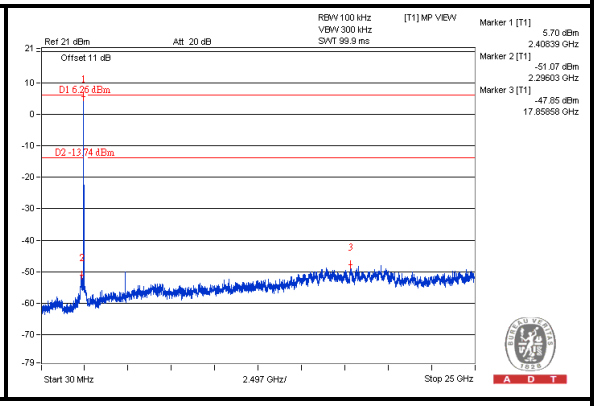
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.

802.11b:

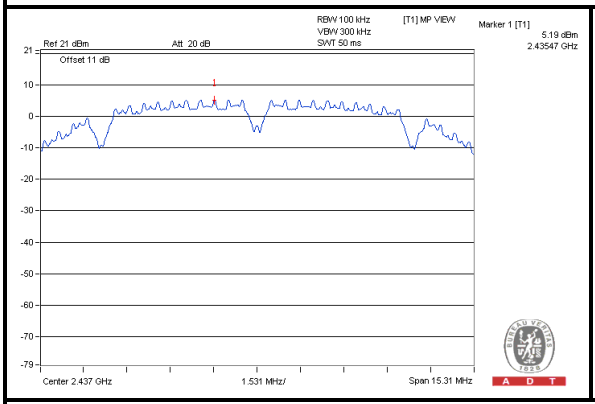
CHAIN 0

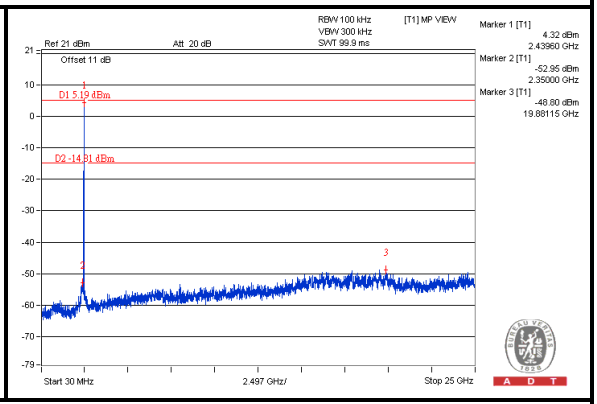
CH 1



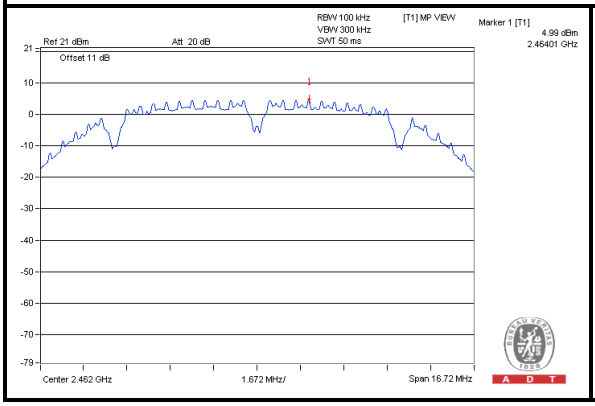


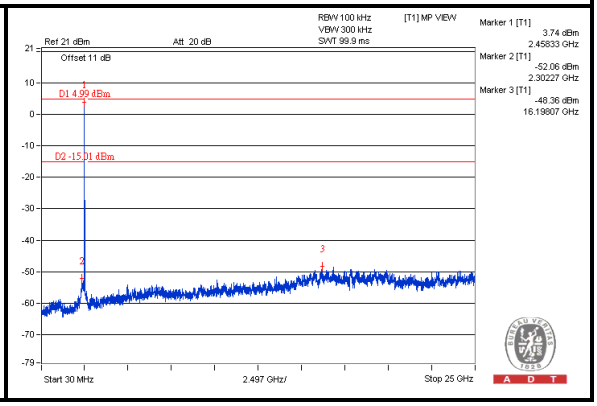
CH 6

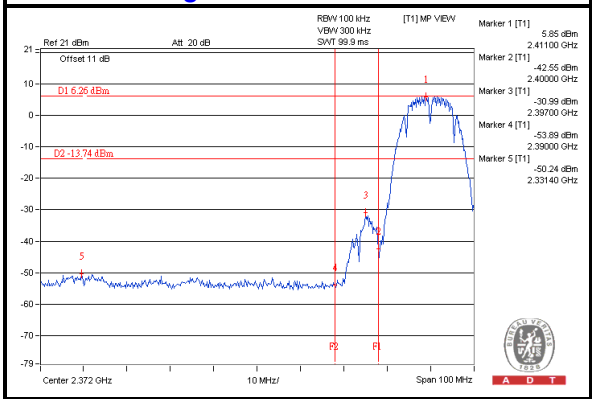
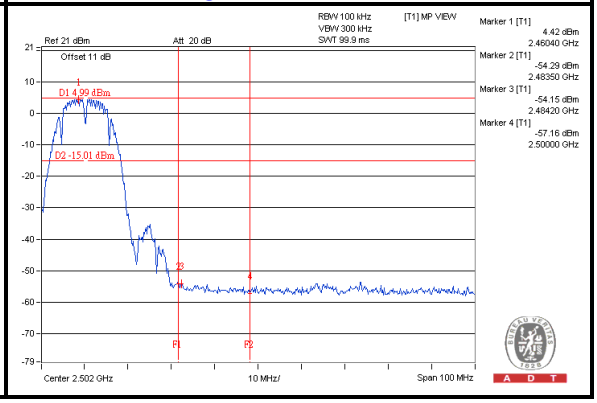




