FCC TEST REPORT
(WLAN 15.247)

REPORT NO.: RF131203C43

MODEL NO.: TA-H10L-B, TA-S10L-B

FCC ID: APYHRO00199

RECEIVED: Dec. 3, 2013

TESTED: Dec. 12 ~ 28, 2013

ISSUED: Dec. 30, 2013

APPLICANT: Sharp Corporation

ADDRESS: 22-22 Nagaike-cho, Abeno-ku CS Promotion Group, Product Safety Promotion Ctr., Osaka, Japan

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

LAB ADDRESS: No. 47, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan, R.O.C.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF131203C43	Original release	Dec. 30, 2013

1. CERTIFICATION

PRODUCT:	Tablet PC
BRAND NAME:	Sharp
MODEL NO.:	TA-H10L-B, TA-S10L-B
APPLICANT:	Sharp Corporation
TESTED:	Dec. 12 ~ 28, 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 : Annie Chang , **DATE:** Dec. 30, 2013

(Annie Chang / Supervisor)

APPROVED BY : Rex. Lai , **DATE:** Dec. 30, 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 -11.92dB at 0.16562MHz.
15.247(d) 15.209	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -1.0dB at 5725.00MHz.
15.247(d)	Band Edge Measurement	PASS	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	PASS	Meet the requirement of limit.
15.247(b)	Conducted 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	Tablet PC
MODEL NO.	TA-H10L-B, TA-S10L-B
POWER SUPPLY	12Vdc from AC Adapter or 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 802.11a: 54/ 48/ 36/ 24/ 18/ 12/ 9/ 6Mbps 802.11n: up to 300Mbps
OPERATING FREQUENCY	**2.4GHz:** 2412 ~ 2462MHz **5.0GHz:** 5745 ~ 5825MHz
NUMBER OF CHANNEL	**2.4GHz:** 11 for 802.11b, 802.11g, 802.11n (20MHz) **5.0GHz:** 4 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz)
OUTPUT POWER	171.9mW for 2412 ~ 2462MHz 175.0mW for 5745 ~ 5825MHz
ANTENNA TYPE	Refer to Note as below
ANTENNA CONNECTOR	N/A
DATA CABLE	Refer to user's manual
I/O PORTS	Refer to user's manual
ACCESSORY DEVICES	Refer to Note as below

NOTE:

1. The EUT has several models, which are identical to each other except for the following differences:

Brand Name	Model No.	Differentiation
Sharp	TA-H10L-B	Marketing Differentiation
Sharp	TA-S10L-B	

2. The EUT used antennas listed as below:

Antenna	Antenna Type	Gain (dBi)					
		WLAN 2.4GHz & Bluetooth		WLAN 5.0GHz (Band 1~3)		WLAN 5.0GHz (Band 4)	
		Main	AUX.	Main	AUX.	Main	AUX.
A	PIFA	-2.87	-2.54	-3.16	-2.97	-3.56	-3.58
B	PIFA	-7.51	-7.44	-7.50	-7.84	-7.69	-8.08

Following antenna was selected for final test:

Antenna	Antenna Type	Gain (dBi)					
		WLAN 2.4GHz & Bluetooth		WLAN 5.0GHz (Band 1~3)		WLAN 5.0GHz (Band 4)	
		Main	AUX.	Main	AUX.	Main	AUX.
A	PIFA	-2.87	-2.54	-3.16	-2.97	-3.56	-3.58

3. The EUT was power supplied from the following power adapters and battery:

Item	Brand	Model No.	Rating
Adapter	SHARP	PEW120300UU95-1G	AC I/P: 100-240V, 50/60Hz, 0.6A DC O/P: 12V, 2.0A Non-shielded DC (1.3m)
Battery	WTE	EECM051K2002	3.7Vdc, 7800mAh

After pre-tested, the **Adapter mode** was the worst case, therefore, only its test data was recorded in this report.

4. The EUT incorporates a MIMO function. Physically, the EUT provides two completed transmitters and two receivers.

Modulation Mode	Tx Function
802.11b	1TX
802.11g	1TX
802.11a	1TX
802.11n (20MHz)	2TX
802.11n (40MHz)	2TX

5. The frequency bands used in this EUT are listed as follows:

Frequency Band (MHz)	2412~2462	5180~5320	5500~5700	5745~5825
802.11b	√			
802.11g	√			
802.11a		√	√	√
802.11n (20MHz)	√	√	√	√
802.11n (40MHz)		√	√	√

6. 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

FOR 2.4GHz:

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		

FOR 5.0GHz (5745 ~ 5825MHz):

4 channels are provided for 802.11a, 802.11n (20MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
149	5745MHz	161	5805MHz
153	5765MHz		
157	5785MHz		

2 channels are provided for 802.11n (40MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
151	5755MHz	159	5795MHz

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
A	√	√	√	√	1TX
B	√	-	-	√	2TX

Where **RE≥1G:** 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 **X-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	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11b	2412-2462	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
A	802.11g		1 to 11	1, 6, 11	OFDM	BPSK	6.0
A & B	802.11n (20MHz)		1 to 11	1, 6, 11	OFDM	BPSK	13.0
A	802.11a	5745-5825	149 to 161	149, 157, 161	OFDM	BPSK	6.0
A & B	802.11n (20MHz)		149 to 161	149, 157, 161	OFDM	BPSK	13.0
A & B	802.11n (40MHz)		151 to 159	151, 159	OFDM	BPSK	27.0

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	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11g	2412-2462	1 to 11	11	DSSS	DBPSK	1.0
A	802.11n (20MHz)	5745-5825	149 to 165	149	OFDM	BPSK	6.0

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	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11g	2412-2462	1 to 11	11	DSSS	DBPSK	1.0
A	802.11n (20MHz)	5745-5825	149 to 165	149	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	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11b	2412-2462	1 to 11	1, 11	DSSS	DBPSK	1.0
A	802.11g		1 to 11	1, 11	OFDM	BPSK	6.0
A & B	802.11n (20MHz)		1 to 11	1, 11	OFDM	BPSK	13.0
A	802.11a	5745-5825	149 to 161	149, 161	OFDM	BPSK	6.0
A & B	802.11n (20MHz)		149 to 161	149, 161	OFDM	BPSK	13.0
A & B	802.11n (40MHz)		151 to 151	151, 151	OFDM	BPSK	27.0

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	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11b	2412-2462	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
A	802.11g		1 to 11	1, 6, 11	OFDM	BPSK	6.0
A & B	802.11n (20MHz)		1 to 11	1, 6, 11	OFDM	BPSK	13.0
A	802.11a	5745-5825	149 to 161	149, 157, 161	OFDM	BPSK	6.0
A & B	802.11n (20MHz)		149 to 161	149, 157, 161	OFDM	BPSK	13.0
A & B	802.11n (40MHz)		151 to 159	151, 159	OFDM	BPSK	27.0

TEST CONDITION:

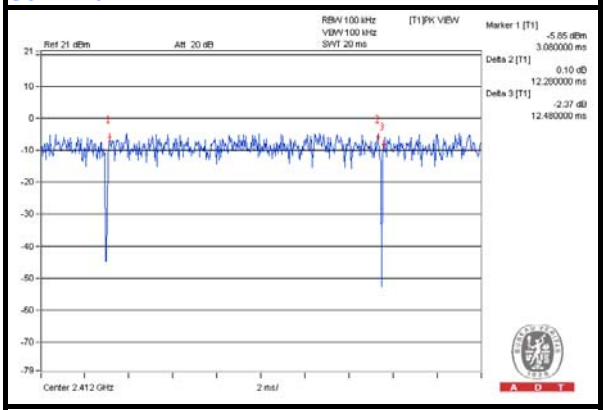
APPLICABLE TO	EUT CONFIGURE MODE	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	A & B	21deg. C, 75% RH	120Vac, 60Hz	Joey Liu
RE<1G	A	21deg. C, 75% RH	120Vac, 60Hz	Joey Liu
PLC	A	22deg. C, 78% RH	120Vac, 60Hz	Charlie Chang
APCM	A & B	25deg. C, 60%RH	120Vac, 60Hz	Dalen Dai

3.3 DUTY CYCLE OF TEST SIGNAL

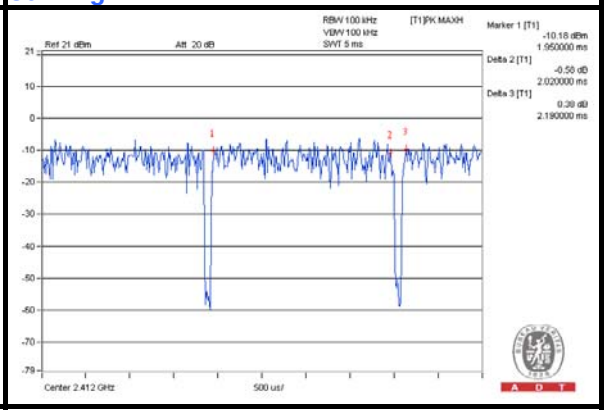
Duty cycle is < 98%, duty factor shall be considered (Duty cycle of test signal of 802.11b is > 98 %).

802.11b: Duty cycle = 12.28/12.48 = 0.984
802.11g: Duty cycle = 2.02/2.19 = 0.922, Duty factor = 10 * log(1/0.922) = 0.35
802.11n (20MHz): Duty cycle = 0.22/0.33 = 0.667, Duty factor = 10 * log(1/0.667) = 1.76

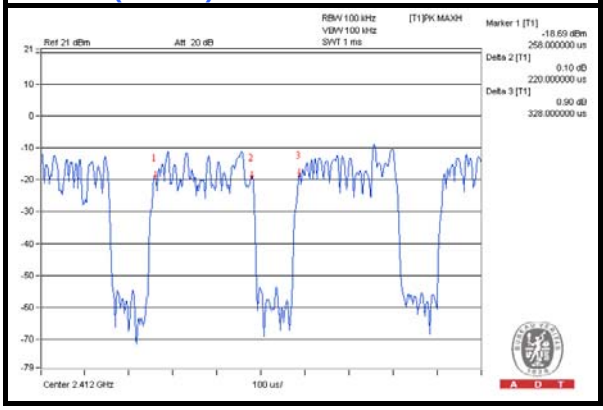
802.11b



802.11g



802.11n (20MHz)



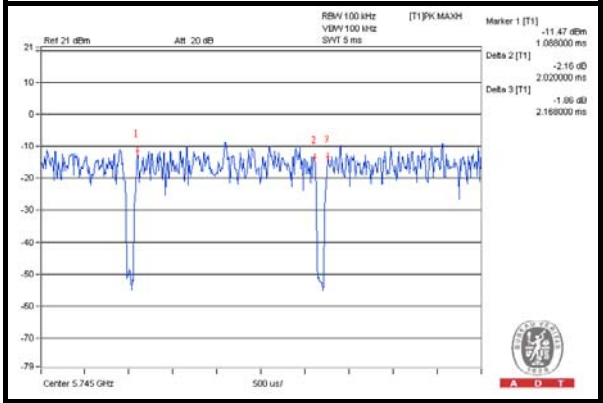
Duty cycle is < 98%, duty factor shall be considered

802.11a: Duty cycle = 2.02/2.17 = 0.931, Duty factor = 10 * log(1/0.931) = 0.31

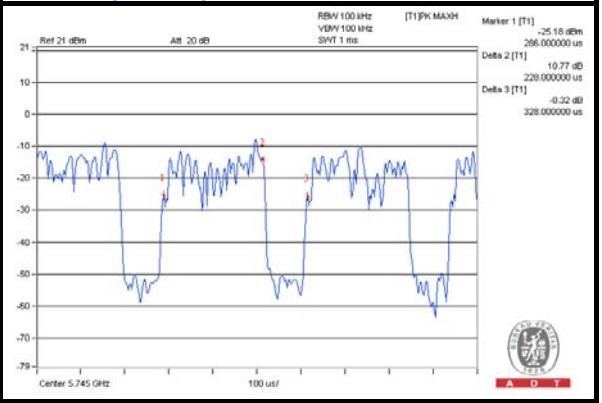
802.11n (20MHz): Duty cycle = 0.228/0.328 = 0.695, Duty factor = 10 * log(1/0.695) = 1.58

802.11n (40MHz): Duty cycle = 0.117/0.226 = 0.518, Duty factor = 10 * log(1/0.518) = 2.86

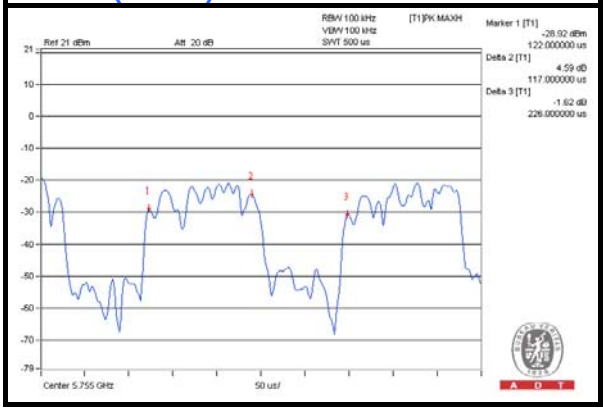
802.11a



802.11n (20MHz)



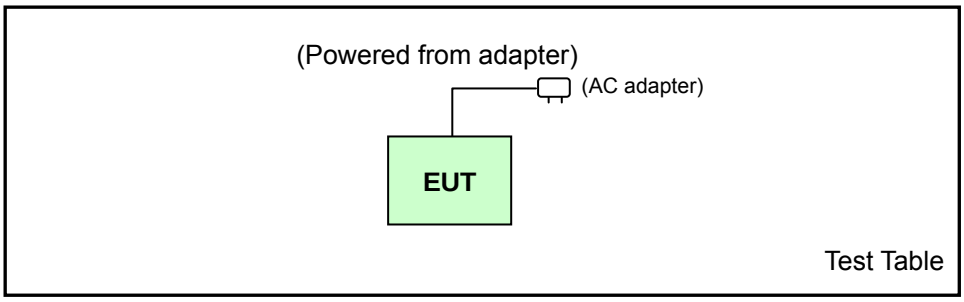
802.11n (40MHz)



3.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together without other necessary accessories or support units.

3.4.1 CONFIGURATION OF SYSTEM UNDER TEST



3.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart C (15.247)
558074 D01 DTS Meas Guidance v03r01
662911 D01 Multiple Transmitter Output v02
ANSI C63.10-2009

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

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.

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.

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:

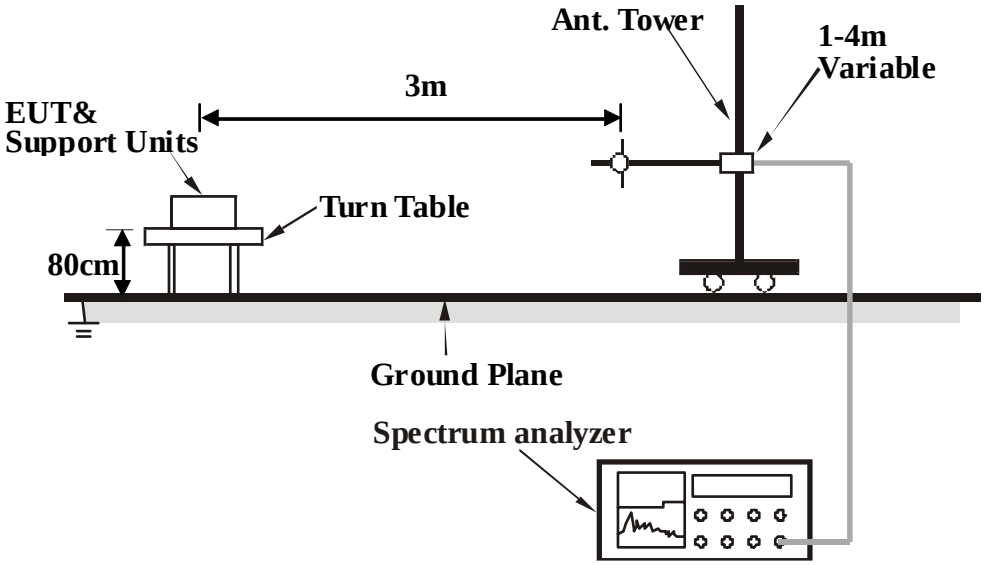
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. .The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. .The resolution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

4.1.4 DEVIATION FROM TEST STANDARD

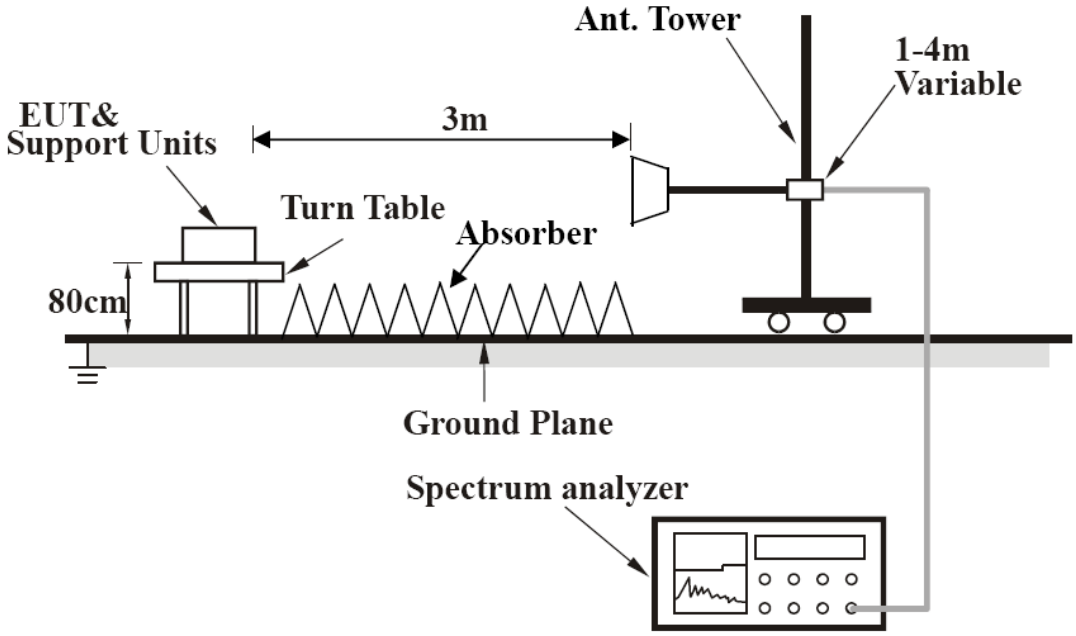
No deviation.

