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FCC TEST REPORT (WLAN)

REPORT NO.: RF130914D08

MODEL NO.: 1563

FCC ID: C3K1563

RECEIVED: Sep. 14, 2013

TESTED: Oct. 9 ~ 18, 2013

ISSUED: Oct. 21, 2013

APPLICANT: MICROSOFT CORPORATION

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98052-6399, U.S.A.

ISSUED BY: Bureau Veritas Consumer Products Services
(H.K.) Ltd., Taoyuan Branch

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF130914D08	Original release	Oct. 21, 2013



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1. CERTIFICATION

PRODUCT: Camera
BRAND NAME: Microsoft
MODEL NO.: 1563
APPLICANT: MICROSOFT CORPORATION
TESTED: Oct. 9 ~ 18, 2013
TEST SAMPLE: ENGINEERING SAMPLE
STANDARDS: **FCC Part 15, Subpart C (Section 15.247)**
ANSI C63.10-2009

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 : Jessica Cheng , **DATE:** Oct. 21, 2013
(Jessica Cheng / Senior Specialist)

APPROVED BY : Rex Lai , **DATE:** Oct. 21, 2013
(Rex Lai / Assistant 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 -13.82dB at 0.42344MHz.
15.247(d) 15.209	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -6.1dB at 82.19MHz.
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 power	PASS	Meet the requirement of limit.
15.247(e)	Power Spectral Density	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	No antenna connector is used.

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	Uncertainty
Conducted emissions	150kHz~30MHz	2.41 dB
Radiated emissions	30MHz ~ 1GHz	4.30 dB
	Above 1GHz	3.36 dB

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



3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	Camera
MODEL NO.	1563
POWER SUPPLY	5Vdc from adapter through dock 3.7Vdc from battery
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11b:11/ 5.5/ 2/ 1Mbps 802.11g: 54/ 48/ 36/ 24/ 18/ 12/ 9/ 6Mbps 802.11n: up to 72.2Mbps
OPERATING FREQUENCY	2412 ~ 2462MHz
NUMBER OF CHANNEL	11
OUTPUT POWER	143.2mW
ANTENNA TYPE	PIFA antenna with -3.21dBi gain
ANTENNA CONNECTOR	N/A
DATA CABLE	Shielded USB cable (1.0m)
I/O PORTS	Refer to user's manual
ACCESSORY DEVICES	Dock

NOTE:

1. The EUT is a Camera with micro USB interface.
2. The EUT has serial samples, which are defined as their serial numbers as follows:

Serial no.
376, 453,463, 363, 366, 382

3. The EUT incorporates a SISO function. Physically, the EUT provides one completed transmitter and one receiver.

MODULATION MODE	TX FUNCTION
802.11b	1TX
802.11g	1TX
802.11n (20MHz)	1TX

4. The EUT was pre-tested with the following modes:

- 2 Operating Mode (EUT stand-alone)
- 2 Operating + Charging Mode (EUT + Adapter)
- 2 Operating + Charging Mode (EUT +Dock+ Adapter)

The worst emission level was found when the EUT tested under **Operating + Charging Mode (EUT +Dock+ Adapter)**, therefore, only its test data was recorded in this report.



- 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 (20MHz):

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		



3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE ³ 1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

Where **RE³1G**: Radiated Emission above 1GHz **RE<1G**: Radiated Emission below 1GHz
PLC: Power Line Conducted Emission **APCM**: Antenna Port Conducted Measurement

NOTE: The EUT had been pre-tested on the positioned of 3 axis. The worst case was found when positioned on **Z-plane**.

RADIATED EMISSION TEST (ABOVE 1GHz):

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	SERIAL NO.	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	376, 453,463	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
-	376, 453,463	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
-	376, 453,463	802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	6.5

RADIATED EMISSION TEST (BELOW 1GHz):

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	SERIAL NO.	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	376, 453	802.11g	1 to 11	6	OFDM	BPSK	6.0
-	463	802.11n (20MHz)	1 to 11	6	OFDM	BPSK	6.5



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POWER LINE CONDUCTED EMISSION TEST:

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	SERIAL NO.	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	376	802.11g	1 to 11	6	OFDM	BPSK	6.0

BANDEDGE 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.

EUT CONFIGURE MODE	SERIAL NO.	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	363, 366, 382	802.11b	1 to 11	1, 11	DSSS	DBPSK	1.0
-	363, 366, 382	802.11g	1 to 11	1, 11	OFDM	BPSK	6.0
-	363, 366, 382	802.11n (20MHz)	1 to 11	1, 11	OFDM	BPSK	6.5

ANTENNA PORT CONDUCTED MEASUREMENT:

- This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	SERIAL NO.	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	363, 366, 382	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
-	363, 366, 382	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
-	363, 366, 382	802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	6.5



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TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE³1G	25deg. C, 77% RH	120Vac, 60Hz	Joey Liu
RE<1G	25deg. C, 77% RH	120Vac, 60Hz	Joey Liu
PLC	23deg. C, 79% RH	120Vac, 60Hz	Aaron You
APCM	25deg. C, 60%RH	120Vac, 60Hz	Dalen Dai

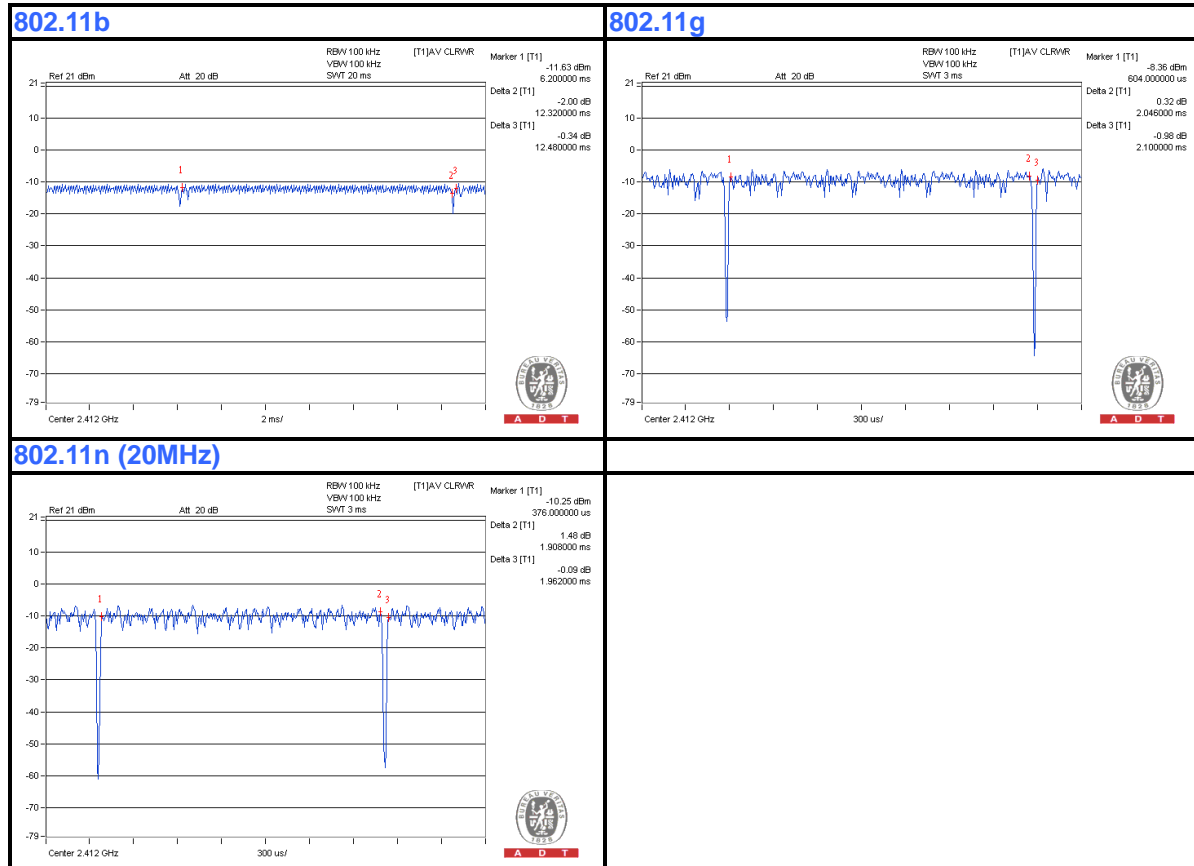
3.3 DUTY CYCLE OF TEST SIGNAL

Duty factor shall be considered.

802.11b: Duty cycle = $12.32/12.48 = 0.987$, Duty factor = $10 * \log(1/0.987) = 0.06$

802.11g: Duty cycle = $2.046/2.1 = 0.974$, Duty factor = $10 * \log(1/0.974) = 0.11$

802.11n (20MHz): Duty cycle = $1.908/1.962 = 0.972$, Duty factor = $10 * \log(1/0.972) = 0.12$



3.4 DESCRIPTION OF SUPPORT UNITS

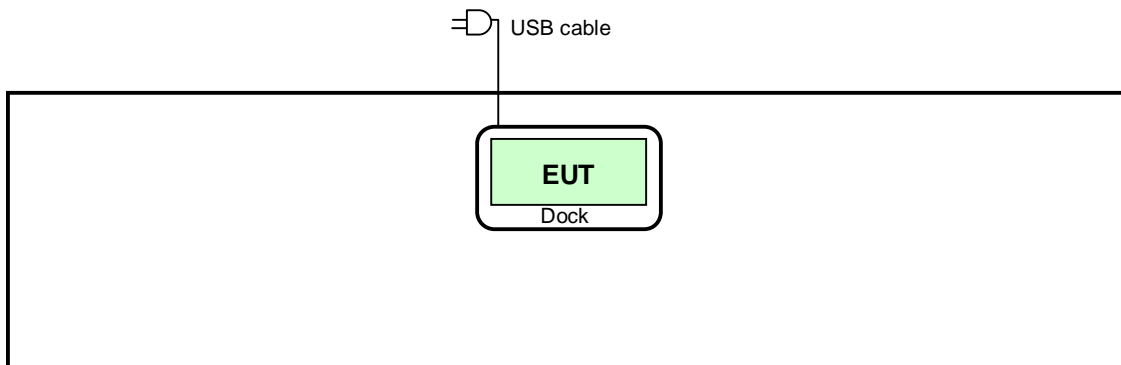
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Adapter.	Sunny	SYS1448-1005-W2	NA	NA

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	AC Input: 100-240V,50-60Hz,0.5A(2-PIN) DC Output: 5V/2.0A

Note: The support unit 1 was provided by client.

3.4.1 CONFIGURATION OF SYSTEM UNDER TEST





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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)

558074 D01 DTS Meas Guidance v03r01

ANSI C63.10-2009

All test items have been performed and recorded as per the above standards.

NOTE: The product 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 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 under any condition of modulation.



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4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
HP Preamplifier	8447D	2432A03504	Feb. 26, 2013	Feb. 25, 2014
HP Preamplifier	8449B	3008A01201	Feb. 26, 2013	Feb. 25, 2014
Agilent TEST RECEIVER	N9038A	MY51210129	Jan. 03, 2013	Jan. 02, 2014
Schwarzbeck Antenna	VULB 9168	137	Mar. 20, 2013	Mar. 19, 2014
Schwarzbeck Antenna	VHBA 9123	480	May 29, 2013	May 28, 2014
ADT. Turn Table	TT100	0306	NA	NA
ADT. Tower	AT100	0306	NA	NA
Software	ADT_Radiated_V 7.6.15.9.2	NA	NA	NA
SUHNER RF cable	SF102	CABLE-CH6	Aug. 19, 2013	Aug. 18, 2014
Schwarzbeck Horn Antenna	BBHA 9120-D1	D130	May 13, 2013	May 12, 2014
Highpass filter Wainwright Instruments	WHK 3.1/18G-10SS	SN 8	NA	NA
ROHDE & SCHWARZ Spectrum Analyzer	FSP 40	100036	May. 17, 2013	May. 16, 2014
Anritsu Power Sensor	MA2411B	0738404	Apr. 24, 2013	Apr. 23, 2014
Anritsu Power Meter	ML2495A	0842014	Apr. 25, 2013	Apr. 24, 2014

- NOTE:** 1. The calibration interval of the above test instruments is 12/24 months. And the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3. The test was performed in Chamber No. 6.
4. The Industry Canada Reference No. IC 7450E-6.
5. The FCC Site Registration No. is 447212.



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4.1.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meters semi-anechoic chamber. 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 antenna is a broadband antenna, and its height 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 Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

NOTE:

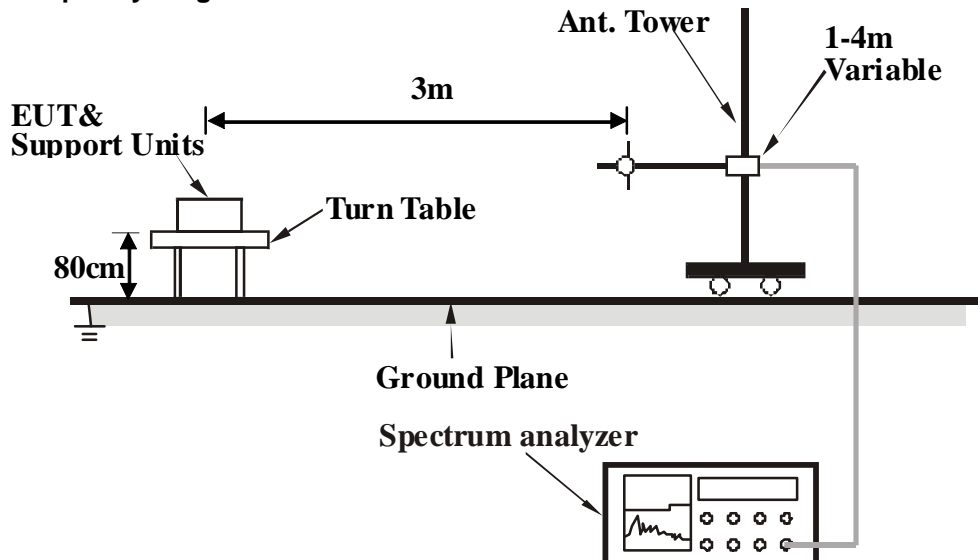
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 1kHz(Duty cycle < 98%) or 10Hz(Duty cycle > 98%) for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 DEVIATION FROM TEST STANDARD

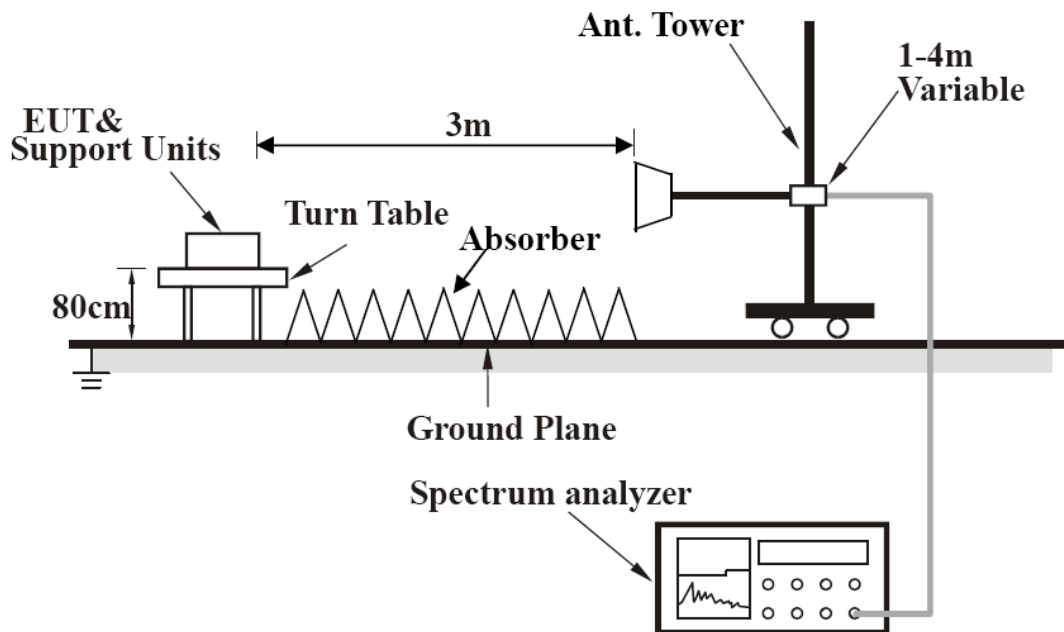
No deviation.