CH 11

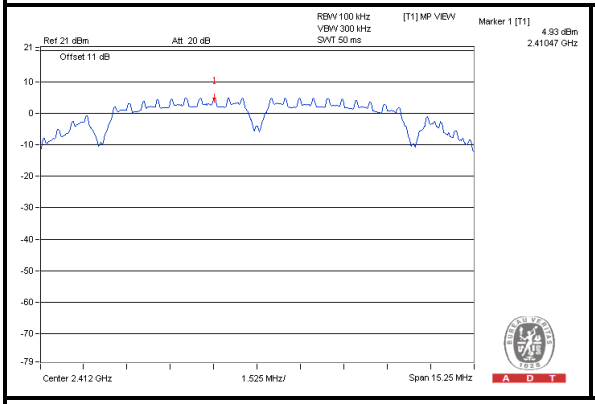


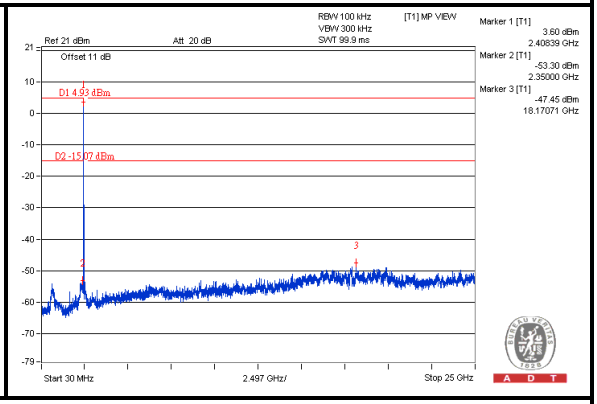


CH 1 Band edge	CH 11 Band edge
	

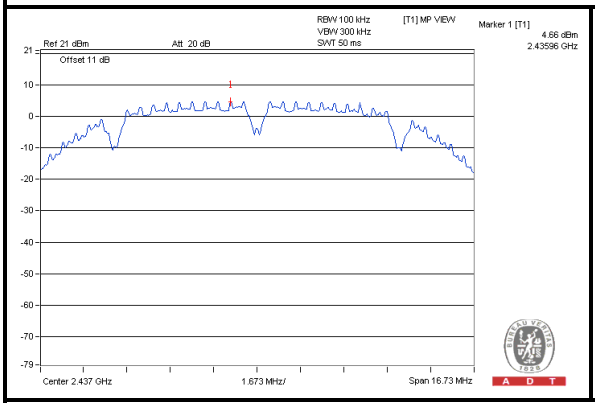
CHAIN 1

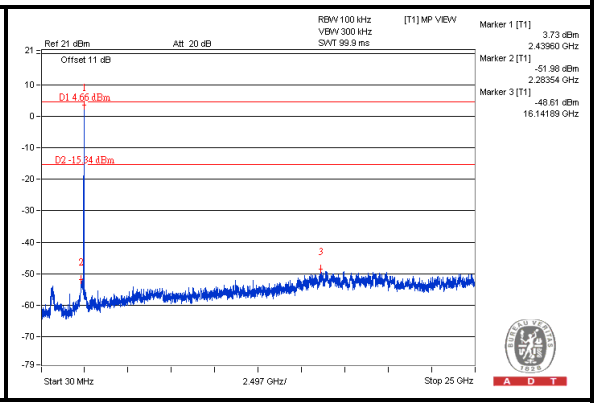
CH 1



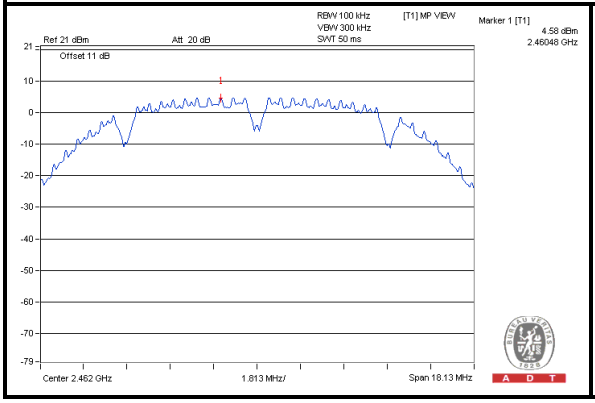


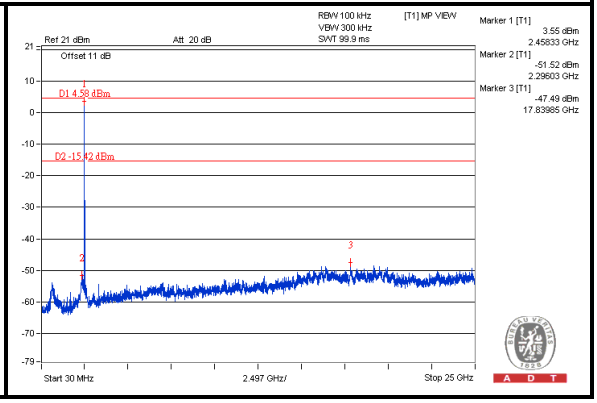
CH 6

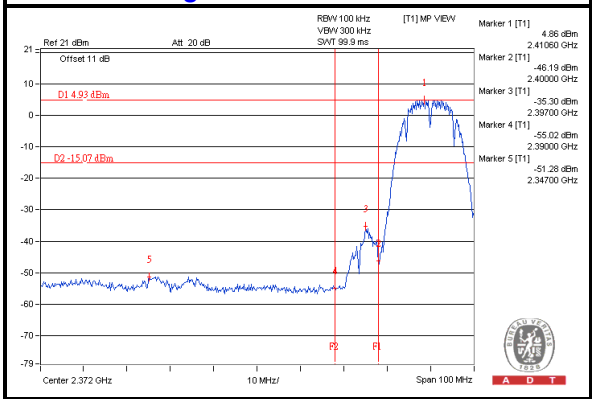
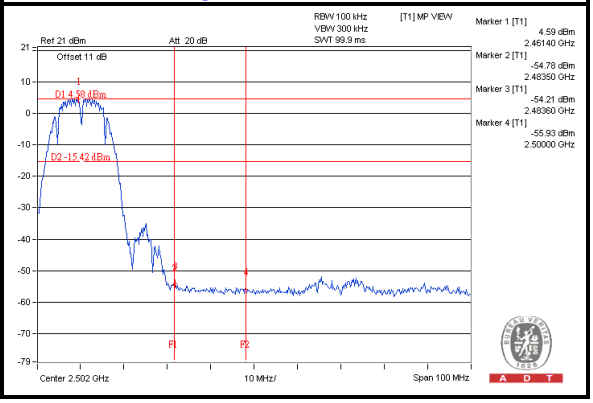




