

FCC TEST REPORT (15.247)

REPORT NO.: RF130104C26-1

MODEL NO.: XR500

FCC ID: SK6-XR520

RECEIVED: Jan. 04, 2013

TESTED: Jan. 10 ~ Jan. 26, 2013

ISSUED: Jan. 30, 2013

APPLICANT: Xirrus, INC

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ISSUED BY: Bureau Veritas Consumer Products Services
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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF130104C26-1	Original release	Jan. 30, 2013



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1. CERTIFICATION

PRODUCT: Xirrus Wireless Array

MODEL NO.: XR500

BRAND: Xirrus

APPLICANT: Xirrus, INC

TESTED: Jan. 10 ~ Jan. 26, 2013

TEST SAMPLE: ENGINEERING SAMPLE

STANDARDS: FCC Part 15, Subpart C (Section 15.247)

ANSI C63.10-2009

The above equipment (model: XR500) 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 : Jemma Yang , **DATE** : Jan. 30, 2013

Jemma Yang / Specialist

APPROVED BY : Ken Liu , **DATE** : Jan. 30, 2013

Ken Liu / 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 -15.62dB at 26.44922MHz.
15.247(d) 15.209	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -1.0dB at 44.86MHz and 2386.00MHz and 2390.00MHz and 2483.50MHz.
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	Antenna connector is I - PEX not a standard connector.

2.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	9kHz~30MHz	2.44 dB
Radiated emissions	30MHz ~ 200MHz	3.34 dB
	200MHz ~1000MHz	3.35 dB
	1GHz ~ 18GHz	2.26 dB
	18GHz ~ 40GHz	1.94 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	Xirrus Wireless Array
MODEL NO.	XR500
POWER SUPPLY	55Vdc (from POE)
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11b: 11.0/ 5.5/ 2.0/ 1.0Mbps 802.11g: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to 300.0Mbps
OPERATING FREQUENCY	2.4GHz: 2412 ~ 2462MHz 5.0GHz: 5745 ~ 5825MHz
NUMBER OF CHANNEL	2.4GHz: 11 for 802.11b, 802.11g, 802.11n (20MHz) 7 for 802.11n (40MHz) 5.0GHz: 5 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz)
OUTPUT POWER	729.260mW for 2412 ~ 2462MHz 501.946mW for 5745 ~ 5825MHz
ANTENNA TYPE	PCB antenna with 4dBi gain
ANTENNA CONNECTOR	I - PEX
DATA CABLE	NA
I/O PORTS	Refer to user's manual
ACCESSORY DEVICES	NA

NOTE:

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

MODULATION MODE	TX FUNCTION
802.11b	2TX
802.11g	2TX
802.11a	2TX
802.11n (20MHz)	2TX
802.11n (40MHz)	2TX

2. The EUT contains two modules and would not transmit simultaneously on the same band.

NO	TYPE
A	2.4G+5G combo
B	5G only

3. The EUT consumes power from the following POE.

POE	
BRAND:	PowerDsine
MODEL:	PD-9001G
INPUT:	100-250Vac, 50/60Hz, 0.8A
OUTPUT:	55Vdc, 0.6A

* POE was supplied for optional accessory.

4. 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		

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
3	2422MHz	7	2442MHz
4	2427MHz	8	2447MHz
5	2432MHz	9	2452MHz
6	2437MHz		

FOR 5.0GHz (5745 ~ 5825MHz):

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
149	5745MHz	161	5805MHz
153	5765MHz	165	5825MHz
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

FOR 2.4GHz:

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE $\geq$ 1G	RE<1G	PLC	APCM	
-	√	√	√	√	2.4G + 5G combo card

Where **RE $\geq$ 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 each 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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
-	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
-	802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
-	802.11n (40MHz)	3 to 9	3, 6, 9	OFDM	BPSK	13.5

RADIATED EMISSION TEST (BELOW 1GHz):

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11g	1 to 11	6	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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11g	1 to 11	6	OFDM	BPSK	6.0

BANDEDGE MEASUREMENT:

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11b	1 to 11	1, 11	DSSS	DBPSK	1.0
-	802.11g	1 to 11	1, 11	OFDM	BPSK	6.0
-	802.11n (20MHz)	1 to 11	1, 11	OFDM	BPSK	6.5
-	802.11n (40MHz)	3 to 9	3, 9	OFDM	BPSK	13.5

ANTENNA PORT CONDUCTED MEASUREMENT:

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
-	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
-	802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
-	802.11n (40MHz)	3 to 9	3, 6, 9	OFDM	BPSK	13.5

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE $\geq$ 1G	23deg. C, 69%RH	55Vdc	Chris Lin
RE<1G	23deg. C, 69%RH	55Vdc	Chris Lin
PLC	24deg. C, 64%RH	55Vdc	Match Tsui
APCM	25deg. C, 60%RH	55Vdc	Frank Liu

FOR 5.0GHz (5745 ~ 5825MHz):

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
A	√	√	√	√	2.4G + 5G combo card
B	√	√	√	√	5G only card

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 each 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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A, B	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
A, B	802.11n (20MHz)	149 to 165	149, 157, 165	OFDM	BPSK	6.5
A, B	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	13.5

RADIATED EMISSION TEST (BELOW 1GHz):

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11n (20MHz)	149 to 165	157	OFDM	BPSK	6.5
B	802.11a	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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11n (20MHz)	149 to 165	157	OFDM	BPSK	6.5
B	802.11a	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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A, B	802.11a	149 to 165	149, 165	OFDM	BPSK	6.0
A, B	802.11n (20MHz)	149 to 165	149, 165	OFDM	BPSK	6.5
A, B	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	13.5

ANTENNA PORT CONDUCTED MEASUREMENT:

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A, B	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
A, B	802.11n (20MHz)	149 to 165	149, 157, 165	OFDM	BPSK	6.5
A, B	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	13.5

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE $\geq$ 1G	23deg. C, 69%RH	55Vdc	Chris Lin
RE<1G	23deg. C, 69%RH	55Vdc	Chris Lin
PLC	24deg. C, 64%RH	55Vdc	Match Tsui
APCM	25deg. C, 60%RH	55Vdc	Frank Liu

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3.3 DESCRIPTION OF SUPPORT UNITS

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

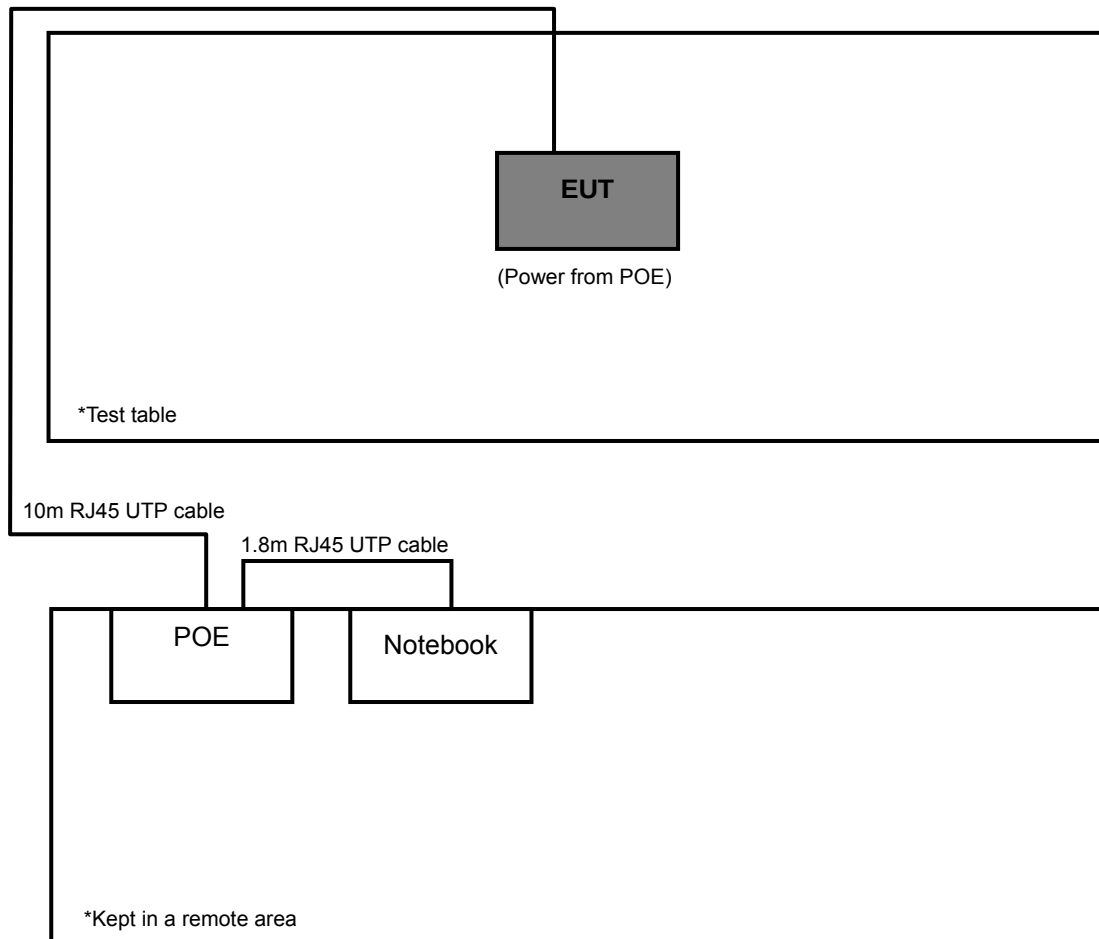
NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	POE	POWERDSINE	PD-9001G	NA	NA
2	Notebook	DELL	E5420	33MKMQ1	FCC DoC Approved

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	10m non-shielded RJ45 Cable, without core
2	1.8m non-shielded RJ45 Cable, without core.

NOTE:

1. All power cords of the above support units are non shielded (1.8m).
2. Item 2 acted as communication partner to transfer data.

3.3.1 CONFIGURATION OF SYSTEM UNDER TEST





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3.4 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 v02

662911 D01 Multiple Transmitter Output v01 r02

ANSI C63.10-2009

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

NOTE: The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

4. TEST TYPES AND RESULTS (FOR 2.4GHz BAND)

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.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESIB7	100212	Aug. 06, 2012	Aug. 05, 2013
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Feb. 03, 2012	Feb. 02, 2013
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	Apr. 06, 2012	Apr. 05, 2013
HORN Antenna SCHWARZBECK	9120D	209	Sep. 03, 2012	Sep. 02, 2013
HORN Antenna SCHWARZBECK	BBHA 9170	148	Jul. 11, 2012	Jul. 10, 2013
Loop Antenna	HFH2-Z2	100070	Jan. 31, 2012	Jan. 30, 2014
Preamplifier Agilent	8447D	2944A10633	Oct. 25, 2012	Oct. 24, 2013
Preamplifier Agilent	8449B	3008A01964	Oct. 25, 2012	Oct. 24, 2013
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250723/4	Aug. 28, 2012	Aug. 27, 2013
RF signal cable HUBER+SUHNNER	SUCOFLEX 106	12738/6+309224/ 4	Aug. 28, 2012	Aug. 27, 2013
Software ADT.	ADT_Radiated_ V7.6.15.9.2	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller inn-co GmbH	CO2000	017303	NA	NA
Turn Table ADT.	TT100	TT93021703	NA	NA
Turn Table Controller ADT.	SC100	SC93021703	NA	NA
26GHz ~ 40GHz Amplifier	EM26400	815221	Oct. 25, 2012	Oct. 24, 2013
High Speed Peak Power Meter	ML2495A	0842014	Apr. 28, 2012	Apr. 27, 2013
Power Sensor	MA2411B	0738404	Apr. 28, 2012	Apr. 27, 2013

- NOTE:** 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The calibration interval of the loop antenna is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. The test was performed in HwaYa Chamber 4.
4. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
5. The FCC Site Registration No. is 460141.
6. The IC Site Registration No. is IC7450F-4.

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.

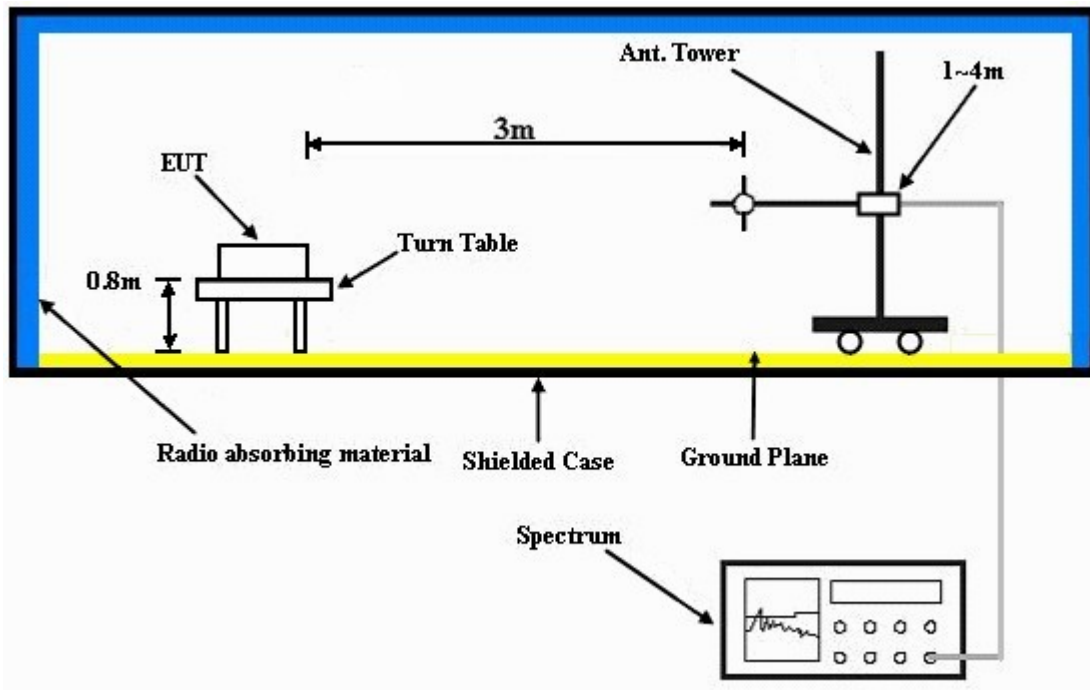
NOTE:

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 100kHz and video bandwidth is 300kHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 1kHz 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



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

4.1.6 EUT OPERATING CONDITIONS

- Placed the EUT on the testing table.
- Prepared notebook to act as communication partner and placed it outside of testing area.
- The communication partner connected with EUT via a RJ45 cable and run a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
- The communication partner sent data to EUT by command "PING".



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4.1.7 TEST RESULTS

802.11b

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	55Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 69%RH	TESTED BY	Chris Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	55.8 PK	74.0	-18.2	1.27 H	123	23.70	32.10
2	2390.00	47.5 AV	54.0	-6.5	1.27 H	123	15.40	32.10
3	*2412.00	104.1 PK			1.00 H	202	71.90	32.20
4	*2412.00	100.1 AV			1.00 H	202	67.90	32.20
5	4824.00	46.3 PK	74.0	-27.7	1.00 H	316	7.50	38.80
6	4824.00	39.1 AV	54.0	-14.9	1.00 H	316	0.30	38.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2386.00	59.3 PK	74.0	-14.7	1.00 V	345	27.20	32.10
2	2386.00	53.0 AV	54.0	-1.0	1.00 V	345	20.90	32.10
3	2390.00	58.4 PK	74.0	-15.6	1.00 V	345	26.30	32.10
4	2390.00	48.9 AV	54.0	-5.1	1.00 V	345	16.80	32.10
5	*2412.00	110.5 PK			1.20 V	343	78.30	32.20
6	*2412.00	106.7 AV			1.20 V	343	74.50	32.20
7	4824.00	49.9 PK	74.0	-24.1	1.02 V	82	11.10	38.80
8	4824.00	44.2 AV	54.0	-9.8	1.02 V	82	5.40	38.80

REMARKS:

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	55Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 69%RH	TESTED BY	Chris Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	103.4 PK			1.31 H	236	71.20	32.20
2	*2437.00	98.9 AV			1.31 H	236	66.70	32.20
3	4874.00	48.5 PK	74.0	-25.5	1.12 H	147	9.60	38.90
4	4874.00	40.5 AV	54.0	-13.5	1.12 H	147	1.60	38.90
5	7311.00	54.4 PK	74.0	-19.6	1.16 H	15	11.00	43.40
6	7311.00	40.7 AV	54.0	-13.3	1.16 H	15	-2.70	43.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	110.6 PK			1.16 V	336	78.40	32.20
2	*2437.00	106.8 AV			1.16 V	336	74.60	32.20
3	4874.00	51.4 PK	74.0	-22.6	1.02 V	78	12.50	38.90
4	4874.00	45.8 AV	54.0	-8.2	1.02 V	78	6.90	38.90
5	7311.00	55.6 PK	74.0	-18.4	1.10 V	46	12.20	43.40
6	7311.00	47.4 AV	54.0	-6.6	1.10 V	46	4.00	43.40

REMARKS:

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	55Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 69%RH	TESTED BY	Chris Lin

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	104.1 PK			1.04 H	352	71.80	32.30
2	*2462.00	100.2 AV			1.04 H	352	67.90	32.30
3	2483.50	56.6 PK	74.0	-17.4	1.32 H	179	24.30	32.30
4	2483.50	48.1 AV	54.0	-5.9	1.32 H	179	15.80	32.30
5	4924.00	47.8 PK	74.0	-26.2	1.13 H	145	8.70	39.10
6	4924.00	39.1 AV	54.0	-14.9	1.13 H	145	0.00	39.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	110.5 PK			1.42 V	336	78.20	32.30
2	*2462.00	106.9 AV			1.42 V	336	74.60	32.30
3	2483.50	60.5 PK	74.0	-13.5	1.14 V	354	28.20	32.30
4	2483.50	53.0 AV	54.0	-1.0	1.14 V	354	20.70	32.30
5	4924.00	51.4 PK	74.0	-22.6	1.02 V	40	12.30	39.10
6	4924.00	46.6 AV	54.0	-7.4	1.02 V	40	7.50	39.10

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * “: Fundamental frequency.



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802.11g

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	55Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 69%RH	TESTED BY	Chris Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	55.1 PK	74.0	-18.9	1.17 H	97	23.00	32.10
2	2390.00	47.0 AV	54.0	-7.0	1.17 H	97	14.90	32.10
3	*2412.00	101.8 PK			1.27 H	104	69.60	32.20
4	*2412.00	92.1 AV			1.27 H	104	59.90	32.20
5	4824.00	46.3 PK	74.0	-27.7	1.15 H	74	7.50	38.80
6	4824.00	33.9 AV	54.0	-20.1	1.15 H	74	-4.90	38.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	66.5 PK	74.0	-7.5	1.00 V	346	34.40	32.10
2	2390.00	53.0 AV	54.0	-1.0	1.00 V	346	20.90	32.10
3	*2412.00	111.8 PK			1.43 V	337	79.60	32.20
4	*2412.00	102.0 AV			1.43 V	337	69.80	32.20
5	4824.00	48.7 PK	74.0	-25.3	1.15 V	96	9.90	38.80
6	4824.00	35.9 AV	54.0	-18.1	1.15 V	96	-2.90	38.80

REMARKS:

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	55Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 69%RH	TESTED BY	Chris Lin

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	106.7 PK			1.26 H	225	74.50	32.20
2	*2437.00	98.6 AV			1.26 H	225	66.40	32.20
3	4874.00	47.5 PK	74.0	-26.5	1.13 H	41	8.60	38.90
4	4874.00	34.2 AV	54.0	-19.8	1.13 H	41	-4.70	38.90
5	7311.00	50.7 PK	74.0	-23.3	1.13 H	54	7.30	43.40
6	7311.00	38.9 AV	54.0	-15.1	1.13 H	54	-4.50	43.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	112.8 PK			1.00 V	345	80.60	32.20
2	*2437.00	103.0 AV			1.00 V	345	70.80	32.20
3	4874.00	49.5 PK	74.0	-24.5	1.16 V	74	10.60	38.90
4	4874.00	36.0 AV	54.0	-18.0	1.16 V	74	-2.90	38.90
5	7311.00	53.2 PK	74.0	-20.8	1.19 V	65	9.80	43.40
6	7311.00	41.9 AV	54.0	-12.1	1.19 V	65	-1.50	43.40

REMARKS:

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	55Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 69%RH	TESTED BY	Chris Lin

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	100.4 PK			1.06 H	201	68.10	32.30
2	*2462.00	91.1 AV			1.06 H	201	58.80	32.30
3	2483.50	56.3 PK	74.0	-17.7	1.20 H	246	24.00	32.30
4	2483.50	46.6 AV	54.0	-7.4	1.20 H	246	14.30	32.30
5	4924.00	45.9 PK	74.0	-28.1	1.27 H	96	6.80	39.10
6	4924.00	33.6 AV	54.0	-20.4	1.27 H	96	-5.50	39.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	110.4 PK			1.17 V	341	78.10	32.30
2	*2462.00	101.6 AV			1.17 V	341	69.30	32.30
3	2483.50	68.2 PK	74.0	-5.8	1.15 V	355	35.90	32.30
4	2483.50	53.0 AV	54.0	-1.0	1.15 V	355	20.70	32.30
5	4924.00	48.6 PK	74.0	-25.4	1.13 V	55	9.50	39.10
6	4924.00	36.4 AV	54.0	-17.6	1.13 V	55	-2.70	39.10

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * “: Fundamental frequency.