4.1.5 TEST SETUP

Frequency range 30MHz~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

- EUT sitting on dock connected to AC power adapter through USB cable.
- Set the EUT under transmission/receiving condition continuously at specific channel frequency and charging condition.



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4.1.7 TEST RESULTS

SERIAL NO.: 376

BELOW 1GHz WORST-CASE DATA

802.11g

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	49.06	28.0 QP	40.0	-12.0	1.03 H	49	41.84	-13.85
2	82.91	31.0 QP	40.0	-9.1	1.44 H	275	49.68	-18.73
3	165.99	23.9 QP	43.5	-19.6	1.54 H	59	37.46	-13.59
4	232.83	33.4 QP	46.0	-12.6	1.34 H	258	48.46	-15.02
5	298.74	31.8 QP	46.0	-14.2	1.49 H	243	43.28	-11.50
6	761.91	31.2 QP	46.0	-14.8	1.68 H	275	33.49	-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	82.19	33.9 QP	40.0	-6.1	1.00 V	360	52.40	-18.46
2	166.28	29.8 QP	43.5	-13.7	1.00 V	311	43.38	-13.56
3	232.39	30.0 QP	46.0	-16.0	1.00 V	311	45.11	-15.09
4	298.79	31.0 QP	46.0	-15.0	1.00 V	306	42.51	-11.51
5	398.21	26.9 QP	46.0	-19.1	1.00 V	337	36.52	-9.59
6	798.19	31.9 QP	46.0	-14.2	1.00 V	316	33.83	-1.98

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



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ABOVE 1GHz DATA

802.11b

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	2390.00	42.0 PK	74.0	-32.0	1.12 H	226	45.73	-3.75
2	2390.00	30.0 AV	54.0	-24.1	1.12 H	226	33.70	-3.75
3	*2412.00	101.6 PK			1.12 H	226	105.21	-3.64
4	*2412.00	97.5 AV			1.12 H	226	101.13	-3.64
5	4824.00	42.7 PK	74.0	-31.3	1.12 H	231	38.96	3.73
6	4824.00	32.0 AV	54.0	-22.0	1.12 H	231	28.31	3.73

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	39.7 PK	74.0	-34.3	1.00 V	237	43.49	-3.75
2	2390.00	27.8 AV	54.0	-26.2	1.00 V	237	31.53	-3.75
3	*2412.00	105.0 PK			1.00 V	237	108.68	-3.64
4	*2412.00	101.2 AV			1.00 V	237	104.85	-3.64
5	4824.00	45.3 PK	74.0	-28.7	1.00 V	241	41.56	3.73
6	4824.00	37.9 AV	54.0	-16.1	1.00 V	241	34.14	3.73

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 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	102.5 PK			1.12 H	226	106.05	-3.53
2	*2437.00	98.5 AV			1.12 H	226	102.01	-3.53
3	4874.00	42.6 PK	74.0	-31.4	1.12 H	224	38.82	3.75
4	4874.00	32.4 AV	54.0	-21.6	1.12 H	224	28.64	3.75
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	104.9 PK			1.00 V	236	108.44	-3.53
2	*2437.00	101.0 AV			1.00 V	236	104.55	-3.53
3	4874.00	43.9 PK	74.0	-30.1	1.00 V	240	40.12	3.75
4	4874.00	36.9 AV	54.0	-17.1	1.00 V	240	33.14	3.75

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 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	102.3 PK			1.12 H	226	105.68	-3.41
2	*2462.00	98.3 AV			1.12 H	226	101.69	-3.41
3	2483.50	40.5 PK	74.0	-33.5	1.12 H	226	43.83	-3.32
4	2483.50	27.3 AV	54.0	-26.7	1.12 H	226	30.66	-3.32
5	4924.00	42.8 PK	74.0	-31.2	1.12 H	230	39.04	3.74
6	4924.00	32.1 AV	54.0	-21.9	1.12 H	230	28.32	3.74
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	103.2 PK			1.00 V	236	106.65	-3.41
2	*2462.00	99.4 AV			1.00 V	236	102.81	-3.41
3	2483.50	40.6 PK	74.0	-33.4	1.00 V	236	43.94	-3.32
4	2483.50	27.5 AV	54.0	-26.5	1.00 V	236	30.82	-3.32
5	4924.00	43.3 PK	74.0	-30.7	1.00 V	231	39.52	3.74
6	4924.00	34.4 AV	54.0	-19.6	1.00 V	231	30.62	3.74

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.



A D T

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	2390.00	48.1 PK	74.0	-25.9	1.14 H	226	51.85	-3.75
2	2390.00	30.8 AV	54.0	-23.2	1.14 H	226	34.52	-3.75
3	*2412.00	101.8 PK			1.14 H	226	105.45	-3.64
4	*2412.00	92.3 AV			1.14 H	226	95.91	-3.64
5	4824.00	42.1 PK	74.0	-31.9	1.13 H	244	38.38	3.73
6	4824.00	32.2 AV	54.0	-21.8	1.13 H	244	28.43	3.73
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	50.2 PK	74.0	-23.8	1.00 V	237	53.92	-3.75
2	2390.00	33.2 AV	54.0	-20.8	1.00 V	237	36.97	-3.75
3	*2412.00	104.8 PK			1.00 V	237	108.46	-3.64
4	*2412.00	94.5 AV			1.00 V	237	98.15	-3.64
5	4824.00	42.8 PK	74.0	-31.3	1.00 V	244	39.02	3.73
6	4824.00	32.3 AV	54.0	-21.7	1.00 V	244	28.58	3.73

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.



A D T

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	105.3 PK			1.09 H	226	108.78	-3.53
2	*2437.00	95.2 AV			1.09 H	226	98.69	-3.53
3	4874.00	42.6 PK	74.0	-31.4	1.09 H	226	38.83	3.75
4	4874.00	31.8 AV	54.0	-22.2	1.09 H	226	28.07	3.75
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	107.6 PK			1.00 V	237	111.12	-3.53
2	*2437.00	97.7 AV			1.00 V	237	101.20	-3.53
3	4874.00	43.2 PK	74.0	-30.8	1.00 V	239	39.45	3.75
4	4874.00	31.7 AV	54.0	-22.3	1.00 V	239	27.95	3.75

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.



A D T

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	100.6 PK			1.08 H	226	104.03	-3.41
2	*2462.00	90.8 AV			1.08 H	226	94.20	-3.41
3	2483.50	44.8 PK	74.0	-29.2	1.08 H	226	48.11	-3.32
4	2483.50	29.8 AV	54.0	-24.3	1.08 H	226	33.07	-3.32
5	4924.00	41.9 PK	74.0	-32.1	1.08 H	221	38.16	3.74
6	4924.00	32.6 AV	54.0	-21.4	1.08 H	221	28.86	3.74

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	102.6 PK			1.00 V	238	106.02	-3.41
2	*2462.00	92.7 AV			1.00 V	238	96.14	-3.41
3	2483.50	46.7 PK	74.0	-27.3	1.00 V	238	49.99	-3.32
4	2483.50	31.1 AV	54.0	-22.9	1.00 V	238	34.46	-3.32
5	4924.00	43.0 PK	74.0	-31.0	1.00 V	244	39.24	3.74
6	4924.00	31.8 AV	54.0	-22.2	1.00 V	244	28.02	3.74

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.



A D T

802.11n (20MHz)

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	2390.00	48.4 PK	74.0	-25.6	1.13 H	225	52.19	-3.75
2	2390.00	30.7 AV	54.0	-23.3	1.13 H	225	34.43	-3.75
3	*2412.00	100.0 PK			1.13 H	225	103.59	-3.64
4	*2412.00	89.7 AV			1.13 H	225	93.36	-3.64
5	4824.00	42.5 PK	74.0	-31.5	1.12 H	228	38.75	3.73
6	4824.00	31.9 AV	54.0	-22.1	1.12 H	228	28.18	3.73
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	52.3 PK	74.0	-21.7	1.00 V	237	56.04	-3.75
2	2390.00	33.2 AV	54.0	-20.8	1.00 V	237	36.93	-3.75
3	*2412.00	102.9 PK			1.00 V	238	106.51	-3.64
4	*2412.00	93.0 AV			1.00 V	238	96.67	-3.64
5	4824.00	42.8 PK	74.0	-31.2	1.00 V	231	39.03	3.73
6	4824.00	32.0 AV	54.0	-22.0	1.00 V	231	28.27	3.73

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.



A D T

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	104.4 PK			1.10 H	226	107.97	-3.53
2	*2437.00	94.8 AV			1.10 H	226	98.28	-3.53
3	4874.00	41.9 PK	74.0	-32.1	1.10 H	226	38.19	3.75
4	4874.00	31.8 AV	54.0	-22.2	1.10 H	226	28.04	3.75
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	107.0 PK			1.00 V	236	110.49	-3.53
2	*2437.00	97.3 AV			1.00 V	236	100.80	-3.53
3	4874.00	42.8 PK	74.0	-31.2	1.00 V	236	39.07	3.75
4	4874.00	32.2 AV	54.0	-21.8	1.00 V	236	28.48	3.75

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.



A D T

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	99.0 PK			1.10 H	226	102.42	-3.41
2	*2462.00	89.3 AV			1.10 H	226	92.70	-3.41
3	2483.50	46.6 PK	74.0	-27.4	1.10 H	226	49.89	-3.32
4	2483.50	29.6 AV	54.0	-24.4	1.10 H	226	32.91	-3.32
5	4924.00	41.7 PK	74.0	-32.3	1.09 H	228	37.92	3.74
6	4924.00	32.5 AV	54.0	-21.5	1.09 H	228	28.75	3.74
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	101.0 PK			1.00 V	236	104.41	-3.41
2	*2462.00	91.0 AV			1.00 V	236	94.38	-3.41
3	2483.50	48.0 PK	74.0	-26.0	1.00 V	236	51.31	-3.32
4	2483.50	30.7 AV	54.0	-23.3	1.00 V	236	34.06	-3.32
5	4924.00	42.0 PK	74.0	-32.0	1.00 V	240	38.29	3.74
6	4924.00	32.4 AV	54.0	-21.6	1.00 V	240	28.69	3.74

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.



A D T

SERIAL NO.: 453

BELOW 1GHz WORST-CASE DATA

802.11g

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	166.28	26.1 QP	43.5	-17.4	1.58 H	54	39.64	-13.56
2	232.83	36.2 QP	46.0	-9.8	1.63 H	241	51.25	-15.02
3	365.13	32.9 QP	46.0	-13.1	1.72 H	305	43.01	-10.15
4	497.88	30.0 QP	46.0	-16.0	1.43 H	49	37.36	-7.39
5	761.87	33.7 QP	46.0	-12.3	1.28 H	273	35.99	-2.30
6	978.56	35.7 QP	54.0	-18.3	1.37 H	80	35.11	0.63
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	83.12	33.6 QP	40.0	-6.4	1.37 V	87	52.44	-18.82
2	165.97	29.9 QP	43.5	-13.6	1.64 V	320	43.47	-13.59
3	232.33	33.1 QP	46.0	-12.9	1.45 V	304	48.18	-15.09
4	399.04	31.2 QP	46.0	-14.8	1.28 V	346	40.84	-9.61
5	583.41	28.6 QP	46.0	-17.5	1.37 V	2	34.27	-5.72

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



A D T

ABOVE 1GHz DATA

802.11b

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	2390.00	41.6 PK	74.0	-32.4	1.17 H	263	45.38	-3.75
2	2390.00	30.1 AV	54.0	-23.9	1.17 H	263	33.89	-3.75
3	*2412.00	101.4 PK			1.17 H	263	105.04	-3.64
4	*2412.00	97.4 AV			1.17 H	263	101.07	-3.64
5	4824.00	42.9 PK	74.0	-31.1	1.17 H	262	39.13	3.73
6	4824.00	32.3 AV	54.0	-21.7	1.17 H	262	28.55	3.73

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	39.5 PK	74.0	-34.5	1.00 V	236	43.28	-3.75
2	2390.00	27.9 AV	54.0	-26.1	1.00 V	236	31.67	-3.75
3	*2412.00	104.7 PK			1.00 V	236	108.36	-3.64
4	*2412.00	100.9 AV			1.00 V	236	104.57	-3.64
5	4824.00	45.1 PK	74.0	-28.9	1.00 V	239	41.38	3.73
6	4824.00	38.2 AV	54.0	-15.8	1.00 V	239	34.48	3.73

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.



A D T

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	102.2 PK			1.16 H	266	105.72	-3.53
2	*2437.00	98.2 AV			1.16 H	266	101.68	-3.53
3	4874.00	42.7 PK	74.0	-31.3	1.16 H	259	38.93	3.75
4	4874.00	32.5 AV	54.0	-21.5	1.16 H	259	28.79	3.75
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	105.0 PK			1.00 V	235	108.52	-3.53
2	*2437.00	100.8 AV			1.00 V	235	104.37	-3.53
3	4874.00	43.8 PK	74.0	-30.2	1.00 V	231	40.08	3.75
4	4874.00	37.1 AV	54.0	-16.9	1.00 V	231	33.39	3.75

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 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	101.8 PK			1.15 H	266	105.21	-3.41
2	*2462.00	97.8 AV			1.15 H	266	101.17	-3.41
3	2483.50	40.6 PK	74.0	-33.4	1.15 H	266	43.92	-3.32
4	2483.50	27.5 AV	54.0	-26.6	1.15 H	266	30.77	-3.32
5	4924.00	43.0 PK	74.0	-31.1	1.15 H	270	39.21	3.74
6	4924.00	32.3 AV	54.0	-21.7	1.15 H	270	28.56	3.74
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	103.1 PK			1.00 V	237	106.54	-3.41
2	*2462.00	99.2 AV			1.00 V	237	102.63	-3.41
3	2483.50	40.7 PK	74.0	-33.3	1.00 V	237	44.02	-3.32
4	2483.50	27.9 AV	54.0	-26.1	1.00 V	237	31.21	-3.32
5	4924.00	43.4 PK	74.0	-30.7	1.00 V	240	39.61	3.74
6	4924.00	34.3 AV	54.0	-19.7	1.00 V	240	30.57	3.74

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.



A D T

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	2390.00	47.5 PK	74.0	-26.5	1.15 H	265	51.22	-3.75
2	2390.00	30.5 AV	54.0	-23.5	1.15 H	265	34.21	-3.75
3	*2412.00	101.5 PK			1.15 H	265	105.10	-3.64
4	*2412.00	91.4 AV			1.15 H	265	95.08	-3.64
5	4824.00	41.9 PK	74.0	-32.1	1.15 H	270	38.14	3.73
6	4824.00	31.9 AV	54.0	-22.1	1.15 H	270	28.18	3.73
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	50.0 PK	74.0	-24.0	1.00 V	237	53.78	-3.75
2	2390.00	32.5 AV	54.0	-21.5	1.00 V	237	36.24	-3.75
3	*2412.00	104.0 PK			1.00 V	237	107.62	-3.64
4	*2412.00	93.5 AV			1.00 V	237	97.14	-3.64
5	4824.00	42.9 PK	74.0	-31.1	1.00 V	240	39.21	3.73
6	4824.00	32.4 AV	54.0	-21.6	1.00 V	240	28.68	3.73

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 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	104.7 PK			1.14 H	268	108.24	-3.53
2	*2437.00	94.8 AV			1.14 H	268	98.33	-3.53
3	4874.00	42.4 PK	74.0	-31.6	1.14 H	270	38.69	3.75
4	4874.00	31.9 AV	54.0	-22.1	1.14 H	270	28.17	3.75
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	107.5 PK			1.00 V	235	111.01	-3.53
2	*2437.00	97.5 AV			1.00 V	235	101.07	-3.53
3	4874.00	43.8 PK	74.0	-30.2	1.00 V	233	40.02	3.75
4	4874.00	31.8 AV	54.0	-22.2	1.00 V	233	28.07	3.75

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.