CH 11



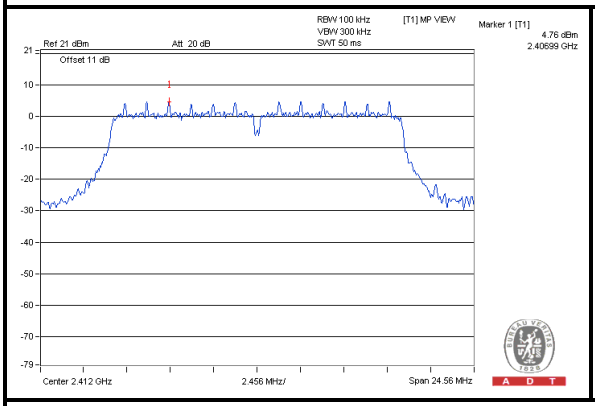


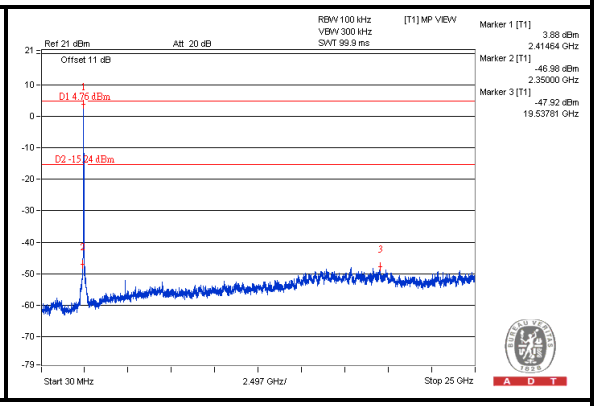
CH 1 Band edge	CH 11 Band edge
	

802.11g:

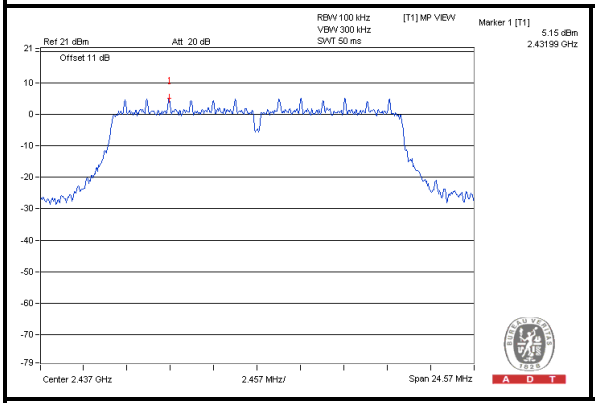
CHAIN 0

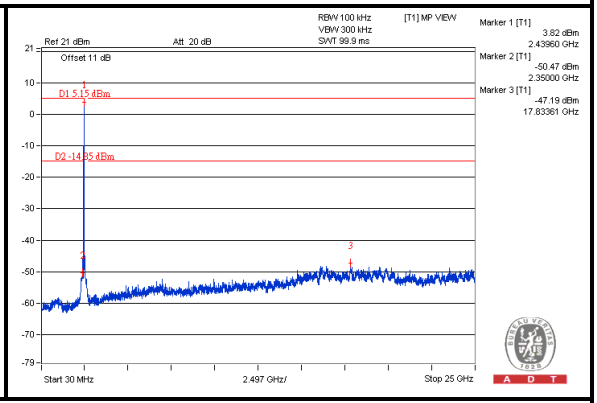
CH 1



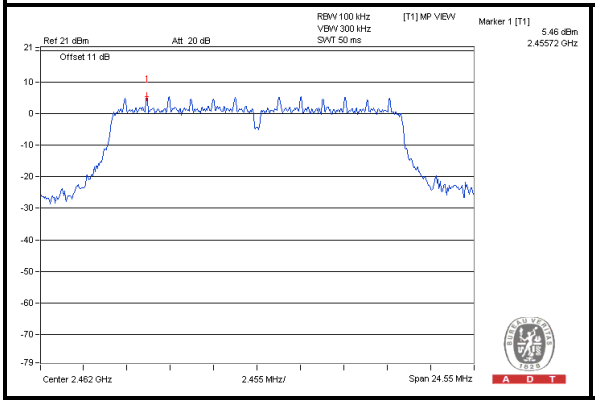


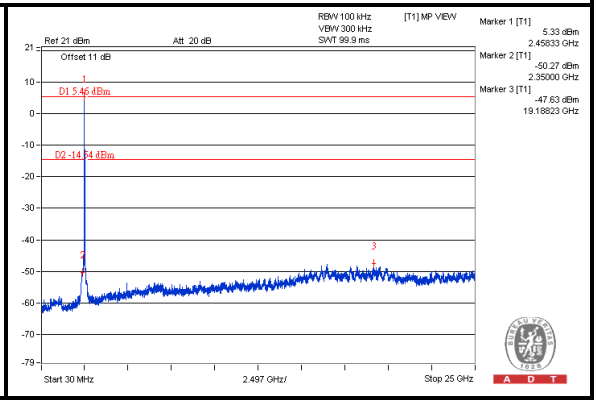
CH 6

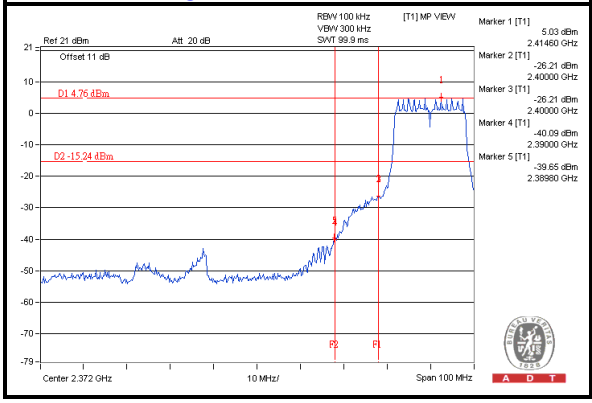
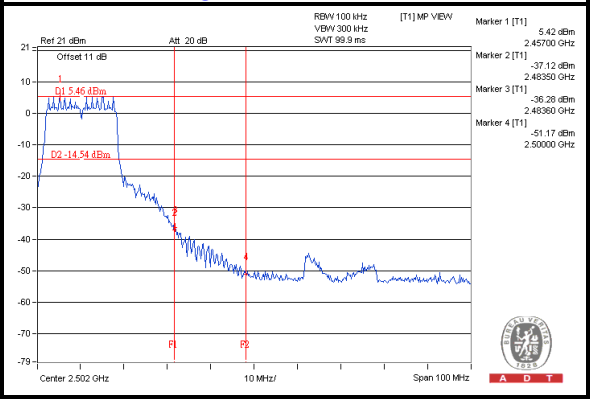