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802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	55Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 69%RH	TESTED BY	Chris Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	55.2 PK	74.0	-18.8	1.29 H	261	23.10	32.10
2	2390.00	45.8 AV	54.0	-8.2	1.29 H	261	13.70	32.10
3	*2412.00	103.1 PK			1.31 H	231	70.90	32.20
4	*2412.00	92.9 AV			1.31 H	231	60.70	32.20
5	4824.00	46.1 PK	74.0	-27.9	1.13 H	85	7.30	38.80
6	4824.00	34.4 AV	54.0	-19.6	1.13 H	85	-4.40	38.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	68.5 PK	74.0	-5.5	1.00 V	348	36.40	32.10
2	2390.00	52.2 AV	54.0	-1.8	1.00 V	348	20.10	32.10
3	*2412.00	112.2 PK			1.00 V	348	80.00	32.20
4	*2412.00	103.0 AV			1.00 V	348	70.80	32.20
5	4824.00	48.6 PK	74.0	-25.4	1.16 V	47	9.80	38.80
6	4824.00	35.9 AV	54.0	-18.1	1.16 V	47	-2.90	38.80

REMARKS:

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	55Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 69%RH	TESTED BY	Chris Lin

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	106.0 PK			1.28 H	228	73.80	32.20
2	*2437.00	96.9 AV			1.28 H	228	64.70	32.20
3	4874.00	46.2 PK	74.0	-27.8	1.18 H	54	7.30	38.90
4	4874.00	34.1 AV	54.0	-19.9	1.18 H	54	-4.80	38.90
5	7311.00	50.7 PK	74.0	-23.3	1.16 H	42	7.30	43.40
6	7311.00	38.5 AV	54.0	-15.5	1.16 H	42	-4.90	43.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	112.1 PK			1.17 V	350	79.90	32.20
2	*2437.00	102.5 AV			1.17 V	350	70.30	32.20
3	4874.00	49.1 PK	74.0	-24.9	1.12 V	85	10.20	38.90
4	4874.00	36.4 AV	54.0	-17.6	1.12 V	85	-2.50	38.90
5	7311.00	54.8 PK	74.0	-19.2	1.09 V	23	11.40	43.40
6	7311.00	41.5 AV	54.0	-12.5	1.09 V	23	-1.90	43.40

REMARKS:

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	55Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 69%RH	TESTED BY	Chris Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	102.3 PK			1.27 H	231	70.00	32.30
2	*2462.00	92.6 AV			1.27 H	231	60.30	32.30
3	2483.50	61.4 PK	74.0	-12.6	1.28 H	226	29.10	32.30
4	2483.50	47.9 AV	54.0	-6.1	1.28 H	226	15.60	32.30
5	4924.00	46.4 PK	74.0	-27.6	1.35 H	234	7.30	39.10
6	4924.00	34.4 AV	54.0	-19.6	1.35 H	234	-4.70	39.10
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	109.8 PK			1.43 V	341	77.50	32.30
2	*2462.00	100.8 AV			1.43 V	341	68.50	32.30
3	2483.50	69.2 PK	74.0	-4.8	1.40 V	360	36.90	32.30
4	2483.50	53.0 AV	54.0	-1.0	1.40 V	360	20.70	32.30
5	4924.00	49.7 PK	74.0	-24.3	1.15 V	89	10.60	39.10
6	4924.00	36.7 AV	54.0	-17.3	1.15 V	89	-2.40	39.10

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * ”: Fundamental frequency.



A D T

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 3	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	55Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 69%RH	TESTED BY	Chris Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	55.8 PK	74.0	-18.2	1.38 H	244	23.70	32.10
2	2390.00	46.9 AV	54.0	-7.1	1.38 H	244	14.80	32.10
3	*2422.00	94.1 PK			1.30 H	230	61.90	32.20
4	*2422.00	84.8 AV			1.30 H	230	52.60	32.20
5	4844.00	45.9 PK	74.0	-28.1	1.16 H	42	7.00	38.90
6	4844.00	34.0 AV	54.0	-20.0	1.16 H	42	-4.90	38.90
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	68.1 PK	74.0	-5.9	1.20 V	345	36.00	32.10
2	2390.00	52.9 AV	54.0	-1.1	1.20 V	345	20.80	32.10
3	*2422.00	103.6 PK			1.46 V	347	71.40	32.20
4	*2422.00	94.2 AV			1.46 V	347	62.00	32.20
5	4844.00	48.4 PK	74.0	-25.6	1.09 V	32	9.50	38.90
6	4844.00	36.4 AV	54.0	-17.6	1.09 V	32	-2.50	38.90

REMARKS:

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



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	55Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 69%RH	TESTED BY	Chris Lin

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	101.2 PK			1.09 H	182	69.00	32.20
2	*2437.00	91.9 AV			1.09 H	182	59.70	32.20
3	4874.00	46.7 PK	74.0	-27.3	1.10 H	63	7.80	38.90
4	4874.00	33.5 AV	54.0	-20.5	1.10 H	63	-5.40	38.90
5	7311.00	51.5 PK	74.0	-22.5	1.09 H	52	8.10	43.40
6	7311.00	40.4 AV	54.0	-13.6	1.09 H	52	-3.00	43.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	64.8 PK	74.0	-9.2	1.52 V	299	32.70	32.10
2	2390.00	52.1 AV	54.0	-1.9	1.52 V	299	20.00	32.10
3	*2437.00	108.7 PK			1.21 V	337	76.50	32.20
4	*2437.00	99.7 AV			1.21 V	337	67.50	32.20
5	4874.00	48.0 PK	74.0	-26.0	1.27 V	63	9.10	38.90
6	4874.00	36.1 AV	54.0	-17.9	1.27 V	63	-2.80	38.90
7	7311.00	53.8 PK	74.0	-20.2	1.09 V	47	10.40	43.40
8	7311.00	41.9 AV	54.0	-12.1	1.09 V	47	-1.50	43.40

REMARKS:

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



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 9	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	55Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 69%RH	TESTED BY	Chris Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	96.9 PK			1.31 H	231	64.60	32.30
2	*2452.00	86.8 AV			1.31 H	231	54.50	32.30
3	2483.50	62.0 PK	74.0	-12.0	1.24 H	256	29.70	32.30
4	2483.50	48.9 AV	54.0	-5.1	1.24 H	256	16.60	32.30
5	4904.00	46.8 PK	74.0	-27.2	1.08 H	46	7.80	39.00
6	4904.00	34.0 AV	54.0	-20.0	1.08 H	46	-5.00	39.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	105.6 PK			1.18 V	0	73.30	32.30
2	*2452.00	95.5 AV			1.18 V	0	63.20	32.30
3	2483.50	70.3 PK	74.0	-3.7	1.41 V	339	38.00	32.30
4	2483.50	53.0 AV	54.0	-1.0	1.41 V	339	20.70	32.30
5	4904.00	48.3 PK	74.0	-25.7	1.10 V	56	9.30	39.00
6	4904.00	36.5 AV	54.0	-17.5	1.10 V	56	-2.50	39.00

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * ”: Fundamental frequency.



A D T

BELOW 1GHz WORST-CASE DATA : 802.11g

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	55Vdc	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 69%RH	TESTED BY	Chris Lin

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	47.40	33.2 QP	40.0	-6.8	1.24 H	15	19.40	13.80
2	208.77	28.7 QP	43.5	-14.8	1.00 H	263	17.30	11.40
3	374.04	35.6 QP	46.0	-10.4	1.00 H	215	18.70	16.90
4	632.63	40.8 QP	46.0	-5.2	1.24 H	15	17.90	22.90
5	667.63	43.6 QP	46.0	-2.4	1.24 H	15	20.30	23.30
6	867.89	36.4 QP	46.0	-9.6	1.00 H	236	9.90	26.50
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	44.86	39.0 QP	40.0	-1.0	1.14 V	353	25.20	13.80
2	94.06	36.4 QP	43.5	-7.1	1.24 V	116	27.80	8.60
3	158.22	34.8 QP	43.5	-8.7	1.00 V	276	20.80	14.00
4	199.05	33.4 QP	43.5	-10.1	1.24 V	15	22.30	11.10
5	533.47	30.2 QP	46.0	-15.8	1.00 V	125	9.30	20.90
6	599.58	35.2 QP	46.0	-10.8	1.00 V	90	12.70	22.50

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).
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 (dB μ V)	
	Quasi-peak	Average
0.15 ~ 0.5	66 to 56	56 to 46
0.5 ~ 5	56	46
5 ~ 30	60	50

- NOTE:** 1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.
3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCS30	100289	Nov. 16, 2012	Nov. 15, 2013
RF signal cable Woken	5D-FB	Cable-HYC01-01	Dec. 28, 2012	Dec. 27, 2013
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Jul. 02, 2012	Jul. 01, 2013
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Feb. 07, 2012	Feb. 06, 2013
Software ADT	BV ADT_Cond_ V7.3.7.3	NA	NA	NA

- NOTE:** 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Shielded Room 2.
3. The VCCI Site Registration No. is C-2047.

4.2.3 TEST PROCEDURES

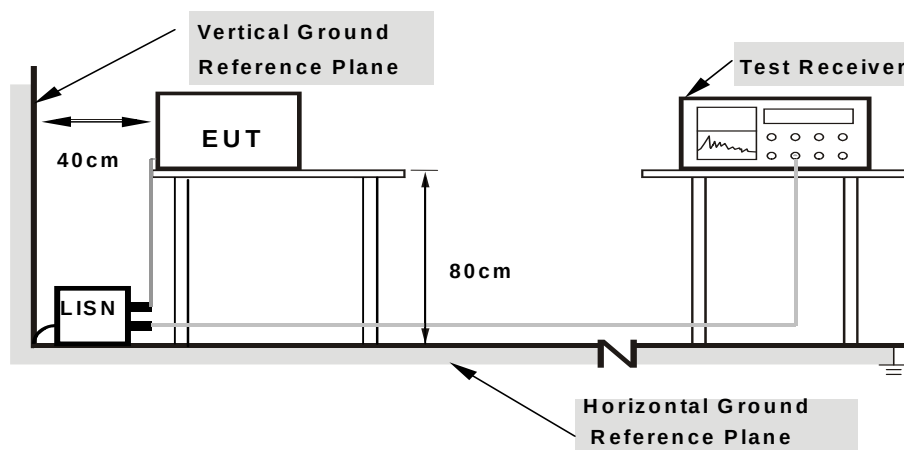
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- 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: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

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.

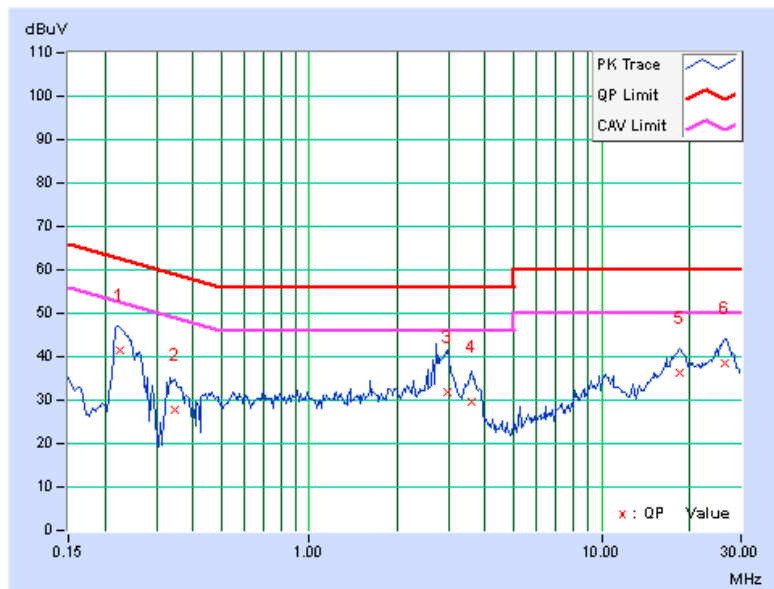
4.2.7 TEST RESULTS

CONDUCTED WORST-CASE DATA : 802.11g

PHASE	Line 1	6dB BANDWIDTH	9kHz
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.22422	0.17	41.41	26.59	41.58	26.76	62.66	52.66	-21.08	-25.90
2	0.34531	0.20	27.68	18.99	27.88	19.19	59.07	49.07	-31.20	-29.89
3	2.98438	0.33	31.68	22.64	32.01	22.97	56.00	46.00	-23.99	-23.03
4	3.59766	0.35	29.22	20.29	29.57	20.64	56.00	46.00	-26.43	-25.36
5	18.49609	0.64	35.54	30.52	36.18	31.16	60.00	50.00	-23.82	-18.84
6	26.49609	0.64	37.93	32.85	38.57	33.49	60.00	50.00	-21.43	-16.51

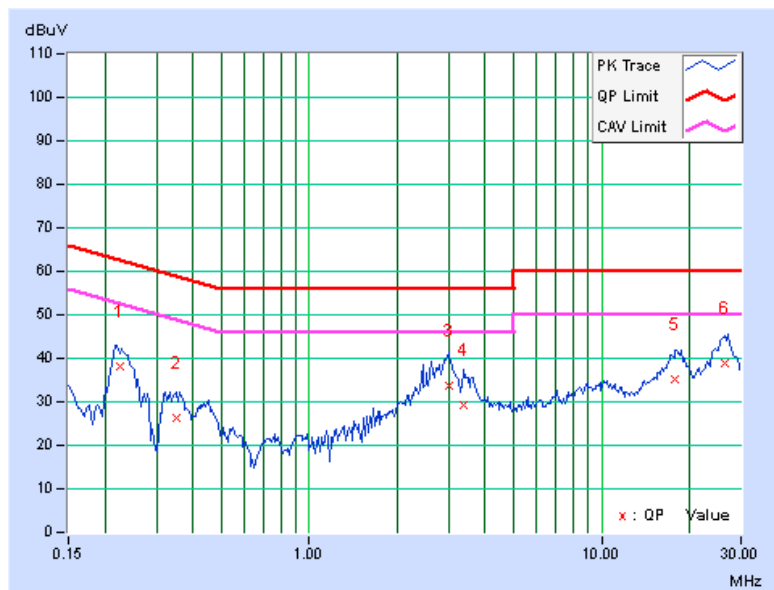
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. The emission levels of other frequencies were very low against the limit.
 3. Margin value = Emission level - Limit value
 4. Correction factor = Insertion loss + Cable loss
 5. Emission Level = Correction Factor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



PHASE	Line 2	6dB BANDWIDTH	9kHz
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No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.22540	0.17	38.05	27.81	38.22	27.98	62.62	52.62	-24.40	-24.64
2	0.34922	0.19	26.26	19.09	26.45	19.28	58.98	48.98	-32.53	-29.70
3	2.99219	0.33	33.50	25.57	33.83	25.90	56.00	46.00	-22.17	-20.10
4	3.37891	0.35	28.86	23.25	29.21	23.60	56.00	46.00	-26.79	-22.40
5	17.90625	0.71	34.63	29.77	35.34	30.48	60.00	50.00	-24.66	-19.52
6	26.37891	0.69	38.37	33.50	39.06	34.19	60.00	50.00	-20.94	-15.81

- 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.

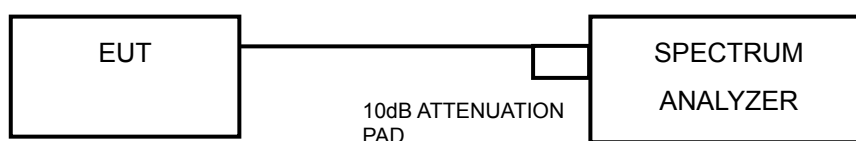


4.3 6dB BANDWIDTH MEASUREMENT

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

- Set resolution bandwidth (RBW) = approximately 1% of the emission bandwidth
- Set the video bandwidth (VBW) $\geq 3 \times$ RBW, Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.
- 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

802.11b

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
1	2412	12.610	11.640	0.5	PASS
6	2437	11.140	12.120	0.5	PASS
11	2462	12.580	12.130	0.5	PASS

802.11g

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
1	2412	16.580	16.570	0.5	PASS
6	2437	16.610	16.460	0.5	PASS
11	2462	16.500	16.510	0.5	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
1	2412	17.690	17.690	0.5	PASS
6	2437	17.710	17.720	0.5	PASS
11	2462	17.680	17.670	0.5	PASS



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802.11n (40MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
3	2422	36.440	36.470	0.5	PASS
6	2437	36.510	36.510	0.5	PASS
9	2452	36.470	36.490	0.5	PASS

4.4 CONDUCTED OUTPUT POWER

4.4.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT

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

Per KDB 662911 D01 Multiple Transmitter Output v01r02 Method of conducted output power measurement on IEEE 802.11 devices,

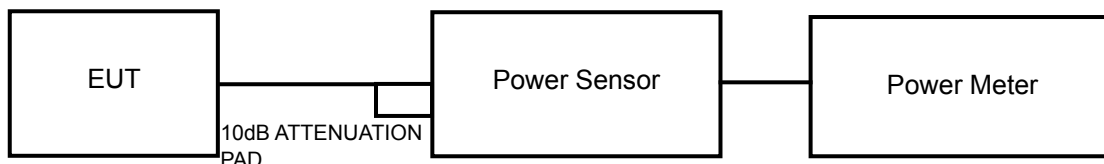
Array Gain = 0 dB (i.e., no array gain) for $NANT \leq 4$;

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 $NANT \geq 5$.

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 were 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.



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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

802.11b

CHAN.	FREQ. (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
1	2412	19.89	20.18	201.731	23.05	30	PASS
6	2437	19.73	20.27	200.386	23.02	30	PASS
11	2462	19.81	19.59	186.710	22.71	30	PASS

802.11g

CHAN.	FREQ. (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
1	2412	22.33	23.26	382.838	25.83	30	PASS
6	2437	25.44	25.79	729.260	28.63	30	PASS
11	2462	22.46	22.72	363.266	25.60	30	PASS

802.11n (20MHz)

CHAN.	FREQ. (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
1	2412	22.27	22.87	362.297	25.59	30	PASS
6	2437	24.62	25.11	614.074	27.88	30	PASS
11	2462	22.57	22.73	368.216	25.66	30	PASS

802.11n (40MHz)

CHAN.	FREQ. (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
3	2422	18.01	17.74	122.670	20.89	30	PASS
6	2437	22.98	23.47	420.940	26.24	30	PASS
9	2452	20.41	20.07	211.526	23.25	30	PASS

FOR AVERAGE POWER
802.11b

CHAN.	FREQUENCY (MHz)	AVG. POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1		
1	2412	17.37	17.61	112.202	20.50
6	2437	17.24	17.71	111.944	20.49
11	2462	17.41	17.21	107.647	20.32

802.11g

CHAN.	FREQUENCY (MHz)	AVG. POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1		
1	2412	14.99	15.89	70.307	18.47
6	2437	17.86	18.68	134.896	21.30
11	2462	15.01	15.39	66.222	18.21

802.11n (20MHz)

CHAN.	FREQUENCY (MHz)	AVG. POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1		
1	2412	14.01	15.03	57.016	17.56
6	2437	16.24	16.44	86.099	19.35
11	2462	14.95	15.31	65.163	18.14

802.11n (40MHz)

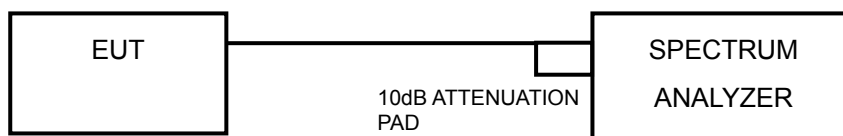
CHAN.	FREQUENCY (MHz)	AVG. POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1		
3	2422	9.86	9.85	19.364	12.87
6	2437	16.37	16.57	88.716	19.48
9	2452	11.72	12.45	32.434	15.11

4.5 POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

4.5.2 TEST SETUP



4.5.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

4.5.4 TEST PROCEDURE

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

4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

4.5.6 EUT OPERATING CONDITION

Same as Item 4.3.6

4.5.7 TEST RESULTS

802.11b

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	1	2412	-7.44	3.01	-4.43	6.99	PASS
	6	2437	-7.37	3.01	-4.36	6.99	PASS
	11	2462	-6.75	3.01	-3.74	6.99	PASS
1	1	2412	-7.25	3.01	-4.24	6.99	PASS
	6	2437	-6.39	3.01	-3.38	6.99	PASS
	11	2462	-6.56	3.01	-3.55	6.99	PASS

NOTE: Directional gain = 4dBi + 10log(2) = 7.01dBi > 6dBi , so the power density limit shall be reduced to 8-(7.01-6) = 6.99dBm.