A D T

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	101.2 PK			1.13 H	269	104.60	-3.41
2	*2462.00	91.1 AV			1.13 H	269	94.51	-3.41
3	2483.50	45.1 PK	74.0	-28.9	1.13 H	269	48.44	-3.32
4	2483.50	29.8 AV	54.0	-24.2	1.13 H	269	33.10	-3.32
5	4924.00	42.1 PK	74.0	-31.9	1.13 H	277	38.38	3.74
6	4924.00	32.0 AV	54.0	-22.0	1.13 H	277	28.23	3.74
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	102.8 PK			1.00 V	230	106.19	-3.41
2	*2462.00	93.1 AV			1.00 V	230	96.48	-3.41
3	2483.50	46.1 PK	74.0	-27.9	1.00 V	230	49.44	-3.32
4	2483.50	31.3 AV	54.0	-22.7	1.00 V	230	34.59	-3.32
5	4924.00	43.3 PK	74.0	-30.7	1.00 V	221	39.58	3.74
6	4924.00	32.2 AV	54.0	-21.8	1.00 V	221	28.43	3.74

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.



A D T

802.11n (20MHz)

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	2390.00	49.2 PK	74.0	-24.9	1.00 H	240	52.90	-3.75
2	2390.00	31.1 AV	54.0	-22.9	1.00 H	240	34.85	-3.75
3	*2412.00	100.3 PK			1.00 H	240	103.89	-3.64
4	*2412.00	90.1 AV			1.00 H	240	93.76	-3.64
5	4824.00	42.1 PK	74.0	-31.9	1.00 H	244	38.39	3.73
6	4824.00	32.0 AV	54.0	-22.0	1.00 H	244	28.26	3.73
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	52.0 PK	74.0	-22.0	1.00 V	233	55.79	-3.75
2	2390.00	33.3 AV	54.0	-20.7	1.00 V	233	37.02	-3.75
3	*2412.00	102.5 PK			1.00 V	233	106.09	-3.64
4	*2412.00	92.9 AV			1.00 V	233	96.51	-3.64
5	4824.00	43.5 PK	74.0	-30.6	1.00 V	230	39.72	3.73
6	4824.00	31.8 AV	54.0	-22.2	1.00 V	230	28.05	3.73

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.



A D T

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	103.9 PK			1.10 H	212	107.38	-3.53
2	*2437.00	95.1 AV			1.10 H	212	98.67	-3.53
3	4874.00	41.8 PK	74.0	-32.2	1.10 H	221	38.03	3.75
4	4874.00	32.0 AV	54.0	-22.0	1.10 H	221	28.22	3.75
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	107.1 PK			1.00 V	221	110.65	-3.53
2	*2437.00	97.1 AV			1.00 V	221	100.64	-3.53
3	4874.00	42.0 PK	74.0	-32.0	1.00 V	274	38.22	3.75
4	4874.00	32.1 AV	54.0	-21.9	1.00 V	274	28.32	3.75

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.



A D T

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	99.3 PK			1.10 H	231	102.75	-3.41
2	*2462.00	89.1 AV			1.10 H	231	92.52	-3.41
3	2483.50	46.0 PK	74.0	-28.0	1.10 H	231	49.34	-3.32
4	2483.50	29.9 AV	54.0	-24.1	1.10 H	231	33.26	-3.32
5	4924.00	42.0 PK	74.0	-32.0	1.10 H	255	38.23	3.74
6	4924.00	31.9 AV	54.0	-22.1	1.10 H	255	28.19	3.74

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	101.2 PK			1.00 V	240	104.65	-3.41
2	*2462.00	91.3 AV			1.00 V	240	94.69	-3.41
3	2483.50	48.2 PK	74.0	-25.8	1.00 V	240	51.56	-3.32
4	2483.50	31.3 AV	54.0	-22.7	1.00 V	240	34.65	-3.32
5	4924.00	42.1 PK	74.0	-31.9	1.00 V	244	38.38	3.74
6	4924.00	32.4 AV	54.0	-21.6	1.00 V	244	28.69	3.74

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.



A D T

SERIAL NO.: 463

BELOW 1GHz WORST-CASE DATA

802.11n (20MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	166.22	28.1 QP	43.5	-15.4	1.38 H	36	41.70	-13.57
2	232.41	36.9 QP	46.0	-9.1	1.27 H	250	51.96	-15.08
3	299.22	33.4 QP	46.0	-12.7	1.59 H	250	44.83	-11.48
4	365.83	31.0 QP	46.0	-15.0	1.87 H	289	41.18	-10.14
5	614.56	31.1 QP	46.0	-14.9	1.49 H	360	36.10	-5.01
6	758.91	31.1 QP	46.0	-14.9	1.78 H	273	33.44	-2.38
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	82.92	33.5 QP	40.0	-6.5	1.74 V	360	52.23	-18.74
2	165.99	31.7 QP	43.5	-11.8	1.38 V	322	45.25	-13.59
3	232.32	35.0 QP	46.0	-11.0	1.17 V	301	50.07	-15.10
4	298.71	35.3 QP	46.0	-10.7	1.67 V	312	46.84	-11.50
5	398.32	35.0 QP	46.0	-11.0	1.46 V	338	44.62	-9.59
6	599.04	30.5 QP	46.0	-15.5	1.53 V	349	35.81	-5.34

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



A D T

ABOVE 1GHz DATA

802.11b

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	2390.00	42.2 PK	74.0	-31.8	1.20 H	260	45.99	-3.75
2	2390.00	29.8 AV	54.0	-24.2	1.20 H	260	33.53	-3.75
3	*2412.00	102.0 PK			1.20 H	260	105.61	-3.64
4	*2412.00	98.2 AV			1.20 H	260	101.86	-3.64
5	4824.00	42.0 PK	74.0	-32.0	1.20 H	260	38.24	3.73
6	4824.00	32.7 AV	54.0	-21.3	1.20 H	260	28.94	3.73

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	39.8 PK	74.0	-34.2	1.00 V	240	43.54	-3.75
2	2390.00	27.7 AV	54.0	-26.3	1.00 V	240	31.42	-3.75
3	*2412.00	105.3 PK			1.00 V	240	108.96	-3.64
4	*2412.00	101.3 AV			1.00 V	240	104.92	-3.64
5	4824.00	45.2 PK	74.0	-28.8	1.00 V	244	41.51	3.73
6	4824.00	38.2 AV	54.0	-15.8	1.00 V	244	34.51	3.73

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 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	102.6 PK			1.05 H	250	106.17	-3.53
2	*2437.00	99.3 AV			1.05 H	250	102.86	-3.53
3	4874.00	42.0 PK	74.0	-32.0	1.05 H	250	38.21	3.75
4	4874.00	32.0 AV	54.0	-22.0	1.05 H	250	28.24	3.75
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	105.3 PK			1.15 V	270	108.87	-3.53
2	*2437.00	101.2 AV			1.15 V	270	104.75	-3.53
3	4874.00	43.9 PK	74.0	-30.1	1.15 V	270	40.18	3.75
4	4874.00	36.8 AV	54.0	-17.3	1.15 V	270	33.00	3.75

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 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	102.1 PK			1.15 H	265	105.51	-3.41
2	*2462.00	98.3 AV			1.15 H	265	101.75	-3.41
3	2483.50	40.0 PK	74.0	-34.0	1.15 H	265	43.29	-3.32
4	2483.50	26.7 AV	54.0	-27.3	1.15 H	265	30.01	-3.32
5	4924.00	43.1 PK	74.0	-30.9	1.15 H	270	39.33	3.74
6	4924.00	32.3 AV	54.0	-21.7	1.15 H	270	28.57	3.74
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	103.3 PK			1.00 V	240	106.75	-3.41
2	*2462.00	99.5 AV			1.00 V	240	102.95	-3.41
3	2483.50	40.3 PK	74.0	-33.7	1.00 V	240	43.64	-3.32
4	2483.50	27.4 AV	54.0	-26.6	1.00 V	240	30.70	-3.32
5	4924.00	42.8 PK	74.0	-31.2	1.00 V	244	39.04	3.74
6	4924.00	34.6 AV	54.0	-19.4	1.00 V	244	30.88	3.74

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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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	2390.00	48.2 PK	74.0	-25.8	1.15 H	255	51.96	-3.75
2	2390.00	30.9 AV	54.0	-23.1	1.15 H	255	34.62	-3.75
3	*2412.00	102.3 PK			1.15 H	255	105.96	-3.64
4	*2412.00	91.9 AV			1.15 H	255	95.56	-3.64
5	4824.00	42.2 PK	74.0	-31.8	1.15 H	246	38.48	3.73
6	4824.00	32.1 AV	54.0	-21.9	1.15 H	246	28.38	3.73
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	49.7 PK	74.0	-24.3	1.00 V	234	53.46	-3.75
2	2390.00	32.5 AV	54.0	-21.5	1.00 V	234	36.27	-3.75
3	*2412.00	104.4 PK			1.00 V	234	108.02	-3.64
4	*2412.00	95.2 AV			1.00 V	234	98.86	-3.64
5	4824.00	43.4 PK	74.0	-30.6	1.00 V	235	39.64	3.73
6	4824.00	32.7 AV	54.0	-21.3	1.00 V	235	28.94	3.73

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.



A D T

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	105.2 PK			1.15 H	266	108.77	-3.53
2	*2437.00	94.7 AV			1.15 H	266	98.24	-3.53
3	4874.00	42.7 PK	74.0	-31.3	1.15 H	227	38.94	3.75
4	4874.00	32.7 AV	54.0	-21.3	1.15 H	227	28.94	3.75
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	108.4 PK			1.00 V	234	111.95	-3.53
2	*2437.00	98.3 AV			1.00 V	234	101.87	-3.53
3	4874.00	43.2 PK	74.0	-30.8	1.00 V	254	39.48	3.75
4	4874.00	32.1 AV	54.0	-21.9	1.00 V	254	28.35	3.75

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 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	101.5 PK			1.13 H	270	104.87	-3.41
2	*2462.00	91.1 AV			1.13 H	270	94.54	-3.41
3	2483.50	44.9 PK	74.0	-29.1	1.13 H	270	48.24	-3.32
4	2483.50	30.2 AV	54.0	-23.8	1.13 H	270	33.54	-3.32
5	4924.00	42.6 PK	74.0	-31.5	1.13 H	287	38.81	3.74
6	4924.00	32.3 AV	54.0	-21.7	1.13 H	287	28.60	3.74
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	102.7 PK			1.00 V	233	106.14	-3.41
2	*2462.00	92.9 AV			1.00 V	233	96.34	-3.41
3	2483.50	46.5 PK	74.0	-27.5	1.00 V	233	49.78	-3.32
4	2483.50	31.3 AV	54.0	-22.7	1.00 V	233	34.64	-3.32
5	4924.00	43.0 PK	74.0	-31.0	1.00 V	238	39.24	3.74
6	4924.00	32.5 AV	54.0	-21.5	1.00 V	238	28.78	3.74

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.



A D T

802.11n (20MHz)

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	2390.00	48.7 PK	74.0	-25.3	1.12 H	233	52.48	-3.75
2	2390.00	30.5 AV	54.0	-23.5	1.12 H	233	34.21	-3.75
3	*2412.00	99.8 PK			1.12 H	233	103.45	-3.64
4	*2412.00	89.7 AV			1.12 H	233	93.35	-3.64
5	4824.00	42.0 PK	74.0	-32.0	1.12 H	238	38.24	3.73
6	4824.00	32.5 AV	54.0	-21.5	1.12 H	238	28.78	3.73
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	52.3 PK	74.0	-21.7	1.00 V	228	56.02	-3.75
2	2390.00	33.1 AV	54.0	-20.9	1.00 V	228	36.87	-3.75
3	*2412.00	102.7 PK			1.00 V	228	106.33	-3.64
4	*2412.00	92.9 AV			1.00 V	228	96.54	-3.64
5	4824.00	43.1 PK	74.0	-30.9	1.00 V	240	39.35	3.73
6	4824.00	32.2 AV	54.0	-21.8	1.00 V	240	28.50	3.73

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 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	104.4 PK			1.10 H	230	107.89	-3.53
2	*2437.00	95.4 AV			1.10 H	230	98.93	-3.53
3	4874.00	42.4 PK	74.0	-31.6	1.10 H	230	38.64	3.75
4	4874.00	32.3 AV	54.0	-21.7	1.10 H	230	28.54	3.75
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	106.7 PK			1.00 V	235	110.24	-3.53
2	*2437.00	97.3 AV			1.00 V	235	100.78	-3.53
3	4874.00	43.3 PK	74.0	-30.7	1.00 V	227	39.54	3.75
4	4874.00	32.5 AV	54.0	-21.5	1.00 V	227	28.79	3.75

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 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	98.9 PK			1.12 H	231	102.31	-3.41
2	*2462.00	89.0 AV			1.12 H	231	92.45	-3.41
3	2483.50	46.6 PK	74.0	-27.5	1.12 H	231	49.87	-3.32
4	2483.50	29.4 AV	54.0	-24.6	1.12 H	231	32.69	-3.32
5	4924.00	42.0 PK	74.0	-32.0	1.12 H	233	38.25	3.74
6	4924.00	32.4 AV	54.0	-21.6	1.12 H	233	28.69	3.74
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	101.0 PK			1.00 V	250	104.38	-3.41
2	*2462.00	90.8 AV			1.00 V	250	94.25	-3.41
3	2483.50	47.9 PK	74.0	-26.1	1.00 V	250	51.25	-3.32
4	2483.50	30.8 AV	54.0	-23.2	1.00 V	250	34.16	-3.32
5	4924.00	42.4 PK	74.0	-31.6	1.00 V	255	38.65	3.74
6	4924.00	32.2 AV	54.0	-21.8	1.00 V	255	28.49	3.74

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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4.2 CONDUCTED EMISSION MEASUREMENT

4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dB μ V)	
	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 0.50MHz.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
ROHDE & SCHWARZ TEST RECEIVER	ESCS 30	100276	Jan. 07, 2013	Jan. 06, 2014
ROHDE & SCHWARZ Artificial Mains Network (for EUT)	ESH3-Z5	100219	Nov. 28, 2012	Nov. 27, 2013
LISN With Adapter (for EUT)	AD10	C10Ada-001	Nov. 28, 2012	Nov. 27, 2013
ROHDE & SCHWARZ Artificial Mains Network (for peripherals)	ESH3-Z5	100218	Dec. 05, 2012	Dec. 04, 2013
Software	ADT_Cond_V7.3.7	NA	NA	NA
Software	ADT_ISN_V7.3.7	NA	NA	NA
RF cable (JYEBAO)	5D-FB	Cable-C10.01	Feb. 19, 2013	Feb. 18, 2014
SUHNER Terminator (For ROHDE & SCHWARZ LISN)	65BNC-5001	E1-010773	Feb. 06, 2013	Feb. 05, 2014

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. 10.

3. The VCCI Site Registration No. C-1852.

4.2.3 TEST PROCEDURES

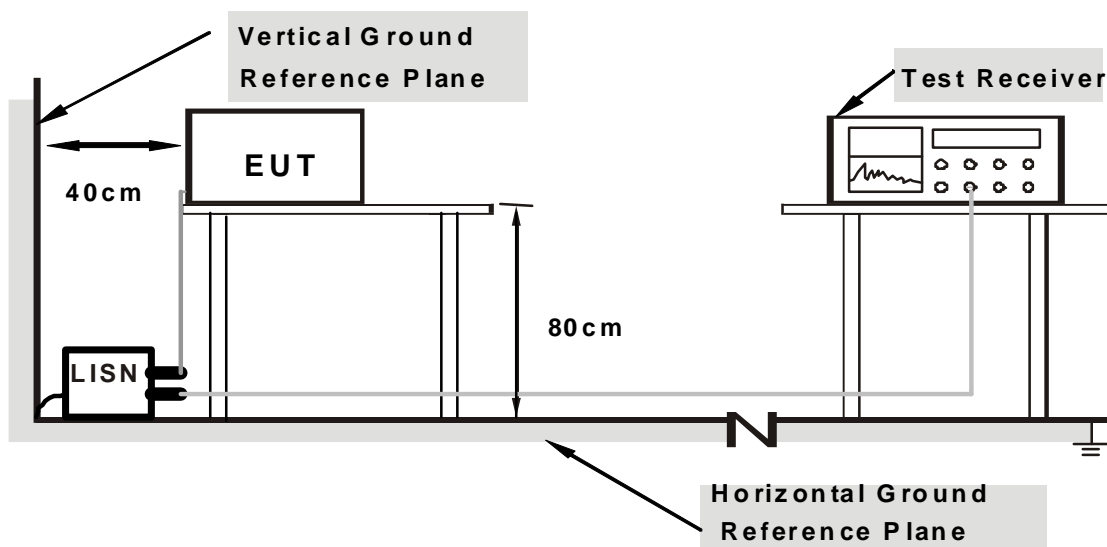
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling 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: 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



Note: 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.