CH 11

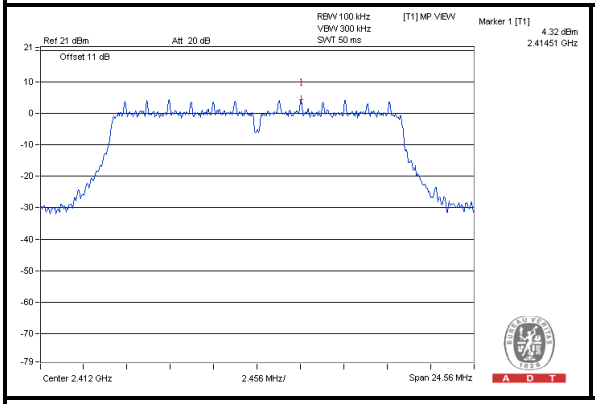


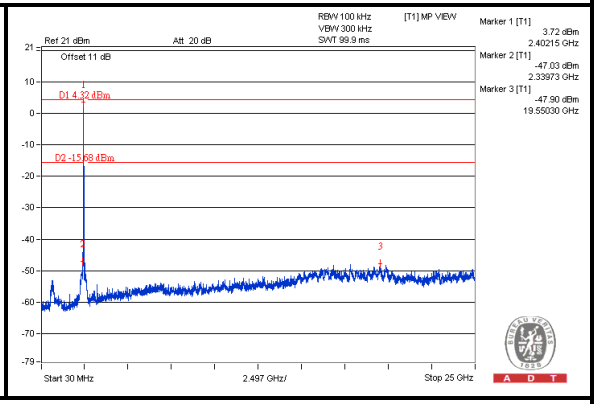


CH 1 Band edge	CH 11 Band edge
	

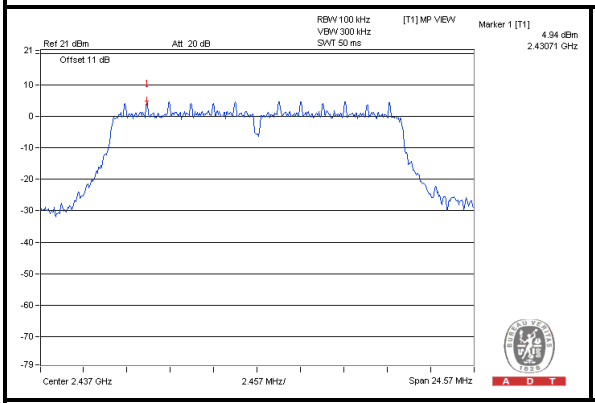
CHAIN 1

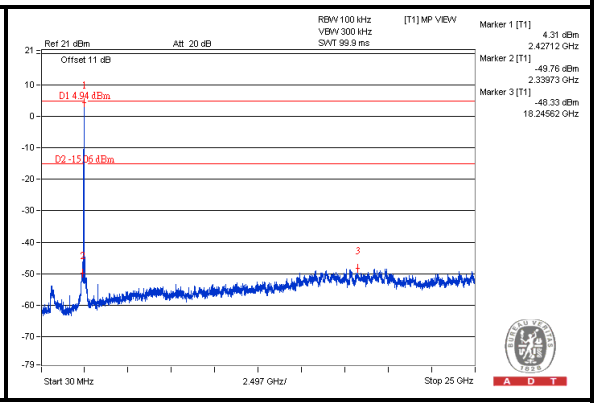
CH 1



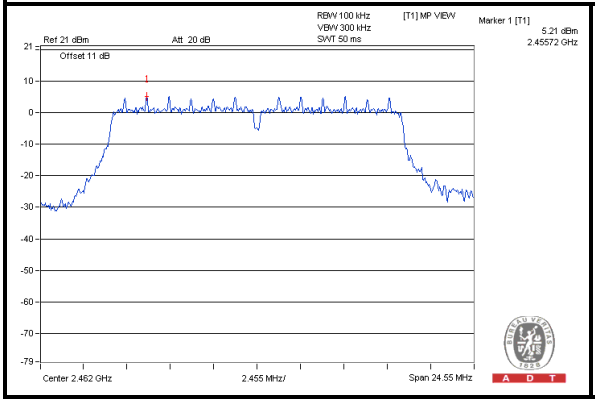


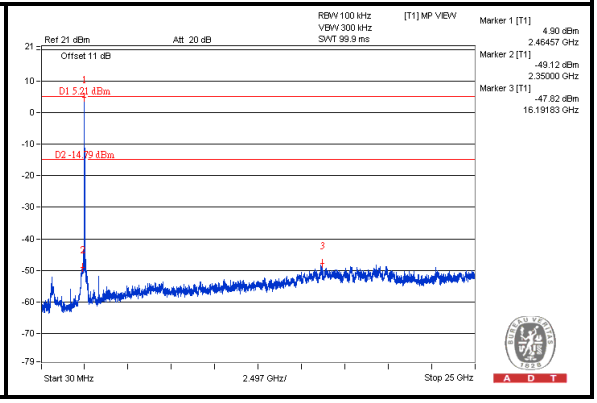
CH 6

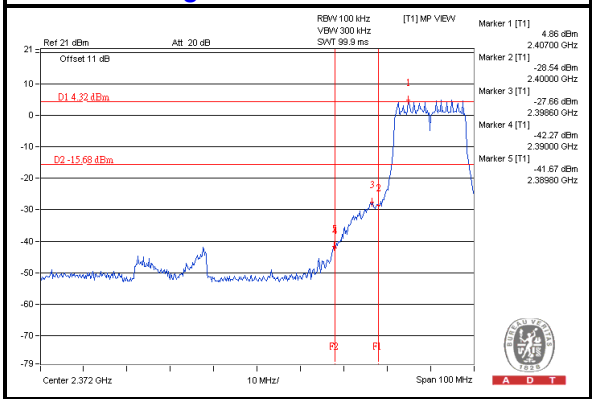
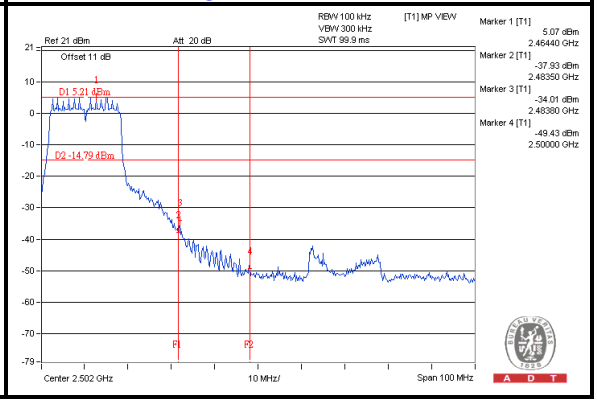