4.1.5 TEST SETUP

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

a. Connected the EUT to AC adapter.
b. Set the EUT under transmitting condition.

4.1.7 TEST RESULTS

ABOVE 1GHz DATA

802.11b

CHANNEL	TX Channel 1	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		
TEST MODE	A		

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	62.8 PK	74.0	-11.2	1.00 H	13	66.58	-3.75
2	2390.00	52.4 AV	54.0	-1.6	1.00 H	13	56.16	-3.75
3	*2412.00	106.6 PK			1.00 H	13	110.22	-3.64
4	*2412.00	103.1 AV			1.00 H	13	106.69	-3.64
5	4824.00	46.4 PK	74.0	-27.6	1.00 H	26	42.64	3.73
6	4824.00	36.9 AV	54.0	-17.1	1.00 H	26	33.16	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	61.7 PK	74.0	-12.3	1.05 V	97	65.42	-3.75
2	2390.00	50.2 AV	54.0	-3.8	1.05 V	97	53.98	-3.75
3	*2412.00	103.5 PK			1.05 V	97	107.13	-3.64
4	*2412.00	100.1 AV			1.05 V	97	103.74	-3.64
5	4824.00	44.9 PK	74.0	-29.1	1.05 V	104	41.13	3.73
6	4824.00	33.3 AV	54.0	-20.7	1.05 V	104	29.55	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.

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

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	105.8 PK			1.00 H	15	109.35	-3.53
2	*2437.00	102.3 AV			1.00 H	15	105.81	-3.53
3	4874.00	45.1 PK	74.0	-28.9	1.00 H	24	41.36	3.75
4	4874.00	35.4 AV	54.0	-18.6	1.00 H	24	31.66	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	104.3 PK			1.03 V	96	107.78	-3.53
2	*2437.00	100.8 AV			1.03 V	96	104.28	-3.53
3	4874.00	44.5 PK	74.0	-29.5	1.03 V	96	40.72	3.75
4	4874.00	34.7 AV	54.0	-19.3	1.03 V	96	30.99	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.

CHANNEL	TX Channel 11	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		
TEST MODE	A		

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	105.8 PK			1.00 H	13	109.18	-3.41
2	*2462.00	102.3 AV			1.00 H	13	105.69	-3.41
3	2483.50	63.0 PK	74.0	-11.0	1.00 H	13	66.31	-3.32
4	2483.50	52.5 AV	54.0	-1.5	1.00 H	13	55.84	-3.32
5	4924.00	45.8 PK	74.0	-28.2	1.00 H	21	42.07	3.74
6	4924.00	36.2 AV	54.0	-17.8	1.00 H	21	32.50	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	104.6 PK			1.03 V	96	107.96	-3.41
2	*2462.00	101.0 AV			1.03 V	96	104.44	-3.41
3	2483.50	62.7 PK	74.0	-11.3	1.03 V	96	66.06	-3.32
4	2483.50	52.3 AV	54.0	-1.7	1.03 V	96	55.66	-3.32
5	4924.00	45.4 PK	74.0	-28.6	1.03 V	98	41.66	3.74
6	4924.00	35.2 AV	54.0	-18.8	1.03 V	98	31.45	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.

802.11g

CHANNEL	TX Channel 1	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		
TEST MODE	A		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	**FREQ. (MHz)**	**EMISSION LEVEL (dBuV/m)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA HEIGHT (m)**	**TABLE ANGLE (Degree)**	**RAW VALUE (dBuV)**	**CORRECTION FACTOR (dB/m)**
1	2390.00	72.7 PK	74.0	-1.3	1.00 H	13	76.47	-3.75
2	2390.00	48.9 AV	54.0	-5.2	1.00 H	13	52.60	-3.75
3	*2412.00	100.7 PK			1.00 H	13	104.37	-3.64
4	*2412.00	90.2 AV			1.00 H	13	93.81	-3.64
5	4824.00	44.3 PK	74.0	-29.7	1.00 H	24	40.53	3.73
6	4824.00	30.9 AV	54.0	-23.2	1.00 H	24	27.12	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	68.6 PK	74.0	-5.4	1.05 V	95	72.35	-3.75
2	2390.00	47.8 AV	54.0	-6.2	1.05 V	95	51.55	-3.75
3	*2412.00	98.3 PK			1.05 V	95	101.97	-3.64
4	*2412.00	87.3 AV			1.05 V	95	90.91	-3.64
5	4824.00	43.9 PK	74.0	-30.1	1.05 V	98	40.21	3.73
6	4824.00	31.0 AV	54.0	-23.0	1.05 V	98	27.23	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.

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

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	101.4 PK			1.00 H	18	104.94	-3.53
2	*2437.00	88.9 AV			1.00 H	18	92.45	-3.53
3	4874.00	43.5 PK	74.0	-30.5	1.00 H	21	39.78	3.75
4	4874.00	30.4 AV	54.0	-23.6	1.00 H	21	26.65	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	100.4 PK			1.04 V	96	103.91	-3.53
2	*2437.00	88.5 AV			1.04 V	96	92.06	-3.53
3	4874.00	43.7 PK	74.0	-30.3	1.04 V	100	39.98	3.75
4	4874.00	30.6 AV	54.0	-23.4	1.04 V	100	26.81	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.

CHANNEL	TX Channel 11	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		
TEST MODE	A		

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			1.00 H	15	105.17	-3.41
2	*2462.00	89.8 AV			1.00 H	15	93.25	-3.41
3	2483.50	72.6 PK	74.0	-1.4	1.00 H	15	75.95	-3.32
4	2483.50	48.7 AV	54.0	-5.3	1.00 H	15	52.06	-3.32
5	4924.00	44.4 PK	74.0	-29.6	1.00 H	21	40.62	3.74
6	4924.00	30.6 AV	54.0	-23.4	1.00 H	21	26.85	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	100.5 PK			1.02 V	96	103.91	-3.41
2	*2462.00	88.9 AV			1.02 V	96	92.31	-3.41
3	2483.50	71.5 PK	74.0	-2.5	1.02 V	96	74.84	-3.32
4	2483.50	48.4 AV	54.0	-5.6	1.02 V	96	51.69	-3.32
5	4924.00	44.7 PK	74.0	-29.4	1.02 V	99	40.91	3.74
6	4924.00	30.8 AV	54.0	-23.3	1.02 V	99	27.01	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.

802.11n (20MHz)

CHANNEL	TX Channel 1	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		
TEST MODE	A		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	**FREQ. (MHz)**	**EMISSION LEVEL (dBuV/m)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA HEIGHT (m)**	**TABLE ANGLE (Degree)**	**RAW VALUE (dBuV)**	**CORRECTION FACTOR (dB/m)**
1	2390.00	72.8 PK	74.0	-1.2	1.00 H	13	76.59	-3.75
2	2390.00	46.2 AV	54.0	-7.8	1.00 H	13	49.99	-3.75
3	*2412.00	102.0 PK			1.00 H	12	105.62	-3.64
4	*2412.00	91.9 AV			1.00 H	12	95.56	-3.64
5	4824.00	44.2 PK	74.0	-29.8	1.00 H	12	40.45	3.73
6	4824.00	31.3 AV	54.0	-22.7	1.00 H	12	27.53	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	71.7 PK	74.0	-2.3	1.02 V	97	75.42	-3.75
2	2390.00	43.0 AV	54.0	-11.0	1.02 V	97	46.71	-3.75
3	*2412.00	99.0 PK			1.02 V	97	102.61	-3.64
4	*2412.00	87.6 AV			1.02 V	97	91.19	-3.64
5	4824.00	43.9 PK	74.0	-30.1	1.02 V	100	40.21	3.73
6	4824.00	30.8 AV	54.0	-23.2	1.02 V	100	27.11	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.

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

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	100.2 PK			1.00 H	13	103.75	-3.53
2	*2437.00	90.2 AV			1.00 H	13	93.71	-3.53
3	4874.00	44.0 PK	74.0	-30.0	1.00 H	16	40.24	3.75
4	4874.00	31.3 AV	54.0	-22.7	1.00 H	16	27.55	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	98.2 PK			1.02 V	95	101.72	-3.53
2	*2437.00	87.4 AV			1.02 V	95	90.89	-3.53
3	4874.00	44.0 PK	74.0	-30.0	1.02 V	97	40.25	3.75
4	4874.00	31.1 AV	54.0	-22.9	1.02 V	97	27.37	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.

CHANNEL	TX Channel 11	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		
TEST MODE	A		

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	100.7 PK			1.00 H	11	104.13	-3.41
2	*2462.00	89.9 AV			1.00 H	11	93.26	-3.41
3	2483.50	72.5 PK	74.0	-1.5	1.00 H	11	75.82	-3.32
4	2483.50	43.1 AV	54.0	-10.9	1.00 H	11	46.43	-3.32
5	4924.00	43.9 PK	74.0	-30.1	1.00 H	15	40.12	3.74
6	4924.00	29.3 AV	54.0	-24.7	1.00 H	15	25.55	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	99.0 PK			1.02 V	97	102.39	-3.41
2	*2462.00	88.4 AV			1.02 V	97	91.81	-3.41
3	2483.50	71.6 PK	74.0	-2.4	1.02 V	97	74.90	-3.32
4	2483.50	42.7 AV	54.0	-11.3	1.02 V	97	46.06	-3.32
5	4924.00	43.9 PK	74.0	-30.1	1.02 V	99	40.16	3.74
6	4924.00	31.1 AV	54.0	-22.9	1.02 V	99	27.36	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.

CHANNEL	TX Channel 1	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		
TEST MODE	B		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	**FREQ. (MHz)**	**EMISSION LEVEL (dBuV/m)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA HEIGHT (m)**	**TABLE ANGLE (Degree)**	**RAW VALUE (dBuV)**	**CORRECTION FACTOR (dB/m)**
1	2390.00	72.0 PK	74.0	-2.0	1.00 H	34	75.78	-3.75
2	2390.00	49.8 AV	54.0	-4.2	1.00 H	34	53.59	-3.75
3	*2412.00	109.2 PK			1.00 H	34	112.85	-3.64
4	*2412.00	97.6 AV			1.00 H	34	101.21	-3.64
5	4824.00	45.4 PK	74.0	-28.6	1.00 H	35	41.68	3.73
6	4824.00	31.7 AV	54.0	-22.4	1.00 H	35	27.92	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	69.5 PK	74.0	-4.5	1.06 V	94	73.26	-3.75
2	2390.00	48.5 AV	54.0	-5.5	1.06 V	94	52.29	-3.75
3	*2412.00	102.4 PK			1.06 V	94	106.04	-3.64
4	*2412.00	91.5 AV			1.06 V	94	95.15	-3.64
5	4824.00	44.1 PK	74.0	-29.9	1.06 V	98	40.41	3.73
6	4824.00	31.0 AV	54.0	-23.0	1.06 V	98	27.25	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.

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

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	109.2 PK			1.00 H	36	112.68	-3.53
2	*2437.00	97.2 AV			1.00 H	36	100.74	-3.53
3	4874.00	45.3 PK	74.0	-28.7	1.00 H	36	41.51	3.75
4	4874.00	31.2 AV	54.0	-22.8	1.00 H	36	27.42	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	103.8 PK			1.02 V	95	107.29	-3.53
2	*2437.00	92.4 AV			1.02 V	95	95.88	-3.53
3	4874.00	43.9 PK	74.0	-30.1	1.02 V	95	40.11	3.75
4	4874.00	30.6 AV	54.0	-23.4	1.02 V	95	26.88	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.

CHANNEL	TX Channel 11	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		
TEST MODE	B		

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	108.6 PK			1.00 H	33	111.96	-3.41
2	*2462.00	96.6 AV			1.00 H	33	99.97	-3.41
3	2483.50	72.2 PK	74.0	-1.8	1.00 H	33	75.53	-3.32
4	2483.50	49.0 AV	54.0	-5.0	1.00 H	33	52.28	-3.32
5	4924.00	44.4 PK	74.0	-29.7	1.00 H	33	40.61	3.74
6	4924.00	31.0 AV	54.0	-23.0	1.00 H	33	27.25	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	105.4 PK			1.03 V	95	108.81	-3.41
2	*2462.00	93.3 AV			1.03 V	95	96.69	-3.41
3	2483.50	72.8 PK	74.0	-1.2	1.03 V	95	76.16	-3.32
4	2483.50	48.6 AV	54.0	-5.4	1.03 V	95	51.92	-3.32
5	4924.00	44.0 PK	74.0	-30.1	1.03 V	95	40.21	3.74
6	4924.00	30.6 AV	54.0	-23.4	1.03 V	95	26.87	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.

802.11a

CHANNEL	TX Channel 149	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		
TEST MODE	A		

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	#5725.00	83.7 PK	86.4	-2.6	1.00 H	21	78.31	5.39
2	#5725.00	66.4 AV	74.9	-8.5	1.00 H	21	61.01	5.39
3	*5745.00	106.4 PK			1.00 H	21	100.94	5.41
4	*5745.00	94.9 AV			1.00 H	21	89.51	5.41
5	11490.00	57.1 PK	74.0	-16.9	1.00 H	23	40.66	16.43
6	11490.00	42.1 AV	54.0	-11.9	1.00 H	23	25.71	16.43
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	#5725.00	83.3 PK	87.3	-4.0	1.00 V	87	77.87	5.39
2	#5725.00	64.9 AV	75.8	-10.9	1.00 V	87	59.53	5.39
3	*5745.00	107.3 PK			1.00 V	87	101.86	5.41
4	*5745.00	95.8 AV			1.00 V	87	90.43	5.41
5	11490.00	55.7 PK	74.0	-18.3	1.00 V	104	39.23	16.43
6	11490.00	42.2 AV	54.0	-11.8	1.00 V	104	25.74	16.43

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.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 157	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		
TEST MODE	A		

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	*5785.00	105.9 PK			1.00 H	13	100.39	5.47
2	*5785.00	95.5 AV			1.00 H	13	90.02	5.47
3	11570.00	56.7 PK	74.0	-17.3	1.00 H	16	40.21	16.45
4	11570.00	43.2 AV	54.0	-10.8	1.00 H	16	26.78	16.45
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	*5785.00	106.9 PK			1.00 V	142	101.43	5.47
2	*5785.00	96.4 AV			1.00 V	142	90.97	5.47
3	11570.00	53.0 PK	74.0	-21.0	1.00 V	87	36.51	16.45
4	11570.00	41.7 AV	54.0	-12.3	1.00 V	87	25.22	16.45

REMARKS:

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

CHANNEL	TX Channel 161	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		
TEST MODE	A		

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	*5805.00	103.9 PK			1.00 H	10	98.35	5.51
2	*5805.00	92.7 AV			1.00 H	10	87.20	5.51
3	#5850.00	62.6 PK	83.9	-21.3	1.00 H	10	56.94	5.63
4	#5850.00	45.7 AV	72.7	-27.0	1.00 H	10	40.07	5.63
5	11610.00	56.3 PK	74.0	-17.7	1.00 H	15	39.95	16.38
6	11610.00	41.7 AV	54.0	-12.3	1.00 H	15	25.29	16.38
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	*5805.00	106.1 PK			1.00 V	143	100.61	5.51
2	*5805.00	95.5 AV			1.00 V	143	89.99	5.51
3	#5850.00	63.8 PK	86.1	-22.3	1.00 V	142	58.21	5.63
4	#5850.00	46.1 AV	75.5	-29.4	1.00 V	142	40.47	5.63
5	11610.00	53.4 PK	74.0	-20.6	1.00 V	142	37.06	16.38
6	11610.00	42.0 AV	54.0	-12.0	1.00 V	142	25.59	16.38

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.
6. "#":The radiated frequency is out the restricted band.