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4.2.7 TEST RESULTS

SERIAL NO.: 376

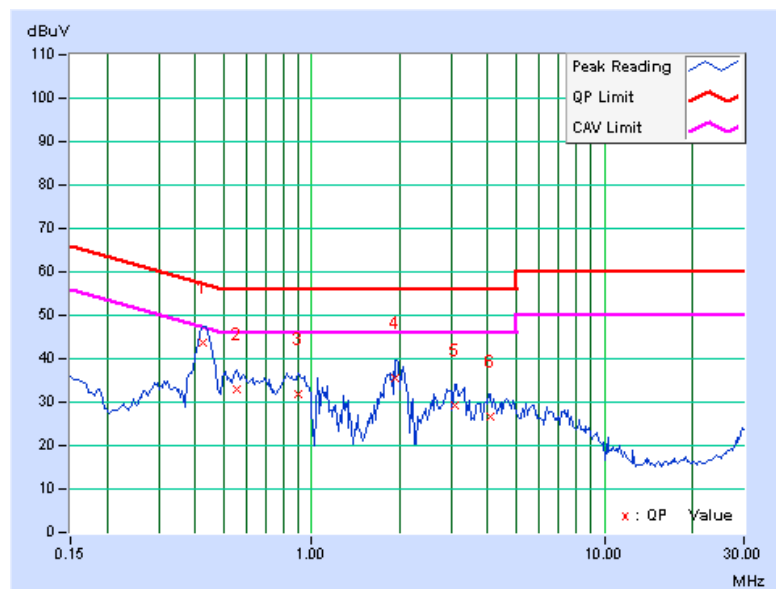
CONDUCTED WORST-CASE DATA : 802.11g

PHASE	Line 1	6dB BANDWIDTH	9kHz
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.42344	0.19	43.37	30.30	43.56	30.49	57.38
2	0.55625	0.20	32.73	19.96	32.93	20.16	56.00	46.00	-23.07	-25.84
3	0.89609	0.21	31.74	18.38	31.95	18.59	56.00	46.00	-24.05	-27.41
4	1.93750	0.26	35.27	23.30	35.53	23.56	56.00	46.00	-20.47	-22.44
5	3.07813	0.32	29.12	18.25	29.44	18.57	56.00	46.00	-26.56	-27.43
6	4.06641	0.37	26.33	15.05	26.70	15.42	56.00	46.00	-29.30	-30.58

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





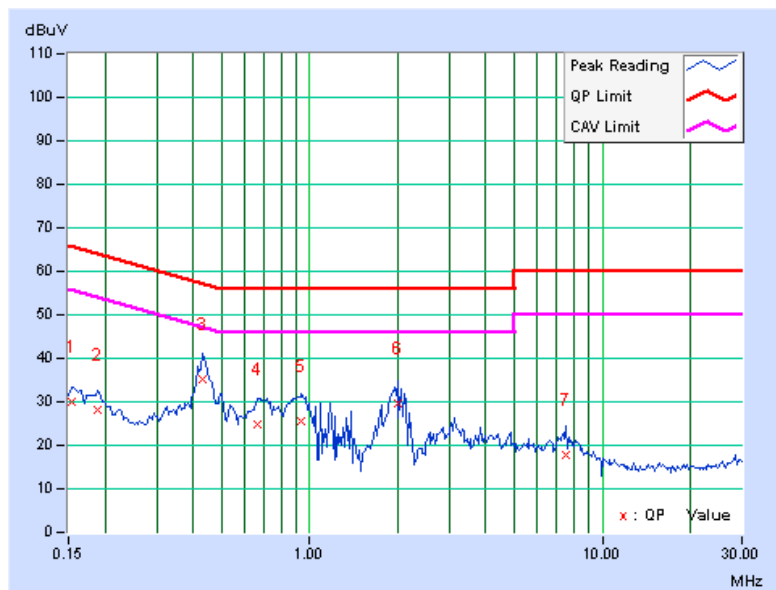
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PHASE	Line 2	6dB BANDWIDTH	9kHz
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	0.12	30.04	13.06	30.16	13.18	65.79	55.79	-35.63	-42.61
2	0.18906	0.12	27.98	18.66	28.10	18.78	64.08	54.08	-35.98	-35.30
3	0.43125	0.16	34.89	22.34	35.05	22.50	57.23	47.23	-22.18	-24.73
4	0.66563	0.16	24.80	11.10	24.96	11.26	56.00	46.00	-31.04	-34.74
5	0.93906	0.17	25.56	9.83	25.73	10.00	56.00	46.00	-30.27	-36.00
6	1.99219	0.22	29.36	15.79	29.58	16.01	56.00	46.00	-26.42	-29.99
7	7.52734	0.49	17.29	5.97	17.78	6.46	60.00	50.00	-42.22	-43.54

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

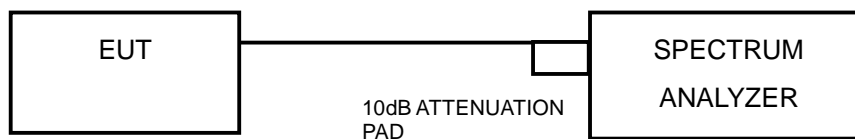


4.3 6dB BANDWIDTH MEASUREMENT

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) $\geq 3 \times$ 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 FROM TEST 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.



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4.3.7 TEST RESULTS

SERIAL NO.: 363

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
802.11b				
1	2412	10.12	0.5	PASS
6	2437	10.12	0.5	PASS
11	2462	10.16	0.5	PASS
802.11g				
1	2412	16.37	0.5	PASS
6	2437	16.33	0.5	PASS
11	2462	16.40	0.5	PASS
802.11n (20MHz)				
1	2412	17.56	0.5	PASS
6	2437	17.36	0.5	PASS
11	2462	17.37	0.5	PASS

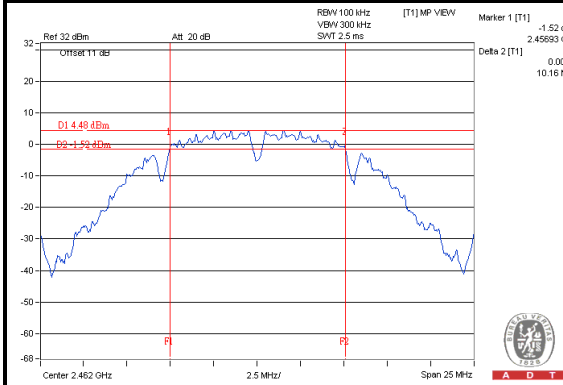


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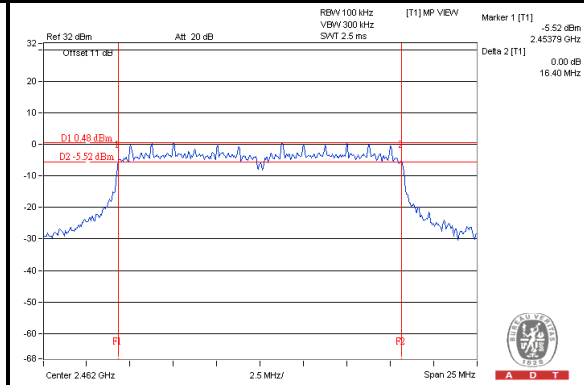
SERIAL NO.: 363

SPECTRUM PLOT OF WORST VALUE

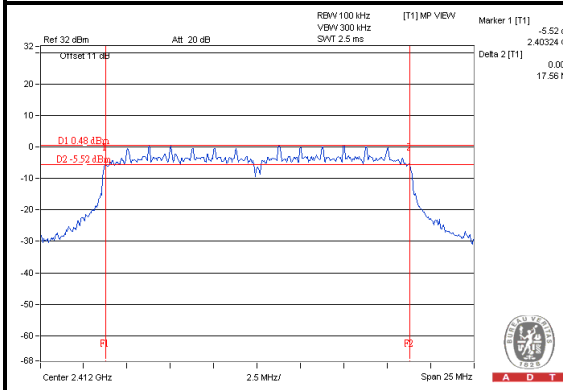
802.11b



802.11g



802.11n (20MHz)





A D T

SERIAL NO.: 366

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
802.11b				
1	2412	10.17	0.5	PASS
6	2437	10.14	0.5	PASS
11	2462	10.14	0.5	PASS
802.11g				
1	2412	16.38	0.5	PASS
6	2437	16.38	0.5	PASS
11	2462	16.40	0.5	PASS
802.11n (20MHz)				
1	2412	17.62	0.5	PASS
6	2437	17.58	0.5	PASS
11	2462	17.36	0.5	PASS

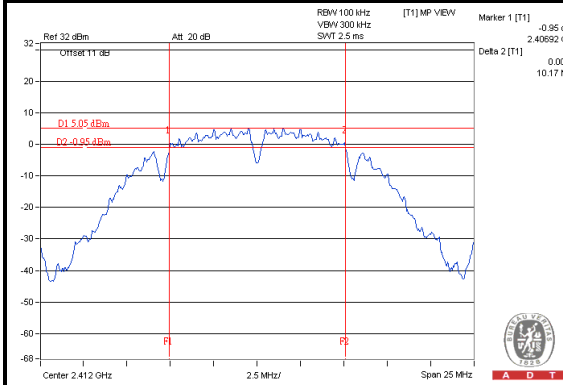


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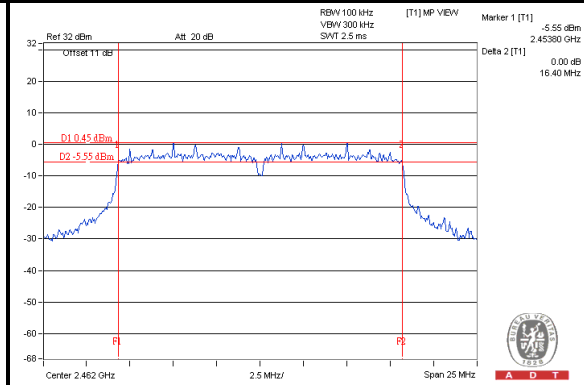
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SPECTRUM PLOT OF WORST VALUE

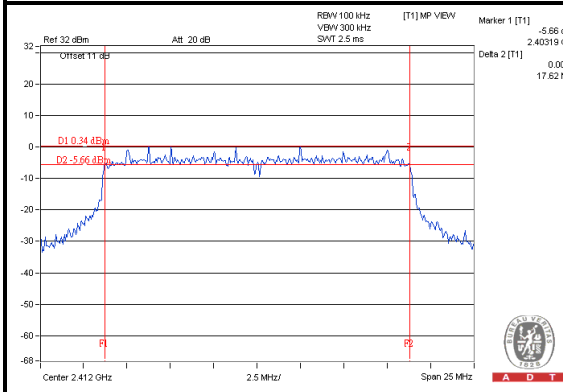
802.11b



802.11g



802.11n (20MHz)





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SERIAL NO.: 382

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
802.11b				
1	2412	10.09	0.5	PASS
6	2437	10.11	0.5	PASS
11	2462	10.14	0.5	PASS
802.11g				
1	2412	16.39	0.5	PASS
6	2437	16.41	0.5	PASS
11	2462	16.38	0.5	PASS
802.11n (20MHz)				
1	2412	17.61	0.5	PASS
6	2437	17.55	0.5	PASS
11	2462	17.62	0.5	PASS

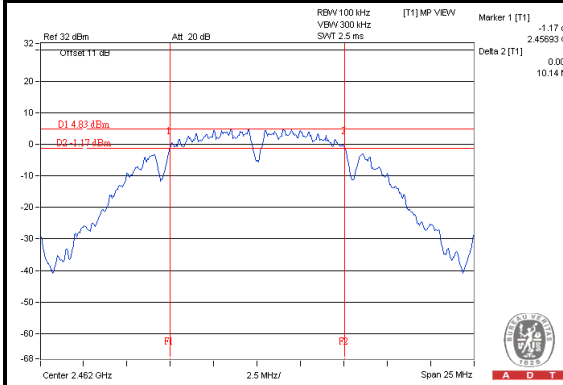


A D T

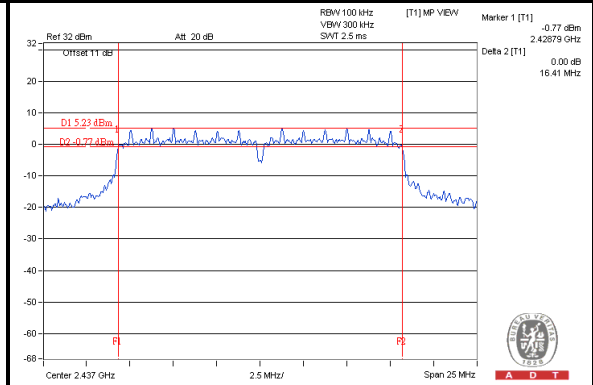
SERIAL NO.: 382

SPECTRUM PLOT OF WORST VALUE

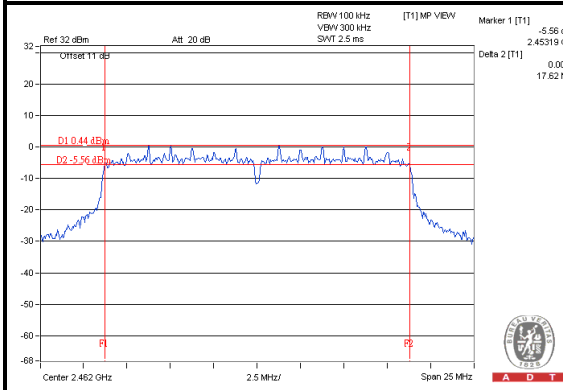
802.11b



802.11g



802.11n (20MHz)



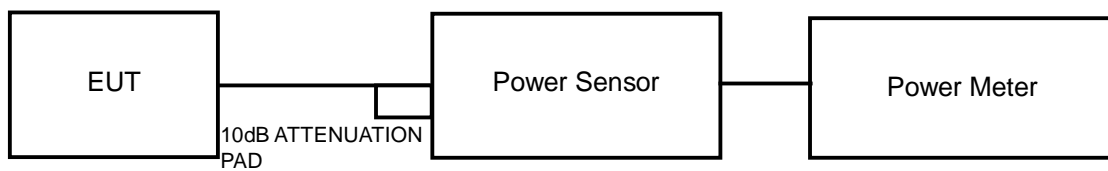
4.4 CONDUCTED OUTPUT POWER

4.4.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT

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

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

4.4.2 TEST SETUP





A D T

4.4.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

4.4.4 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.

4.4.5 DEVIATION FROM TEST STANDARD

No deviation.

4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6.