802.11g

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	1	2412	-3.05	3.01	-0.04	6.99	PASS
	6	2437	-3.09	3.01	-0.08	6.99	PASS
	11	2462	-2.57	3.01	0.44	6.99	PASS
1	1	2412	-2.48	3.01	0.53	6.99	PASS
	6	2437	-0.66	3.01	2.35	6.99	PASS
	11	2462	-4.27	3.01	-1.26	6.99	PASS

NOTE: Directional gain = 4dBi + 10log(2) = 7.01dBi > 6dBi , so the power density limit shall be reduced to 8-(7.01-6) = 6.99dBm.

802.11n (20MHz)

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	1	2412	-2.46	3.01	0.55	6.99	PASS
	6	2437	-2.92	3.01	0.09	6.99	PASS
	11	2462	-2.82	3.01	0.19	6.99	PASS
1	1	2412	-2.70	3.01	0.31	6.99	PASS
	6	2437	-0.24	3.01	2.77	6.99	PASS
	11	2462	-3.72	3.01	-0.71	6.99	PASS

NOTE: Directional gain = 4dBi + 10log(2) = 7.01dBi > 6dBi , so the power density limit shall be reduced to 8-(7.01-6) = 6.99dBm.



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802.11n (40MHz)

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	3	2422	-17.12	3.01	-14.11	6.99	PASS
	6	2437	-14.36	3.01	-11.35	6.99	PASS
	9	2452	-16.47	3.01	-13.46	6.99	PASS
1	3	2422	-19.46	3.01	-16.45	6.99	PASS
	6	2437	-13.57	3.01	-10.56	6.99	PASS
	9	2452	-15.94	3.01	-12.93	6.99	PASS

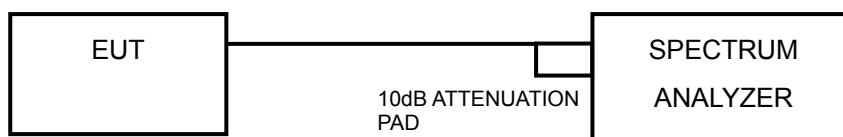
NOTE: Directional gain = $4\text{dBi} + 10\log(2) = 7.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $8-(7.01-6) = 6.99\text{dBm}$.

4.6 CONDUCTED OUT OF BAND EMISSION MEASUREMENT

4.6.1 LIMITS OF CONDUCTED OUT OF BAND EMISSION MEASUREMENT

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

4.6.2 TEST SETUP



4.6.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

4.6.4 TEST PROCEDURE

MEASUREMENT PROCEDURE REF

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

MEASUREMENT PROCEDURE OOB

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

4.6.5 DEVIATION FROM TEST STANDARD

No deviation.

4.6.6 EUT OPERATING CONDITION

Same as Item 4.3.6

4.6.7 TEST RESULTS

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

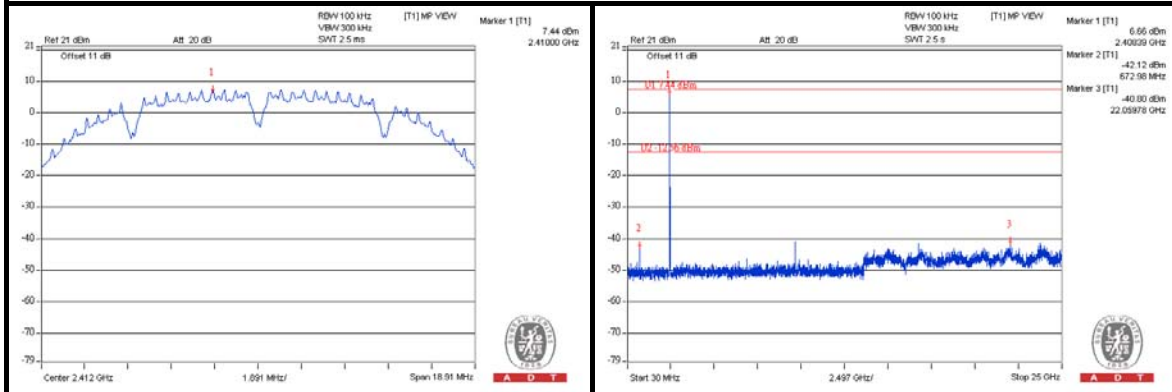
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.



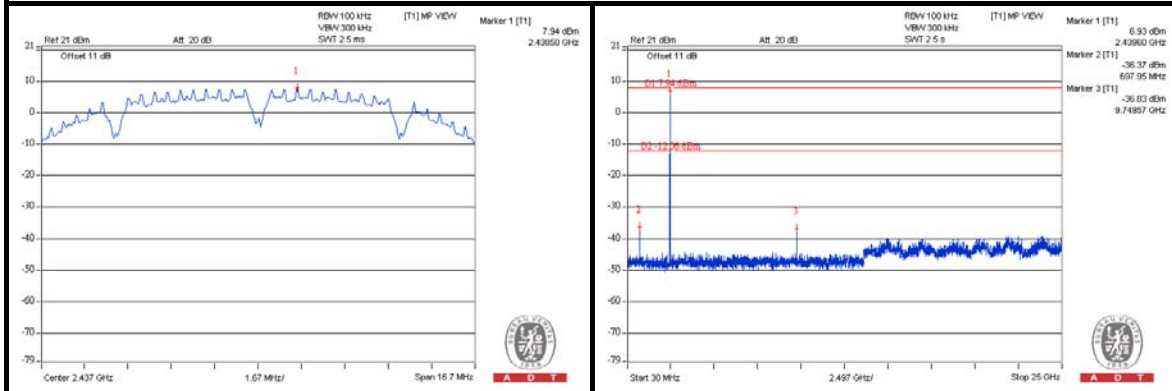
A D T

802.11b
CHAIN 0

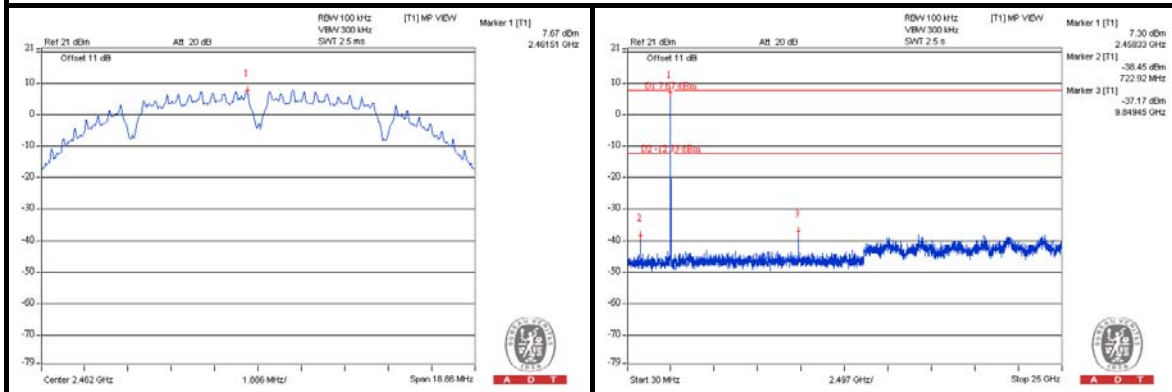
CH 1



CH 6



CH 11

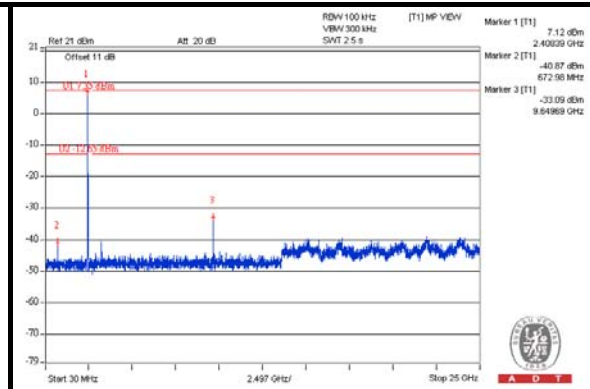
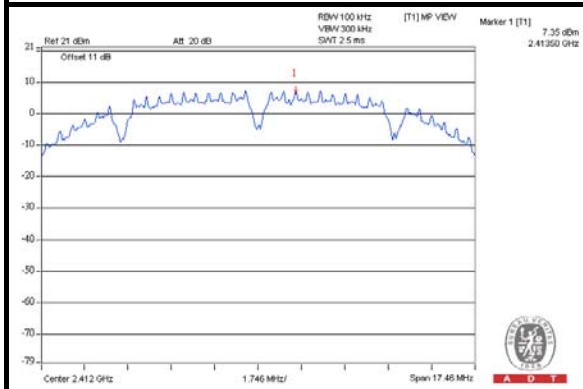




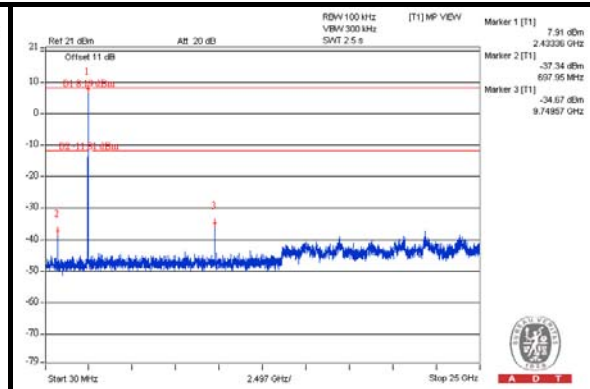
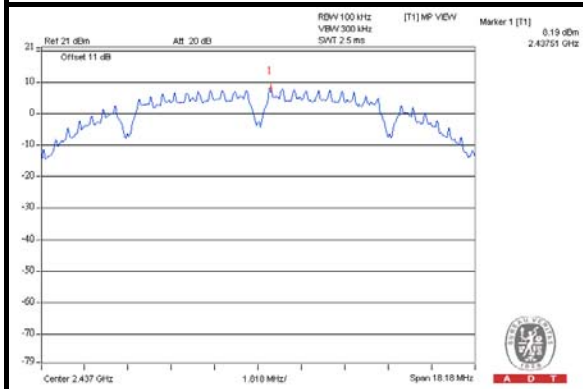
A D T

CHAIN 1

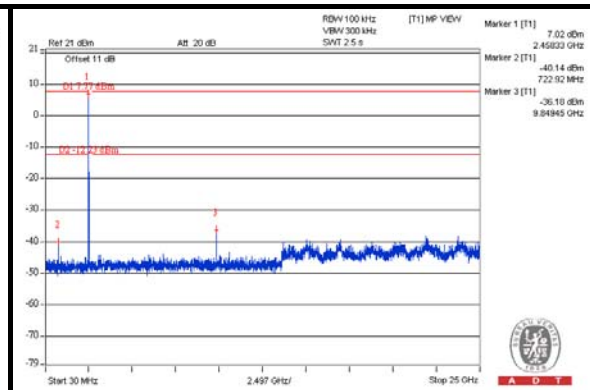
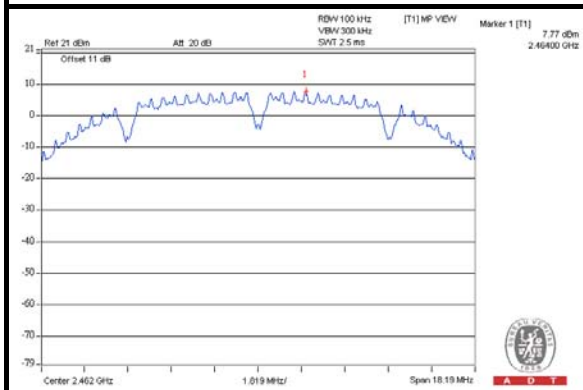
CH 1



CH 6

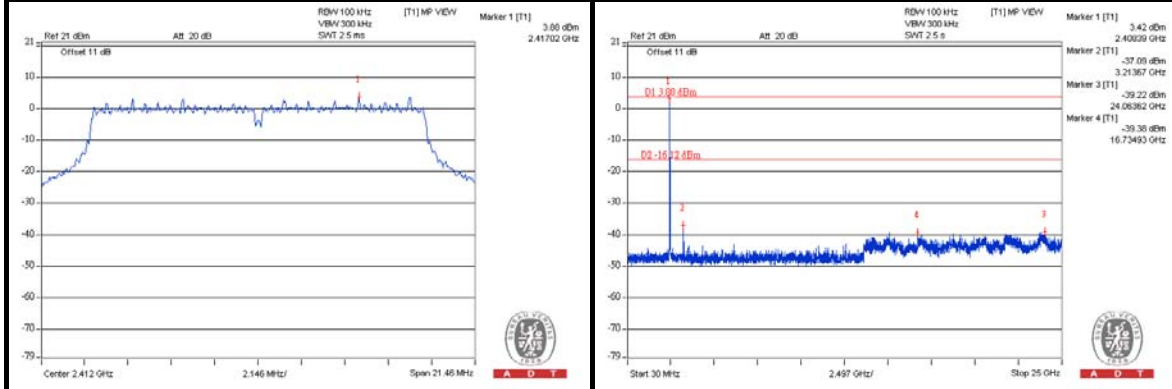


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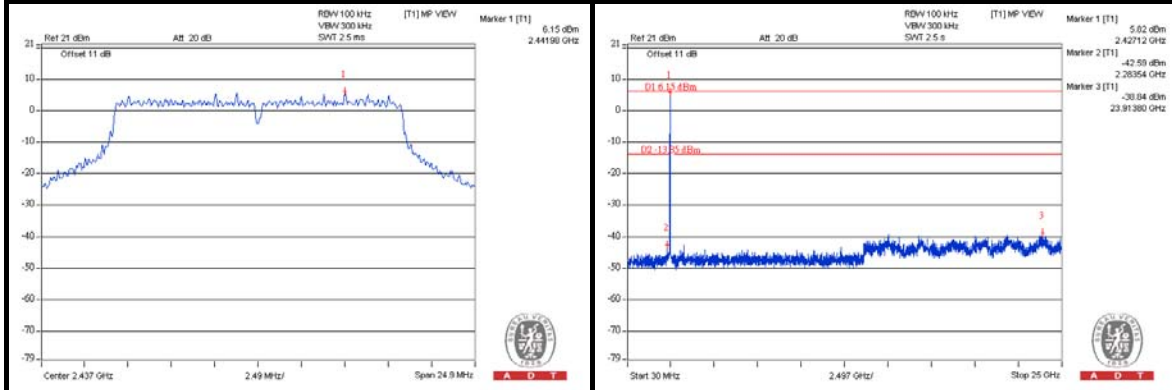


802.11g CHAIN 0

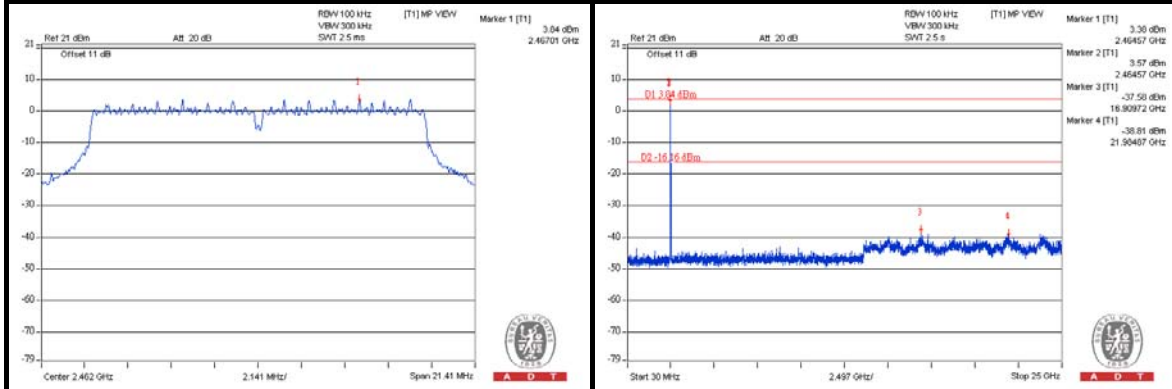
CH 1



CH 6

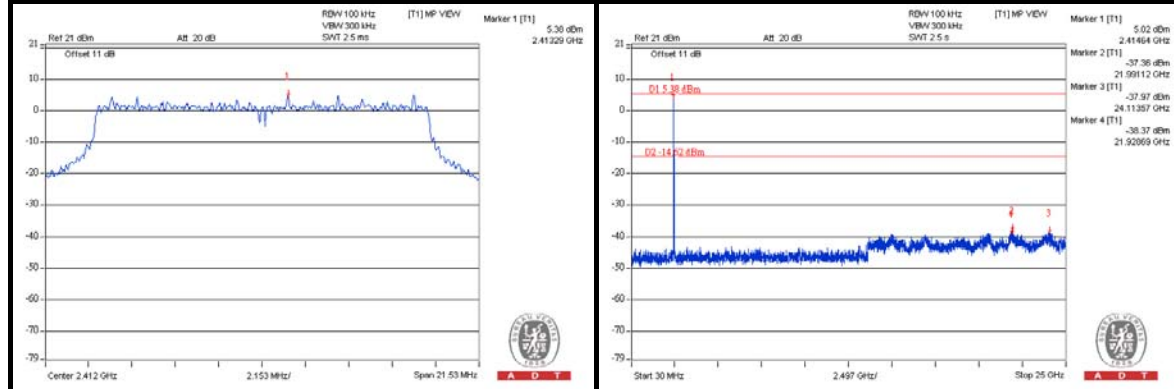


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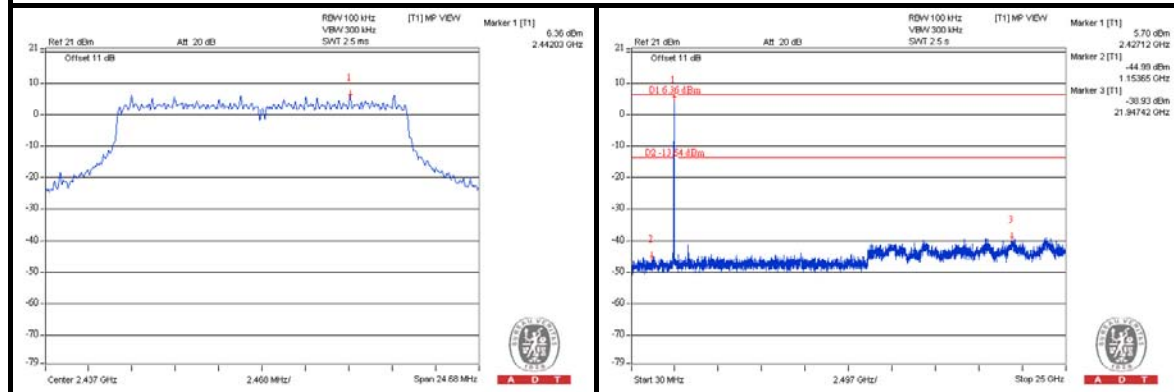


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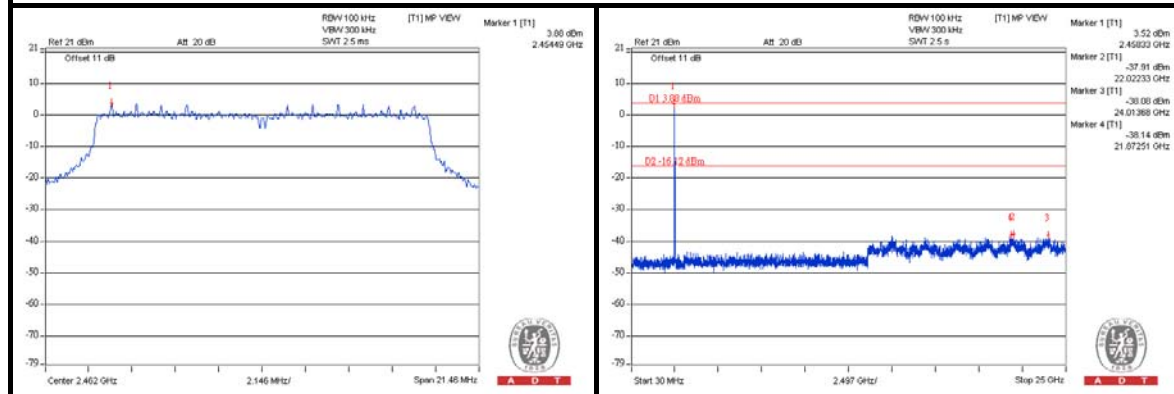
CH 1