CH 11



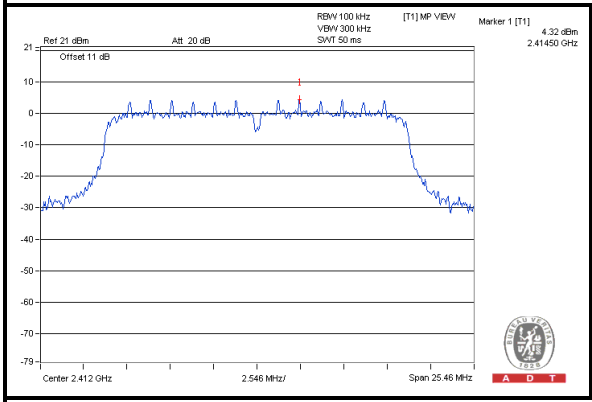


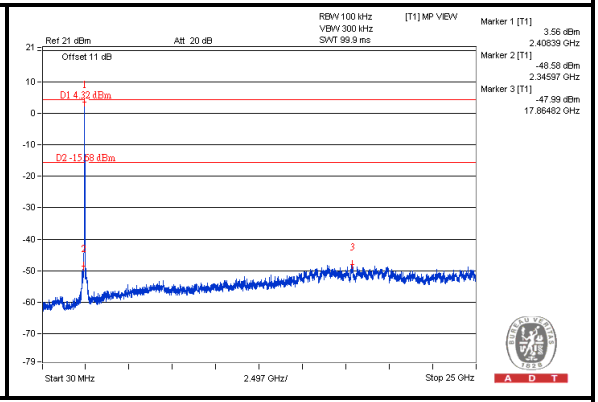
CH 1 Band edge	CH 11 Band edge
	

802.11n (HT20):

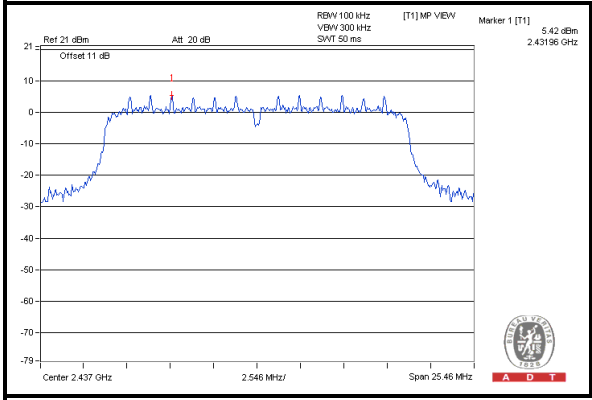
CHAIN 0

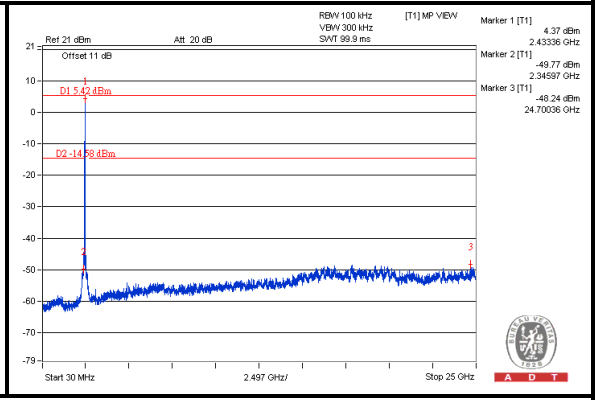
CH 1



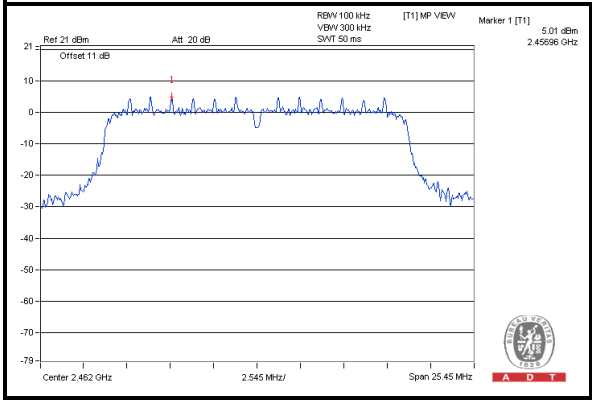


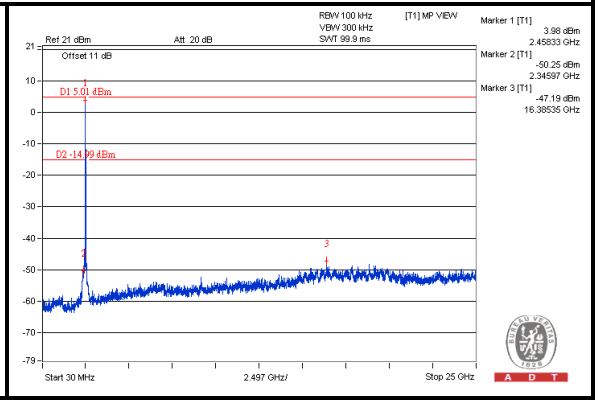
CH 6

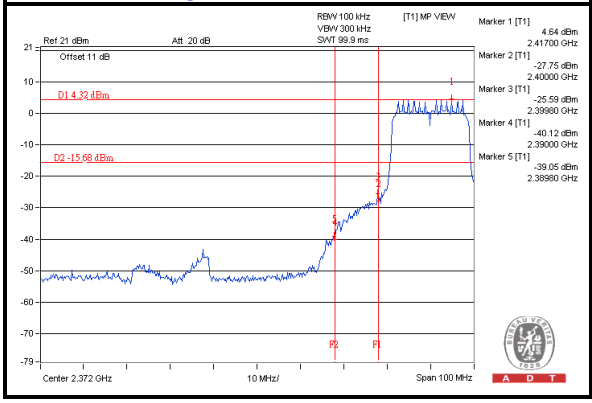
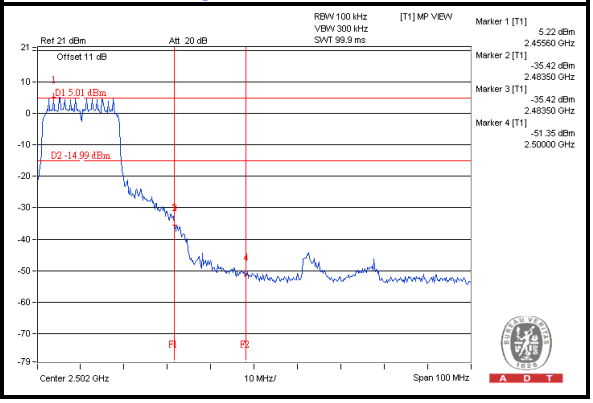