A D T

4.4.7 TEST RESULTS

SERIAL NO.: 363

FOR PEAK POWER

CHANNEL	FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER (mW)	LIMIT (dBm)	PASS/FAIL
802.11b					
1	2412	18.13	65.0	30	PASS
6	2437	17.72	59.2	30	PASS
11	2462	17.18	52.2	30	PASS
802.11g					
1	2412	19.91	97.9	30	PASS
6	2437	21.41	138.4	30	PASS
11	2462	19.23	83.8	30	PASS
802.11n (20MHz)					
1	2412	18.98	79.1	30	PASS
6	2437	21.30	134.9	30	PASS
11	2462	17.67	58.5	30	PASS



A D T

SERIAL NO.: 366

FOR PEAK POWER

CHANNEL	FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER (mW)	LIMIT (dBm)	PASS/FAIL
802.11b					
1	2412	18.15	65.3	30	PASS
6	2437	17.64	58.1	30	PASS
11	2462	17.39	54.8	30	PASS
802.11g					
1	2412	20.29	106.9	30	PASS
6	2437	21.28	134.3	30	PASS
11	2462	19.14	82.0	30	PASS
802.11n (20MHz)					
1	2412	19.18	82.8	30	PASS
6	2437	21.25	133.4	30	PASS
11	2462	18.19	65.9	30	PASS



A D T

SERIAL NO.: 382

FOR PEAK POWER

CHANNEL	FREQUENCY (MHz)	PEAK POWER (dBm)	PEAK POWER (mW)	LIMIT (dBm)	PASS/FAIL
802.11b					
1	2412	17.98	62.8	30	PASS
6	2437	17.77	59.8	30	PASS
11	2462	17.53	56.6	30	PASS
802.11g					
1	2412	19.97	99.3	30	PASS
6	2437	21.44	139.3	30	PASS
11	2462	19.57	90.6	30	PASS
802.11n (20MHz)					
1	2412	20.07	101.6	30	PASS
6	2437	21.56	143.2	30	PASS
11	2462	19.01	79.6	30	PASS



A D T

SERIAL NO.: 363

FOR AVERAGE POWER

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)
802.11b		
1	2412	16.05
6	2437	15.86
11	2462	15.35
802.11g		
1	2412	12.41
6	2437	15.14
11	2462	11.52
802.11n (20MHz)		
1	2412	11.46
6	2437	15.07
11	2462	10.89



A D T

SERIAL NO.: 366

FOR AVERAGE POWER

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)
802.11b		
1	2412	16.21
6	2437	15.71
11	2462	15.54
802.11g		
1	2412	12.78
6	2437	15.14
11	2462	11.35
802.11n (20MHz)		
1	2412	11.49
6	2437	15.46
11	2462	10.96



A D T

SERIAL NO.: 382

FOR AVERAGE POWER

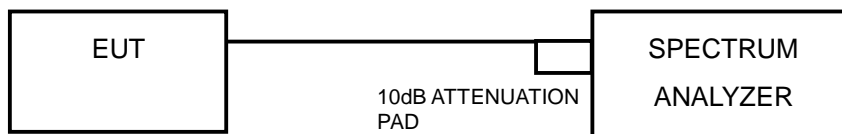
CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)
802.11b		
1	2412	15.93
6	2437	15.81
11	2462	15.71
802.11g		
1	2412	12.63
6	2437	15.86
11	2462	12.46
802.11n (20MHz)		
1	2412	12.11
6	2437	15.62
11	2462	11.43

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

- Set the RBW = 3 kHz, VBW = 10 kHz, Detector = peak.
- Sweep time = auto couple, Trace mode = max hold, allow trace to fully stabilize.
- Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

4.5.6 EUT OPERATING CONDITION

Same as Item 4.3.6



A D T

4.5.7 TEST RESULTS

SERIAL NO.: 363

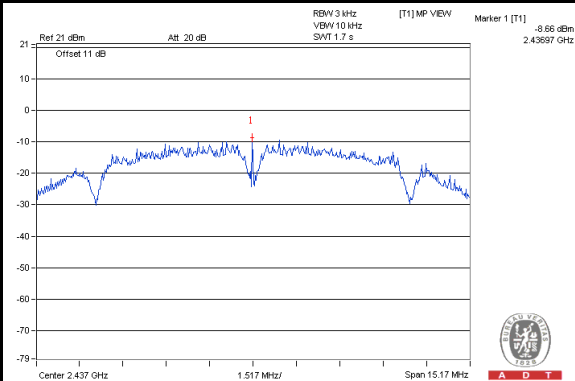
CHANNEL	CHAN. FREQ. (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
802.11b				
1	2412	-9.1	8	PASS
6	2437	-8.7	8	PASS
11	2462	-10.1	8	PASS
802.11g				
1	2412	-14.3	8	PASS
6	2437	-11.6	8	PASS
11	2462	-9.8	8	PASS
802.11n (20MHz)				
1	2412	-11.1	8	PASS
6	2437	-12.1	8	PASS
11	2462	-10.6	8	PASS



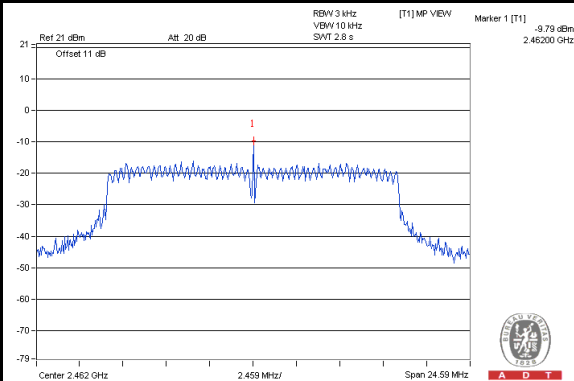
A D T

SPECTRUM PLOT OF WORST VALUE

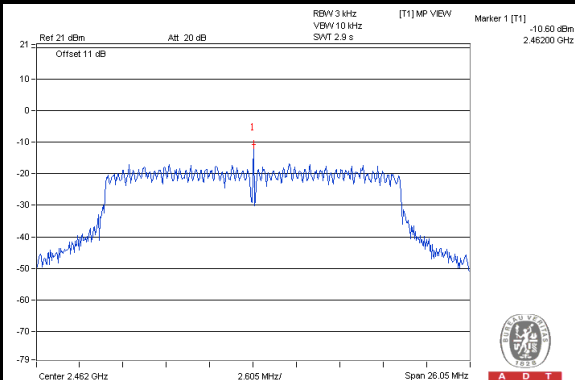
802.11b



802.11g



802.11n (20MHz)





A D T

SERIAL NO.: 366

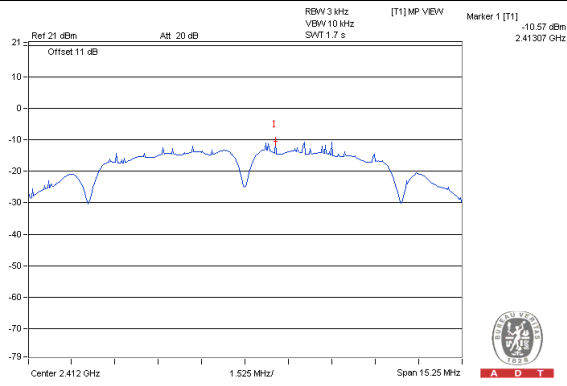
CHANNEL	CHAN. FREQ. (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
802.11b				
1	2412	-10.6	8	PASS
6	2437	-11.8	8	PASS
11	2462	-11.5	8	PASS
802.11g				
1	2412	-8.9	8	PASS
6	2437	-6.8	8	PASS
11	2462	-14.9	8	PASS
802.11n (20MHz)				
1	2412	-7.9	8	PASS
6	2437	-8.0	8	PASS
11	2462	-16.5	8	PASS



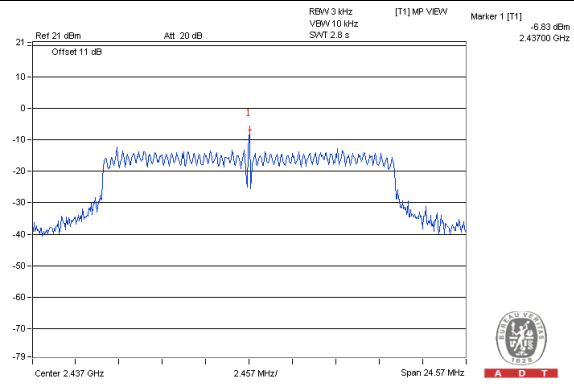
A D T

SPECTRUM PLOT OF WORST VALUE

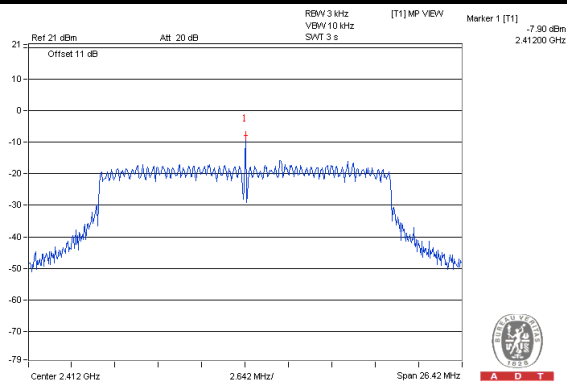
802.11b



802.11g



802.11n (20MHz)





A D T

SERIAL NO.: 382

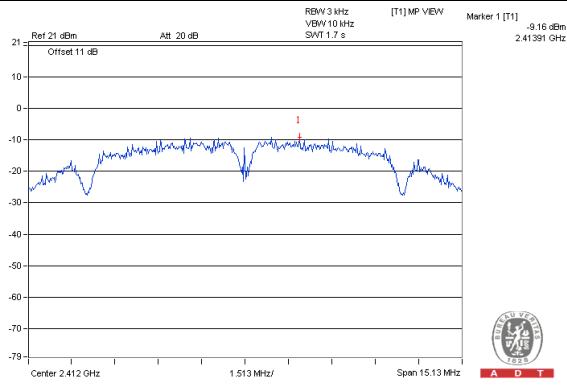
CHANNEL	CHAN. FREQ. (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
802.11b				
1	2412	-9.2	8	PASS
6	2437	-10.2	8	PASS
11	2462	-9.8	8	PASS
802.11g				
1	2412	-12.4	8	PASS
6	2437	-11.4	8	PASS
11	2462	-14.8	8	PASS
802.11n (20MHz)				
1	2412	-13.7	8	PASS
6	2437	-8.6	8	PASS
11	2462	-15.7	8	PASS



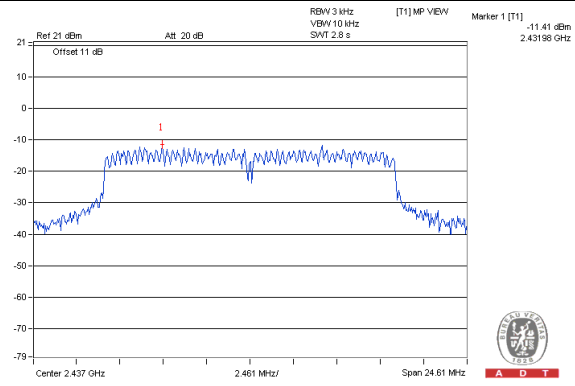
A D T

SPECTRUM PLOT OF WORST VALUE

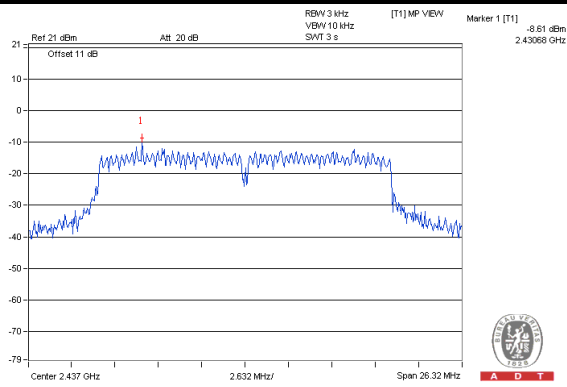
802.11b



802.11g



802.11n (20MHz)

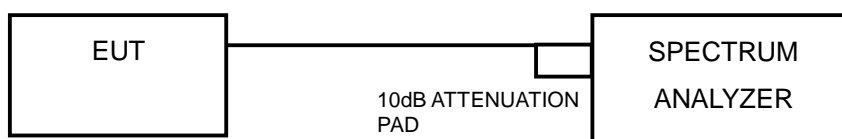


4.6 CONDUCTED OUT OF BAND EMISSION MEASUREMENT

4.6.1 LIMITS OF CONDUCTED OUT OF BAND EMISSION MEASUREMENT

Below -20dB 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 \geq 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.



A D T

MEASUREMENT PROCEDURE OOB

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

4.6.5 DEVIATION FROM TEST STANDARD

No deviation.

4.6.6 EUT OPERATING CONDITION

Same as Item 4.3.6

4.6.7 TEST RESULTS

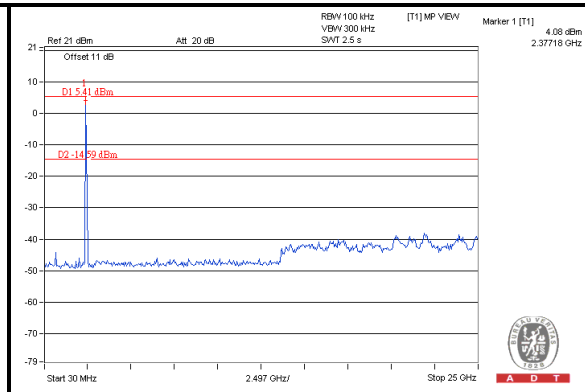
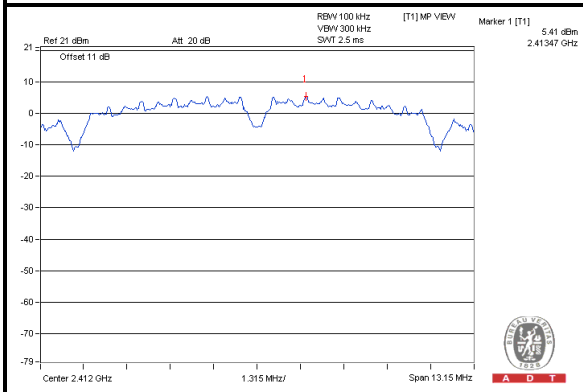
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.



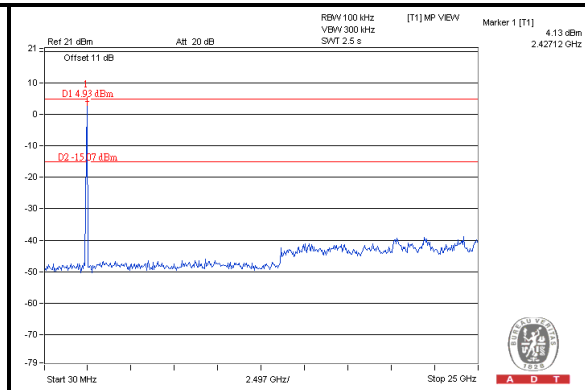
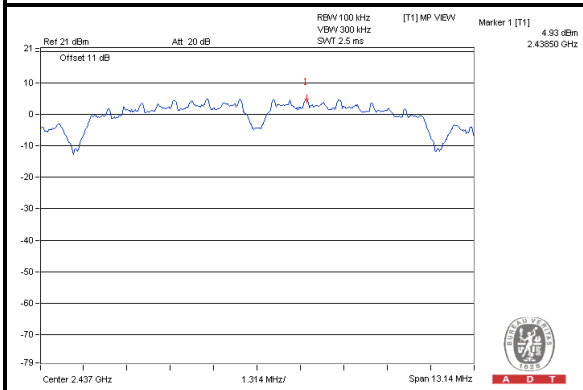
A D T

SERIAL NO.: 363
802.11b

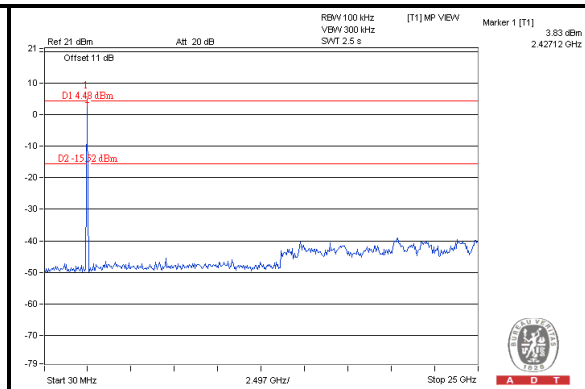
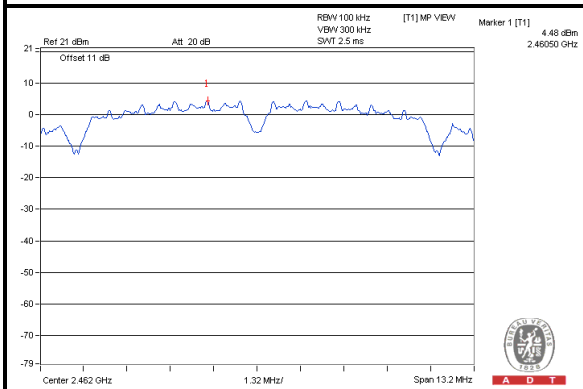
CH 1