802.11n (20MHz)

CHANNEL	TX Channel 149	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		
TEST MODE	A		

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	#5725.00	83.5 PK	84.9	-1.4	1.00 H	14	78.12	5.39
2	#5725.00	65.9 AV	73.0	-7.2	1.00 H	14	60.46	5.39
3	*5745.00	104.9 PK			1.00 H	14	99.49	5.41
4	*5745.00	93.0 AV			1.00 H	14	87.61	5.41
5	11490.00	56.0 PK	74.0	-18.0	1.00 H	16	39.54	16.43
6	11490.00	41.7 AV	54.0	-12.3	1.00 H	16	25.27	16.43
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	#5725.00	85.5 PK	87.0	-1.5	1.11 V	142	80.11	5.39
2	#5725.00	67.8 AV	75.8	-8.1	1.11 V	142	62.37	5.39
3	*5745.00	107.0 PK			1.11 V	142	101.55	5.41
4	*5745.00	95.8 AV			1.11 V	142	90.43	5.41
5	11490.00	53.0 PK	74.0	-21.0	1.11 V	145	36.54	16.43
6	11490.00	42.2 AV	54.0	-11.8	1.11 V	145	25.74	16.43

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.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 157	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		
TEST MODE	A		

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	*5785.00	103.3 PK			1.00 H	16	97.83	5.47
2	*5785.00	92.7 AV			1.00 H	16	87.26	5.47
3	11570.00	54.2 PK	74.0	-19.8	1.00 H	18	38.97	15.25
4	11570.00	40.4 AV	54.0	-13.6	1.00 H	18	25.17	15.25
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	*5785.00	107.4 PK			1.10 V	141	101.92	5.47
2	*5785.00	96.4 AV			1.10 V	141	90.91	5.47
3	11570.00	52.7 PK	74.0	-21.3	1.10 V	143	36.25	16.45
4	11570.00	41.8 AV	54.0	-12.2	1.10 V	143	25.37	16.45

REMARKS:

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

CHANNEL	TX Channel 161	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		
TEST MODE	A		

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	*5805.00	102.6 PK			1.00 H	15	97.11	5.51
2	*5805.00	92.0 AV			1.00 H	15	86.47	5.51
3	#5850.00	65.1 PK	82.6	-17.6	1.00 H	15	59.44	5.63
4	#5850.00	48.4 AV	72.0	-23.6	1.00 H	15	42.73	5.63
5	11610.00	56.2 PK	74.0	-17.8	1.00 H	18	39.84	16.38
6	11610.00	41.3 AV	54.0	-12.7	1.00 H	18	24.96	16.38
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	*5805.00	106.1 PK			1.09 V	148	100.56	5.51
2	*5805.00	94.8 AV			1.09 V	148	89.25	5.51
3	#5850.00	67.3 PK	86.1	-18.7	1.09 V	148	61.70	5.63
4	#5850.00	49.2 AV	74.8	-25.6	1.09 V	148	43.52	5.63
5	11610.00	52.9 PK	74.0	-21.1	1.08 V	152	36.55	16.38
6	11610.00	42.1 AV	54.0	-11.9	1.08 V	152	25.72	16.38

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.
6. "#":The radiated frequency is out the restricted band.

CHANNEL	TX Channel 149	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		
TEST MODE	B		

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	#5725.00	80.4 PK	84.2	-3.8	1.00 H	17	75.01	5.39
2	#5725.00	63.5 AV	72.3	-8.7	1.00 H	17	58.14	5.39
3	*5745.00	104.2 PK			1.00 H	17	98.81	5.41
4	*5745.00	92.3 AV			1.00 H	17	86.84	5.41
5	11490.00	56.6 PK	74.0	-17.5	1.00 H	15	40.12	16.43
6	11490.00	42.0 AV	54.0	-12.1	1.00 H	15	25.52	16.43
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	**#5725.00**	**84.8 PK**	**85.8**	**-1.0**	**1.00 V**	**138**	**79.37**	**5.39**
2	#5725.00	67.6 AV	74.4	-6.9	1.00 V	138	62.18	5.39
3	*5745.00	105.8 PK			1.00 V	138	100.39	5.41
4	*5745.00	94.4 AV			1.00 V	138	89.03	5.41
5	11490.00	53.4 PK	74.0	-20.6	1.00 V	142	36.94	16.43
6	11490.00	41.6 AV	54.0	-12.4	1.00 V	142	25.18	16.43

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.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 157	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		
TEST MODE	B		

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	*5785.00	106.0 PK			1.00 H	13	100.51	5.47
2	*5785.00	94.7 AV			1.00 H	13	89.21	5.47
3	11570.00	56.2 PK	74.0	-17.8	1.00 H	15	39.74	16.45
4	11570.00	42.1 AV	54.0	-11.9	1.00 H	15	25.68	16.45
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	*5785.00	107.0 PK			1.00 V	144	101.54	5.47
2	*5785.00	95.7 AV			1.00 V	144	90.23	5.47
3	11570.00	53.3 PK	74.0	-20.7	1.00 V	152	36.81	16.45
4	11570.00	41.8 AV	54.0	-12.2	1.00 V	152	25.36	16.45

REMARKS:

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

CHANNEL	TX Channel 161	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		
TEST MODE	B		

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	*5805.00	105.8 PK			1.00 H	22	100.28	5.51
2	*5805.00	94.4 AV			1.00 H	22	88.85	5.51
3	#5850.00	65.6 PK	85.8	-20.2	1.00 H	22	59.97	5.63
4	#5850.00	49.3 AV	74.4	-25.1	1.00 H	22	43.65	5.63
5	11610.00	55.8 PK	74.0	-18.2	1.00 H	32	39.39	16.38
6	11610.00	41.6 AV	54.0	-12.4	1.00 H	32	25.19	16.38
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	*5805.00	106.8 PK			1.00 V	143	101.32	5.51
2	*5805.00	96.3 AV			1.00 V	143	90.78	5.51
3	#5850.00	66.0 PK	86.8	-20.8	1.00 V	143	60.40	5.63
4	#5850.00	46.7 AV	76.3	-29.6	1.00 V	143	41.11	5.63
5	11610.00	53.1 PK	74.0	-20.9	1.00 V	152	36.70	16.38
6	11610.00	41.9 AV	54.0	-12.2	1.00 V	152	25.47	16.38

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.
6. "#":The radiated frequency is out the restricted band.

802.11n (40MHz)

CHANNEL	TX Channel 151	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		
TEST MODE	A		

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	#5725.00	72.8 PK	77.2	-4.4	1.09 H	18	67.43	5.39
2	#5725.00	52.4 AV	65.7	-13.3	1.09 H	18	47.05	5.39
3	*5755.00	97.2 PK			1.09 H	18	91.81	5.43
4	*5755.00	85.7 AV			1.09 H	18	80.31	5.43
5	11510.00	56.7 PK	74.0	-17.3	1.10 H	20	40.25	16.46
6	11510.00	42.1 AV	54.0	-11.9	1.10 H	20	25.63	16.46
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	#5725.00	74.8 PK	78.5	-3.6	1.12 V	141	69.44	5.39
2	#5725.00	53.9 AV	67.0	-13.1	1.12 V	141	48.54	5.39
3	*5755.00	98.5 PK			1.12 V	141	93.02	5.43
4	*5755.00	87.0 AV			1.12 V	141	81.57	5.43
5	11510.00	52.7 PK	74.0	-21.3	1.12 V	142	36.22	16.46
6	11510.00	41.6 AV	54.0	-12.4	1.12 V	142	25.17	16.46

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.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 159	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		
TEST MODE	A		

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	*5795.00	96.4 PK			1.08 H	18	90.91	5.48
2	*5795.00	86.0 AV			1.08 H	18	80.55	5.48
3	#5850.00	64.0 PK	76.4	-12.4	1.08 H	18	58.36	5.63
4	#5850.00	49.5 AV	66.0	-16.5	1.08 H	18	43.86	5.63
5	11590.00	56.7 PK	74.0	-17.3	1.08 H	22	40.24	16.46
6	11590.00	41.8 AV	54.0	-12.2	1.08 H	22	25.38	16.46
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	*5795.00	98.8 PK			1.13 V	139	93.32	5.48
2	*5795.00	86.8 AV			1.13 V	139	81.36	5.48
3	#5850.00	66.4 PK	78.8	-12.5	1.13 V	139	60.72	5.63
4	#5850.00	50.0 AV	66.8	-16.8	1.13 V	139	44.38	5.63
5	11590.00	53.0 PK	74.0	-21.0	1.13 V	144	36.55	16.46
6	11590.00	42.2 AV	54.0	-11.8	1.13 V	144	25.75	16.46

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.
6. "#":The radiated frequency is out the restricted band.

CHANNEL	TX Channel 151	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		
TEST MODE	B		

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	#5725.00	76.0 PK	79.1	-3.2	1.00 H	173	70.56	5.39
2	#5725.00	57.4 AV	65.8	-8.4	1.00 H	173	52.02	5.39
3	*5755.00	99.1 PK			1.00 H	173	93.69	5.43
4	*5755.00	85.8 AV			1.00 H	173	80.35	5.43
5	11510.00	57.4 PK	74.0	-16.6	1.00 H	182	40.95	16.46
6	11510.00	42.2 AV	54.0	-11.8	1.00 H	182	25.78	16.46
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	#5725.00	78.2 PK	80.1	-1.9	1.10 V	326	72.78	5.39
2	#5725.00	59.0 AV	67.6	-8.7	1.10 V	326	53.57	5.39
3	*5755.00	100.1 PK			1.10 V	326	94.68	5.43
4	*5755.00	87.6 AV			1.10 V	326	82.19	5.43
5	11510.00	53.1 PK	74.0	-20.9	1.10 V	330	36.67	16.46
6	11510.00	42.3 AV	54.0	-11.7	1.10 V	330	25.87	16.46

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.
6. "#":The radiated frequency is out the restricted band.

CHANNEL	TX Channel 159	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		
TEST MODE	B		

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	*5795.00	98.2 PK			1.02 H	173	92.73	5.48
2	*5795.00	86.8 AV			1.02 H	173	81.31	5.48
3	#5850.00	64.4 PK	78.2	-13.8	1.02 H	173	58.79	5.63
4	#5850.00	50.9 AV	66.8	-15.9	1.02 H	173	45.26	5.63
5	11590.00	56.7 PK	74.0	-17.3	1.02 H	178	40.21	16.46
6	11590.00	42.4 AV	54.0	-11.6	1.02 H	178	25.97	16.46
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	*5795.00	99.4 PK			1.10 V	327	93.94	5.48
2	*5795.00	87.9 AV			1.10 V	327	82.37	5.48
3	#5850.00	66.8 PK	79.4	-12.6	1.10 V	327	61.18	5.63
4	#5850.00	51.4 AV	67.9	-16.4	1.10 V	327	45.79	5.63
5	11590.00	53.2 PK	74.0	-20.8	1.10 V	331	36.78	16.46
6	11590.00	42.2 AV	54.0	-11.8	1.10 V	331	25.78	16.46

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.
6. "#":The radiated frequency is out the restricted band.

BELOW 1GHz WORST-CASE DATA

802.11g

CHANNEL	TX Channel 11	**DETECTOR FUNCTION**	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		
TEST MODE	A		

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	39.46	28.3 QP	40.0	-11.7	1.35 H	77	43.06	-14.74
2	89.75	28.9 QP	43.5	-14.6	1.17 H	135	48.08	-19.16
3	172.35	27.5 QP	43.5	-16.0	1.24 H	88	41.14	-13.67
4	281.04	29.8 QP	46.0	-16.2	1.38 H	35	41.64	-11.88
5	325.75	30.6 QP	46.0	-15.4	1.53 H	289	41.44	-10.80
6	334.48	29.9 QP	46.0	-16.1	1.07 H	299	40.65	-10.71
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	39.17	33.8 QP	40.0	-6.2	1.37 V	76	48.54	-14.72
2	60.80	26.6 QP	40.0	-13.4	1.24 V	139	40.65	-14.01
3	92.13	32.0 QP	43.5	-11.5	1.54 V	139	51.13	-19.10
4	128.89	25.6 QP	43.5	-17.9	1.76 V	134	40.48	-14.91
5	280.94	21.1 QP	46.0	-24.9	1.33 V	272	32.95	-11.89
6	328.76	22.3 QP	46.0	-23.7	1.18 V	144	32.92	-10.61

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

802.11n (20MHz)

CHANNEL	TX Channel 149	**DETECTOR FUNCTION**	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		
TEST MODE	A		

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	38.78	31.7 QP	40.0	-8.3	1.58 H	77	46.36	-14.69
2	92.66	29.9 QP	43.5	-13.6	1.21 H	134	48.95	-19.03
3	172.35	28.4 QP	43.5	-15.1	1.46 H	88	42.04	-13.67
4	283.85	29.7 QP	46.0	-16.3	1.53 H	134	41.64	-11.92
5	335.99	30.0 QP	46.0	-16.0	1.18 H	287	40.69	-10.66
6	412.76	23.5 QP	46.0	-22.5	1.22 H	303	32.89	-9.41
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	**FREQ. (MHz)**	**EMISSION LEVEL (dBuV/m)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA HEIGHT (m)**	**TABLE ANGLE (Degree)**	**RAW VALUE (dBuV)**	**CORRECTION FACTOR (dB/m)**
1	38.58	33.3 QP	40.0	-6.7	1.37 V	18	47.99	-14.68
2	60.85	33.1 QP	40.0	-6.9	1.75 V	143	47.13	-14.00
3	93.15	31.3 QP	43.5	-12.2	1.34 V	116	50.25	-18.97
4	128.94	28.1 QP	43.5	-15.4	1.16 V	106	43.04	-14.91
5	283.95	21.7 QP	46.0	-24.4	1.73 V	268	33.57	-11.92
6	346.22	20.8 QP	46.0	-25.2	1.54 V	58	31.46	-10.64

REMARKS:

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

4.2 CONDUCTED EMISSION MEASUREMENT

4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
	Quasi-peak	Average
0.15 ~ 0.5	66 to 56	56 to 46
0.5 ~ 5	56	46
5 ~ 30	60	50

NOTE: 1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

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. 17, 2013	Nov. 16, 2014
LISN With Adapter (for EUT)	AD10	C10Ada-001	Nov. 17, 2013	Nov. 16, 2014
ROHDE & SCHWARZ Artificial Mains Network (for peripherals)	ESH3-Z5	100218	Nov. 25, 2013	Nov. 24, 2014
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.

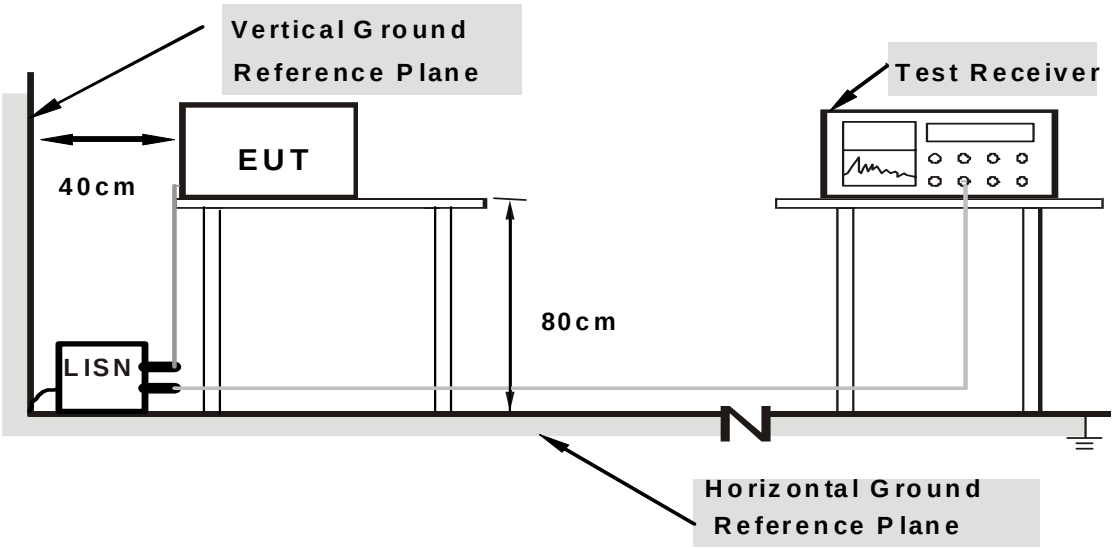
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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.