CH 6



CH 11



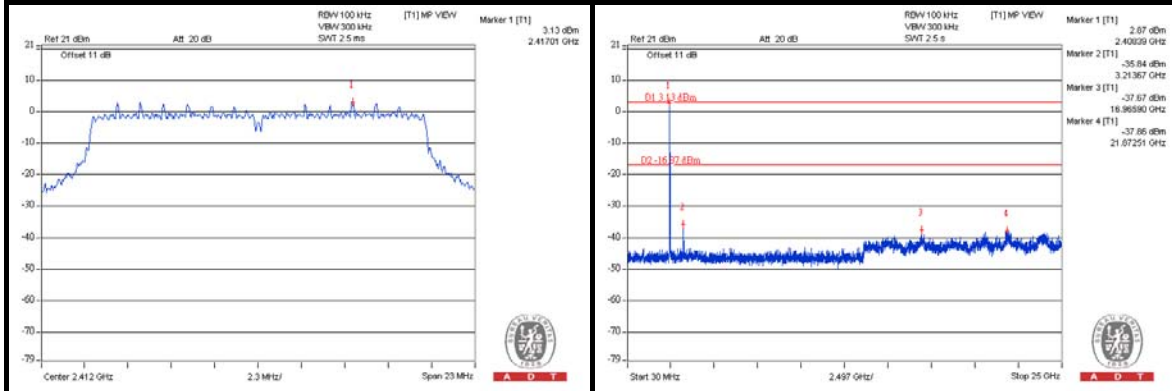


A D T

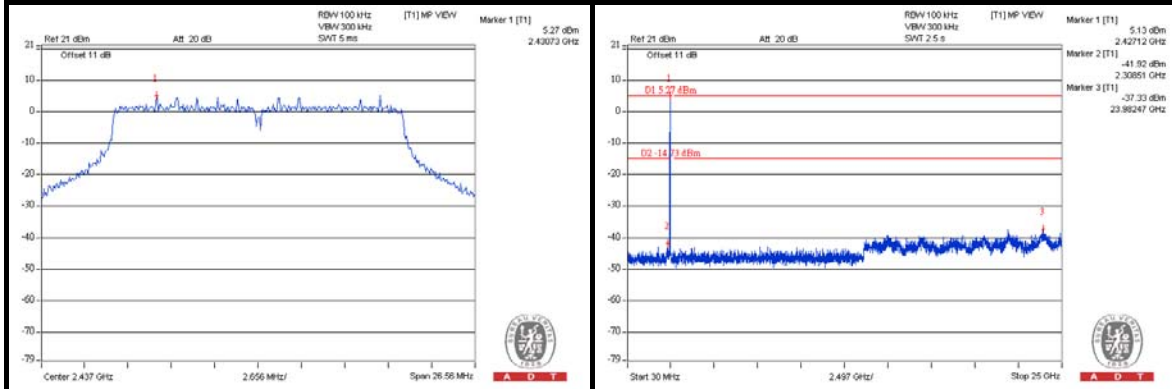
802.11n (20MHz)

CHAIN 0

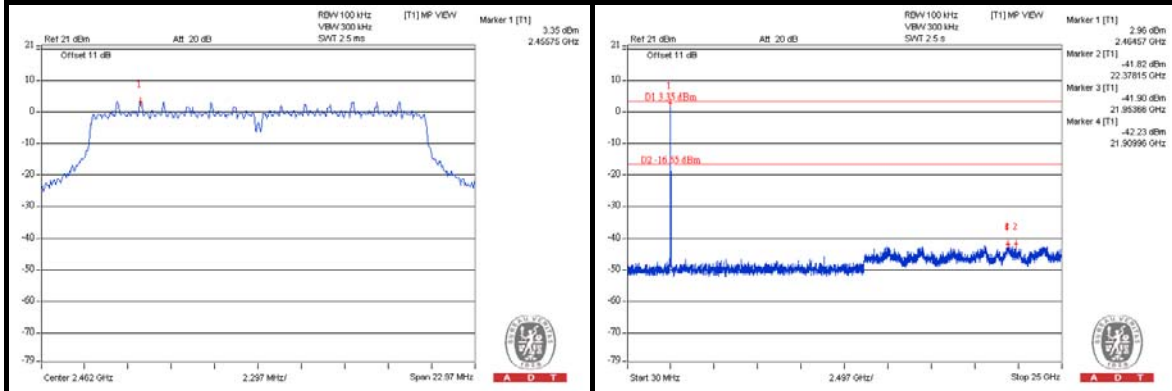
CH 1



CH 6



CH 11

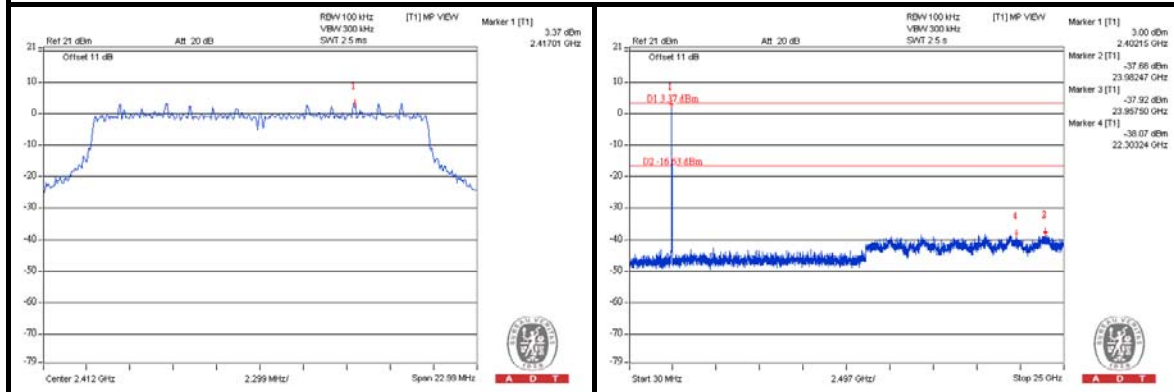




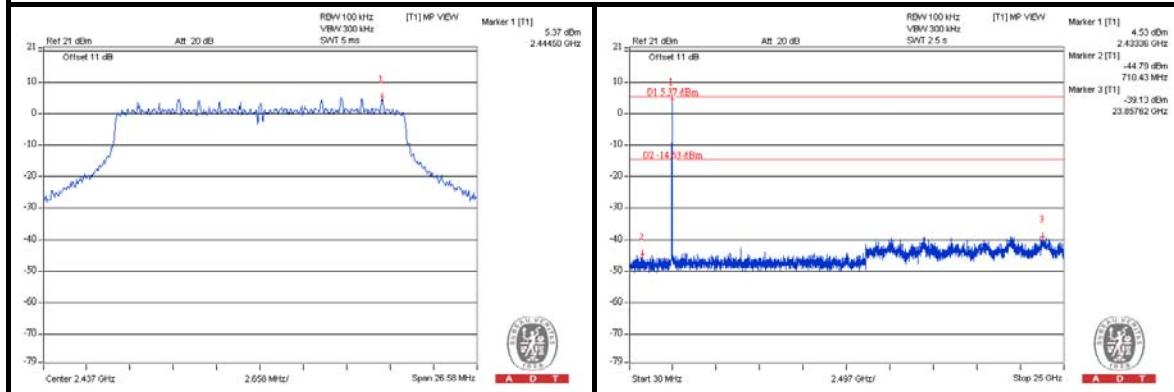
A D T

CHAIN 1

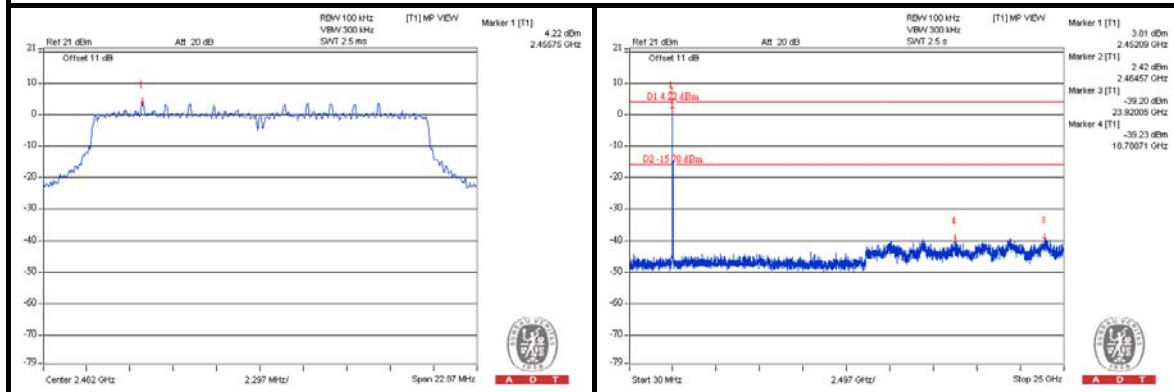
CH 1



CH 6

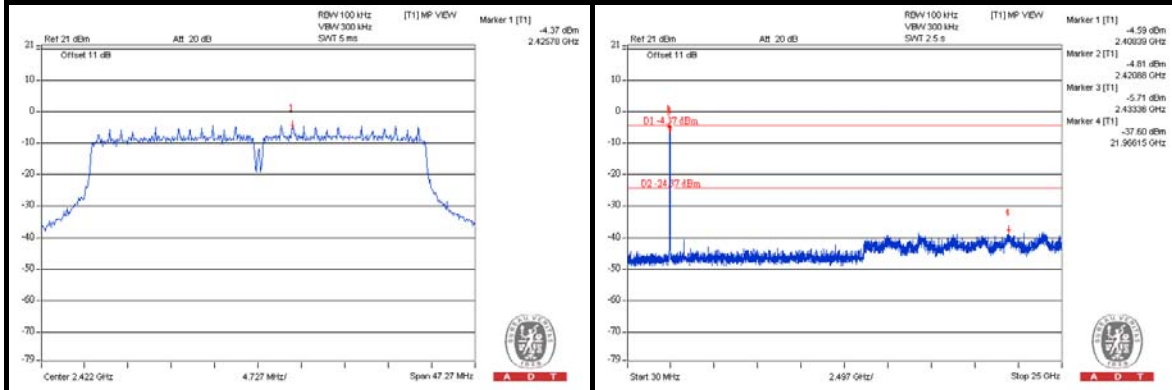


CH 11

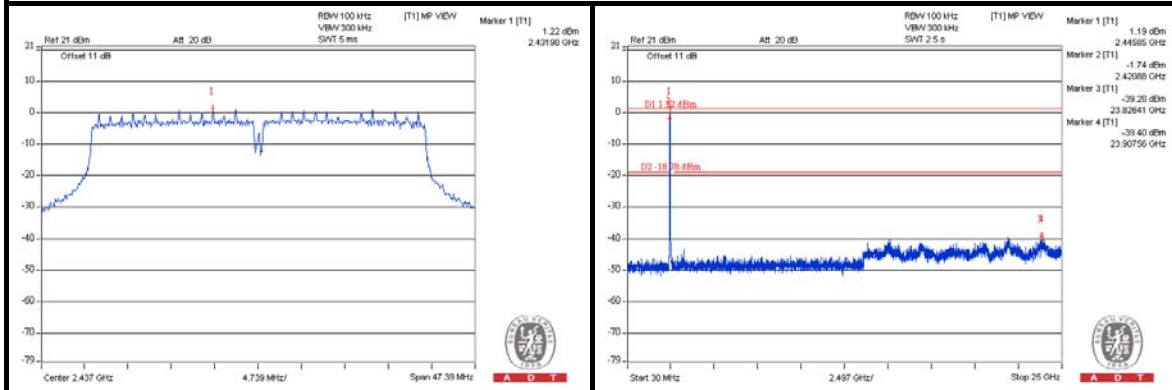


802.11n (40MHz) CHAIN 0

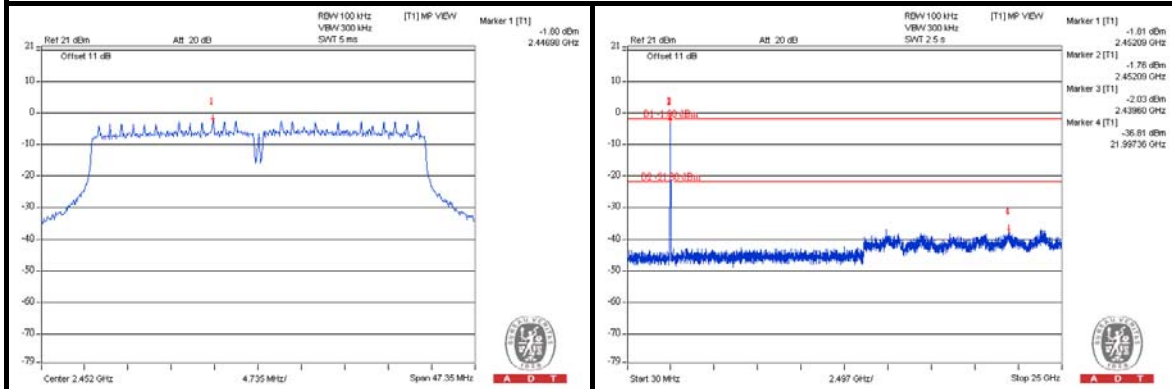
CH 3



CH 6



CH 9

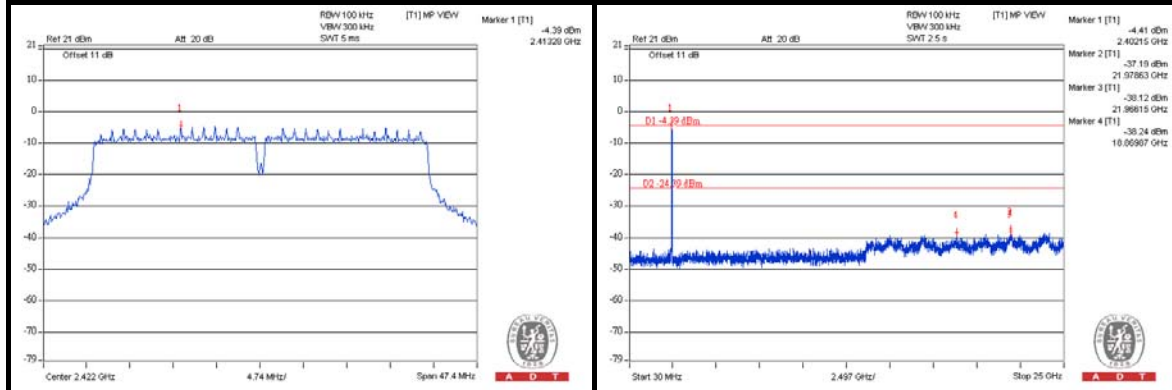




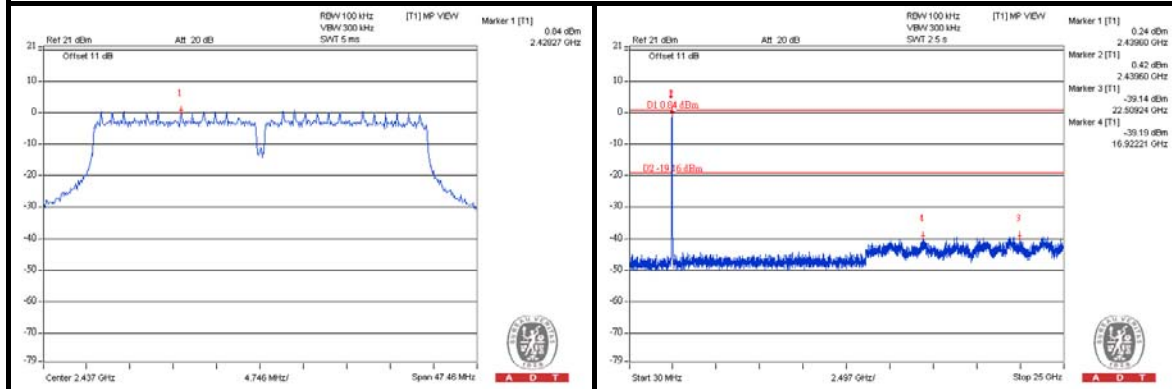
A D T

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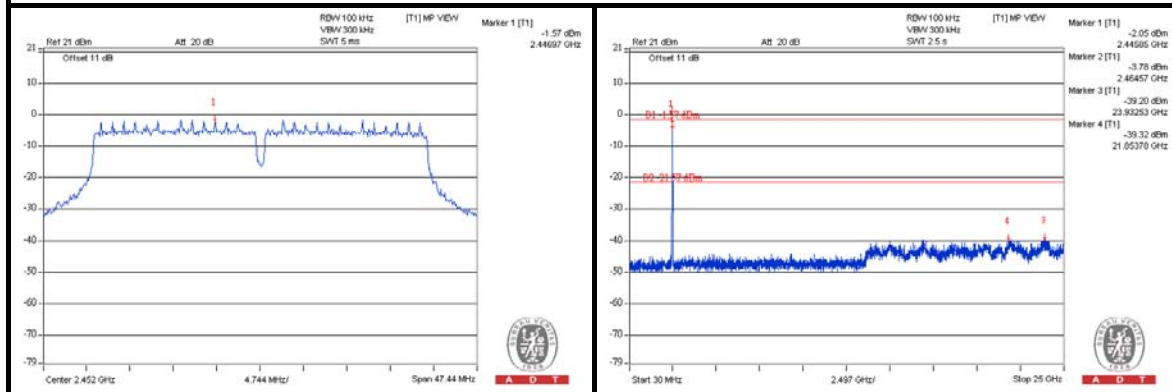
CH 3



CH 6



CH 9



5. TEST TYPES AND RESULTS (FOR 5.0GHz BAND)

5.1 RADIATED EMISSION MEASUREMENT

5.1.1 LIMITS OF RADIATED EMISSION 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.



A D T

5.1.2 TEST INSTRUMENTS

Same as item 4.1.2.

5.1.3 TEST PROCEDURES

Same as item 4.1.3.

5.1.4 DEVIATION FROM TEST STANDARD

No deviation.

5.1.5 TEST SETUP

Same as item 4.1.5.

5.1.6 EUT OPERATING CONDITIONS

Same as item 4.1.6.