CH 11

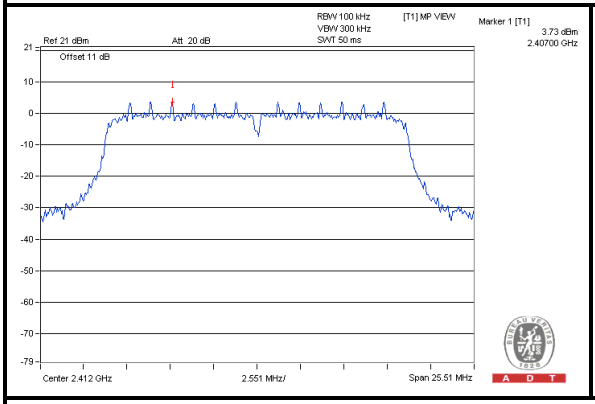


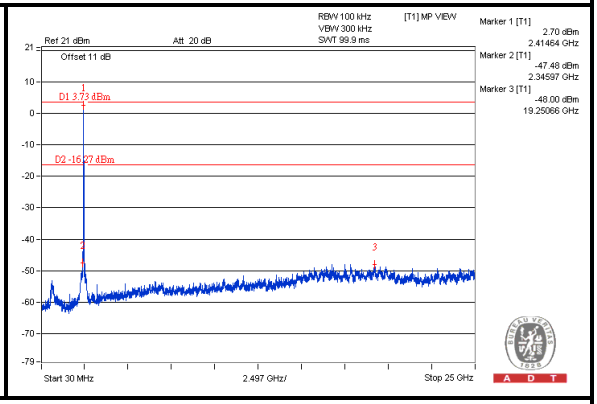


CH 1 Band edge	CH 11 Band edge
	

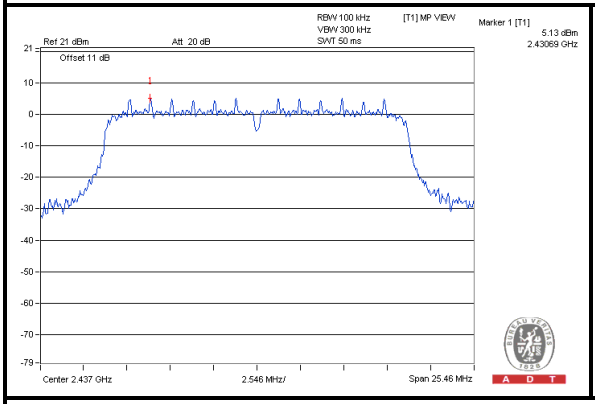
CHAIN 1

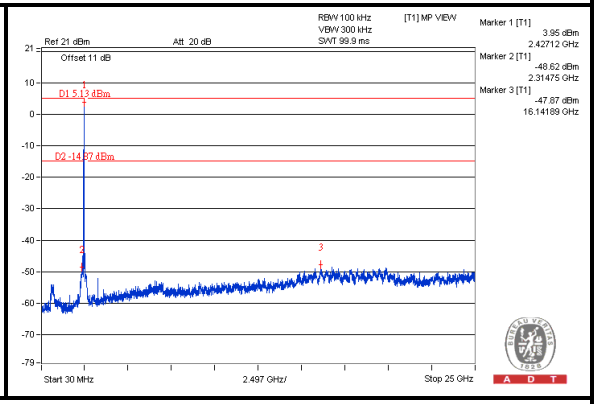
CH 1





CH 6





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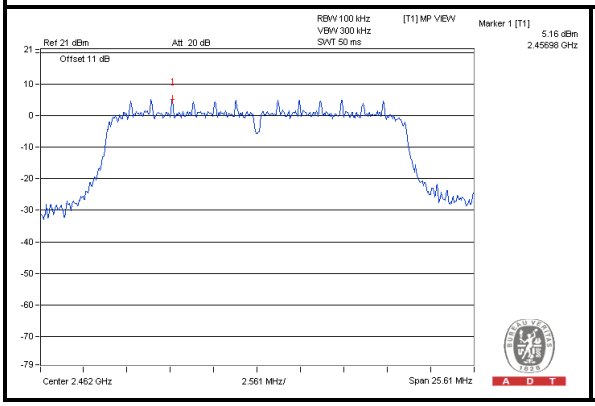
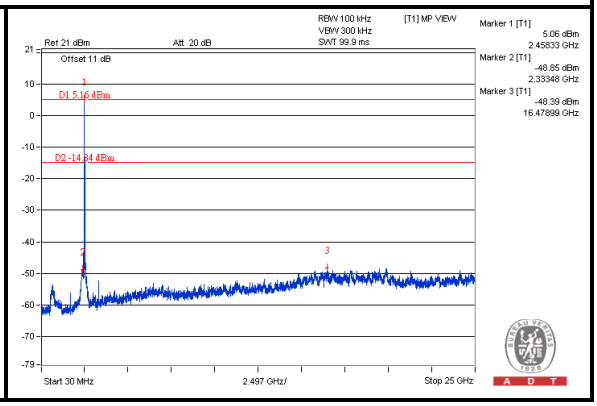
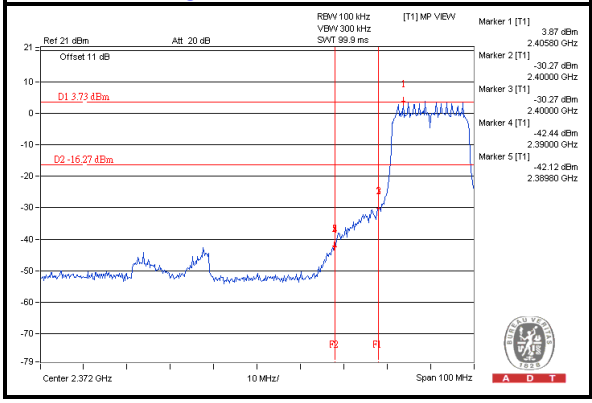
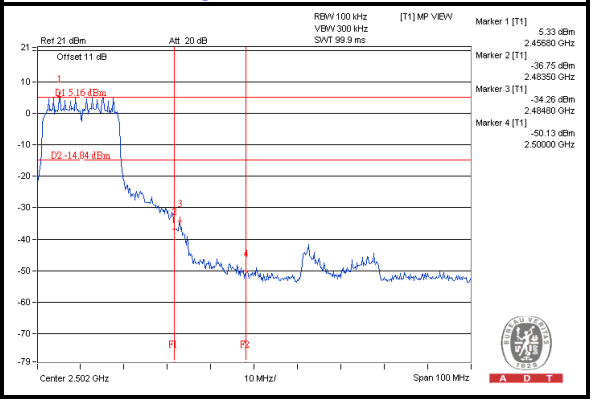