4.2.7 TEST RESULTS

CONDUCTED WORST-CASE DATA：

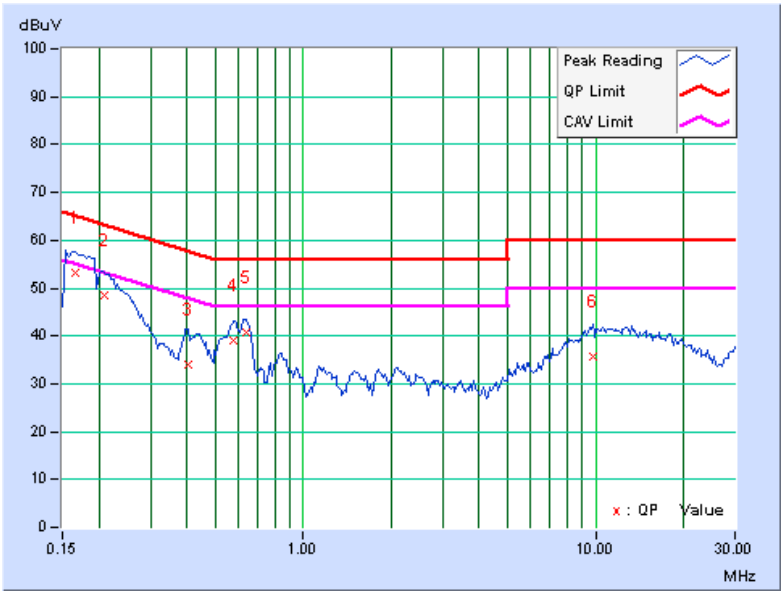
For 2.4GHz: 802.11g

PHASE	Line 1	6dB BANDWIDTH	9kHz

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.16562**	**0.13**	**53.13**	**37.68**	**53.26**	**37.81**	**65.18**	**55.18**	**-11.92**	**-17.37**
2	0.20859	0.14	48.18	34.27	48.32	34.41	63.26	53.26	-14.94	-18.85
3	0.40391	0.16	33.81	22.27	33.97	22.43	57.77	47.77	-23.80	-25.34
4	0.57969	0.16	38.91	28.76	39.07	28.92	56.00	46.00	-16.93	-17.08
5	0.63828	0.16	40.53	31.89	40.69	32.05	56.00	46.00	-15.31	-13.95
6	9.75000	0.61	35.13	29.11	35.74	29.72	60.00	50.00	-24.26	-20.28

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission Level – Limit value
4. Correction Factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

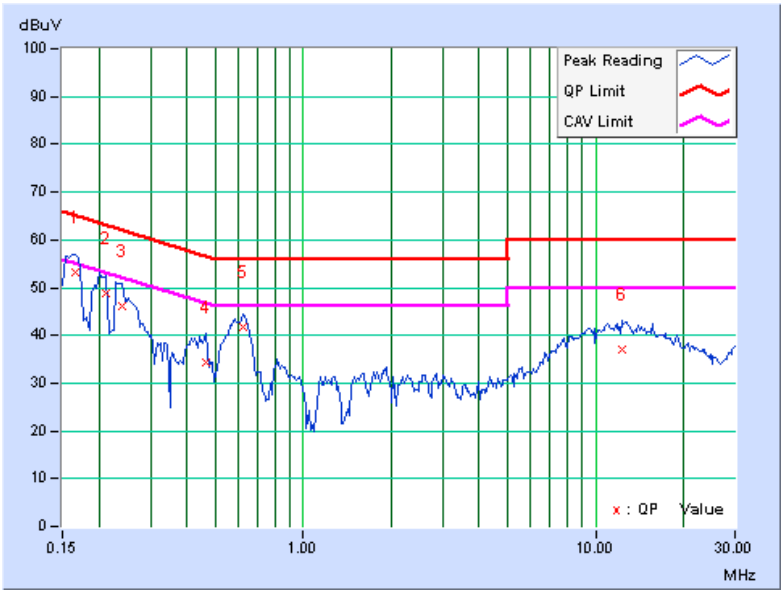


PHASE	Line 2	6dB BANDWIDTH	9kHz

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16562	0.52	52.71	36.11	53.23	36.63	65.18	55.18	-11.94	-18.54
2	0.21250	0.52	48.19	33.90	48.71	34.42	63.11	53.11	-14.40	-18.69
3	0.23984	0.52	45.66	32.37	46.18	32.89	62.10	52.10	-15.92	-19.21
4	0.46250	0.52	33.97	23.56	34.49	24.08	56.65	46.65	-22.16	-22.57
5	0.61875	0.53	41.06	30.13	41.59	30.66	56.00	46.00	-14.41	-15.34
6	12.29297	0.91	36.24	30.07	37.15	30.98	60.00	50.00	-22.85	-19.02

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



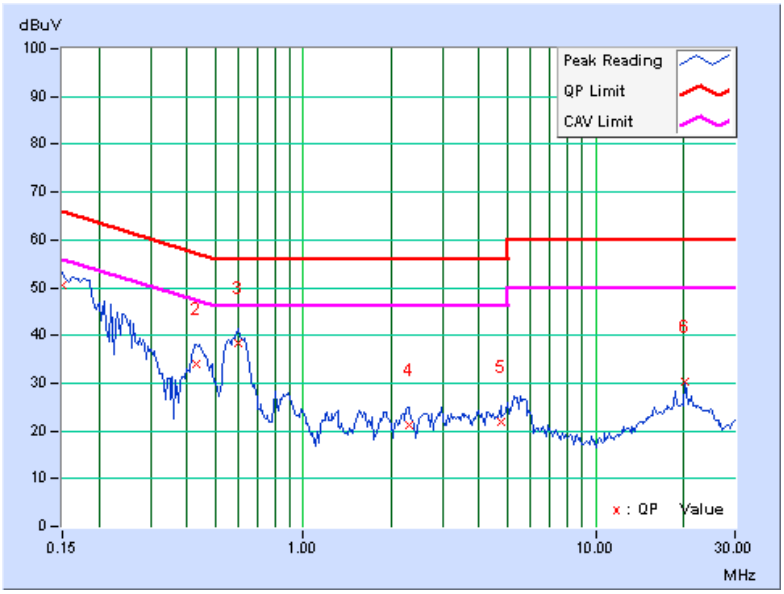
For 5.0GHz: 802.11n (20MHz)

PHASE	Line 1	6dB BANDWIDTH	9kHz

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	0.13	50.32	34.74	50.45	34.87	66.00	56.00	-15.55	-21.13
2	0.43125	0.16	33.86	25.40	34.02	25.56	57.23	47.23	-23.21	-21.67
3	0.59922	0.16	38.31	30.36	38.47	30.52	56.00	46.00	-17.53	-15.48
4	2.29297	0.20	21.07	14.17	21.27	14.37	56.00	46.00	-34.73	-31.63
5	4.73047	0.32	21.66	13.85	21.98	14.17	56.00	46.00	-34.02	-31.83
6	20.26036	1.18	29.18	27.50	30.36	28.68	60.00	50.00	-29.64	-21.32

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission Level – Limit value
4. Correction Factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

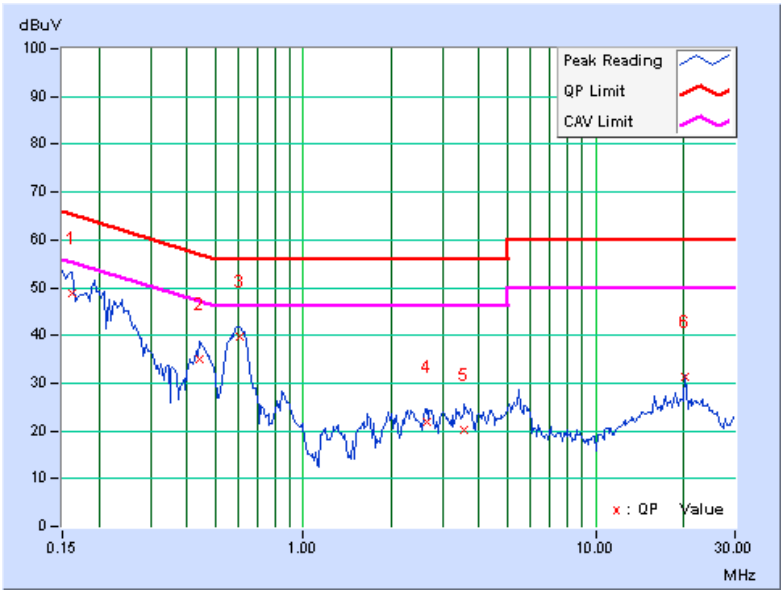


PHASE	Line 2	6dB BANDWIDTH	9kHz

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16172	0.52	48.16	27.80	48.68	28.32	65.38	55.38	-16.69	-27.05
2	0.44297	0.52	34.54	25.52	35.06	26.04	57.01	47.01	-21.94	-20.96
3	0.60703	0.53	39.11	31.19	39.64	31.72	56.00	46.00	-16.36	-14.28
4	2.65625	0.53	21.28	14.87	21.81	15.40	56.00	46.00	-34.19	-30.60
5	3.56641	0.47	19.67	12.83	20.14	13.30	56.00	46.00	-35.86	-32.70
6	20.26172	1.13	30.10	28.32	31.23	29.45	60.00	50.00	-28.77	-20.55

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission Level – Limit value
4. Correction Factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

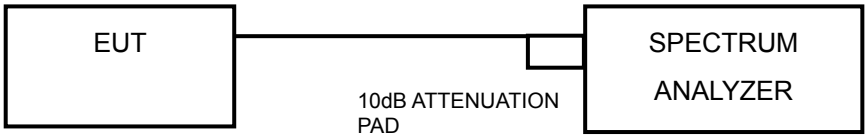


4.3 6dB BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 TEST SETUP



4.3.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

4.3.4 TEST PROCEDURE

a. Set resolution bandwidth (RBW) = 100kHz
b. Set the video bandwidth (VBW) ≥ 3 x RBW, Detector = Peak.
c. Trace mode = max hold.
d. Sweep = auto couple.
e. Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

4.3.5 DEVIATION 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.

4.3.7 TEST RESULTS

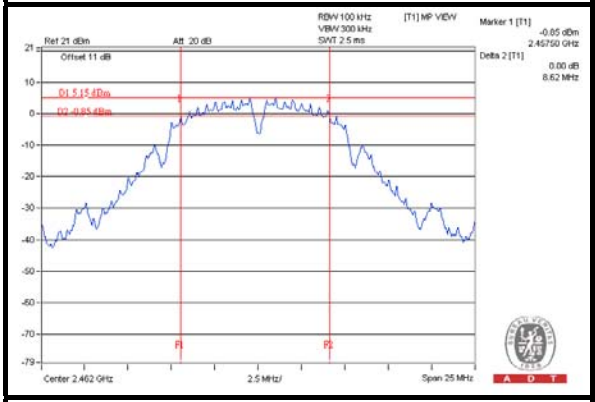
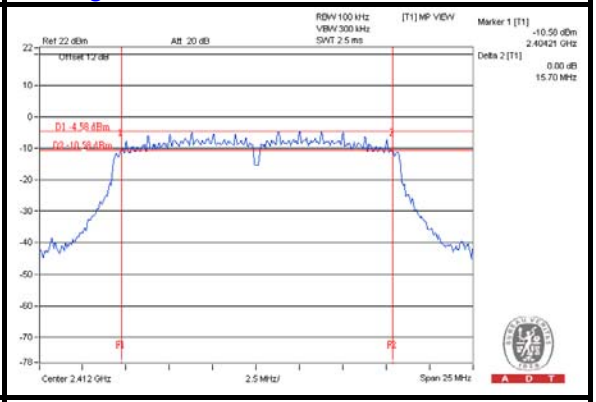
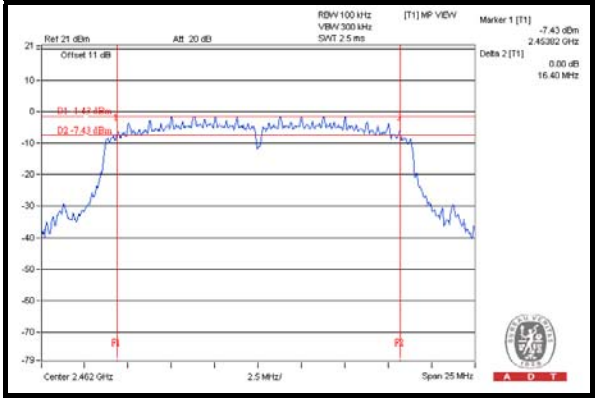
For 2.4GHz:

Mode A

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
802.11b				
1	2412	8.13	0.5	PASS
6	2437	8.12	0.5	PASS
11	2462	8.62	0.5	PASS
802.11g				
1	2412	15.70	0.5	PASS
6	2437	15.44	0.5	PASS
11	2462	15.36	0.5	PASS
802.11n (20MHz)				
1	2412	15.18	0.5	PASS
6	2437	15.95	0.5	PASS
11	2462	15.63	0.5	PASS

Mode B

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
802.11n (20MHz)					
1	2412	16.27	16.33	0.5	PASS
6	2437	15.16	16.36	0.5	PASS
11	2462	15.18	16.40	0.5	PASS

SPECTRUM PLOT OF WORST VALUE	
802.11b	**802.11g**
	
802.11n (20MHz)	
	

For 5.0GHz:

Mode A

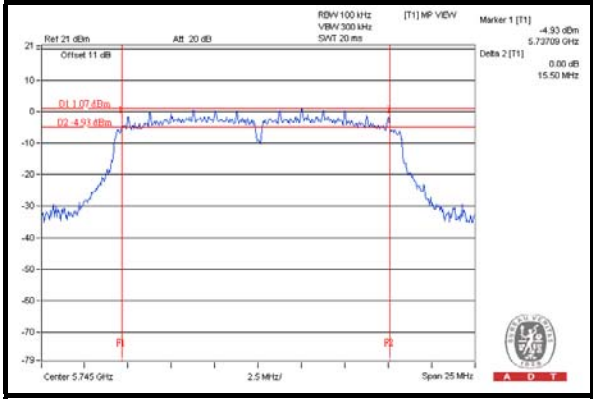
CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
802.11a				
149	5745	15.50	0.5	PASS
157	5785	15.33	0.5	PASS
165	5825	15.44	0.5	PASS
802.11n (20MHz)				
149	5745	15.37	0.5	PASS
157	5785	15.67	0.5	PASS
165	5825	15.81	0.5	PASS
802.11n (40MHz)				
151	5755	36.47	0.5	PASS
159	5795	36.45	0.5	PASS

Mode B

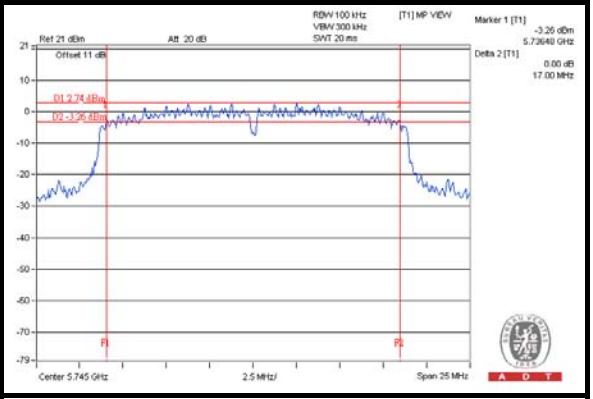
CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
802.11n (20MHz)					
149	5745	16.67	17.00	0.5	PASS
157	5785	16.96	16.39	0.5	PASS
165	5825	16.69	16.70	0.5	PASS
802.11n (40MHz)					
151	5755	36.44	36.47	0.5	PASS
159	5795	36.48	36.47	0.5	PASS

SPECTRUM PLOT OF WORST VALUE

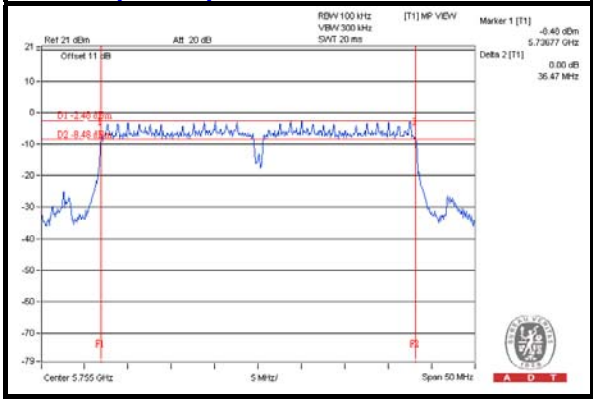
802.11a



802.11n (20MHz)



802.11n (40MHz)



4.4 CONDUCTED OUTPUT POWER

4.4.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT

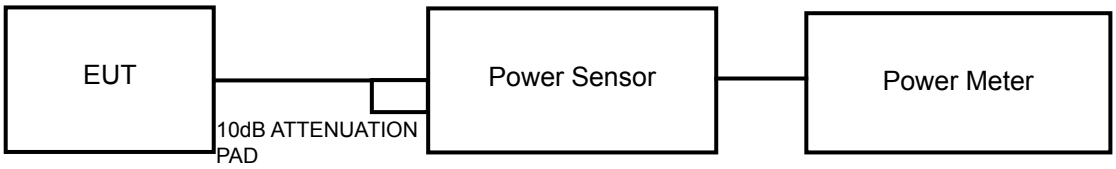
For systems using digital modulation: 1 Watt (30dBm)

Per KDB 662911 D01 Multiple Transmitter Output v02 Method of conducted output power measurement on IEEE 802.11 devices,

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

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

4.4.2 TEST SETUP



4.4.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

4.4.4 TEST PROCEDURES

A 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.