A D T

5.1.7 TEST RESULTS

802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	55Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Chris Lin
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	74.3 PK	89.3	-15.0	1.11 H	335	33.90	40.40
2	#5725.00	65.1 AV	80.1	-15.0	1.11 H	335	24.70	40.40
3	*5745.00	109.3 PK			1.19 H	35	68.90	40.40
4	*5745.00	100.1 AV			1.19 H	35	59.70	40.40
5	11490.00	55.2 PK	74.0	-18.8	1.38 H	96	7.00	48.20
6	11490.00	43.2 AV	54.0	-10.8	1.38 H	96	-5.00	48.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5725.00	80.7 PK	95.7	-15.0	1.11 V	335	40.30	40.40
2	#5725.00	71.3 AV	86.3	-15.0	1.11 V	335	30.90	40.40
3	*5745.00	115.7 PK			1.00 V	334	75.30	40.40
4	*5745.00	106.3 AV			1.00 V	334	65.90	40.40
5	11490.00	57.2 PK	74.0	-16.8	1.28 V	65	9.00	48.20
6	11490.00	45.2 AV	54.0	-8.8	1.28 V	65	-3.00	48.20

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.
7. "#": The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	55Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Chris Lin
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	109.6 PK			1.00 H	31	69.20	40.40
2	*5785.00	99.6 AV			1.00 H	31	59.20	40.40
3	11570.00	55.1 PK	74.0	-18.9	1.47 H	62	6.80	48.30
4	11570.00	43.0 AV	54.0	-11.0	1.47 H	62	-5.30	48.30
5	#17355.00	60.8 PK	89.6	-28.8	1.55 H	88	5.80	55.00
6	#17355.00	50.7 AV	79.6	-28.9	1.55 H	88	-4.30	55.00
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	112.9 PK			1.00 V	312	72.50	40.40
2	*5785.00	104.3 AV			1.00 V	312	63.90	40.40
3	11570.00	57.2 PK	74.0	-16.8	1.33 V	28	8.90	48.30
4	11570.00	45.2 AV	54.0	-8.8	1.33 V	28	-3.10	48.30
5	#17355.00	62.7 PK	92.9	-30.2	1.44 V	96	7.70	55.00
6	#17355.00	52.7 AV	84.3	-31.6	1.44 V	96	-2.30	55.00

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * ”: Fundamental frequency.
6. The limit value is defined as per 15.247.
7. “#”:The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	55Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Chris Lin
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	*5825.00	105.9 PK			1.01 H	360	65.50	40.40
2	*5825.00	97.1 AV			1.01 H	360	56.70	40.40
3	#5850.00	59.9 PK	85.9	-26.0	1.00 H	0	19.50	40.40
4	#5850.00	51.1 AV	77.1	-26.0	1.00 H	0	10.70	40.40
5	11650.00	55.1 PK	74.0	-18.9	1.33 H	88	6.80	48.30
6	11650.00	43.2 AV	54.0	-10.8	1.33 H	88	-5.10	48.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	111.7 PK			1.00 V	331	71.30	40.40
2	*5825.00	102.6 AV			1.00 V	331	62.20	40.40
3	#5850.00	65.7 PK	91.7	-26.0	1.00 V	0	25.30	40.40
4	#5850.00	56.6 AV	82.6	-26.0	1.00 V	0	16.20	40.40
5	11650.00	57.1 PK	74.0	-16.9	1.14 V	63	8.80	48.30
6	11650.00	44.8 AV	54.0	-9.2	1.14 V	63	-3.50	48.30

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * ”: Fundamental frequency.
6. The limit value is defined as per 15.247.
7. “#”:The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	55Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Chris Lin
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	66.7 PK	84.9	-18.2	1.25 H	340	27.90	38.80
2	#5725.00	57.3 AV	75.5	-18.2	1.25 H	340	18.50	38.80
3	*5745.00	104.9 PK			1.16 H	360	66.00	38.90
4	*5745.00	95.5 AV			1.16 H	360	56.60	38.90
5	11490.00	58.4 PK	74.0	-15.6	1.19 H	74	8.70	49.70
6	11490.00	46.6 AV	54.0	-7.4	1.19 H	74	-3.10	49.70
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	73.9 PK	92.1	-18.2	1.11 V	339	35.10	38.80
2	#5725.00	64.4 AV	82.6	-18.2	1.11 V	339	25.60	38.80
3	*5745.00	112.1 PK			1.00 V	337	73.20	38.90
4	*5745.00	102.6 AV			1.00 V	337	63.70	38.90
5	11490.00	62.1 PK	74.0	-11.9	1.18 V	96	12.40	49.70
6	11490.00	49.8 AV	54.0	-4.2	1.18 V	96	0.10	49.70

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * ”: Fundamental frequency.
6. The limit value is defined as per 15.247.
7. "#":The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	55Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Chris Lin
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	68.7 PK			1.00 H	334	29.80	38.90
2	*5785.00	58.5 AV			1.00 H	334	19.60	38.90
3	11570.00	56.9 PK	74.0	-17.1	1.13 H	66	7.30	49.60
4	11570.00	44.7 AV	54.0	-9.3	1.13 H	66	-4.90	49.60
5	#17355.00	63.6 PK	48.7	14.9	1.10 H	75	10.10	53.50
6	#17355.00	49.4 AV	38.5	10.9	1.10 H	75	-4.10	53.50
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	111.8 PK			1.00 V	342	72.90	38.90
2	*5785.00	102.2 AV			1.00 V	342	63.30	38.90
3	11570.00	61.7 PK	74.0	-12.3	1.16 V	74	12.10	49.60
4	11570.00	47.9 AV	54.0	-6.1	1.16 V	74	-1.70	49.60
5	#17355.00	65.7 PK	91.8	-26.1	1.09 V	54	12.20	53.50
6	#17355.00	51.0 AV	82.2	-31.2	1.09 V	54	-2.50	53.50

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * ”: Fundamental frequency.
6. The limit value is defined as per 15.247.
7. “#”:The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	55Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Chris Lin
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	*5825.00	102.6 PK			1.02 H	37	63.60	39.00
2	*5825.00	93.1 AV			1.02 H	37	54.10	39.00
3	#5850.00	59.6 PK	82.6	-23.0	1.10 H	85	20.50	39.10
4	#5850.00	50.0 AV	73.1	-23.1	1.10 H	85	10.90	39.10
5	11650.00	57.5 PK	74.0	-16.5	1.14 H	52	8.10	49.40
6	11650.00	46.1 AV	54.0	-7.9	1.14 H	52	-3.30	49.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	110.9 PK			1.00 V	316	71.90	39.00
2	*5825.00	101.5 AV			1.00 V	316	62.50	39.00
3	#5850.00	67.9 PK	90.9	-23.0	1.00 V	316	28.80	39.10
4	#5850.00	58.5 AV	81.5	-23.0	1.00 V	316	19.40	39.10
5	11650.00	61.6 PK	74.0	-12.4	1.24 V	85	12.20	49.40
6	11650.00	50.2 AV	54.0	-3.8	1.24 V	85	0.80	49.40

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * ”: Fundamental frequency.
6. The limit value is defined as per 15.247.
7. “#”:The radiated frequency is out the restricted band.



A D T

802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	55Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Chris Lin
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	73.3 PK	88.3	-15.0	1.16 H	340	32.90	40.40
2	#5725.00	64.0 AV	79.0	-15.0	1.16 H	340	23.60	40.40
3	*5745.00	108.3 PK			1.00 H	37	67.90	40.40
4	*5745.00	99.0 AV			1.00 H	37	58.60	40.40
5	11490.00	54.9 PK	74.0	-19.1	1.38 H	99	6.70	48.20
6	11490.00	43.1 AV	54.0	-10.9	1.38 H	99	-5.10	48.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5725.00	78.9 PK	93.9	-15.0	1.10 V	350	38.50	40.40
2	#5725.00	70.4 AV	85.4	-15.0	1.10 V	350	30.00	40.40
3	*5745.00	113.9 PK			1.46 V	320	73.50	40.40
4	*5745.00	105.4 AV			1.46 V	320	65.00	40.40
5	11490.00	57.3 PK	74.0	-16.7	1.55 V	89	9.10	48.20
6	11490.00	44.8 AV	54.0	-9.2	1.55 V	89	-3.40	48.20

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * “: Fundamental frequency.
6. The limit value is defined as per 15.247.
7. “#”: The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	55Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Chris Lin
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	109.4 PK			1.00 H	32	69.00	40.40
2	*5785.00	99.3 AV			1.00 H	32	58.90	40.40
3	11570.00	54.7 PK	74.0	-19.3	1.25 H	118	6.40	48.30
4	11570.00	43.5 AV	54.0	-10.5	1.25 H	118	-4.80	48.30
5	#17355.00	60.8 PK	89.4	-28.6	1.13 H	44	5.80	55.00
6	#17355.00	50.8 AV	79.3	-28.5	1.13 H	44	-4.20	55.00
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	114.1 PK			1.00 V	336	73.70	40.40
2	*5785.00	104.6 AV			1.00 V	336	64.20	40.40
3	11570.00	57.2 PK	74.0	-16.8	1.58 V	145	8.90	48.30
4	11570.00	45.5 AV	54.0	-8.5	1.58 V	145	-2.80	48.30
5	#17355.00	63.0 PK	94.1	-31.1	1.19 V	66	8.00	55.00
6	#17355.00	52.7 AV	84.6	-31.9	1.19 V	66	-2.30	55.00

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * ”: Fundamental frequency.
6. The limit value is defined as per 15.247.
7. “#”:The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	55Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Chris Lin
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	*5825.00	106.4 PK			1.31 H	6	66.00	40.40
2	*5825.00	97.3 AV			1.31 H	6	56.90	40.40
3	#5850.00	62.4 PK	86.4	-24.0	1.26 H	74	22.00	40.40
4	#5850.00	53.3 AV	77.3	-24.0	1.26 H	74	12.90	40.40
5	11650.00	55.1 PK	74.0	-18.9	1.09 H	84	6.80	48.30
6	11650.00	43.2 AV	54.0	-10.8	1.09 H	84	-5.10	48.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	111.3 PK			1.00 V	336	70.90	40.40
2	*5825.00	102.6 AV			1.00 V	336	62.20	40.40
3	#5850.00	66.3 PK	91.3	-25.0	1.28 V	56	25.90	40.40
4	#5850.00	58.6 AV	82.6	-24.0	1.28 V	56	18.20	40.40
5	11650.00	57.1 PK	74.0	-16.9	1.88 V	132	8.80	48.30
6	11650.00	47.5 AV	54.0	-6.5	1.88 V	132	-0.80	48.30

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * ”: Fundamental frequency.
6. The limit value is defined as per 15.247.
7. “#”:The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	55Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Chris Lin
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	66.6 PK	83.6	-17.0	1.20 H	340	27.80	38.80
2	#5725.00	57.7 AV	74.7	-17.0	1.20 H	340	18.90	38.80
3	*5745.00	103.6 PK			1.15 H	360	64.70	38.90
4	*5745.00	94.7 AV			1.15 H	360	55.80	38.90
5	11490.00	59.0 PK	74.0	-15.0	1.16 H	47	9.30	49.70
6	11490.00	47.0 AV	54.0	-7.0	1.16 H	47	-2.70	49.70
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	74.5 PK	91.5	-17.0	1.10 V	326	35.70	38.80
2	#5725.00	65.4 AV	82.4	-17.0	1.10 V	326	26.60	38.80
3	*5745.00	111.5 PK			1.00 V	336	72.60	38.90
4	*5745.00	102.4 AV			1.00 V	336	63.50	38.90
5	11490.00	62.1 PK	74.0	-11.9	1.28 V	52	12.40	49.70
6	11490.00	49.3 AV	54.0	-4.7	1.28 V	52	-0.40	49.70

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * ”: Fundamental frequency.
6. The limit value is defined as per 15.247.
7. “#”:The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	55Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Chris Lin
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	102.0 PK			1.01 H	44	63.10	38.90
2	*5785.00	92.3 AV			1.01 H	44	53.40	38.90
3	11570.00	57.7 PK	74.0	-16.3	1.42 H	108	8.10	49.60
4	11570.00	47.1 AV	54.0	-6.9	1.42 H	108	-2.50	49.60
5	#17355.00	61.9 PK	82.0	-20.1	1.16 H	32	8.40	53.50
6	#17355.00	48.9 AV	72.3	-23.4	1.16 H	32	-4.60	53.50
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	111.1 PK			1.00 V	339	72.20	38.90
2	*5785.00	101.6 AV			1.00 V	339	62.70	38.90
3	11570.00	61.8 PK	74.0	-12.2	1.09 V	44	12.20	49.60
4	11570.00	49.0 AV	54.0	-5.0	1.09 V	44	-0.60	49.60
5	#17355.00	63.9 PK	91.1	-27.2	1.32 V	85	10.40	53.50
6	#17355.00	51.2 AV	81.6	-30.4	1.32 V	85	-2.30	53.50

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * ”: Fundamental frequency.
6. The limit value is defined as per 15.247.
7. “#”:The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	55Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Chris Lin
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	*5825.00	104.4 PK			1.15 H	329	65.40	39.00
2	*5825.00	94.4 AV			1.15 H	329	55.40	39.00
3	#5850.00	61.4 PK	84.4	-23.0	1.25 H	319	22.30	39.10
4	#5850.00	51.4 AV	74.4	-23.0	1.25 H	319	12.30	39.10
5	11650.00	57.2 PK	74.0	-16.8	1.12 H	85	7.80	49.40
6	11650.00	46.2 AV	54.0	-7.8	1.12 H	85	-3.20	49.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	111.2 PK			1.00 V	326	72.20	39.00
2	*5825.00	100.0 AV			1.00 V	326	61.00	39.00
3	#5850.00	67.2 PK	91.2	-24.0	1.10 V	316	28.10	39.10
4	#5850.00	56.0 AV	80.0	-24.0	1.10 V	316	16.90	39.10
5	11650.00	60.6 PK	74.0	-13.4	1.28 V	106	11.20	49.40
6	11650.00	49.6 AV	54.0	-4.4	1.28 V	106	0.20	49.40

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * ”: Fundamental frequency.
6. The limit value is defined as per 15.247.
7. “#”:The radiated frequency is out the restricted band.



A D T

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 151	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	55Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Chris Lin
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	67.6 PK	83.6	-16.0	1.16 H	55	27.20	40.40
2	#5725.00	59.1 AV	75.1	-16.0	1.16 H	55	18.70	40.40
3	*5755.00	103.6 PK			1.23 H	37	63.20	40.40
4	*5755.00	95.1 AV			1.23 H	37	54.70	40.40
5	11510.00	54.8 PK	74.0	-19.2	1.33 H	107	6.50	48.30
6	11510.00	43.1 AV	54.0	-10.9	1.33 H	107	-5.20	48.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5725.00	74.4 PK	90.4	-16.0	1.20 V	346	34.00	40.40
2	#5725.00	65.5 AV	81.5	-16.0	1.20 V	346	25.10	40.40
3	*5755.00	110.4 PK			1.00 V	336	70.00	40.40
4	*5755.00	101.5 AV			1.00 V	336	61.10	40.40
5	11510.00	58.6 PK	74.0	-15.4	1.23 V	107	10.30	48.30
6	11510.00	47.1 AV	54.0	-6.9	1.23 V	107	-1.20	48.30

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.
7. "#": The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 159	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	55Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Chris Lin
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	106.3 PK			1.24 H	34	65.90	40.40
2	*5795.00	95.5 AV			1.24 H	34	55.10	40.40
3	#5850.00	62.3 PK	86.3	-24.0	1.32 H	85	21.90	40.40
4	#5850.00	51.5 AV	75.5	-24.0	1.32 H	85	11.10	40.40
5	11590.00	55.3 PK	74.0	-18.7	1.12 H	105	7.00	48.30
6	11590.00	43.1 AV	54.0	-10.9	1.12 H	105	-5.20	48.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	109.6 PK			1.00 V	324	69.20	40.40
2	*5795.00	99.6 AV			1.00 V	324	59.20	40.40
3	#5850.00	64.6 PK	89.6	-25.0	1.13 V	66	24.20	40.40
4	#5850.00	54.6 AV	79.6	-25.0	1.13 V	66	14.20	40.40
5	11590.00	57.4 PK	74.0	-16.6	1.19 V	126	9.10	48.30
6	11590.00	47.4 AV	54.0	-6.6	1.19 V	126	-0.90	48.30

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * ”: Fundamental frequency.
6. The limit value is defined as per 15.247.
7. “#”:The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 151	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	55Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Chris Lin
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	70.6 PK	81.6	-11.0	1.00 H	48	31.80	38.80
2	#5725.00	60.4 AV	71.4	-11.0	1.00 H	48	21.60	38.80
3	*5755.00	101.6 PK			1.12 H	48	62.70	38.90
4	*5755.00	91.4 AV			1.12 H	48	52.50	38.90
5	11510.00	58.7 PK	74.0	-15.3	1.05 H	41	9.00	49.70
6	11510.00	46.7 AV	54.0	-7.3	1.05 H	41	-3.00	49.70
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	78.1 PK	89.1	-11.0	1.00 V	325	39.30	38.80
2	#5725.00	68.7 AV	79.7	-11.0	1.00 V	325	29.90	38.80
3	*5755.00	109.1 PK			1.00 V	337	70.20	38.90
4	*5755.00	99.7 AV			1.00 V	337	60.80	38.90
5	11510.00	62.0 PK	74.0	-12.0	1.17 V	96	12.30	49.70
6	11510.00	50.7 AV	54.0	-3.3	1.17 V	96	1.00	49.70

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * ”: Fundamental frequency.
6. The limit value is defined as per 15.247.
7. “#”:The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 159	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	55Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Chris Lin
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	101.9 PK			1.00 H	48	62.90	39.00
2	*5795.00	91.3 AV			1.00 H	48	52.30	39.00
3	#5850.00	64.9 PK	81.9	-17.0	1.12 H	48	25.80	39.10
4	#5850.00	54.3 AV	71.3	-17.0	1.12 H	48	15.20	39.10
5	11590.00	58.8 PK	74.0	-15.2	1.05 H	41	9.30	49.50
6	11590.00	47.7 AV	54.0	-6.3	1.05 H	41	-1.80	49.50
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	108.2 PK			1.00 V	335	69.20	39.00
2	*5795.00	98.9 AV			1.00 V	335	59.90	39.00
3	#5850.00	69.2 PK	88.2	-19.0	1.10 V	335	30.10	39.10
4	#5850.00	61.8 AV	78.9	-17.1	1.10 V	335	22.70	39.10
5	11590.00	61.7 PK	74.0	-12.3	1.19 V	66	12.20	49.50
6	11590.00	50.3 AV	54.0	-3.7	1.19 V	66	0.80	49.50

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * ”: Fundamental frequency.
6. The limit value is defined as per 15.247.
7. “#”:The radiated frequency is out the restricted band.



A D T

BELOW 1GHz WORST-CASE DATA : 802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	55Vdc	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Chris Lin
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	267.10	31.2 QP	46.0	-14.8	1.24 H	231	17.40	13.80
2	374.04	33.1 QP	46.0	-12.9	1.00 H	103	16.20	16.90
3	533.47	36.3 QP	46.0	-9.7	1.50 H	19	15.40	20.90
4	599.58	44.8 QP	46.0	-1.2	1.50 H	5	22.30	22.50
5	667.63	44.7 QP	46.0	-1.3	1.00 H	13	21.40	23.30
6	933.99	41.6 QP	46.0	-4.4	1.50 H	221	14.30	27.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	51.29	36.3 QP	40.0	-3.7	1.00 V	350	22.60	13.70
2	166.00	28.7 QP	43.5	-14.8	1.00 V	167	15.00	13.70
3	374.04	30.9 QP	46.0	-15.1	1.00 V	120	14.00	16.90
4	599.58	39.1 QP	46.0	-6.9	1.00 V	84	16.60	22.50
5	667.63	35.4 QP	46.0	-10.6	1.00 V	74	12.10	23.30
6	867.89	36.1 QP	46.0	-9.9	1.50 V	141	9.60	26.50

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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.



A D T

BELOW 1GHz WORST-CASE DATA : 802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	55Vdc	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Chris Lin
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	467.36	32.5 QP	46.0	-13.5	2.00 H	154	13.30	19.20
2	533.47	38.1 QP	46.0	-7.9	1.50 H	14	17.20	20.90
3	599.58	44.5 QP	46.0	-1.5	1.25 H	4	22.00	22.50
4	667.63	42.7 QP	46.0	-3.3	1.00 H	21	19.40	23.30
5	716.23	43.0 QP	46.0	-3.0	1.00 H	4	19.00	24.00
6	867.89	42.5 QP	46.0	-3.5	1.50 H	323	16.00	26.50
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	53.23	38.8 QP	40.0	-1.2	1.24 V	352	25.10	13.70
2	148.50	27.7 QP	43.5	-15.8	1.00 V	142	13.90	13.80
3	467.36	35.1 QP	46.0	-10.9	1.24 V	107	15.90	19.20
4	665.68	33.6 QP	46.0	-12.4	2.00 V	54	10.40	23.20
5	867.89	36.3 QP	46.0	-9.7	1.50 V	281	9.80	26.50
6	933.99	43.1 QP	46.0	-2.9	1.00 V	117	15.80	27.30

REMARKS:

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

5.2 CONDUCTED EMISSION MEASUREMENT

5.2.1 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.
3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

5.2.2 TEST INSTRUMENTS

Same as item 4.2.2.

5.2.3 TEST PROCEDURES

Same as item 4.2.3.

5.2.4 DEVIATION FROM TEST STANDARD

No deviation.

5.2.5 TEST SETUP

Same as item 4.2.5.

5.2.6 EUT OPERATING CONDITIONS

Same as item 4.1.6.

5.2.7 TEST RESULTS

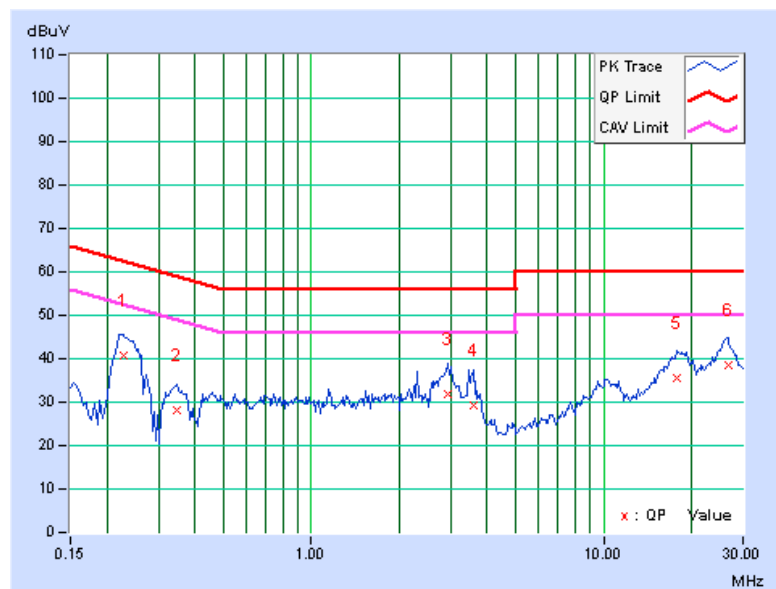
CONDUCTED WORST-CASE DATA : 802.11n (20MHz)

PHASE	Line 1	6dB BANDWIDTH	9kHz
TEST MODE	A		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.22794	0.18	40.46	27.68	40.64	27.86	62.52	52.52	-21.89	-24.67
2	0.34531	0.20	27.83	19.53	28.03	19.73	59.07	49.07	-31.05	-29.35
3	2.92578	0.33	31.46	23.04	31.79	23.37	56.00	46.00	-24.21	-22.63
4	3.57813	0.35	29.06	20.48	29.41	20.83	56.00	46.00	-26.59	-25.17
5	17.81250	0.63	35.05	30.07	35.68	30.70	60.00	50.00	-24.32	-19.30
6	26.59375	0.64	37.81	32.85	38.45	33.49	60.00	50.00	-21.55	-16.51

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.