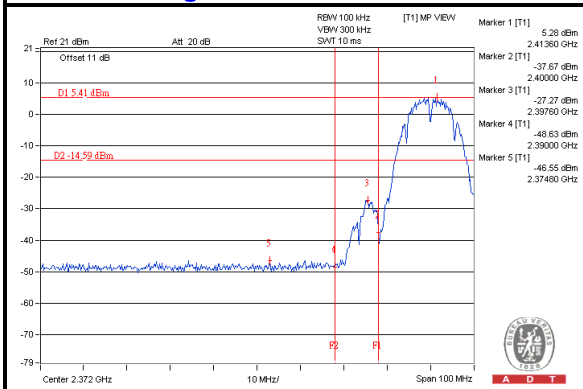
CH 6



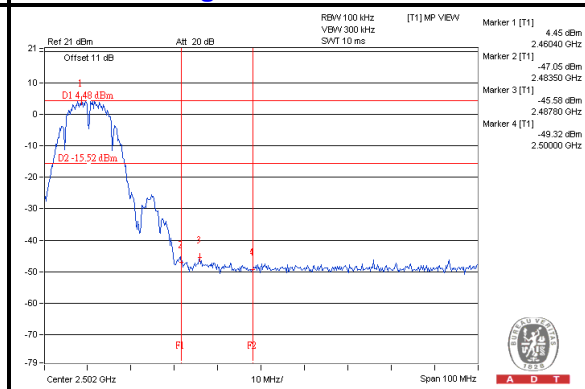
CH 11



CH 1 Band edge



CH 11 Band edge

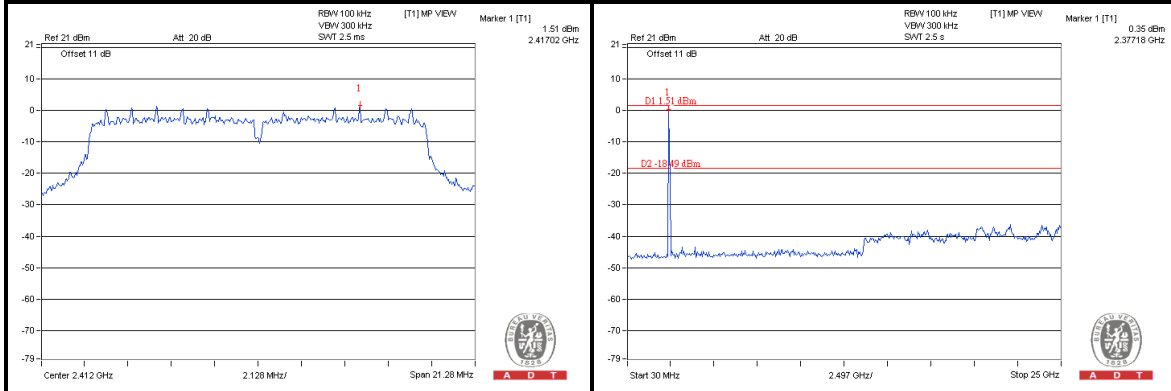




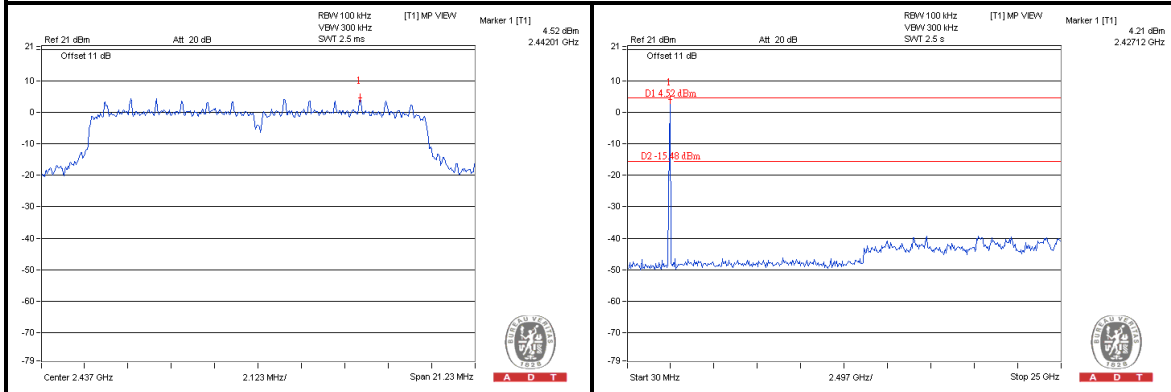
A D T

802.11g

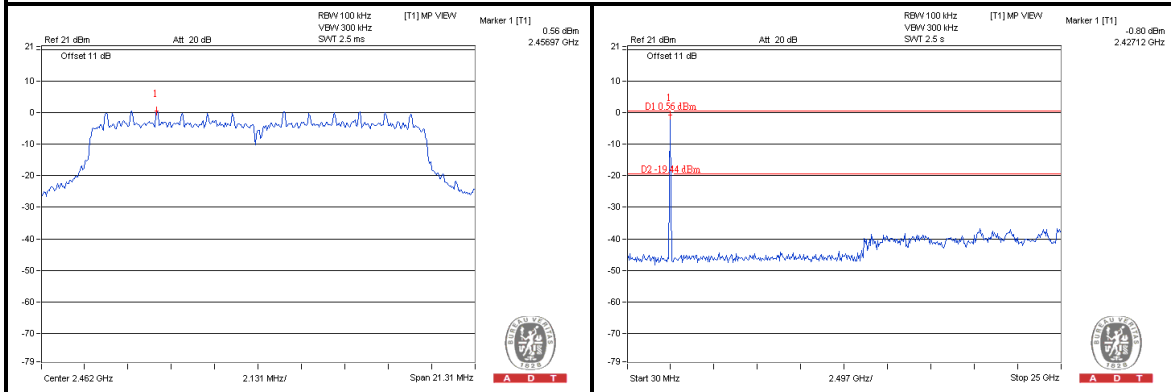
CH 1



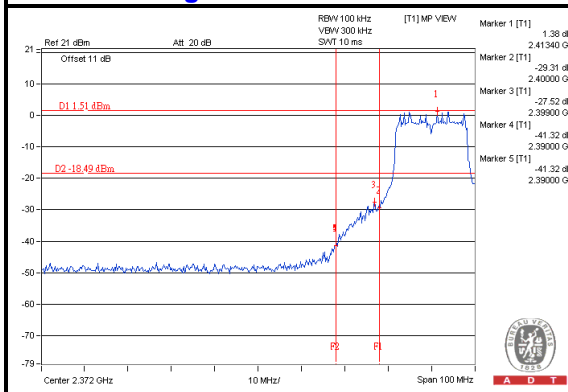
CH 6



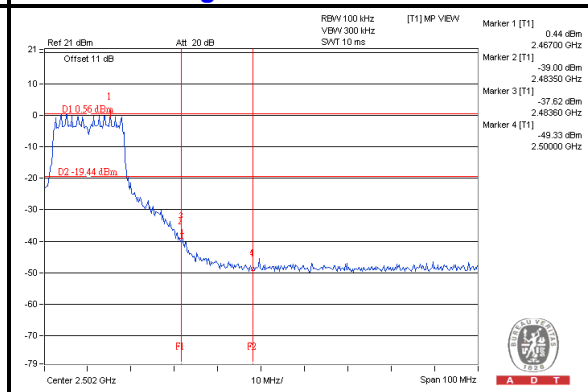
CH 11



CH 1 Band edge



CH 11 Band edge

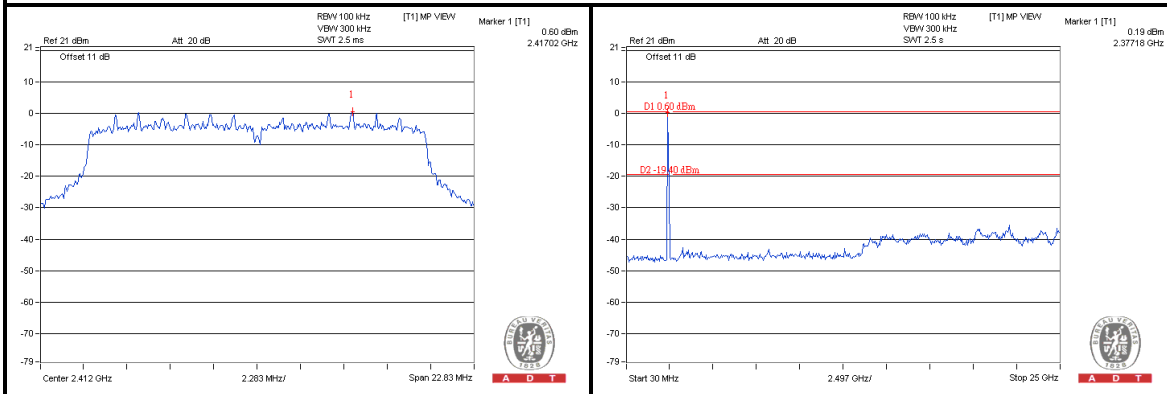




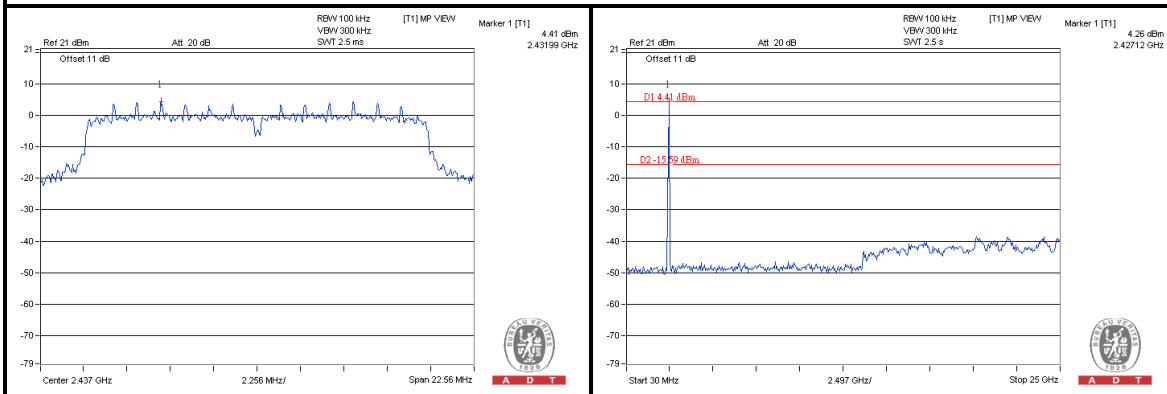
A D T

802.11n (20MHz)

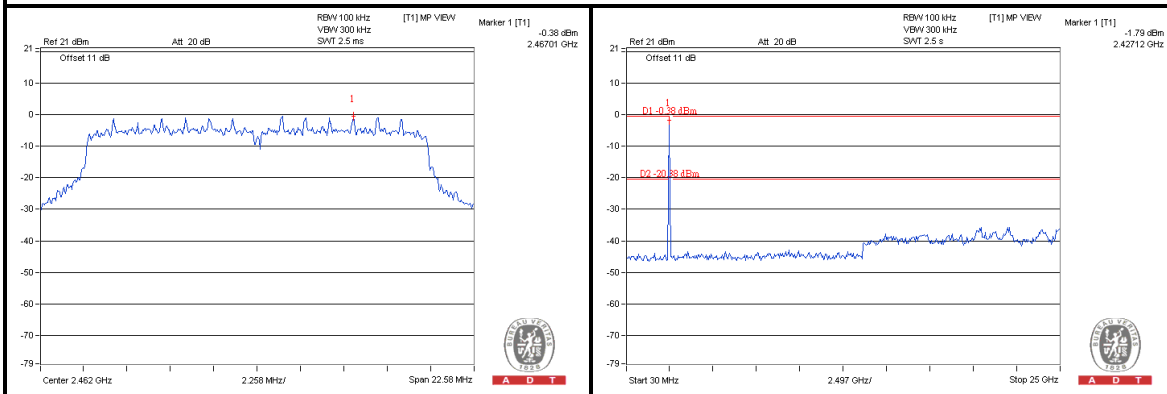
CH 1



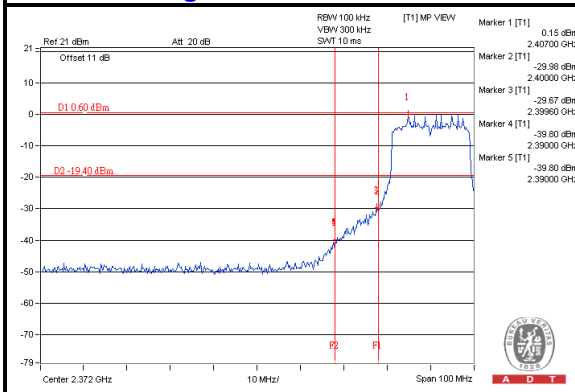
CH 6



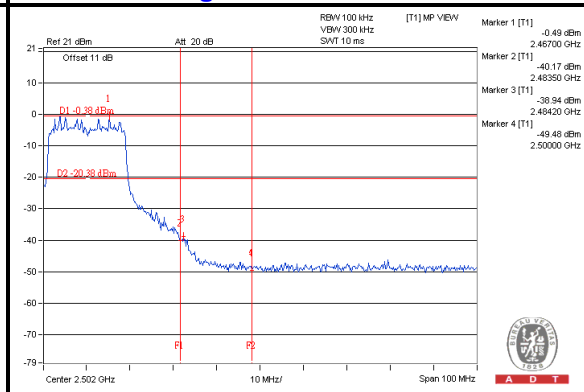
CH 11



CH 1 Band edge



CH 11 Band edge

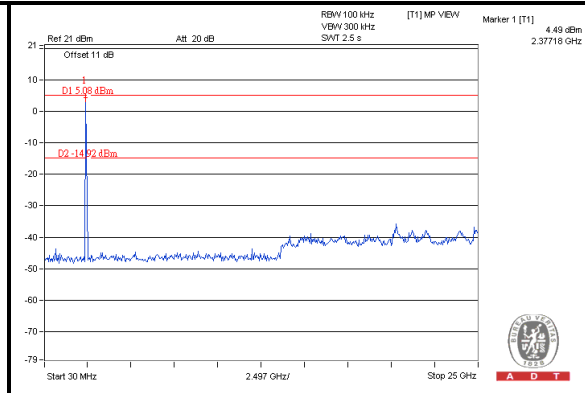
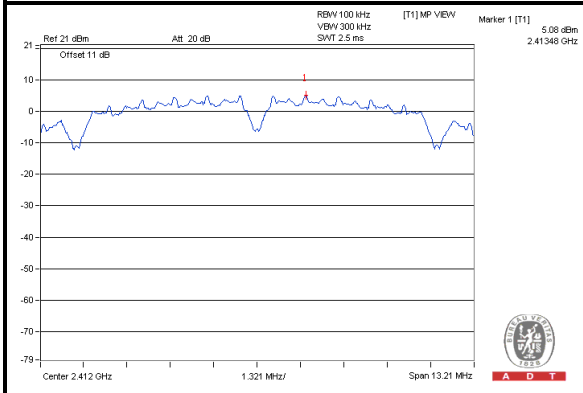




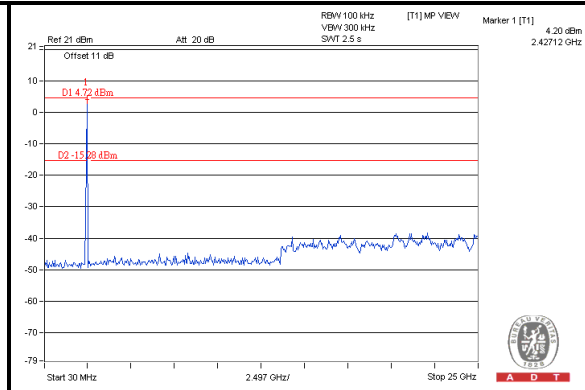
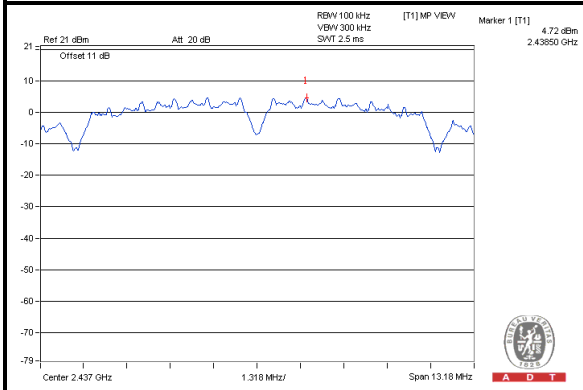
A D T