4.4.7 TEST RESULTS - FOR PEAK POWER

For 2.4GHz:

Mode A

CHAN.	CHAN. FREQ. (MHz)	PEAK POWER (dBm)	PEAK POWER (mW)	POWER LIMIT (dBm)	PASS / FAIL
802.11b					
1	2412	17.62	57.8	30	PASS
6	2437	17.69	58.7	30	PASS
11	2462	17.76	59.7	30	PASS
802.11g					
1	2412	17.58	57.3	30	PASS
6	2437	17.64	58.1	30	PASS
11	2462	17.74	59.4	30	PASS
802.11n (20MHz)					
1	2412	17.53	56.6	30	PASS
6	2437	17.65	58.2	30	PASS
11	2462	17.63	57.9	30	PASS

Mode B

CHAN.	CHAN. FREQ. (MHz)	POWER OUTPUT (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
802.11n (20MHz)							
1	2412	19.43	19.24	171.6	22.35	30	PASS
6	2437	19.51	19.17	**171.9**	22.35	30	PASS
11	2462	19.45	18.96	166.8	22.22	30	PASS

For 5.0GHz:

Mode A

CHAN.	CHAN. FREQ. (MHz)	PEAK POWER (dBm)	PEAK POWER (mW)	POWER LIMIT (dBm)	PASS / FAIL
802.11a					
149	5745	21.68	147.2	30	PASS
157	5785	21.41	138.4	30	PASS
161	5805	21.85	153.1	30	PASS
802.11n (20MHz)					
149	5745	22.24	167.5	30	PASS
157	5785	22.05	160.3	30	PASS
161	5805	22.08	161.4	30	PASS
802.11n (40MHz)					
151	5755	21.15	130.3	30	PASS
159	5795	21.03	126.8	30	PASS

Mode B

CHAN.	CHAN. FREQ. (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
802.11n (20MHz)							
149	5745	18.99	19.81	**175.0**	22.43	30	PASS
157	5785	18.91	19.83	174.0	22.40	30	PASS
161	5805	18.86	19.46	165.2	22.18	30	PASS
802.11n (40MHz)							
151	5755	17.81	18.99	139.6	21.45	30	PASS
159	5795	17.96	18.71	136.8	21.36	30	PASS

4.4.8 TEST RESULTS - FOR AVERAGE POWER

For 2.4GHz:

Mode A

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)
802.11b		
1	2412	14.08
6	2437	14.13
11	2462	14.23
802.11g		
1	2412	7.12
6	2437	6.99
11	2462	6.93
802.11n (20MHz)		
1	2412	6.92
6	2437	6.88
11	2462	6.74

Mode B

CHAN.	FREQUENCY (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1	
802.11n (20MHz)				
1	2412	10.53	10.18	13.37
6	2437	10.61	10.06	13.35
11	2462	10.68	9.97	13.35

For 5.0GHz:

Mode A

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (dBm)
802.11a		
149	5745	11.46
157	5785	11.14
161	5805	11.78
802.11n (20MHz)		
149	5745	14.07
157	5785	14.06
161	5805	14.21
802.11n (40MHz)		
151	5755	12.27
159	5795	12.12

Mode B

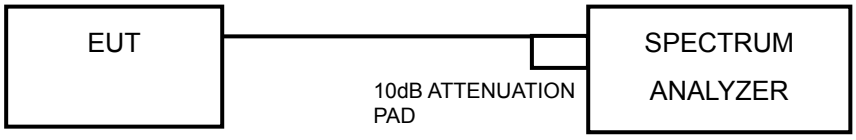
CHANNEL	FREQUENCY (MHz)	AVG. POWER (dBm)		TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1	
802.11n (20MHz)				
149	5745	9.65	9.47	12.57
157	5785	9.59	9.39	12.50
161	5805	9.42	9.39	12.42
802.11n (40MHz)				
151	5755	8.72	9.62	12.20
159	5795	8.43	9.61	12.07

4.5 POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

4.5.2 TEST SETUP



4.5.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

4.5.4 TEST PROCEDURE

a. Set the RBW = 3 kHz, VBW =10 kHz, Detector = peak.
b. Sweep time = auto couple, Trace mode = max hold, allow trace to fully stabilize.
c. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.
d. Record the max value and add 10 log (1/duty cycle)

4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

4.5.6 EUT OPERATING CONDITION

Same as Item 4.3.6

4.5.7 TEST RESULTS

For 2.4GHz:

Mode A

Channel	Freq. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
802.11b				
1	2412	-9.21	8	PASS
6	2437	-9.02	8	PASS
11	2462	-9.24	8	PASS
802.11g				
1	2412	-17.66	8	PASS
6	2437	-17.22	8	PASS
11	2462	-18.87	8	PASS
802.11n (20MHz)				
1	2412	-19.00	8	PASS
6	2437	-18.47	8	PASS
11	2462	-15.89	8	PASS

Mode B

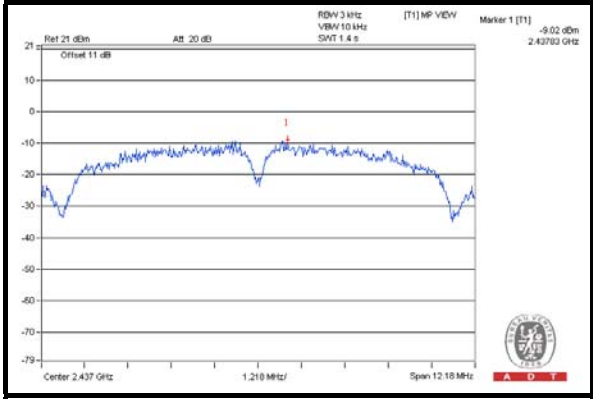
TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
802.11n (20MHz)							
0	1	2412	-14.03	3.01	-11.02	8	PASS
	6	2437	-14.81	3.01	-11.80	8	PASS
	11	2462	-14.50	3.01	-11.49	8	PASS
1	1	2412	-15.27	3.01	-12.26	8	PASS
	6	2437	-15.87	3.01	-12.86	8	PASS
	11	2462	-16.32	3.01	-13.31	8	PASS

NOTE:

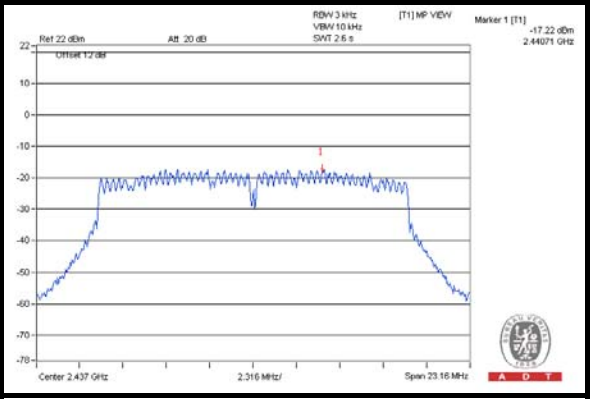
1. Method a of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain =-2.54dBi + 10log(2)=0.47dBi <6dBi which meet the requirement of antenna gain, so the power density limit is not reduced.

SPECTRUM PLOT OF WORST VALUE

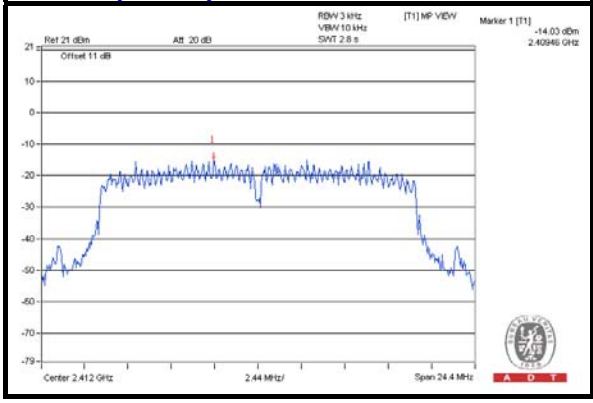
802.11b



802.11g



802.11n (20MHz)



For 5.0GHz:

Mode A

Channel	Freq. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
802.11a				
149	5745	-13.23	8	PASS
157	5785	-13.19	8	PASS
161	5805	-14.69	8	PASS
802.11n (20MHz)				
149	5745	-10.97	8	PASS
157	5785	-11.11	8	PASS
161	5805	-13.09	8	PASS
802.11n (40MHz)				
151	5755	-16.00	8	PASS
159	5795	-17.36	8	PASS

Mode B

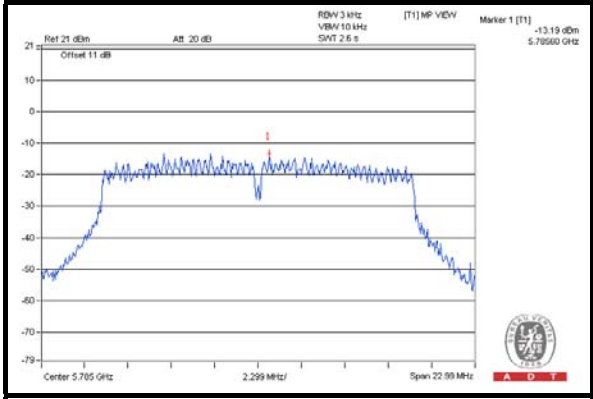
TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
802.11n (20MHz)							
0	149	5745	-12.59	3.01	-9.58	8	PASS
	157	5785	-12.57	3.01	-9.56	8	PASS
	161	5805	-12.55	3.01	-9.54	8	PASS
1	149	5745	-12.29	3.01	-9.28	8	PASS
	157	5785	-12.88	3.01	-9.87	8	PASS
	161	5805	-13.24	3.01	-10.23	8	PASS
802.11n (40MHz)							
0	151	5755	-17.69	3.01	-14.68	8	PASS
	159	5795	-17.51	3.01	-14.50	8	PASS
1	151	5755	-17.37	3.01	-14.36	8	PASS
	159	5795	-19.26	3.01	-16.25	8	PASS

NOTE:

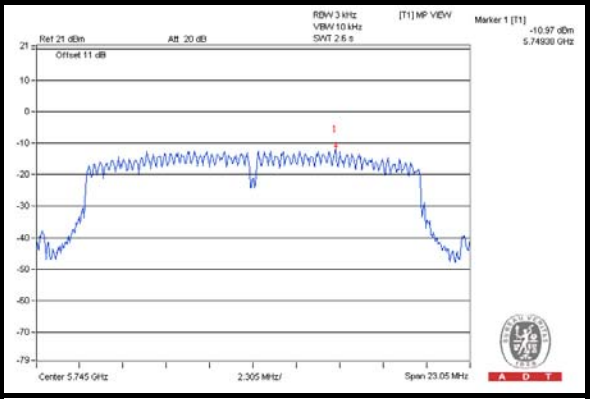
1. Method a of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain =-3.56dBi + 10log(2)=-0.55dBi <6dBi which meet the requirement of antenna gain, so the power density limit is not reduced.

SPECTRUM PLOT OF WORST VALUE

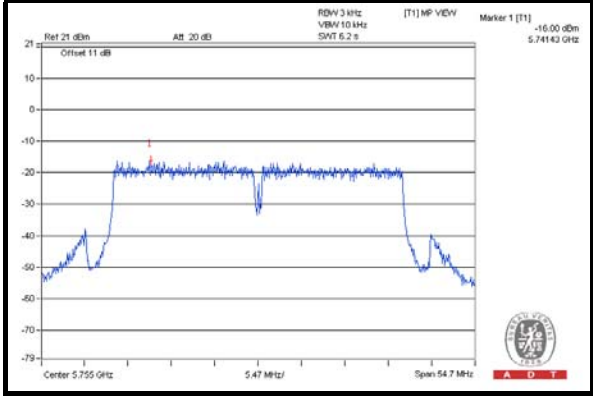
802.11a



802.11n (20MHz)



802.11n (40MHz)

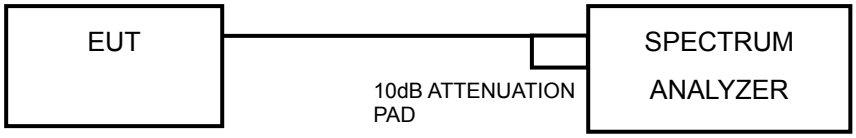


4.6 CONDUCTED OUT OF BAND EMISSION MEASUREMENT

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 ≥ 300 kHz.
3. Detector = peak.
4. Sweep time = auto couple.
5. Trace mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

MEASUREMENT PROCEDURE OOBE

1. Set RBW = 100 kHz.
2. Set VBW ≥ 300 kHz.
3. Ensure that the number of measurement points ≥ span/RBW
4. According to measurement points to set differ measurement span.
5. Detector = peak.
6. Trace Mode = max hold.
7. Sweep = auto couple.

4.6.5 DEVIATION FROM TEST STANDARD

No deviation.

4.6.6 EUT OPERATING CONDITION

Same as Item 4.3.6

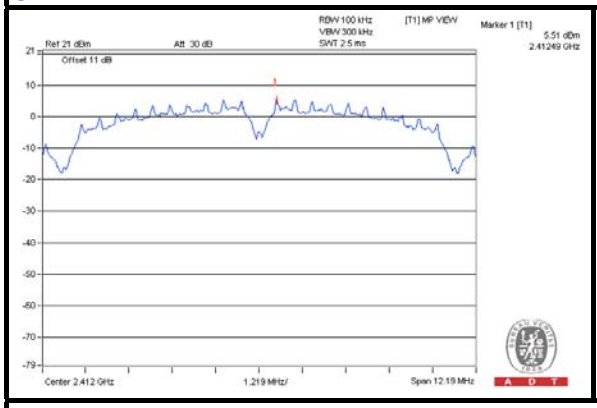
4.6.7 TEST RESULTS

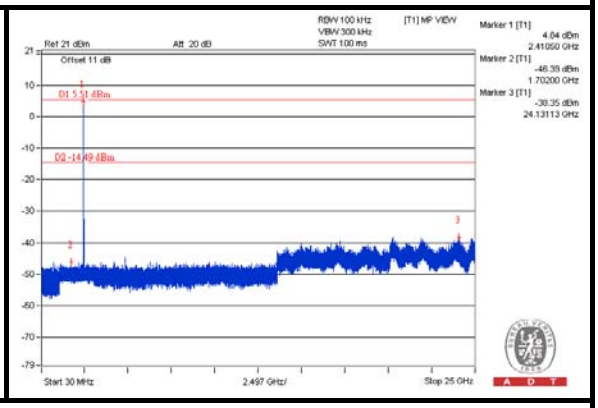
The conducted emission test is performed on each TX port of operating mode without summing or adding 10log (N) since the limit is relative emission limit.

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

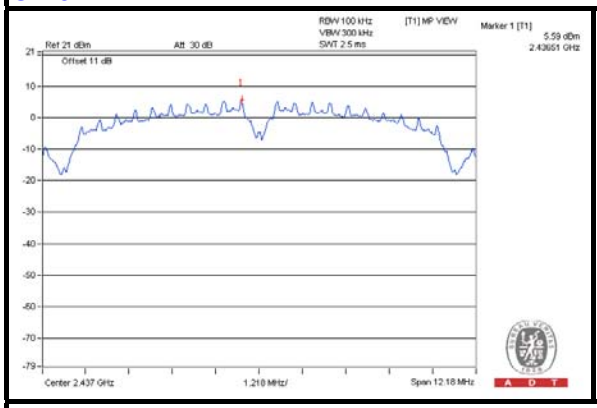
802.11b:

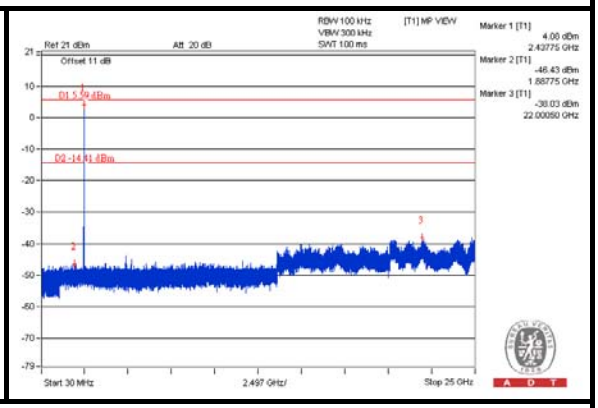
CH 1



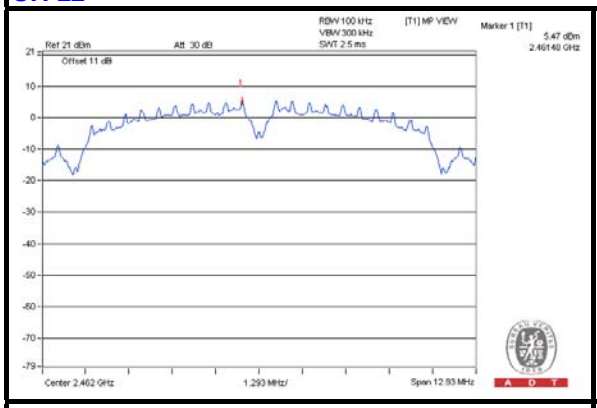


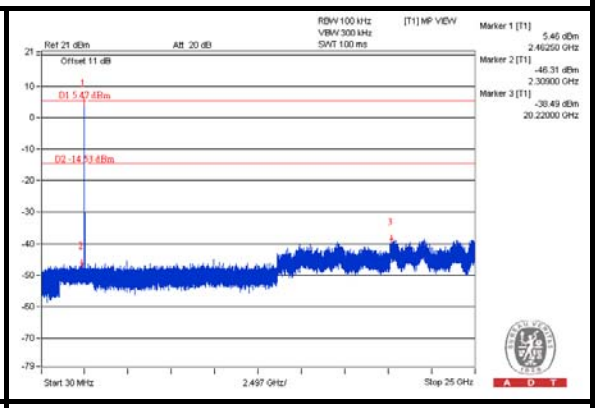
CH 6



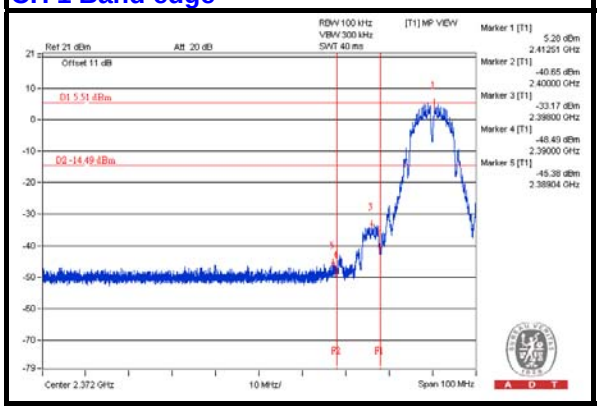


CH 11

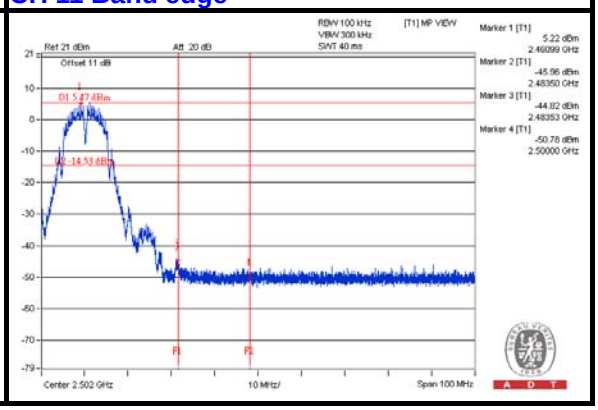




CH 1 Band edge

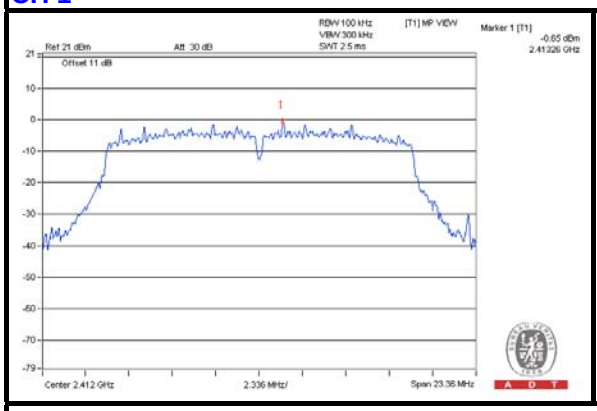


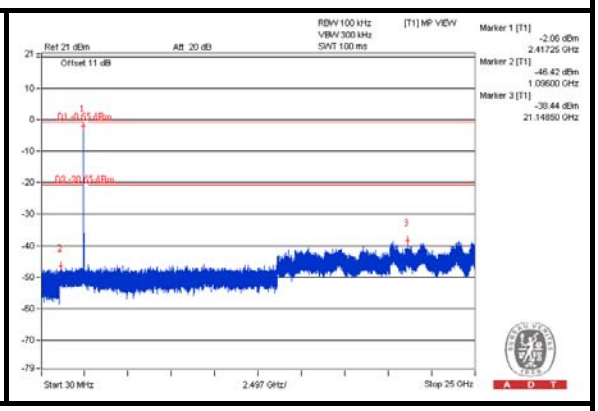
CH 11 Band edge



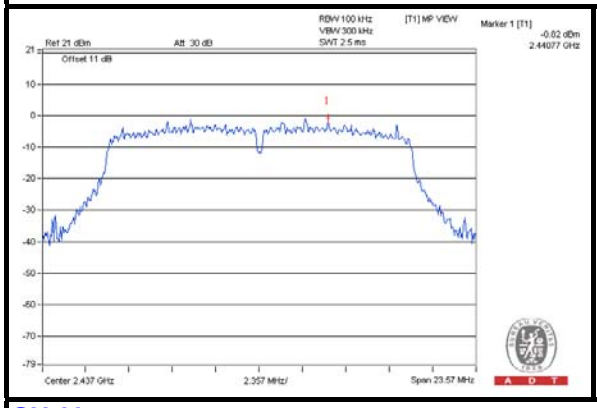
802.11g

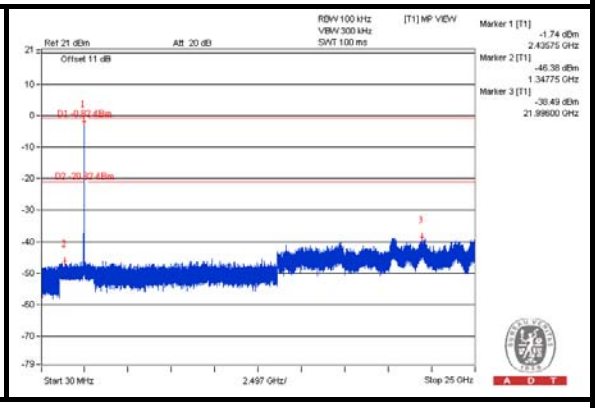
CH 1



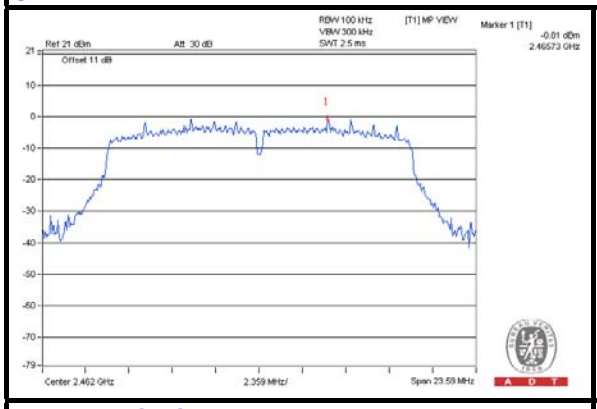


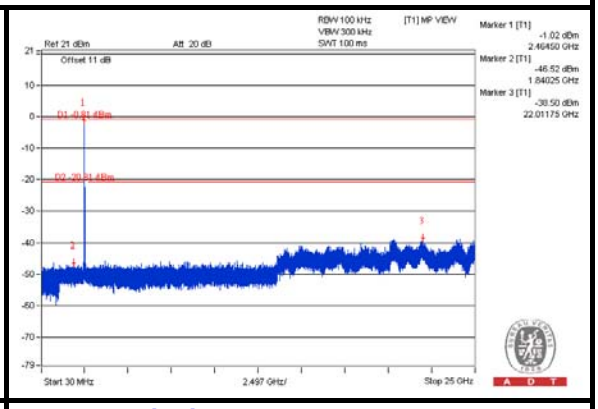
CH 6



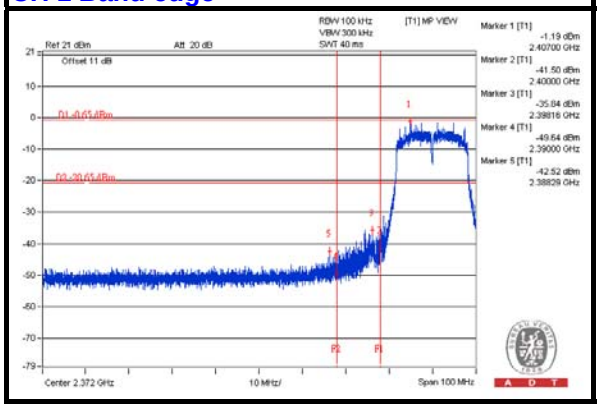


CH 11

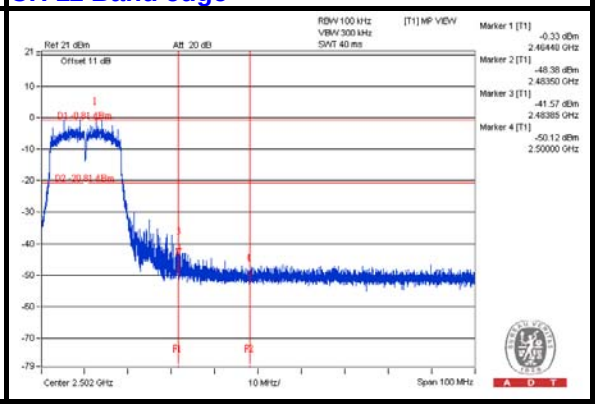




CH 1 Band edge

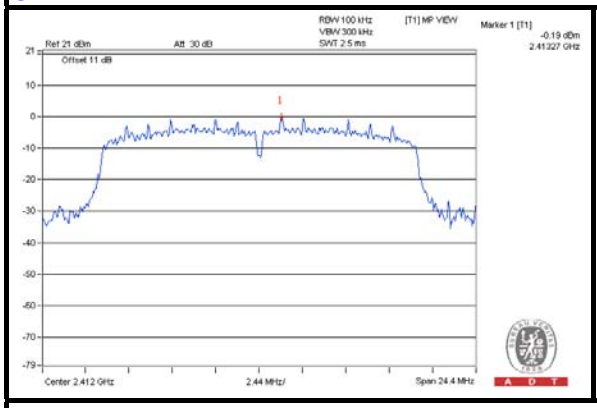


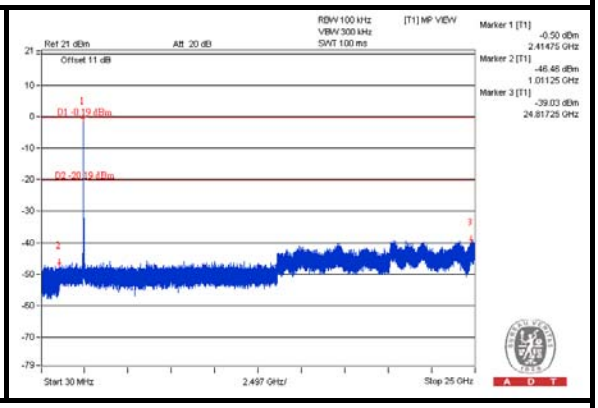
CH 11 Band edge



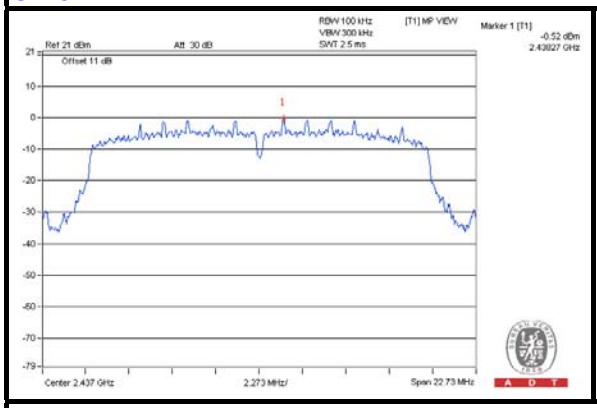
802.11n (20MHz): CHAIN 0

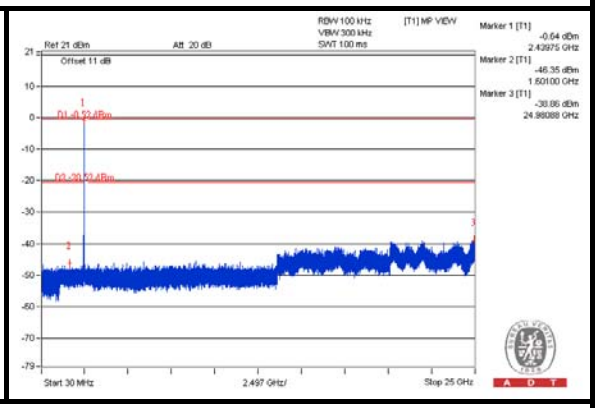
CH 1



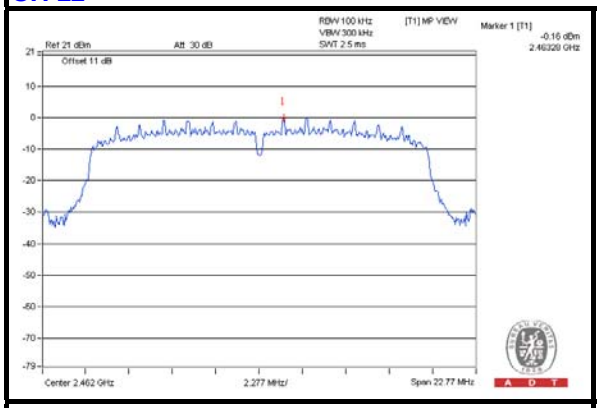


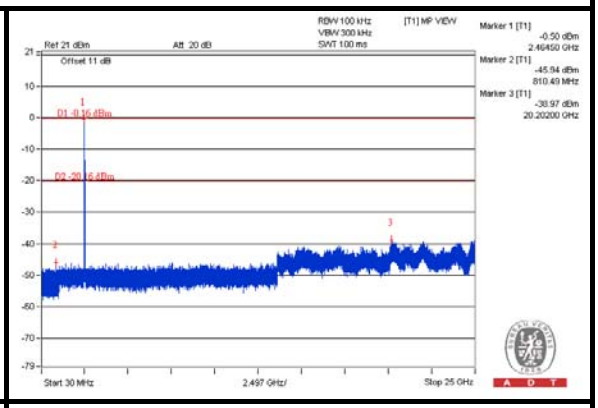
CH 6



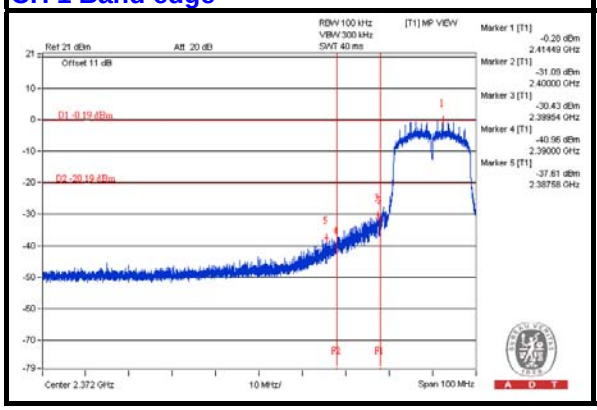


CH 11

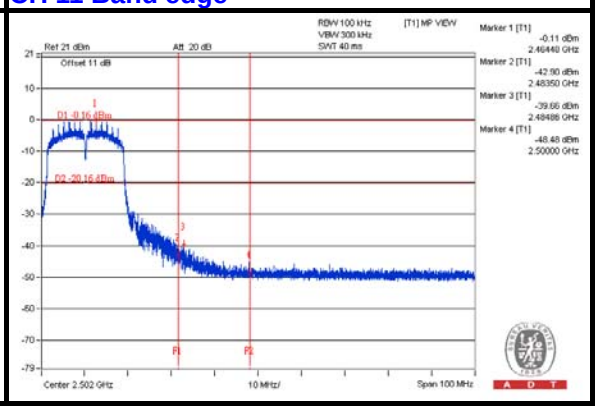




CH 1 Band edge

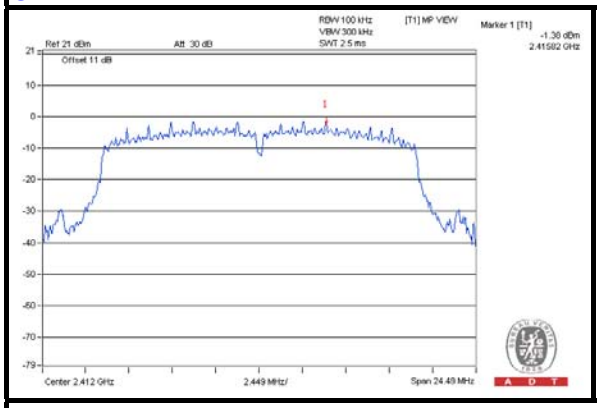


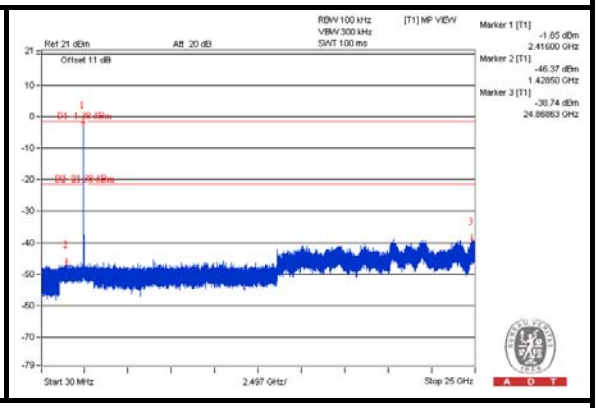
CH 11 Band edge



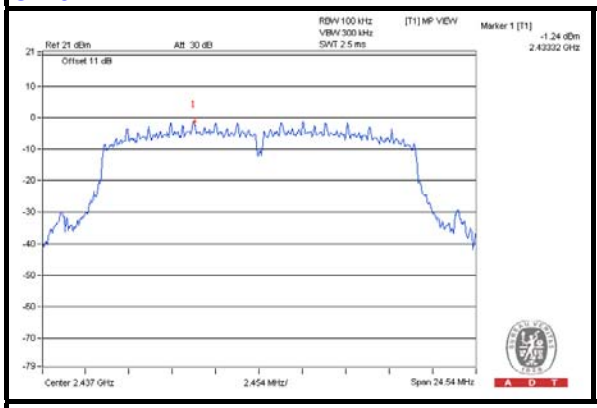
802.11n (20MHz): CHAIN 1

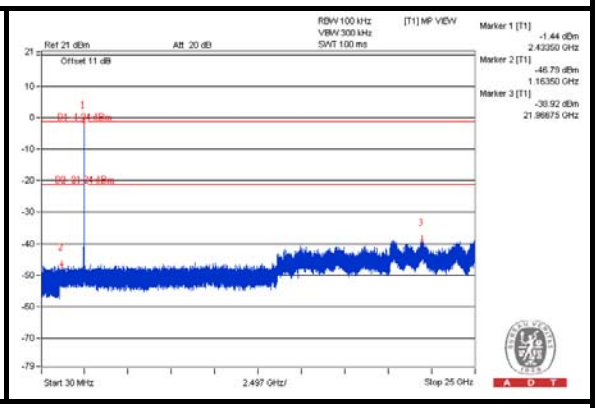
CH 1



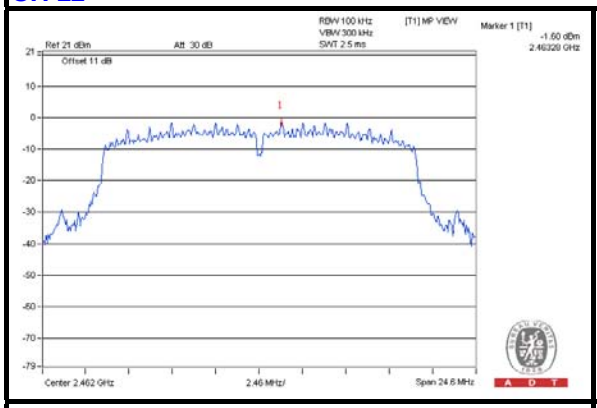


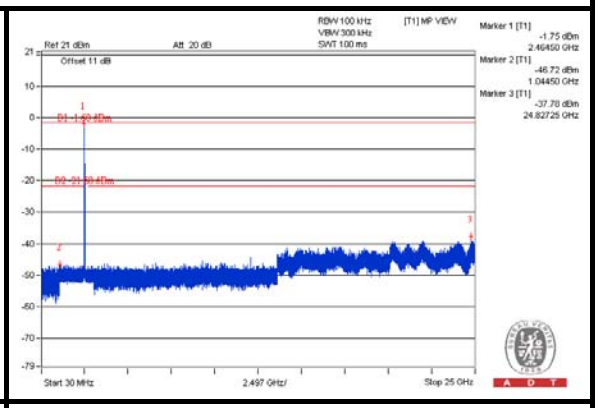
CH 6



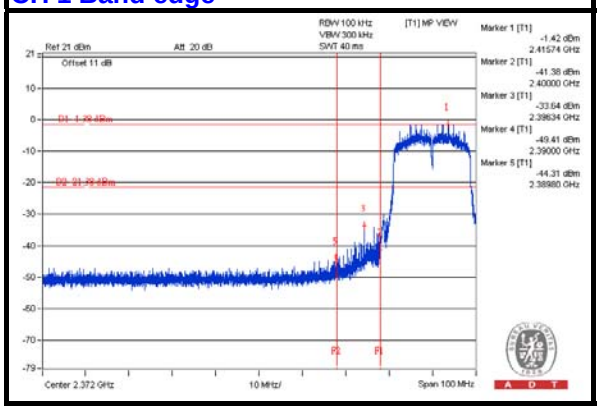


CH 11

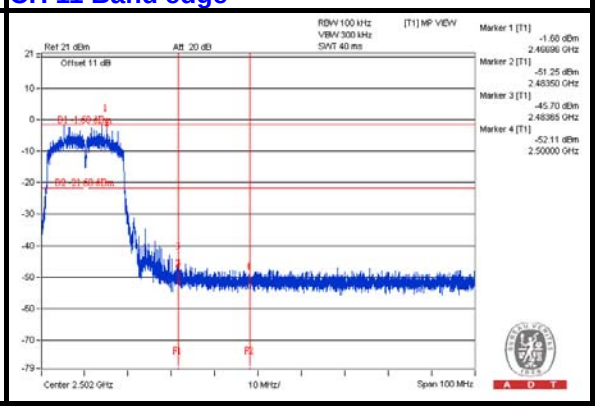




CH 1 Band edge

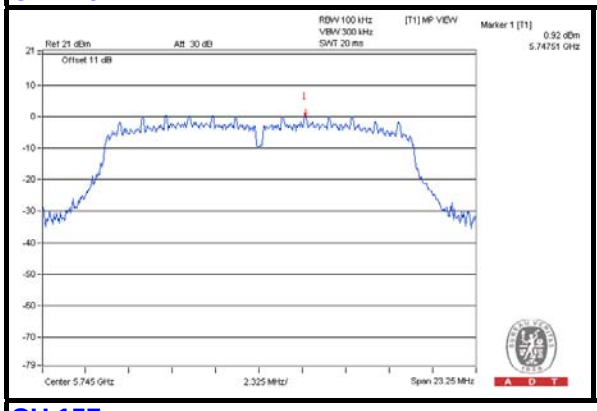


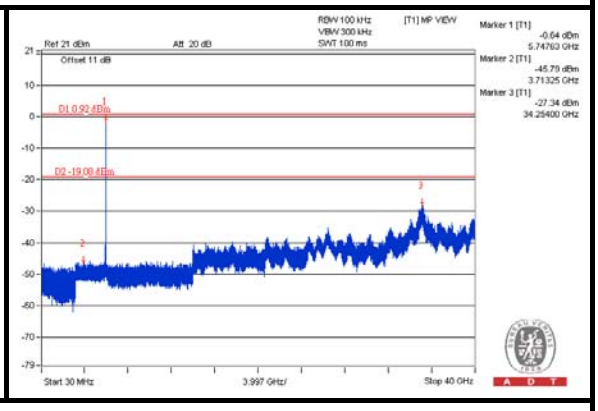
CH 11 Band edge



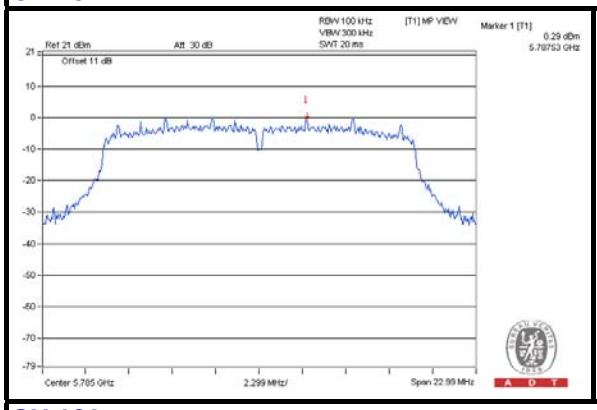
802.11a:

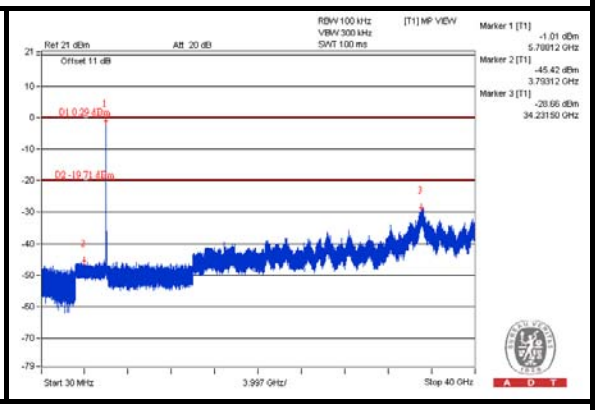
CH 149



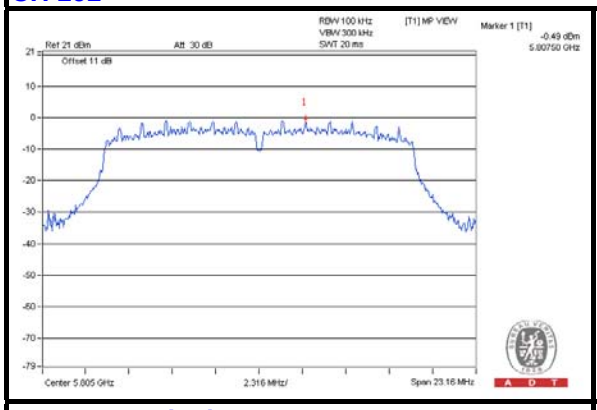


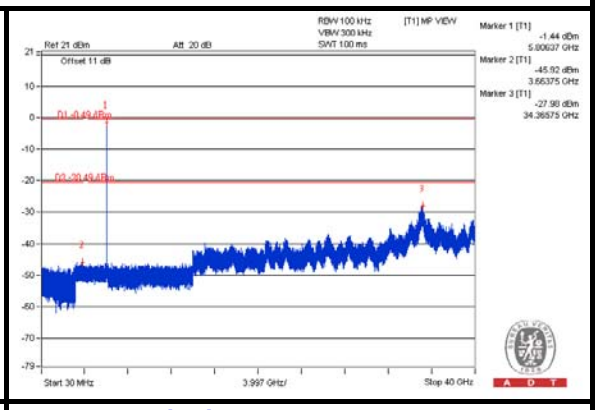
CH 157



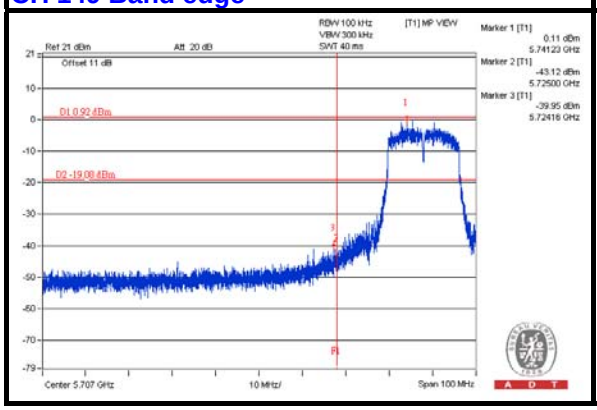


CH 161

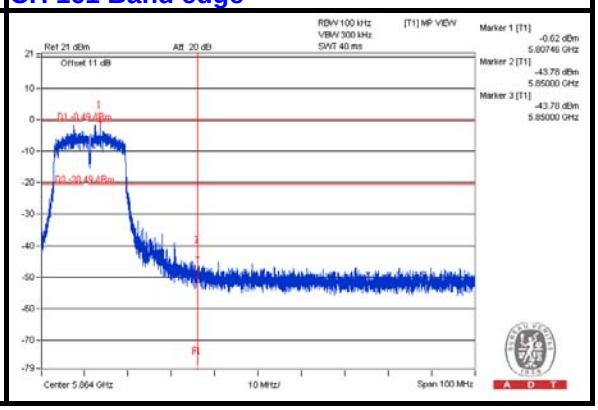




CH 149 Band edge

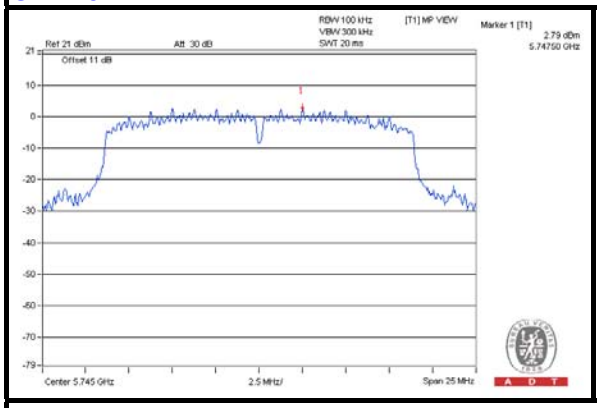


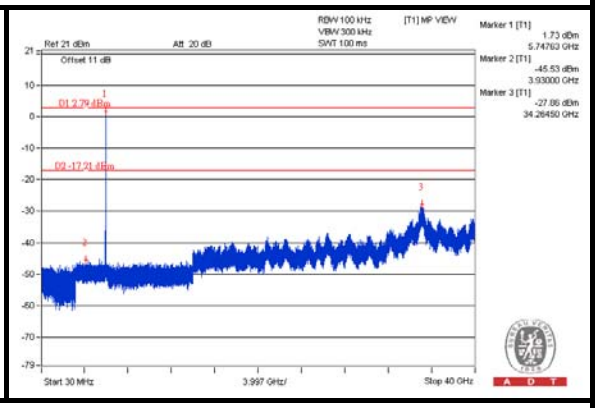
CH 161 Band edge



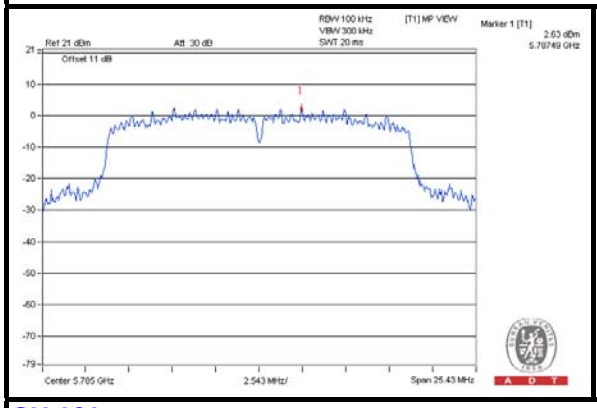
802.11n (20MHz): CHAIN 0

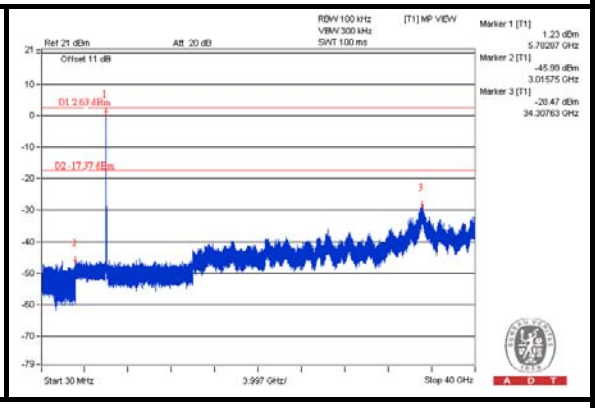
CH 149



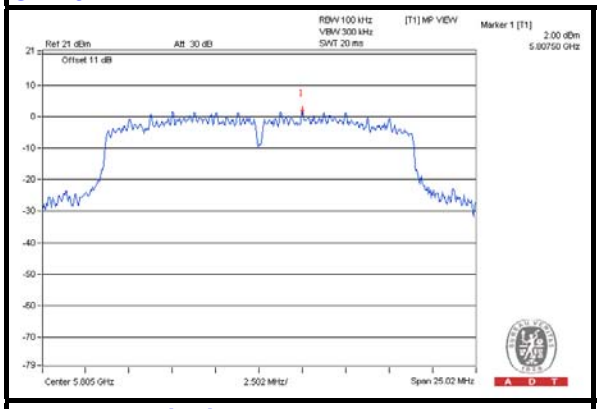


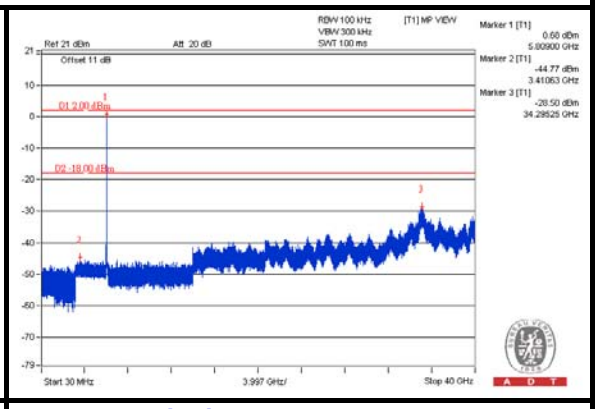
CH 157



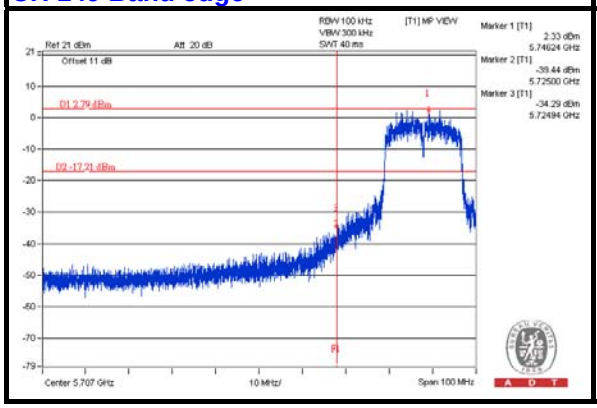


CH 161

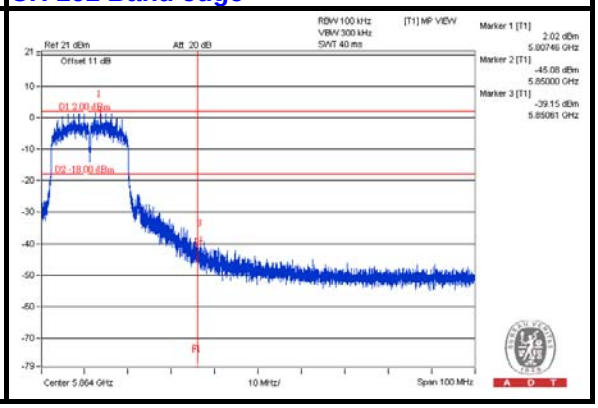




CH 149 Band edge

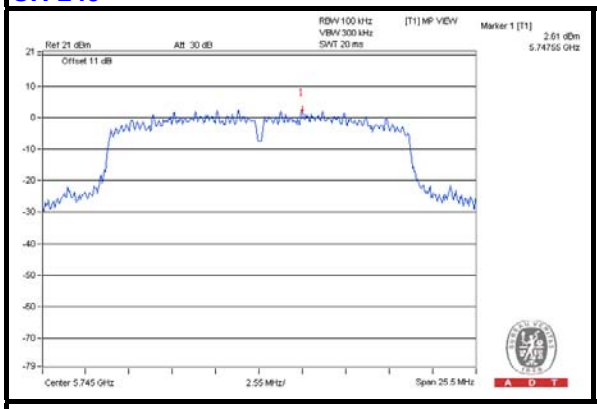


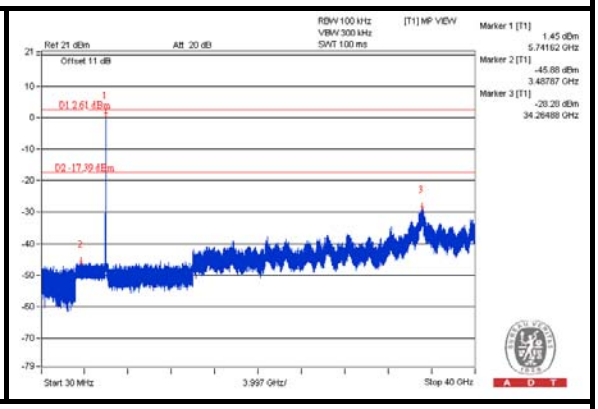
CH 161 Band edge



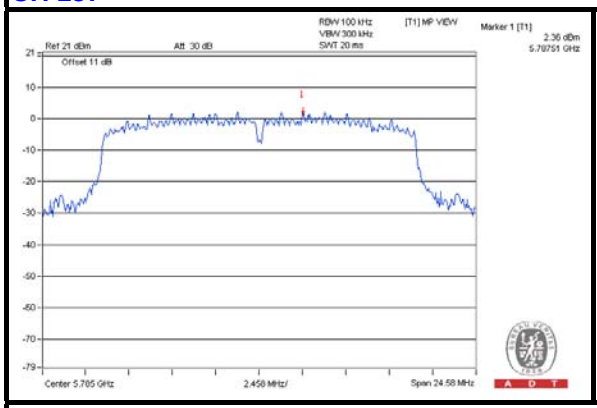
802.11n (20MHz): CHAIN 1

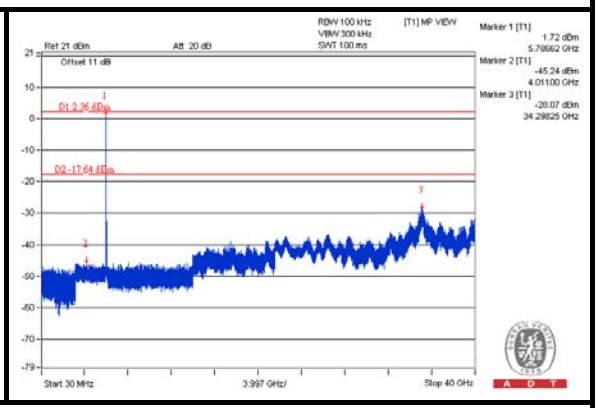
CH 149



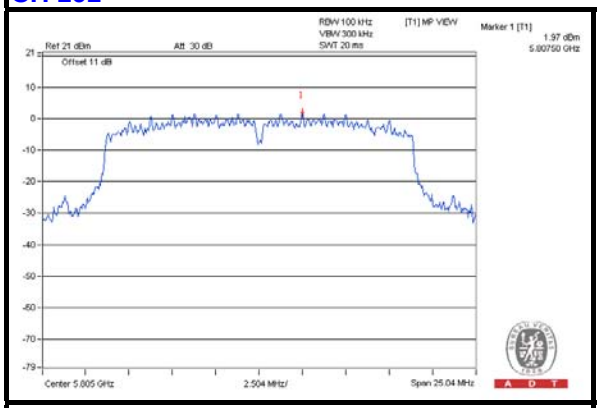


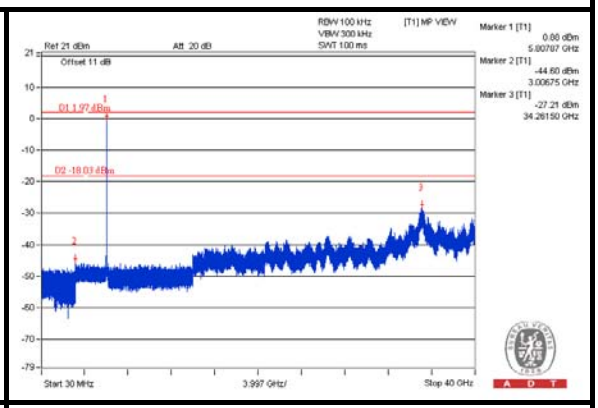
CH 157



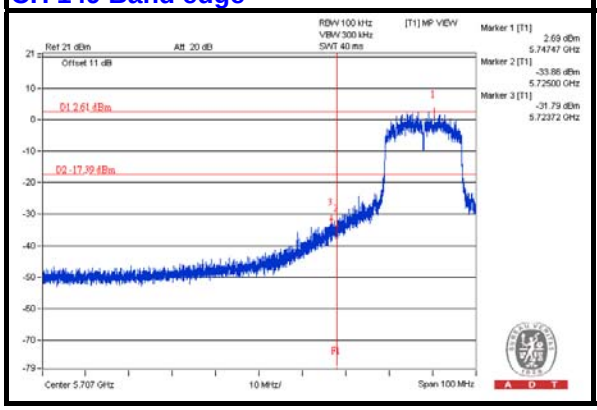


CH 161

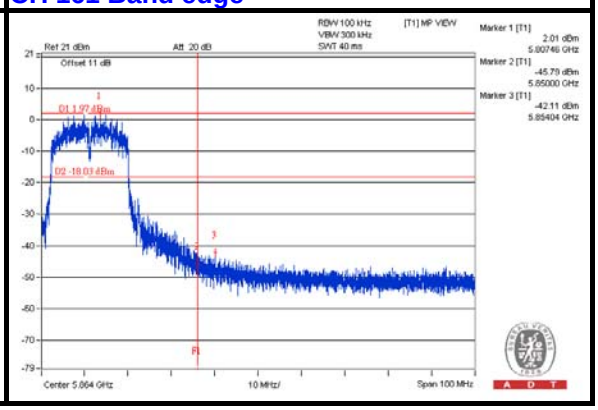




CH 149 Band edge

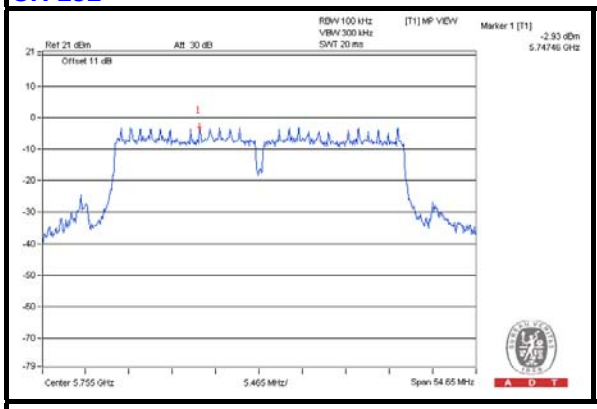