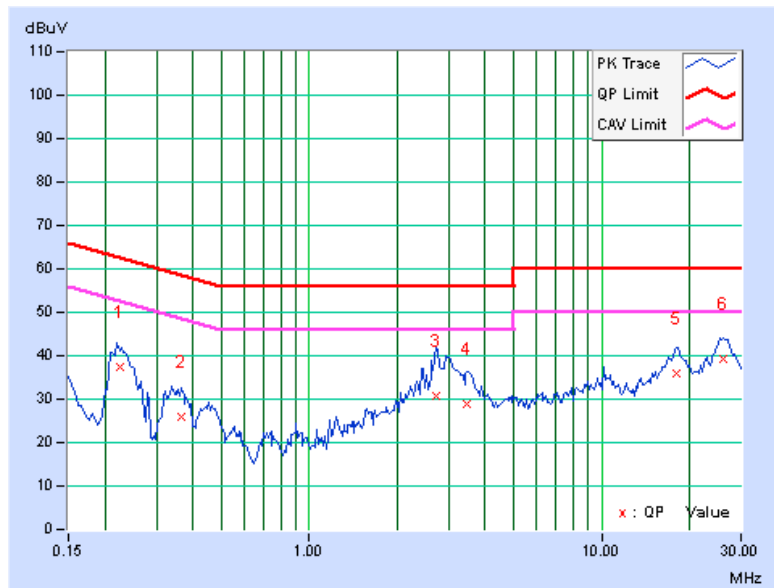


PHASE	Line 2	6dB BANDWIDTH	9kHz
TEST MODE	A		

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.22540	0.17	37.39	27.17	37.56	27.34	62.62	52.62	-25.06	-25.28
2	0.36484	0.19	25.91	17.20	26.10	17.39	58.62	48.62	-32.51	-31.22
3	2.70313	0.32	30.36	22.80	30.68	23.12	56.00	46.00	-25.32	-22.88
4	3.47266	0.36	28.57	22.99	28.93	23.35	56.00	46.00	-27.07	-22.65
5	18.02734	0.71	35.12	30.00	35.83	30.71	60.00	50.00	-24.17	-19.29
6	26.10547	0.69	38.48	33.43	39.17	34.12	60.00	50.00	-20.83	-15.88

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.



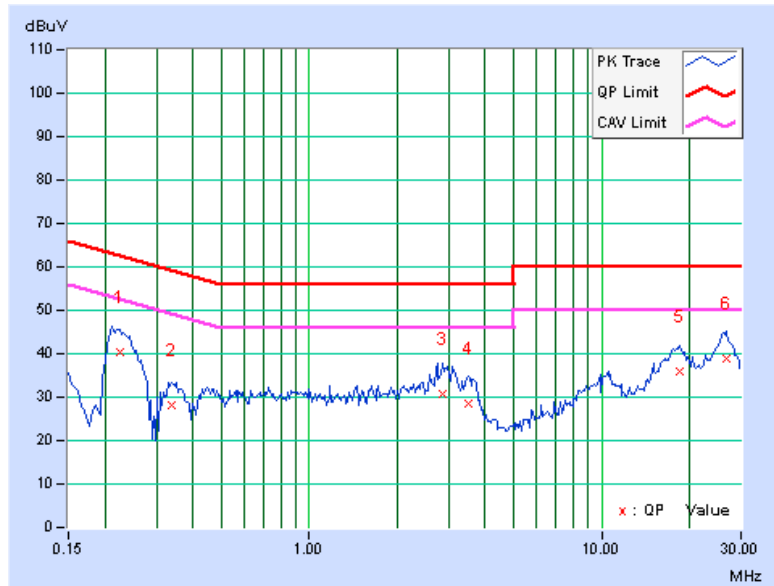
CONDUCTED WORST-CASE DATA : 802.11a

PHASE	Line 1	6dB BANDWIDTH	9kHz
TEST MODE	B		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.22422	0.17	40.15	26.77	40.32	26.94	62.66	52.66	-22.34	-25.72
2	0.33750	0.20	27.97	19.04	28.17	19.24	59.26	49.26	-31.10	-30.03
3	2.84766	0.32	30.59	22.57	30.91	22.89	56.00	46.00	-25.09	-23.11
4	3.50781	0.35	28.28	20.42	28.63	20.77	56.00	46.00	-27.37	-25.23
5	18.42578	0.64	35.25	30.12	35.89	30.76	60.00	50.00	-24.11	-19.24
6	26.77734	0.64	38.26	33.31	38.90	33.95	60.00	50.00	-21.10	-16.05

REMARKS:

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

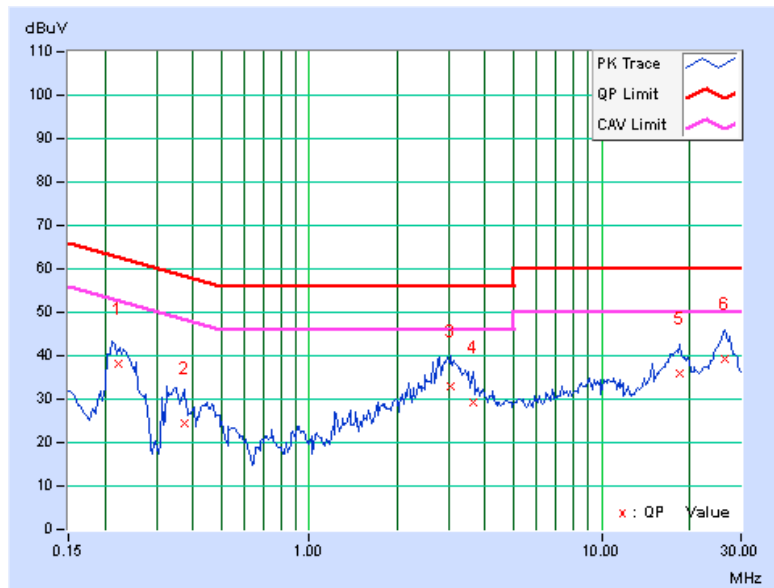


PHASE	Line 2	6dB BANDWIDTH	9kHz
TEST MODE	B		

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.22268	0.16	37.95	26.67	38.11	26.83	62.72	52.72	-24.60	-25.88
2	0.37266	0.19	24.25	14.09	24.44	14.28	58.44	48.44	-34.00	-34.16
3	3.05078	0.34	32.58	25.23	32.92	25.57	56.00	46.00	-23.08	-20.43
4	3.63281	0.36	28.98	22.55	29.34	22.91	56.00	46.00	-26.66	-23.09
5	18.44922	0.73	35.02	30.02	35.75	30.75	60.00	50.00	-24.25	-19.25
6	26.44922	0.68	38.60	33.70	39.28	34.38	60.00	50.00	-20.72	-15.62

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.



5.3 6dB BANDWIDTH MEASUREMENT

5.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

5.3.2 TEST SETUP

Same as item 4.3.2.

5.3.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

5.3.4 TEST PROCEDURE

Same as item 4.3.4.

5.3.5 DEVIATION FROM TEST STANDARD

No deviation.

5.3.6 EUT OPERATING CONDITIONS

Same as item 4.3.6.

5.3.7 TEST RESULTS (A)

802.11a

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
149	5745	16.460	16.450	0.5	PASS
157	5785	16.440	16.440	0.5	PASS
165	5825	16.450	17.750	0.5	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
149	5745	17.640	17.810	0.5	PASS
157	5785	17.680	17.810	0.5	PASS
165	5825	17.640	17.690	0.5	PASS

802.11n (40MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
151	5755	36.100	36.020	0.5	PASS
159	5795	36.410	36.450	0.5	PASS

5.3.8 TEST RESULTS (B)

802.11a

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
149	5745	16.430	17.750	0.5	PASS
157	5785	16.420	17.810	0.5	PASS
165	5825	16.400	17.720	0.5	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
149	5745	17.710	17.660	0.5	PASS
157	5785	17.710	17.630	0.5	PASS
165	5825	17.710	17.640	0.5	PASS

802.11n (40MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
151	5755	36.450	36.410	0.5	PASS
159	5795	36.130	36.210	0.5	PASS

5.4 CONDUCTED OUTPUT POWER

5.4.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT

For systems using digital modulation in the 5725 –5850 MHz bands: 1 Watt (30dBm)

Per KDB 662911 D01 Multiple Transmitter Output v01r02 Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $NANT \leq 4$;

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 $NANT \geq 5$.

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

5.4.2 TEST SETUP

Same as Item 4.4.2.

5.4.3 INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

5.4.4 TEST PROCEDURES

Same as Item 4.4.4.

5.4.5 DEVIATION FROM TEST STANDARD

No deviation.

5.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6.

5.4.7 TEST RESULTS (A)

FOR PEAK POWER

802.11a

CHAN.	FREQ. (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
149	5745	23.40	23.10	422.950	26.26	30	PASS
157	5785	23.40	23.50	442.648	26.46	30	PASS
165	5825	23.40	23.60	447.863	26.51	30	PASS

802.11n (20MHz)

CHAN.	FREQ. (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
149	5745	23.40	23.80	458.659	26.61	30	PASS
157	5785	23.70	23.60	463.510	26.66	30	PASS
165	5825	23.60	23.10	433.261	26.37	30	PASS

802.11n (40MHz)

CHAN.	FREQ. (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
151	5755	23.70	23.60	463.510	26.66	30	PASS
159	5795	23.60	23.50	452.959	26.56	30	PASS

**A D T****FOR AVERAGE POWER****802.11a**

CHAN.	FREQUENCY (MHz)	AVG. POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1		
149	5745	16.40	16.50	88.308	19.46
157	5785	16.40	16.20	85.310	19.31
165	5825	16.60	16.10	86.497	19.37

802.11n (20MHz)

CHAN.	FREQUENCY (MHz)	AVG. POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1		
149	5745	15.40	15.50	70.146	18.46
157	5785	15.40	15.00	66.222	18.21
165	5825	15.70	15.10	69.502	18.42

802.11n (40MHz)

CHAN.	FREQUENCY (MHz)	AVG. POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1		
151	5755	14.40	14.30	54.450	17.36
159	5795	14.10	13.90	50.234	17.01

5.4.8 TEST RESULTS (B)

FOR PEAK POWER

802.11a

CHAN.	FREQ. (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
149	5745	24.10	23.89	501.946	27.01	30	PASS
157	5785	23.43	23.64	451.499	26.55	30	PASS
165	5825	24.07	23.55	481.734	26.83	30	PASS

802.11n (20MHz)

CHAN.	FREQ. (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
149	5745	23.43	23.42	440.079	26.44	30	PASS
157	5785	23.09	23.41	422.984	26.26	30	PASS
165	5825	23.36	23.70	451.193	26.54	30	PASS

802.11n (40MHz)

CHAN.	FREQ. (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
151	5755	22.49	22.59	358.971	25.55	30	PASS
159	5795	22.99	22.93	395.403	25.97	30	PASS

**A D T****FOR AVERAGE POWER****802.11a**

CHAN.	FREQUENCY (MHz)	AVG. POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1		
149	5745	16.45	16.62	90.157	19.55
157	5785	16.57	16.01	85.310	19.31
165	5825	16.86	16.16	89.743	19.53

802.11n (20MHz)

CHAN.	FREQUENCY (MHz)	AVG. POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1		
149	5745	15.81	15.55	73.961	18.69
157	5785	15.37	15.22	67.764	18.31
165	5825	15.71	15.11	69.663	18.43

802.11n (40MHz)

CHAN.	FREQUENCY (MHz)	AVG. POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1		
151	5755	14.26	13.91	51.286	17.10
159	5795	14.38	14.15	53.456	17.28

5.5 POWER SPECTRAL DENSITY MEASUREMENT

5.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

5.5.2 TEST SETUP

Same as item 4.5.2.

5.5.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

5.5.4 TEST PROCEDURE.

Same as item 4.5.4.

5.5.5 DEVIATION FROM TEST STANDARD

No deviation.

5.5.6 EUT OPERATING CONDITION

Same as item 4.3.6.

5.5.7 TEST RESULTS (A)

802.11a

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	149	5745	-8.990	3.01	-5.980	6.99	PASS
	157	5785	-7.850	3.01	-4.840	6.99	PASS
	165	5825	-7.720	3.01	-4.710	6.99	PASS
1	149	5745	-8.40	3.01	-5.39	6.99	PASS
	157	5785	-9.04	3.01	-6.03	6.99	PASS
	165	5825	-10.27	3.01	-7.26	6.99	PASS

NOTE: Directional gain = 4dBi + 10log(2) = 7.01dBi > 6dBi , so the power density limit shall be reduced to 8-(7.01-6) = 6.99dBm.

802.11n (20MHz)

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	149	5745	-7.760	3.01	-4.750	6.99	PASS
	157	5785	-9.550	3.01	-6.540	6.99	PASS
	165	5825	-7.530	3.01	-4.520	6.99	PASS
1	149	5745	-10.16	3.01	-7.15	6.99	PASS
	157	5785	-10.52	3.01	-7.51	6.99	PASS
	165	5825	-8.78	3.01	-5.77	6.99	PASS

NOTE: Directional gain = 4dBi + 10log(2) = 7.01dBi > 6dBi , so the power density limit shall be reduced to 8-(7.01-6) = 6.99dBm.

802.11n (40MHz)

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	151	5755	-10.320	3.01	-7.310	6.99	PASS
	159	5795	-10.680	3.01	-7.670	6.99	PASS
1	151	5755	-12.73	3.01	-9.72	6.99	PASS
	159	5795	-14.65	3.01	-11.64	6.99	PASS

NOTE: Directional gain = 4dBi + 10log(2) = 7.01dBi > 6dBi , so the power density limit shall be reduced to 8-(7.01-6) = 6.99dBm.

5.5.8 TEST RESULTS (B)

802.11a

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	149	5745	-8.570	3.01	-5.560	6.99	PASS
	157	5785	-7.750	3.01	-4.740	6.99	PASS
	165	5825	-8.440	3.01	-5.430	6.99	PASS
1	149	5745	-8.21	3.01	-5.20	6.99	PASS
	157	5785	-8.09	3.01	-5.08	6.99	PASS
	165	5825	-8.04	3.01	-5.03	6.99	PASS

NOTE: Directional gain = 4dBi + 10log(2) = 7.01dBi > 6dBi , so the power density limit shall be reduced to 8-(7.01-6) = 6.99dBm.

802.11n (20MHz)

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	149	5745	-9.810	3.01	-6.800	6.99	PASS
	157	5785	-10.720	3.01	-7.710	6.99	PASS
	165	5825	-9.900	3.01	-6.890	6.99	PASS
1	149	5745	-9.86	3.01	-6.85	6.99	PASS
	157	5785	-9.98	3.01	-6.97	6.99	PASS
	165	5825	-9.91	3.01	-6.90	6.99	PASS

NOTE: Directional gain = 4dBi + 10log(2) = 7.01dBi > 6dBi , so the power density limit shall be reduced to 8-(7.01-6) = 6.99dBm.

802.11n (40MHz)

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	151	5755	-11.340	3.01	-8.330	6.99	PASS
	159	5795	-11.460	3.01	-8.450	6.99	PASS
1	151	5755	-11.47	3.01	-8.46	6.99	PASS
	159	5795	-11.54	3.01	-8.53	6.99	PASS

NOTE: Directional gain = 4dBi + 10log(2) = 7.01dBi > 6dBi , so the power density limit shall be reduced to 8-(7.01-6) = 6.99dBm.

5.6 CONDUCTED OUT OF BAND EMISSION MEASUREMENT

5.6.1 LIMITS OF CONDUCTED OUT OF BAND EMISSION MEASUREMENT

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

5.6.2 TEST SETUP

Same as Item 4.6.2

5.6.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

5.6.4 TEST PROCEDURE

Same as Item 4.6.4

5.6.5 DEVIATION FROM TEST STANDARD

No deviation.

5.6.6 EUT OPERATING CONDITION

Same as Item 4.3.6

5.6.7 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.

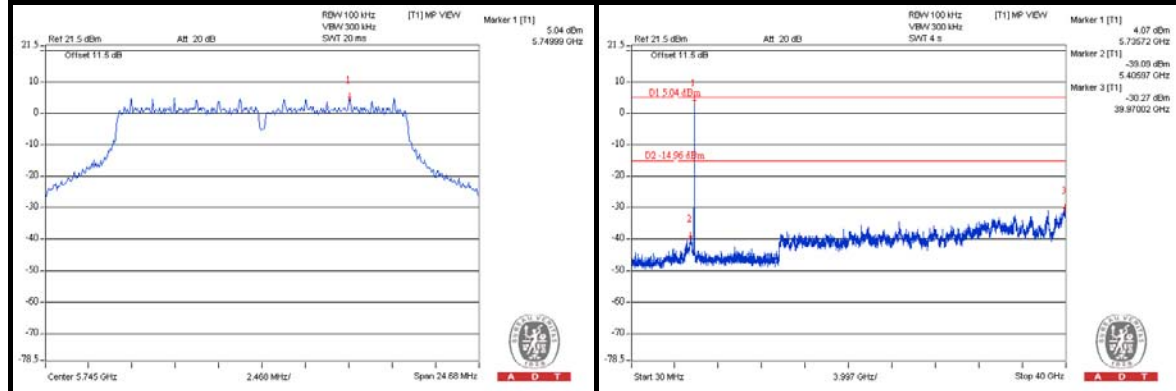
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.