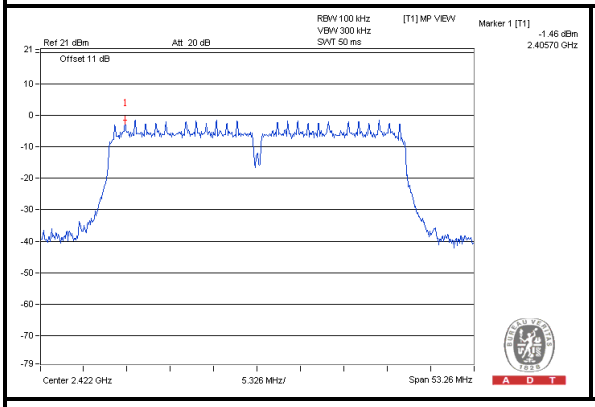


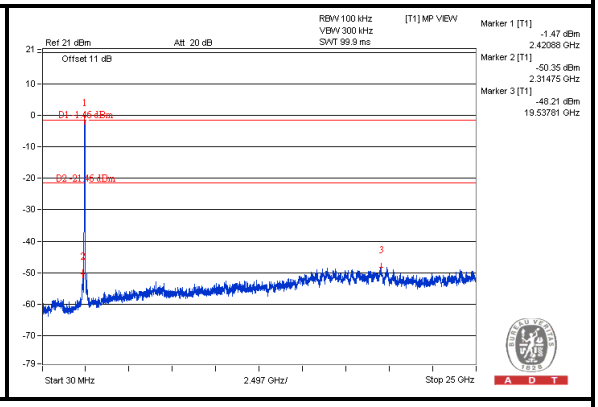
CH 1 Band edge	CH 11 Band edge
	

802.11n (HT40):