SERIAL NO.: 366
802.11b

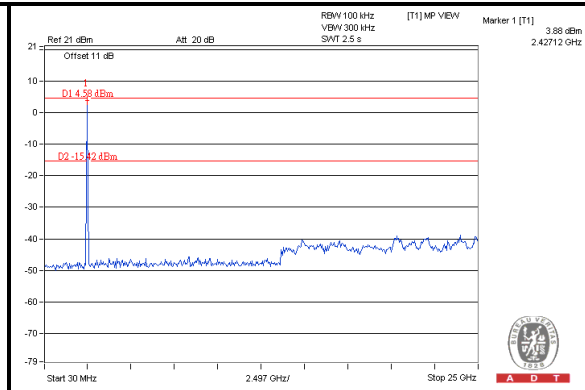
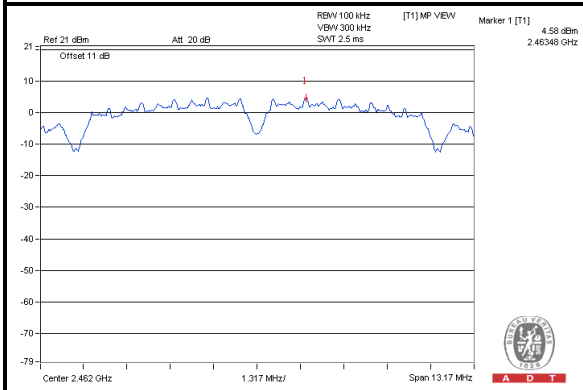
CH 1



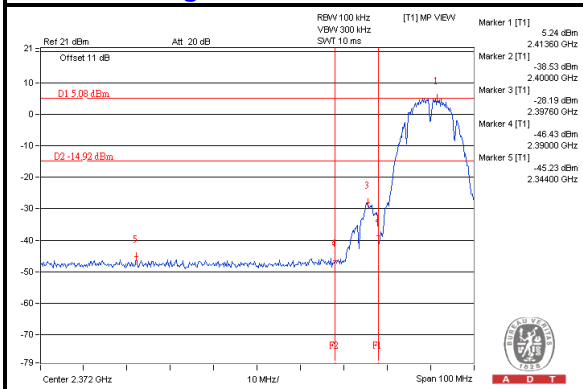
CH 6



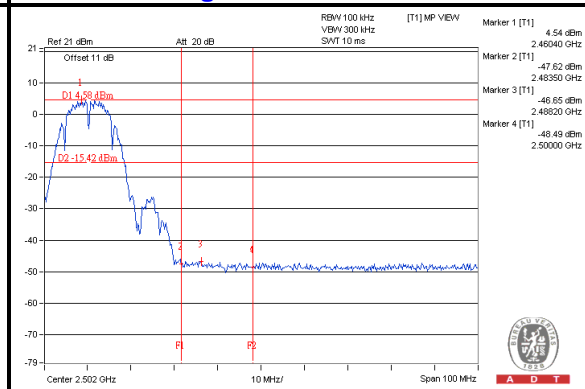
CH 11



CH 1 Band edge



CH 11 Band edge

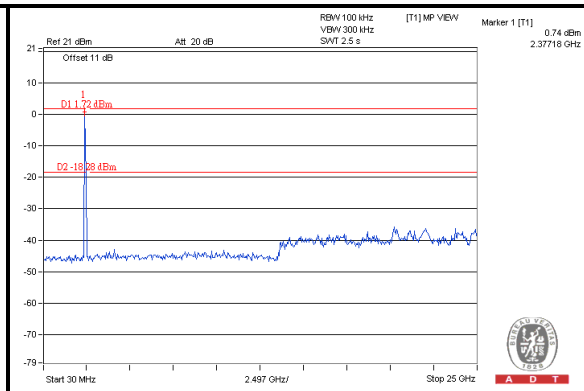
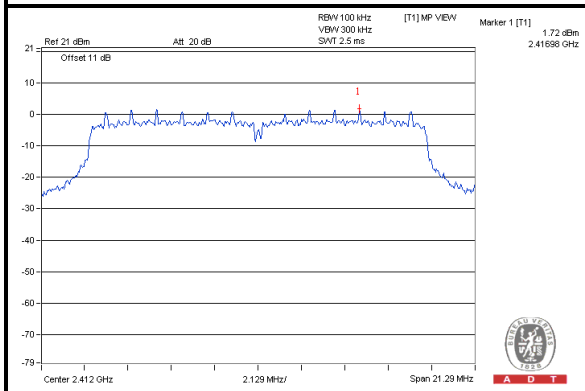




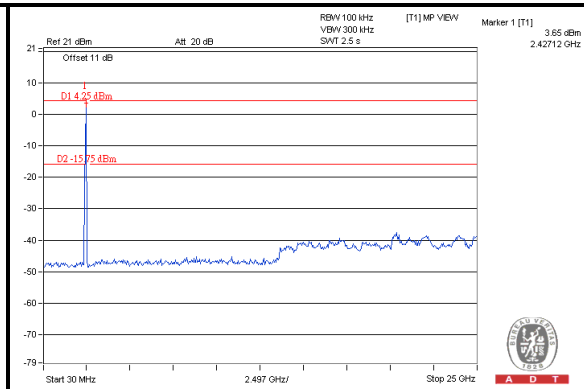
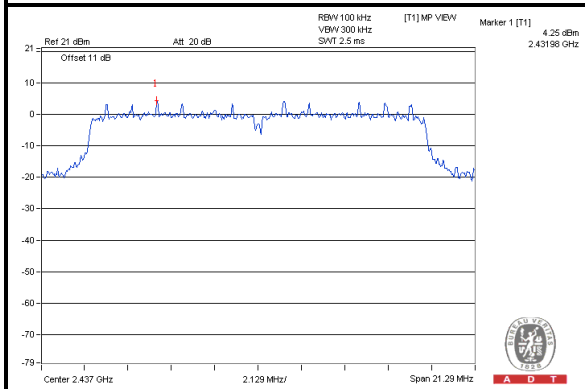
A D T

802.11g

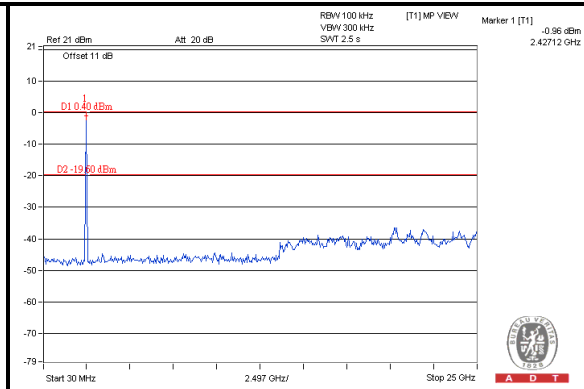
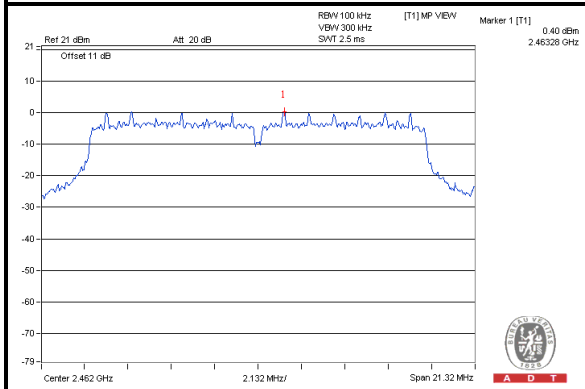
CH 1



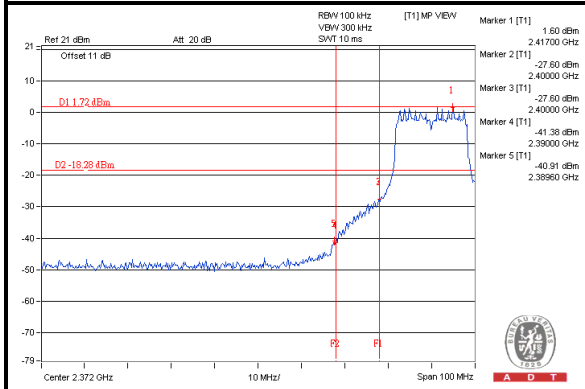
CH 6



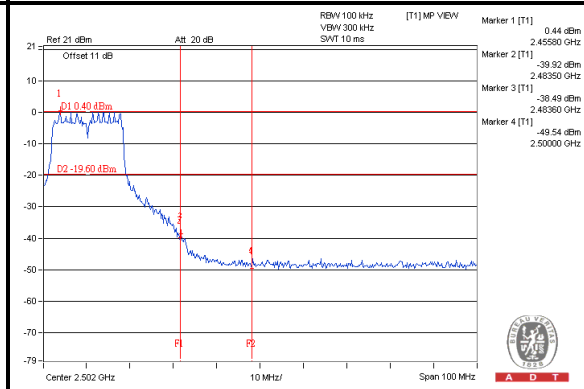
CH 11



CH 1 Band edge



CH 11 Band edge

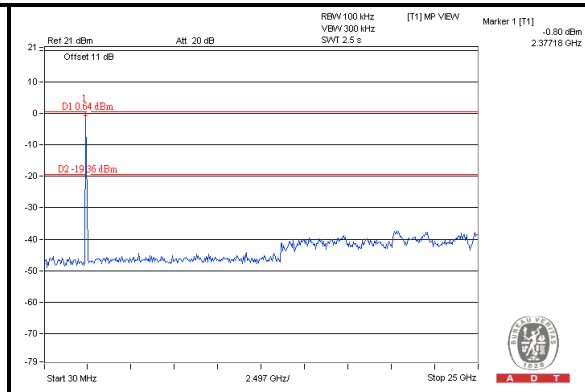
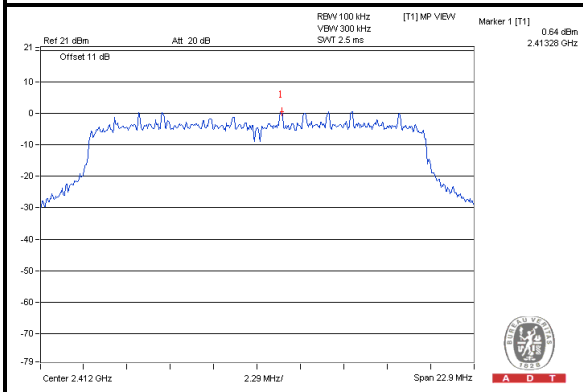




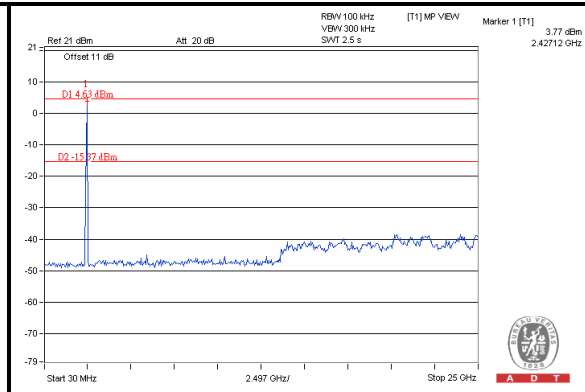
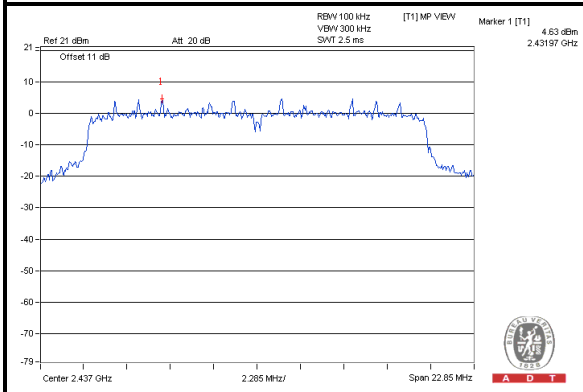
A D T

802.11n (20MHz)

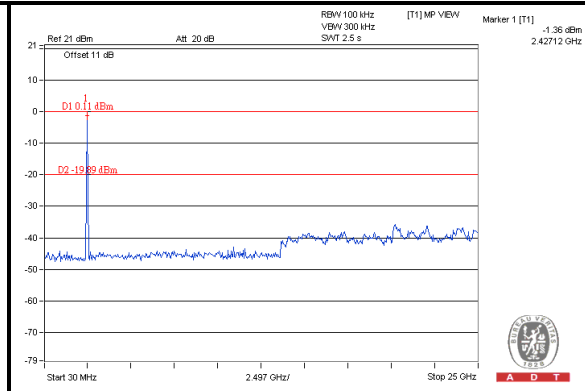
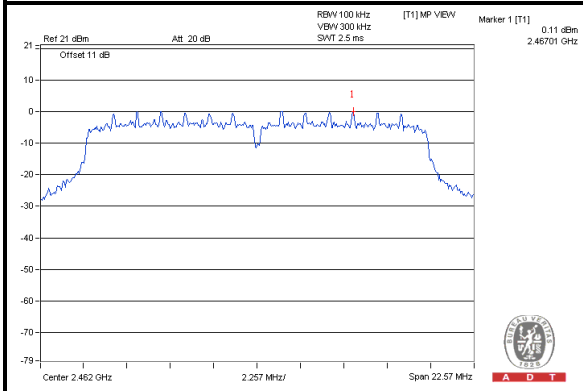
CH 1



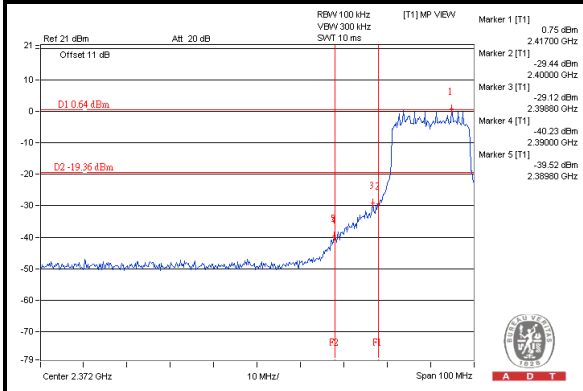
CH 6



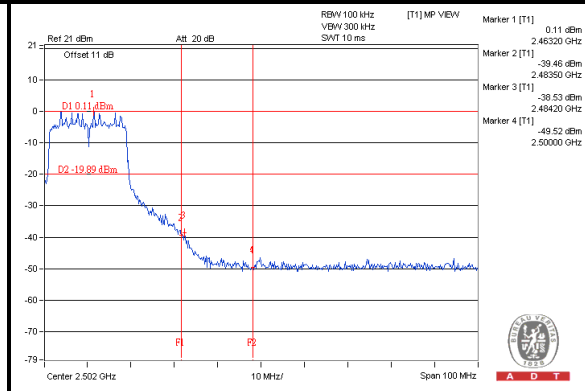
CH 11



CH 1 Band edge



CH 11 Band edge

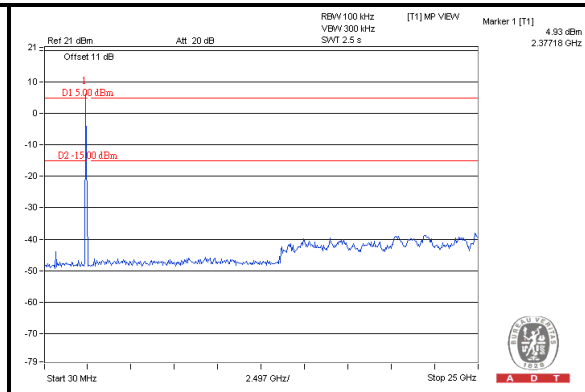
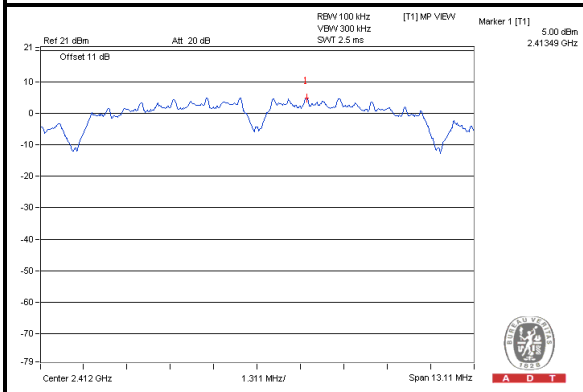