Test Mode A

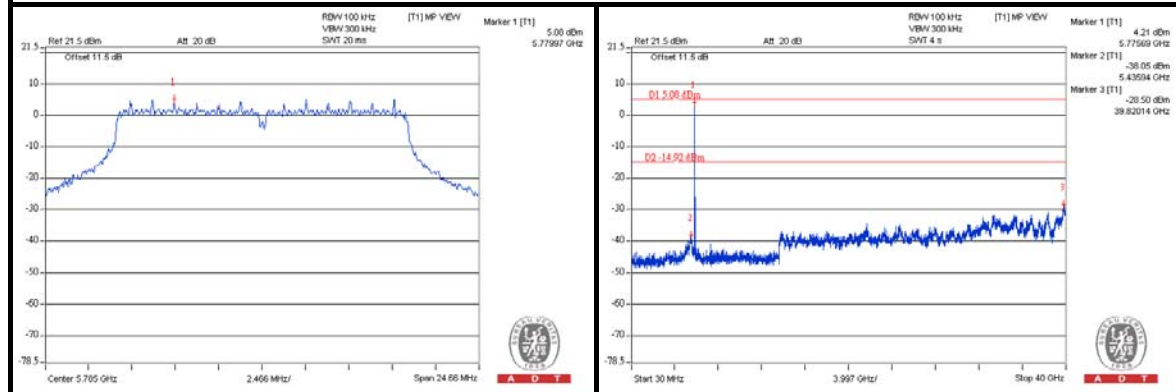
802.11a

CHAIN 0

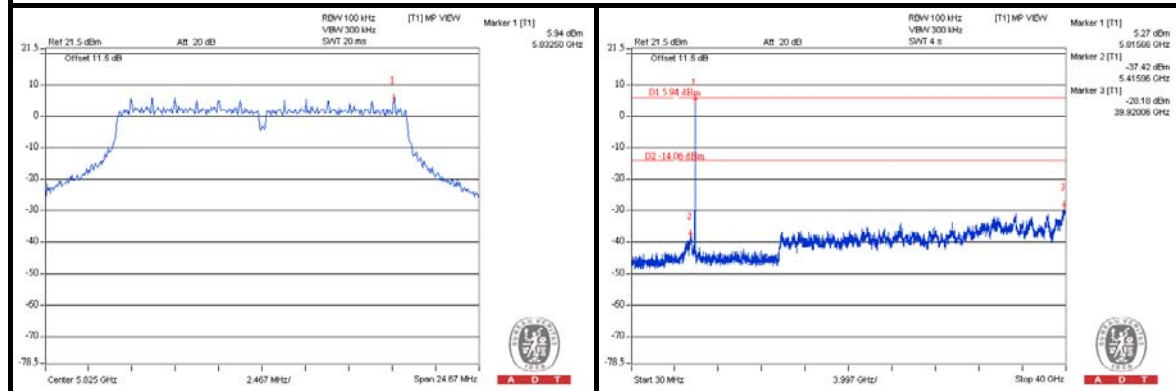
CH 149



CH 157



CH 165

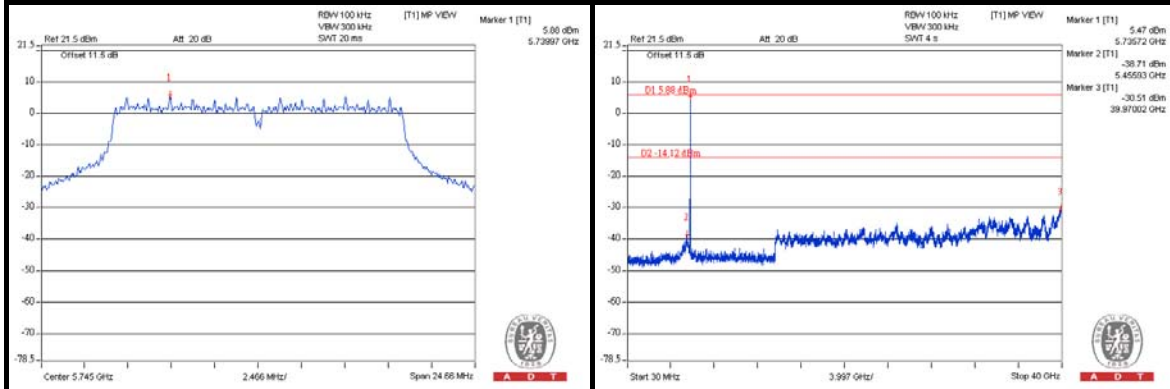




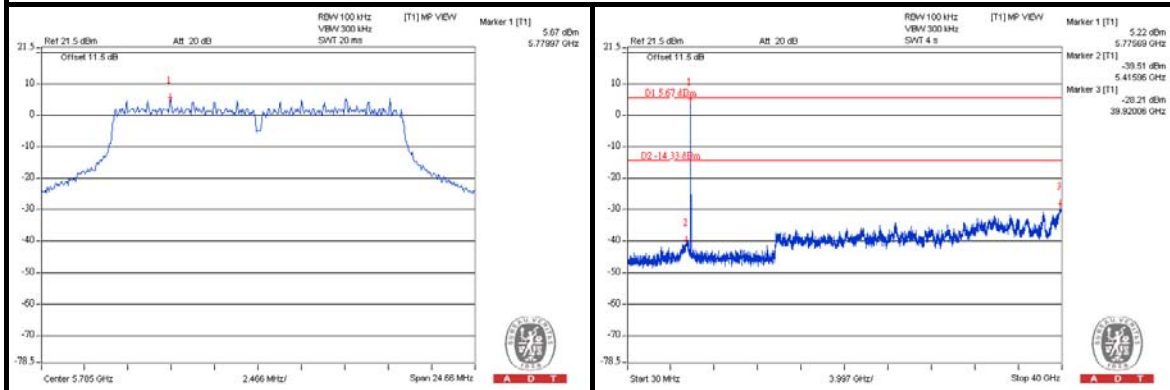
A D T

CHAIN 1

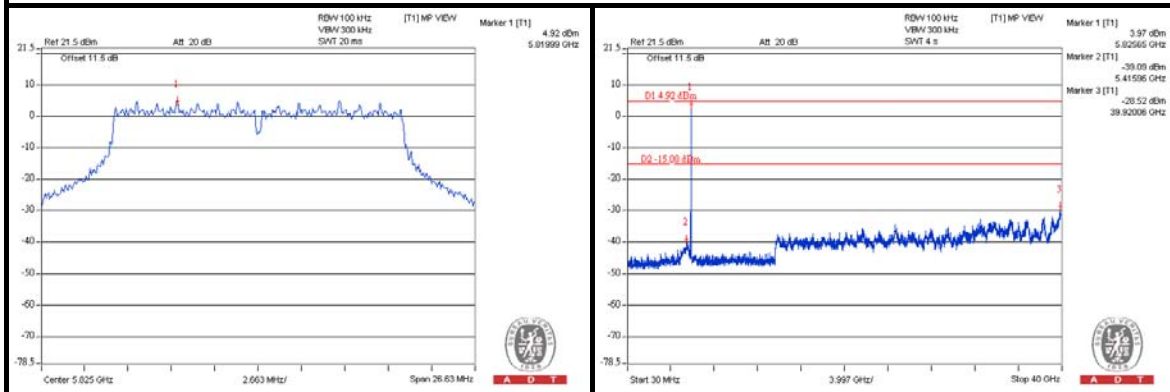
CH 149



CH 157

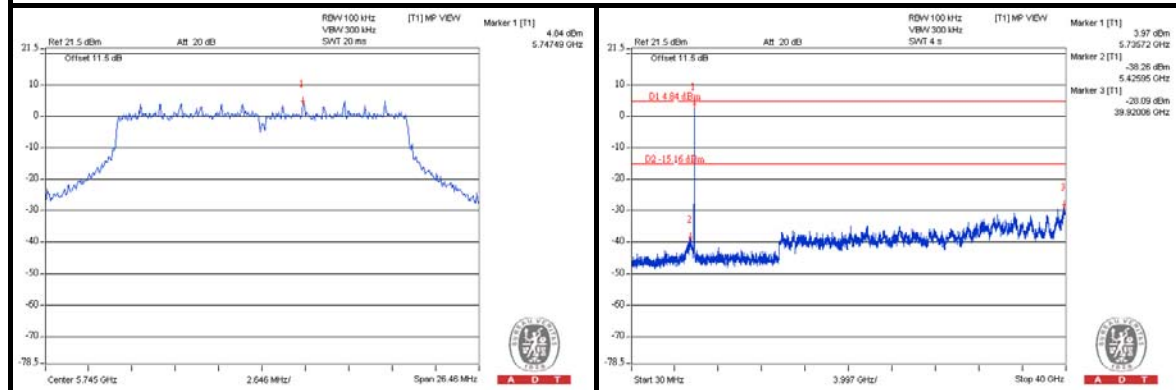


CH 165

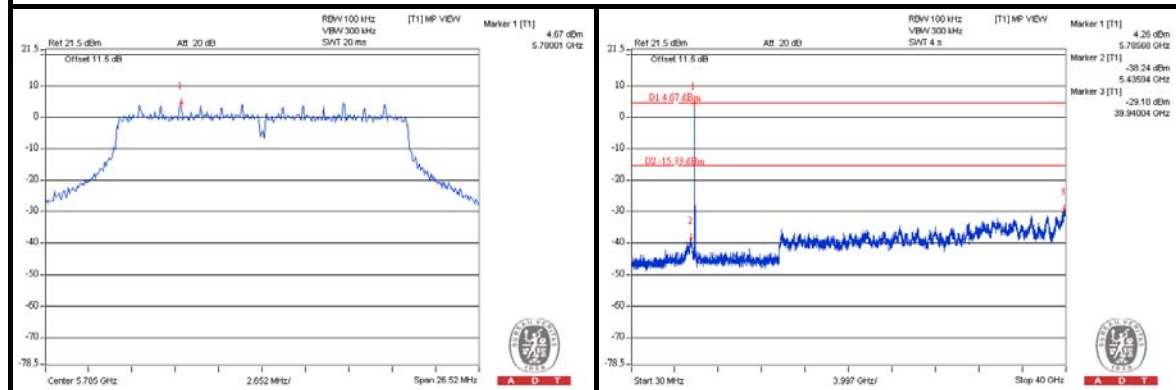


802.11n (20MHz) CHAIN 0

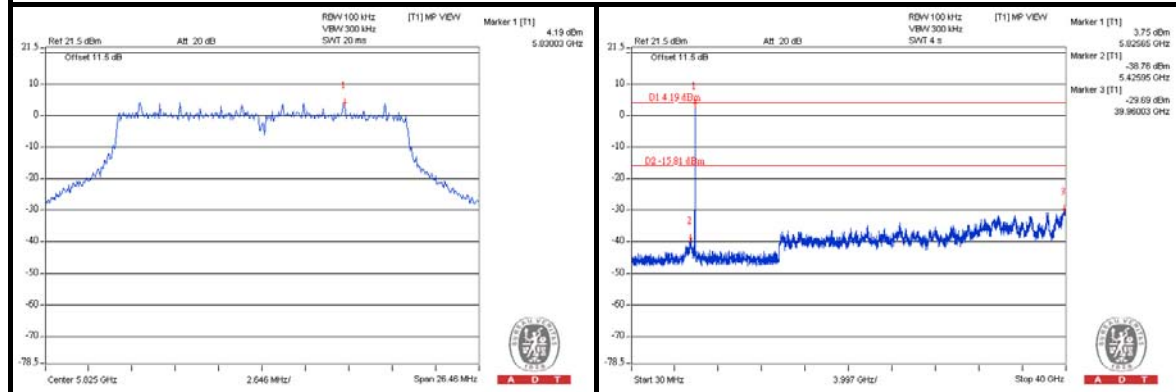
CH 149



CH 157

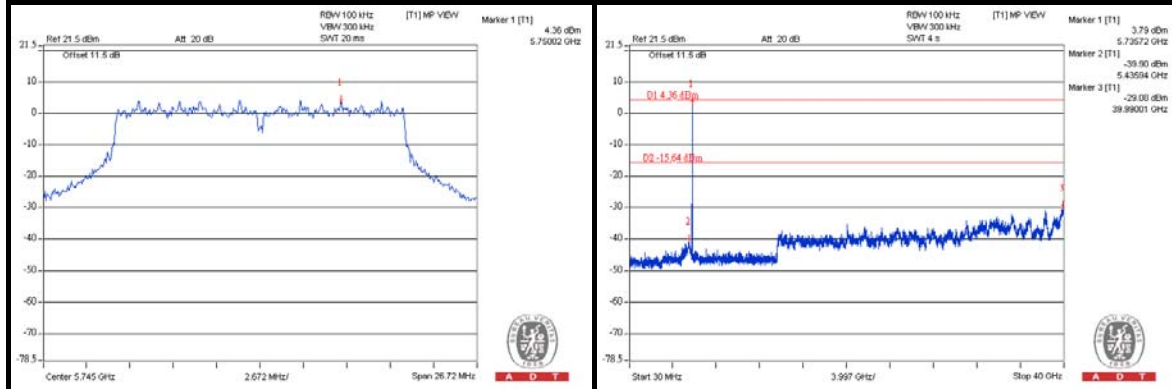


CH 165

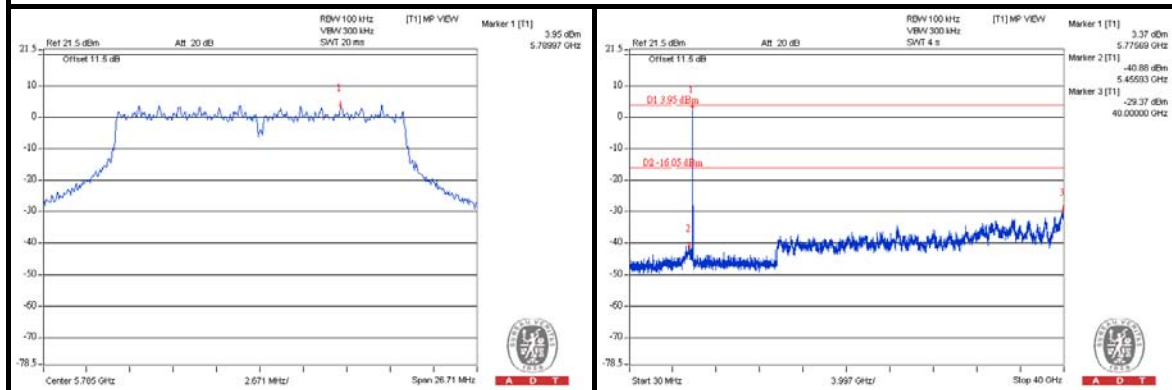


CHAIN 1

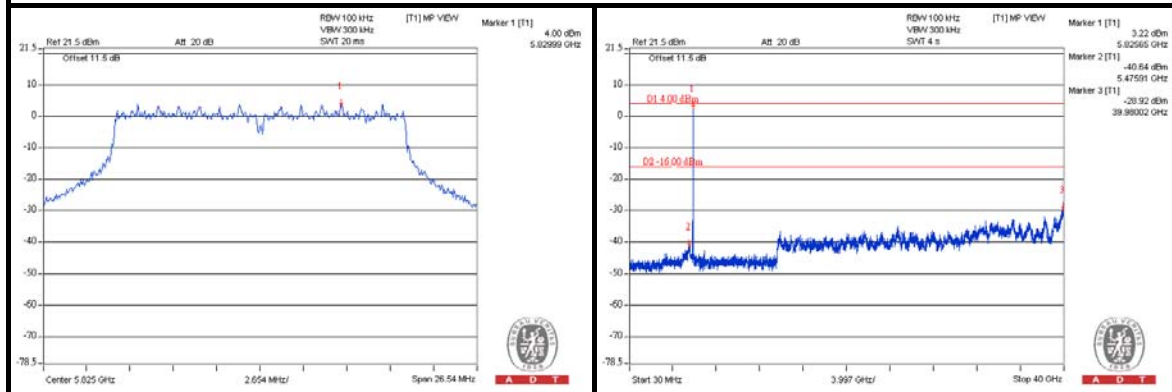
CH 149



CH 157



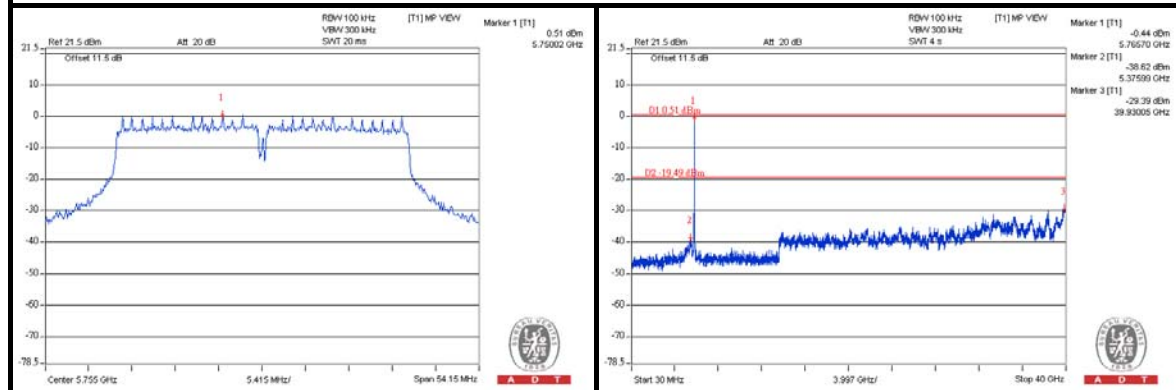
CH 165



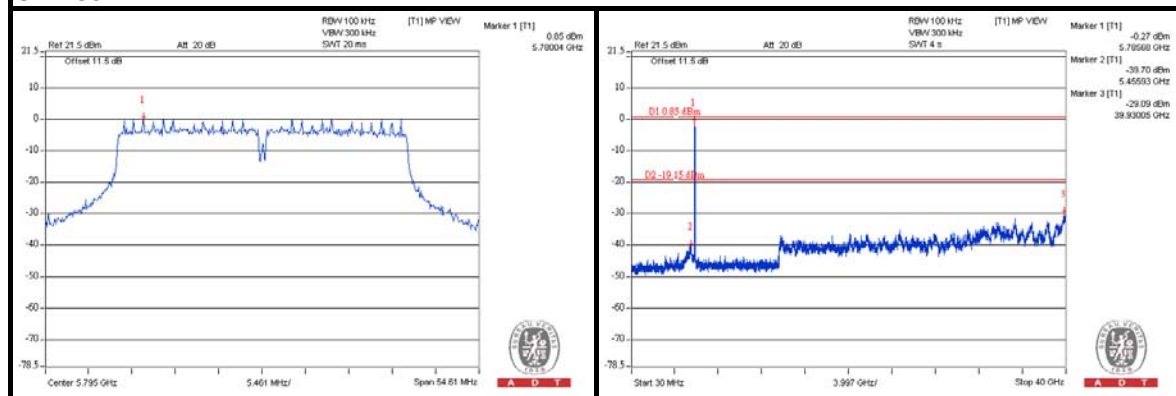
802.11n (40MHz)