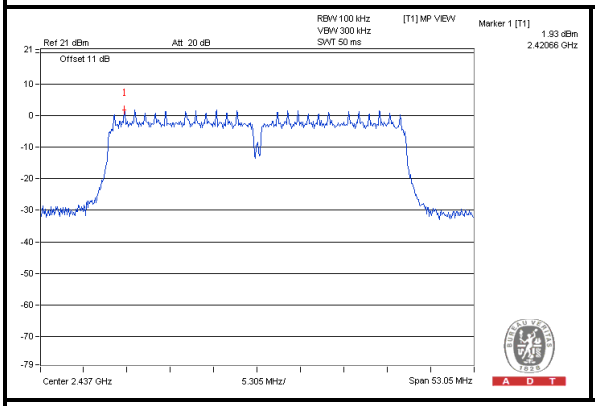
CHAIN 0

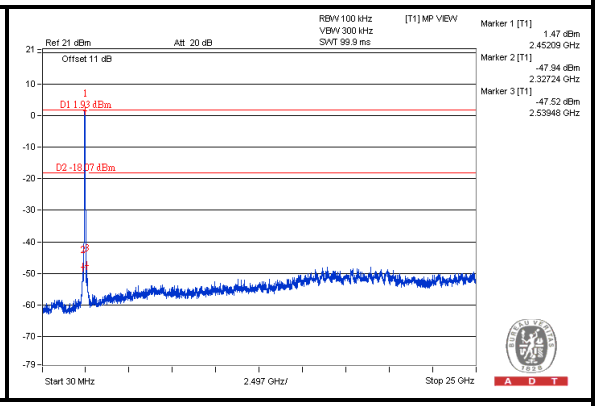
CH 3



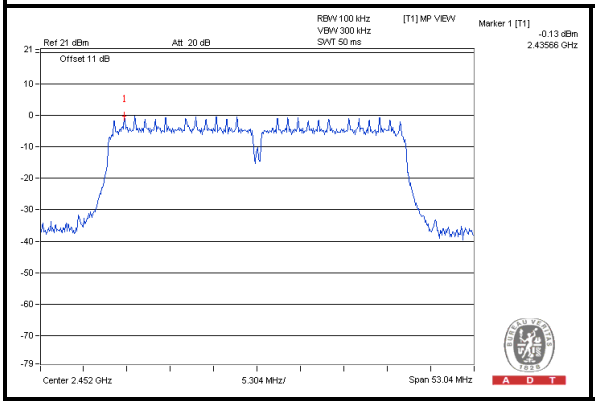


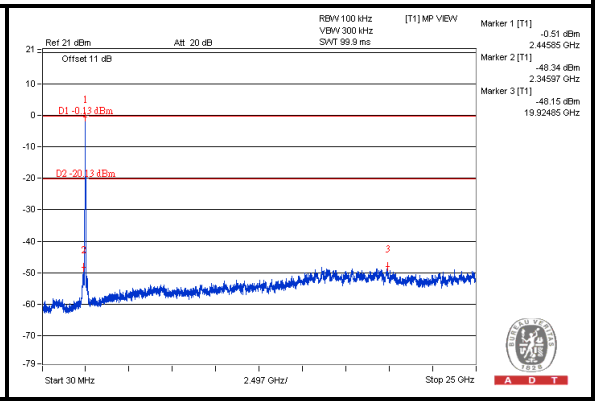
CH 6



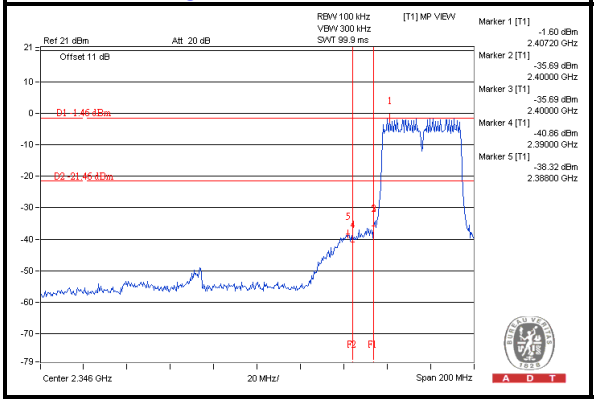


CH 9

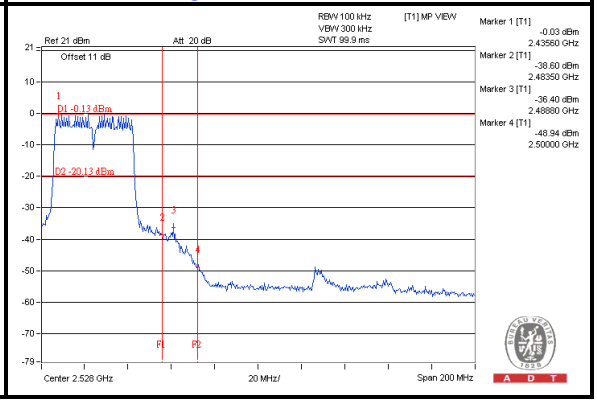




CH 3 Band edge

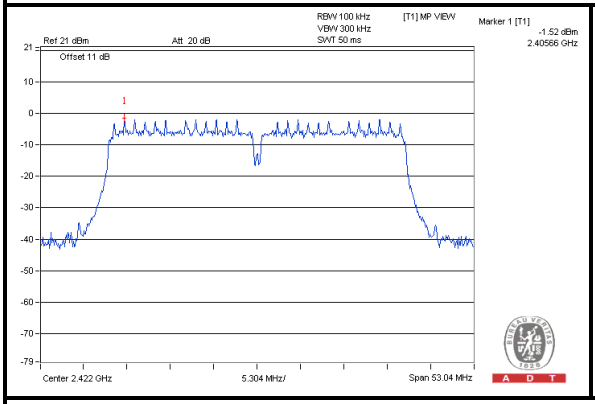


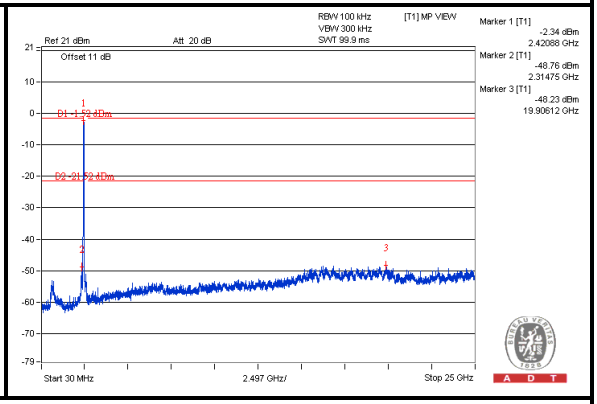
CH 9 Band edge



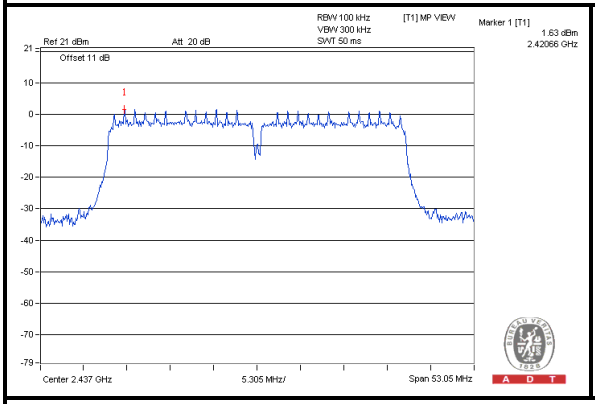
CHAIN 1

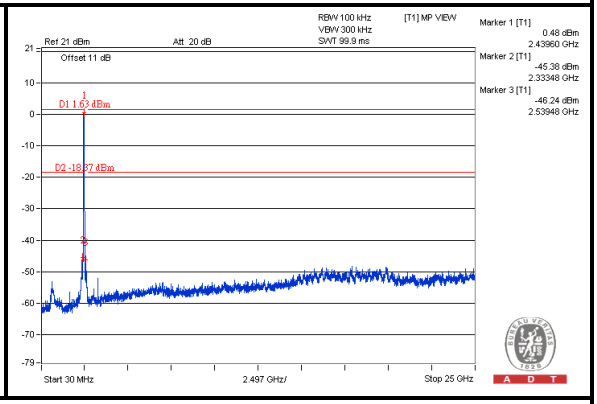
CH 3





CH 6





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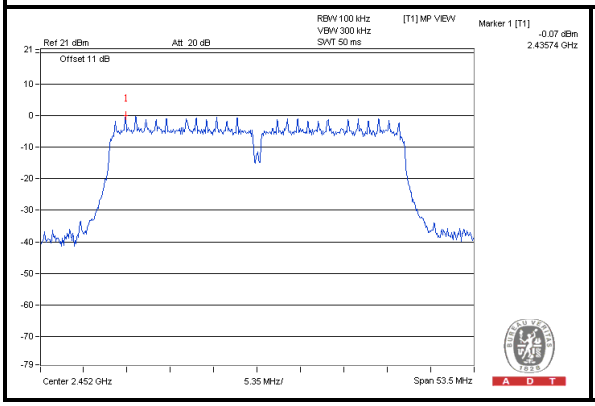
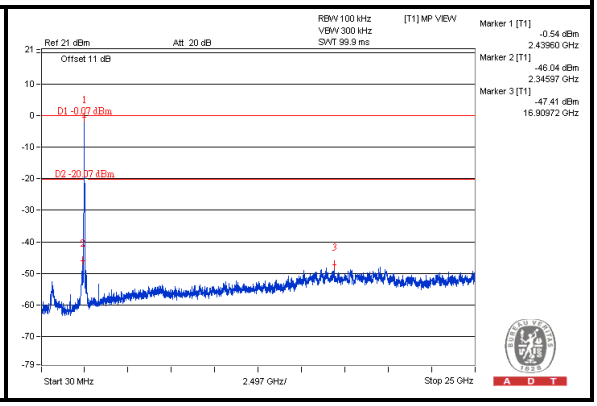
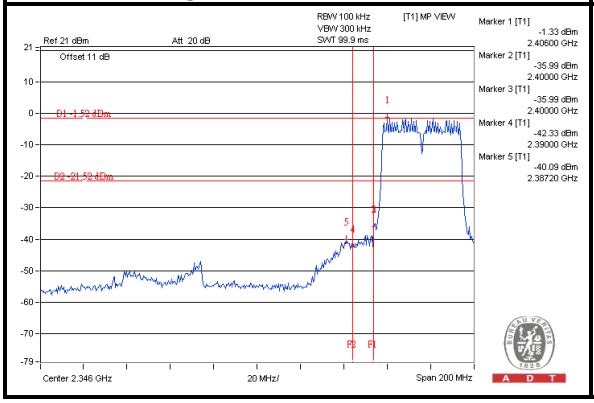
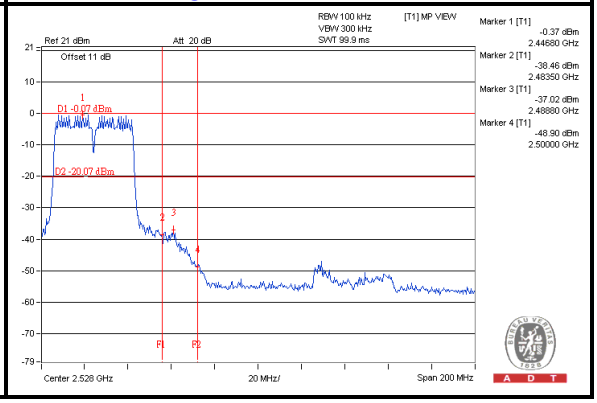




CH 3 Band edge	CH 9 Band edge
	

5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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

6. 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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Hwa Ya EMC/RF/Safety/Telecom Lab:
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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.

7. APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No modifications were made to the EUT by the lab during the test.

--- END ---