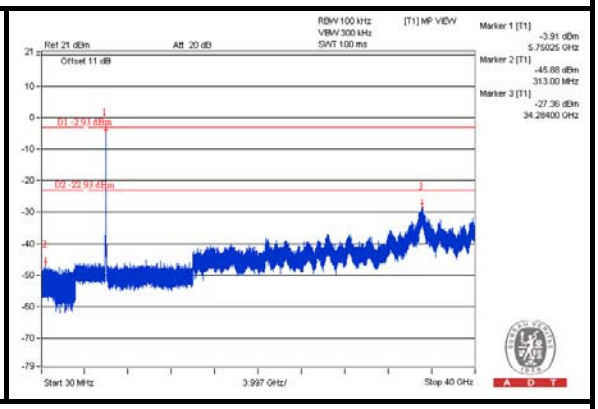
CH 161 Band edge



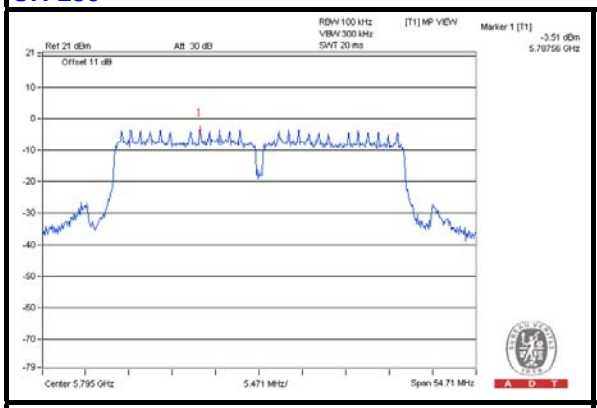
802.11n (40MHz): CHIAN 0

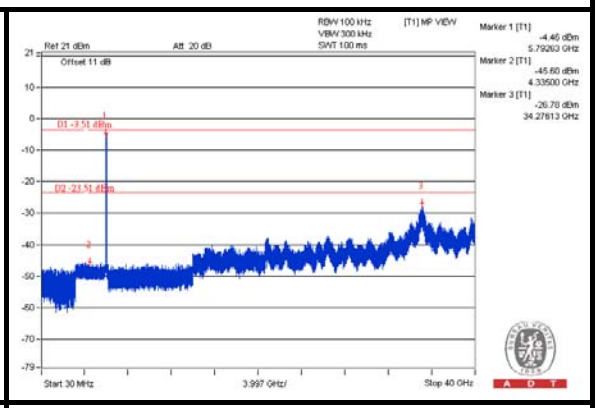
CH 151



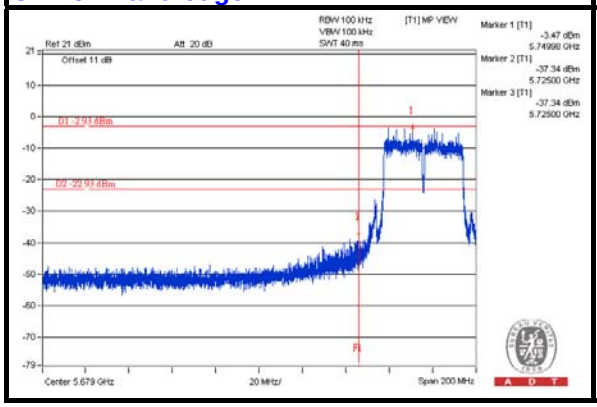


CH 159

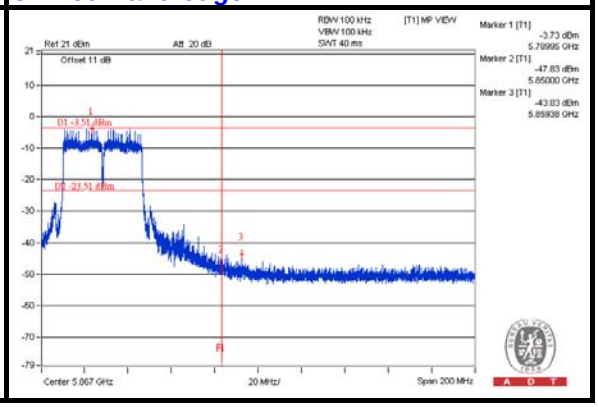




CH 151 Band edge

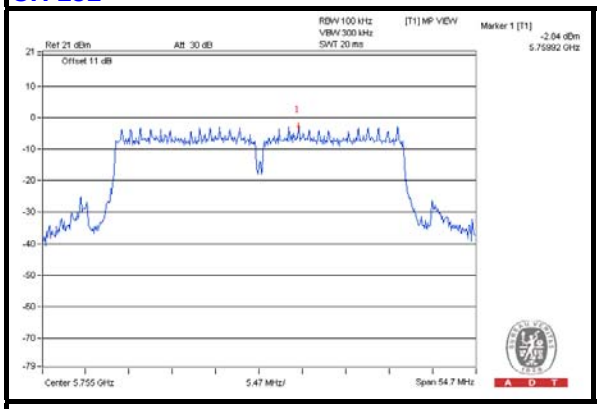


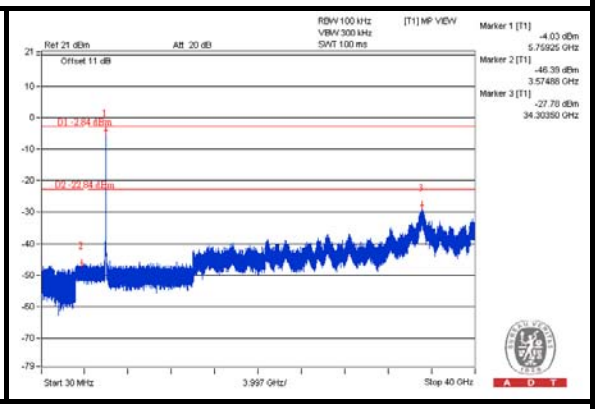
CH 159 Band edge



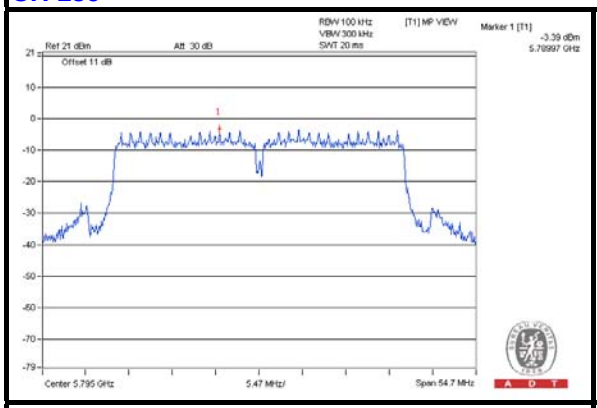
802.11n (40MHz): CHIAN 1

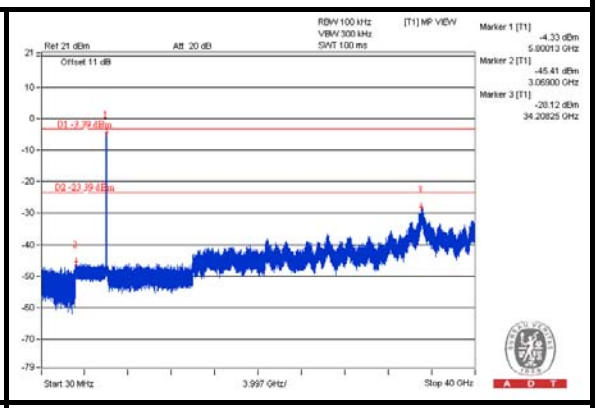
CH 151



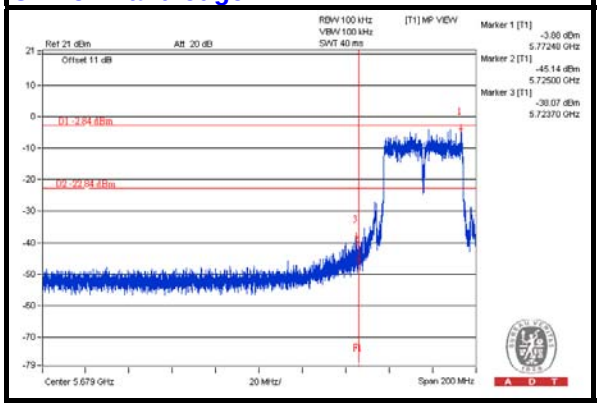


CH 159

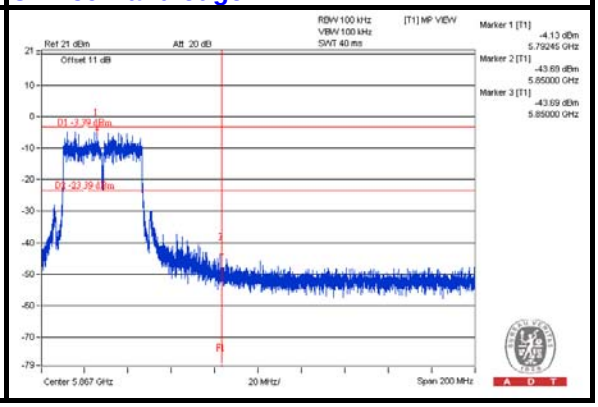




CH 151 Band edge



CH 159 Band edge



5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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

6. INFORMATION ON THE TESTING LABORATORIES

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

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

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

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

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

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

---END---