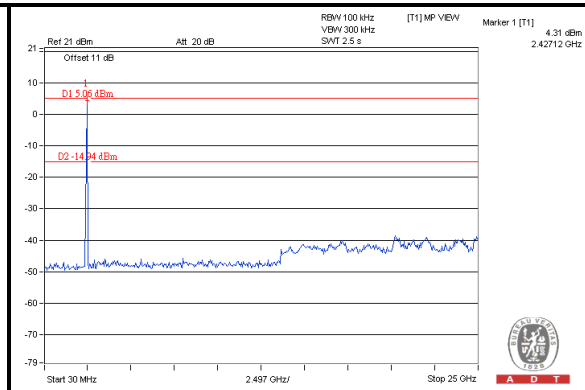
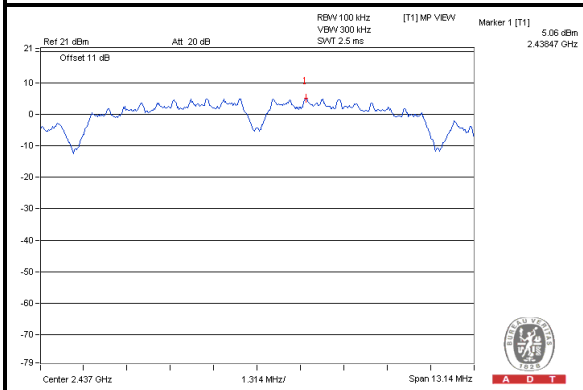
A D T

SERIAL NO.: 382
802.11b

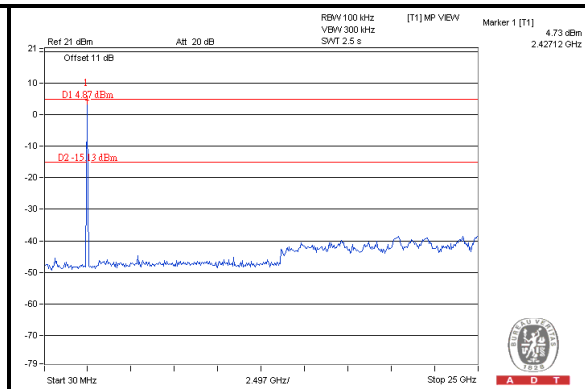
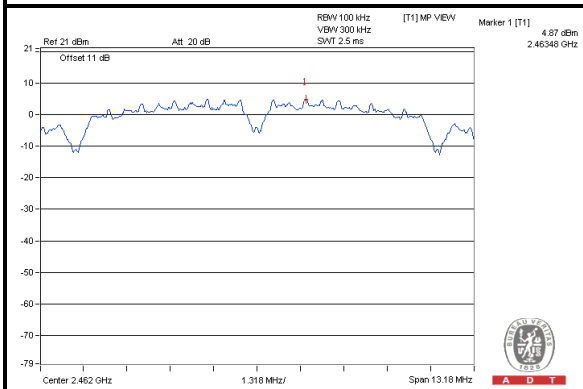
CH 1



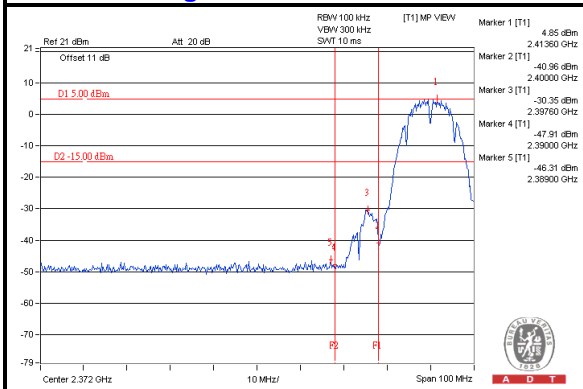
CH 6



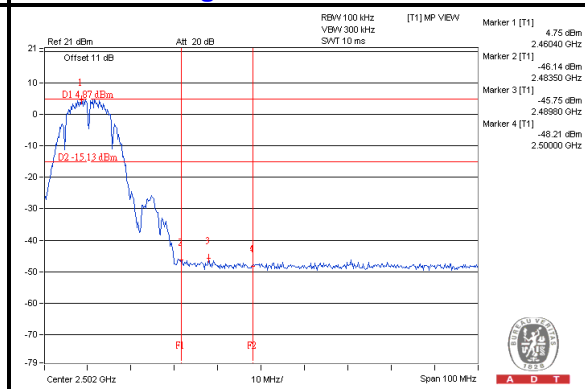
CH 11



CH 1 Band edge



CH 11 Band edge

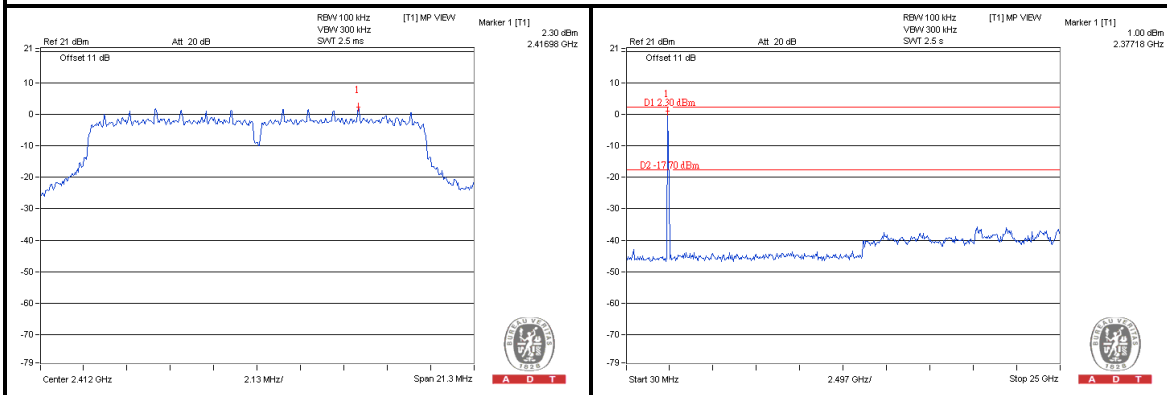




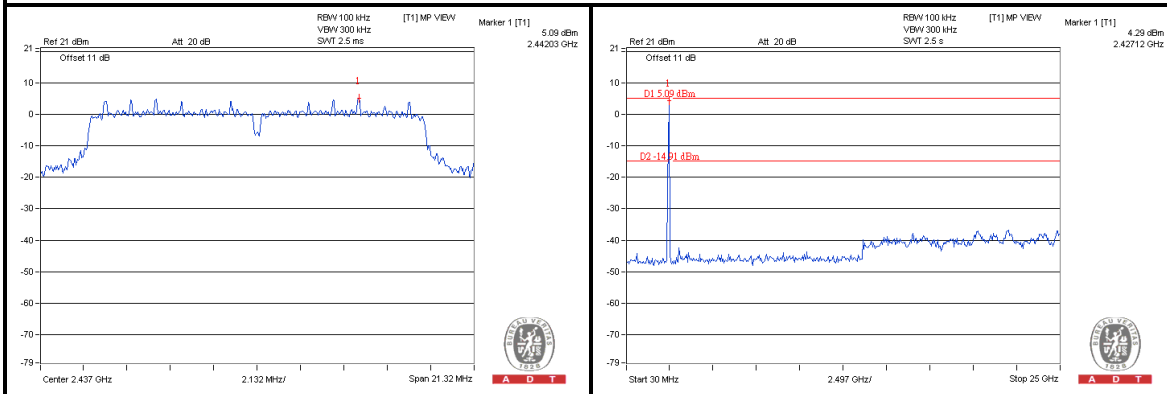
A D T

802.11g

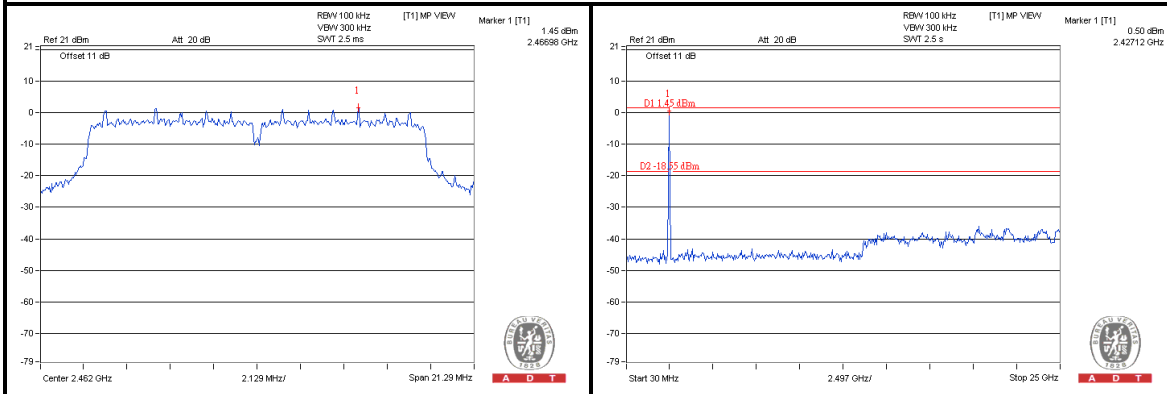
CH 1



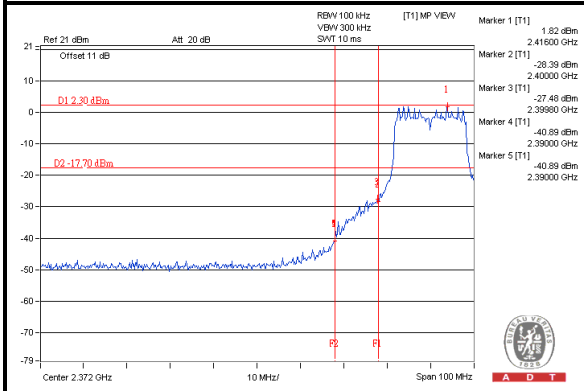
CH 6



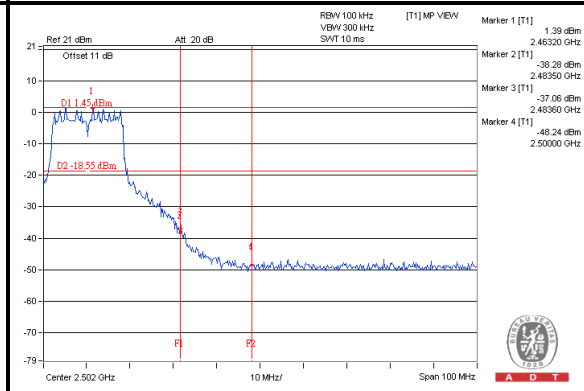
CH 11



CH 1 Band edge



CH 11 Band edge

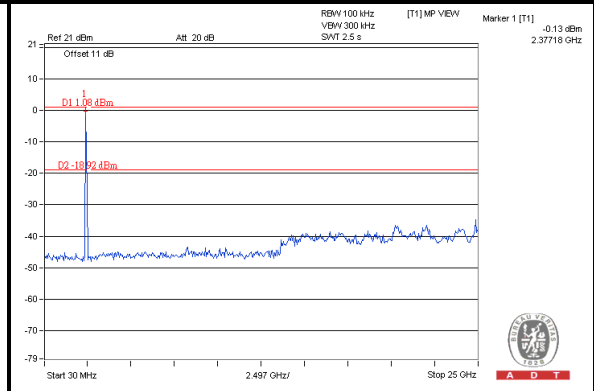
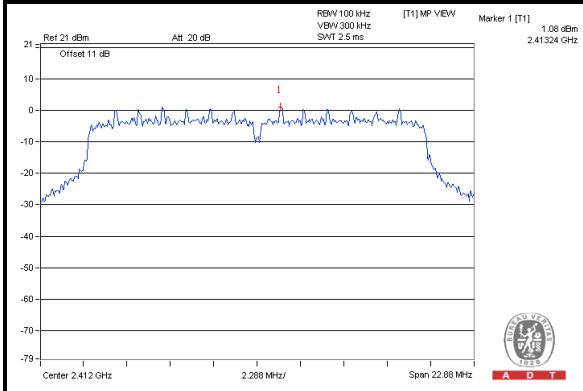




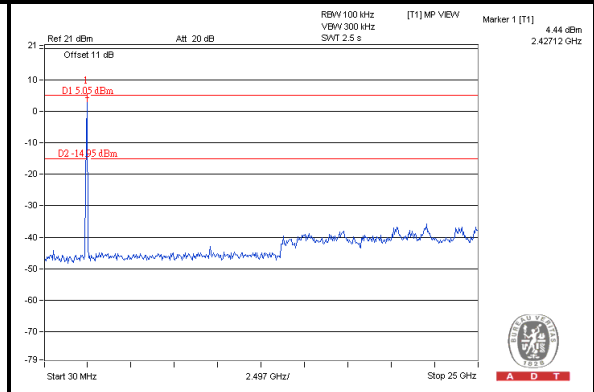
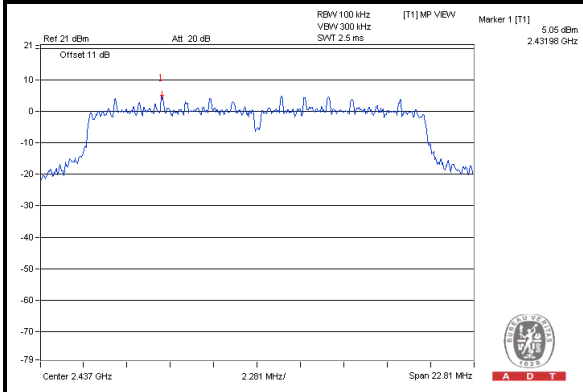
A D T

802.11n (20MHz)

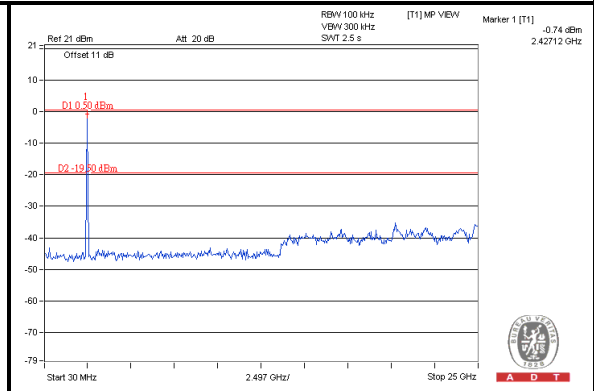
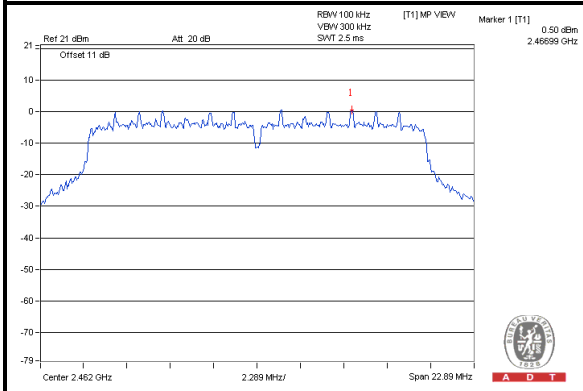
CH 1



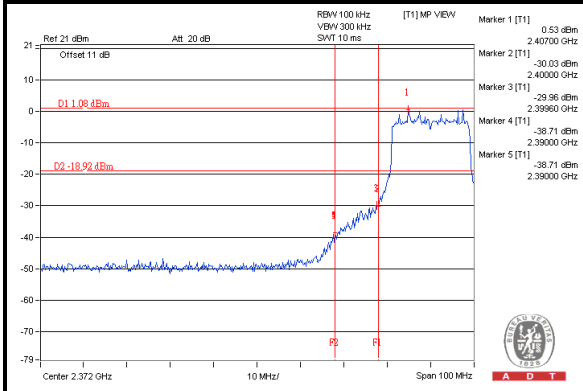
CH 6



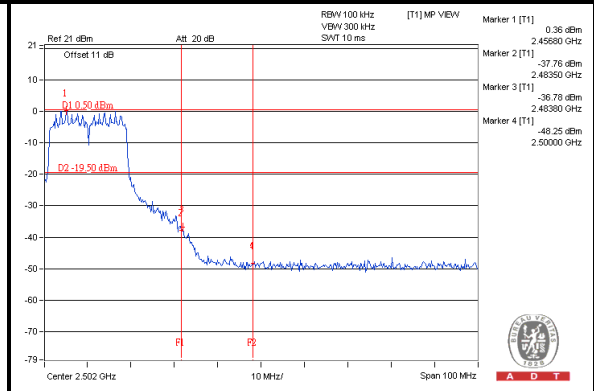
CH 11



CH 1 Band edge



CH 11 Band edge





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5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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



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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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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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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---