CHAIN 0

CH 151



CH 159

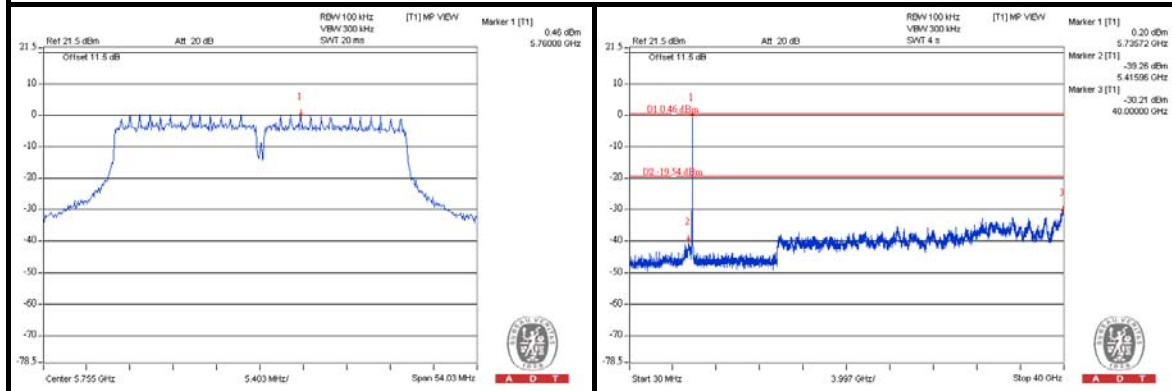




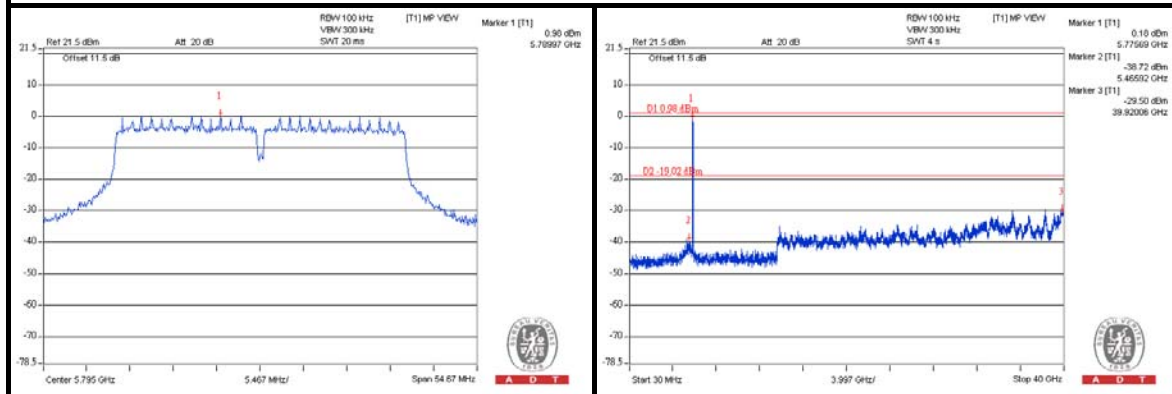
A D T

CHAIN 1

CH 151



CH 159

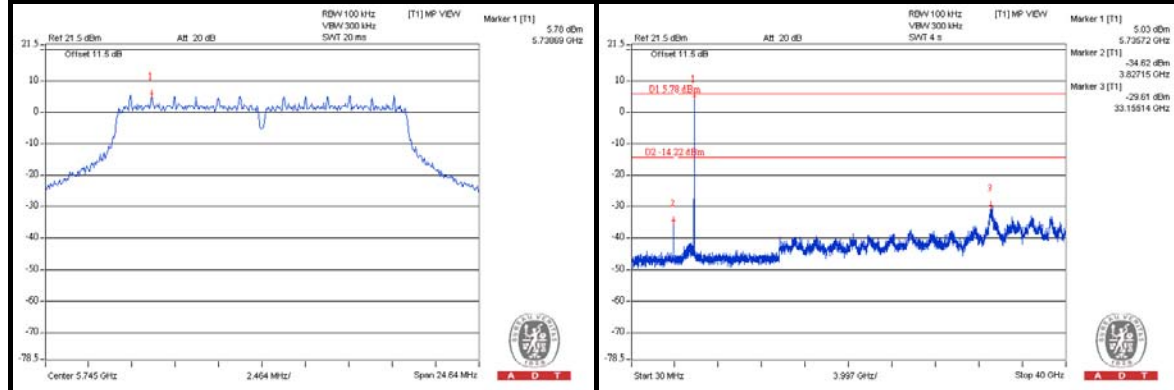


Test Mode B

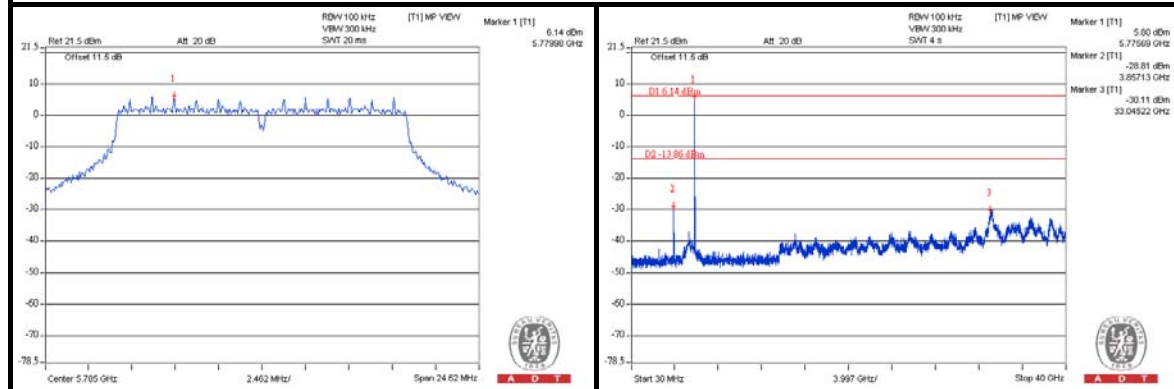
802.11a

CHAIN 0

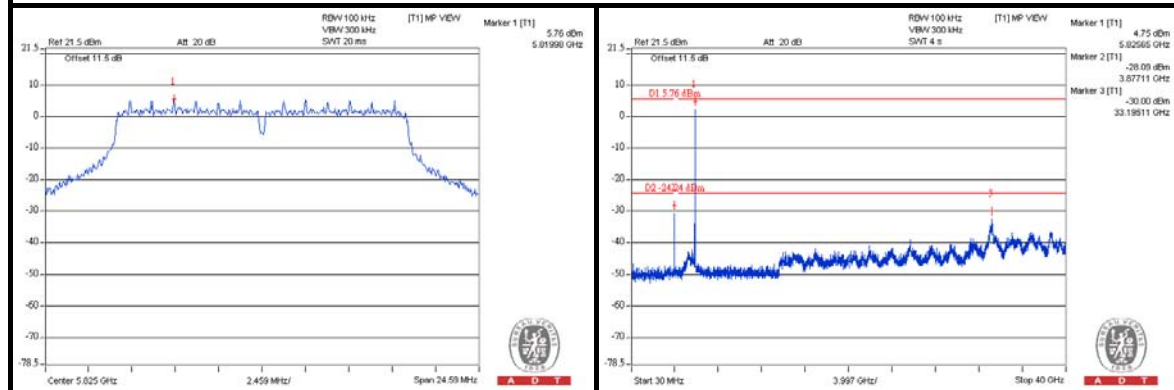
CH 149



CH 157



CH 165

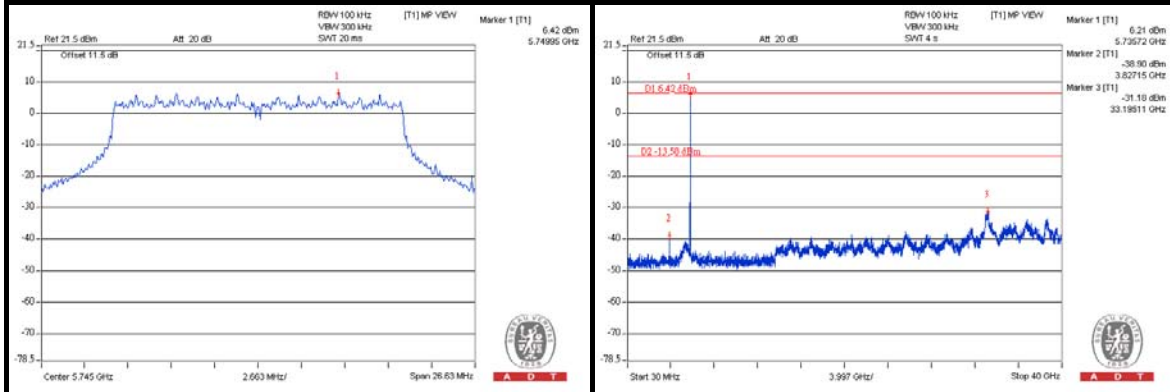




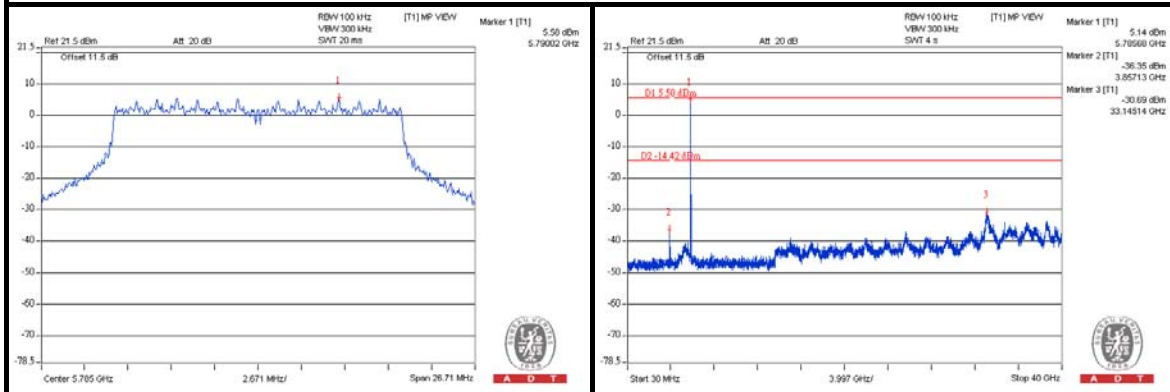
A D T

CHAIN 1

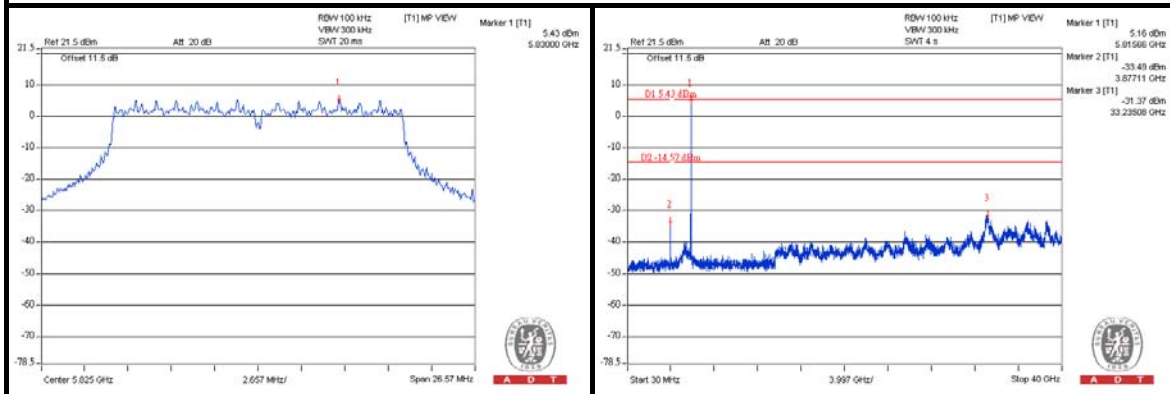
CH 149



CH 157

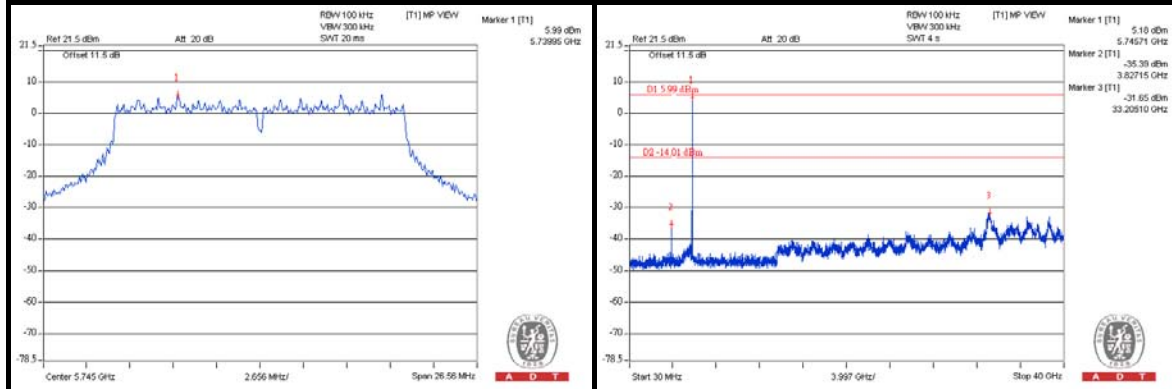


CH 165

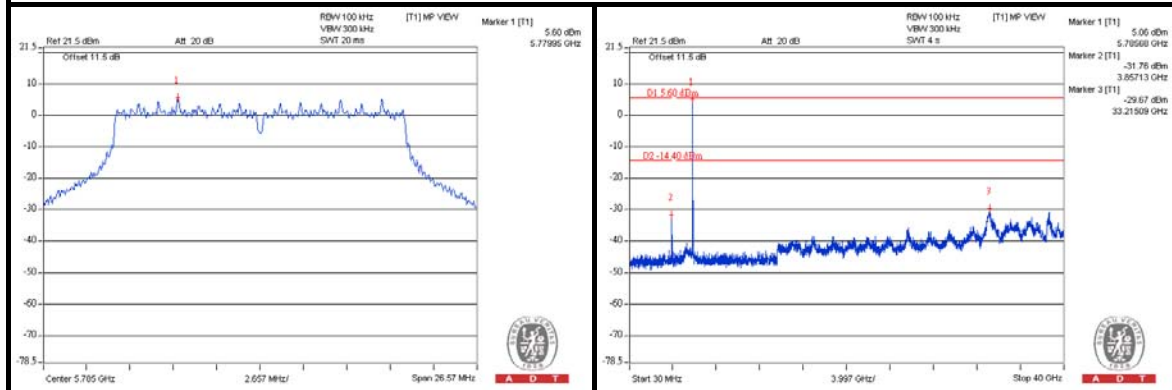


802.11n (20MHz) CHAIN 0

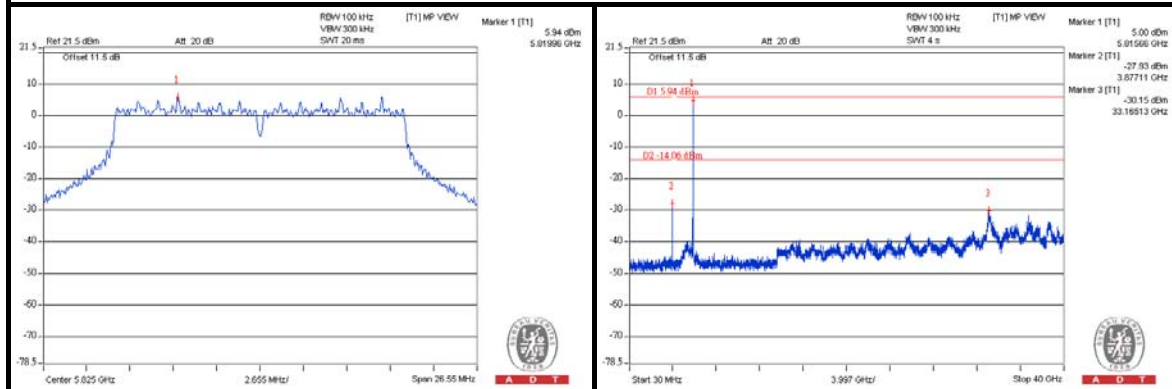
CH 149



CH 157



CH 165

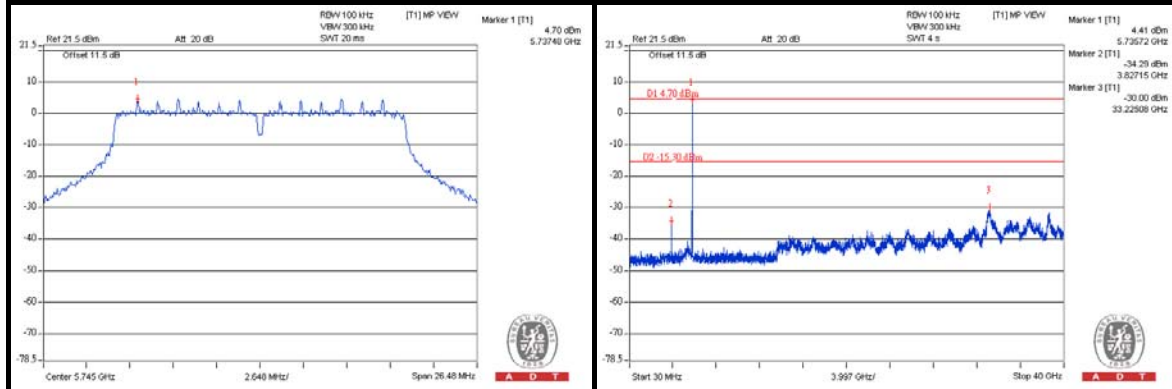




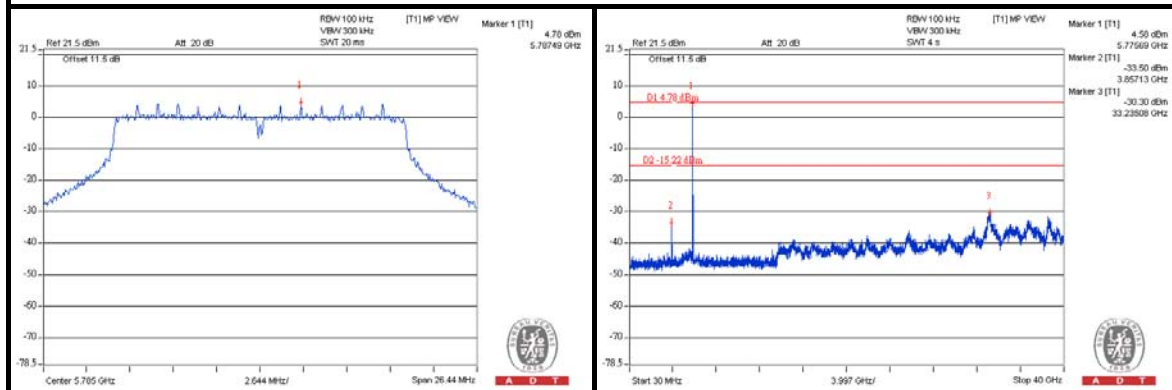
A D T

CHAIN 1

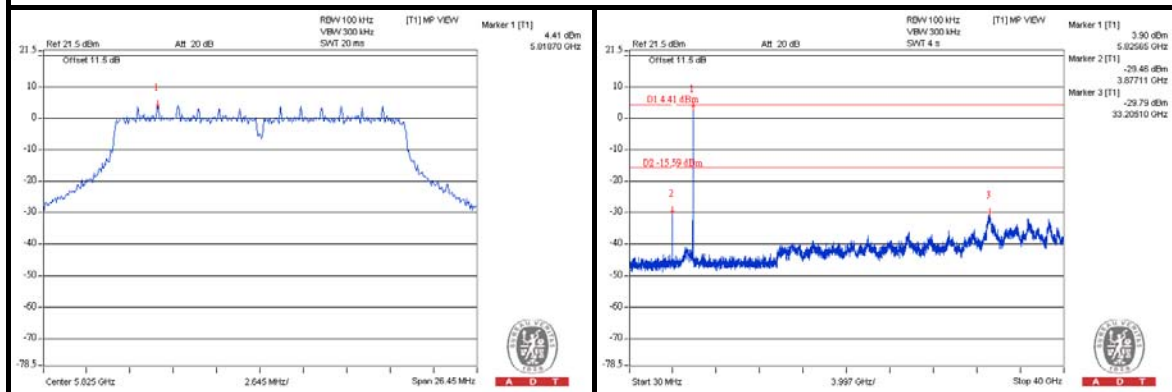
CH 149



CH 157



CH 165



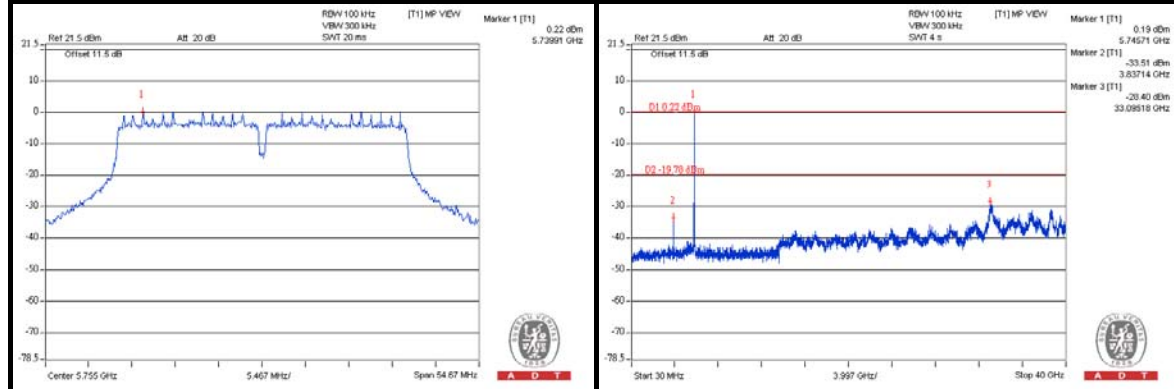


A D T

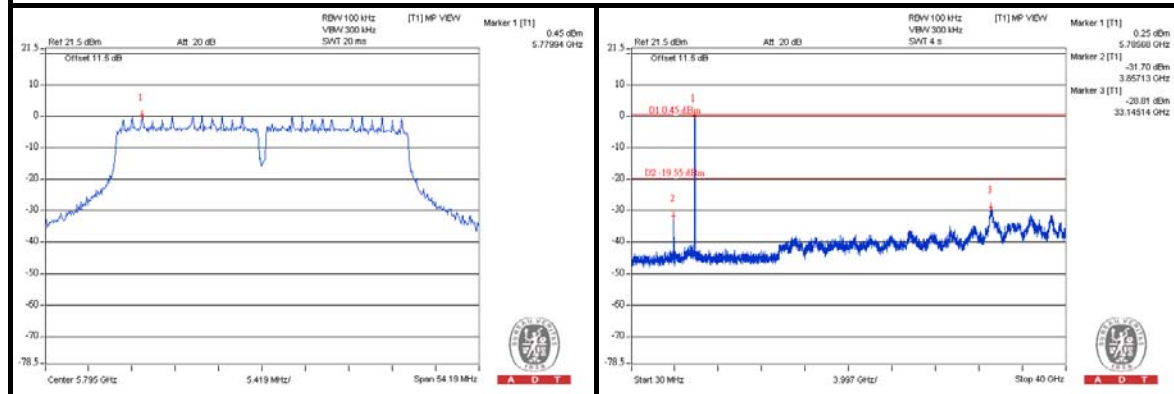
802.11n (40MHz)

CHAIN 0

CH 151



CH 159

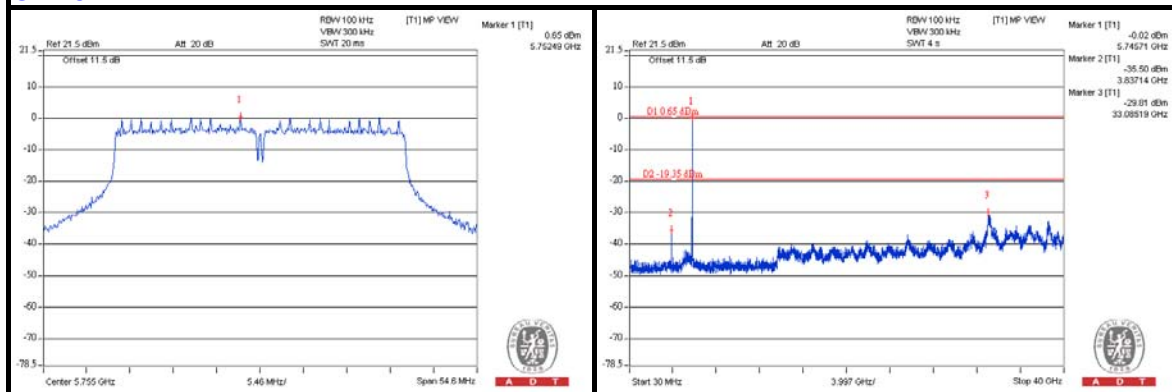




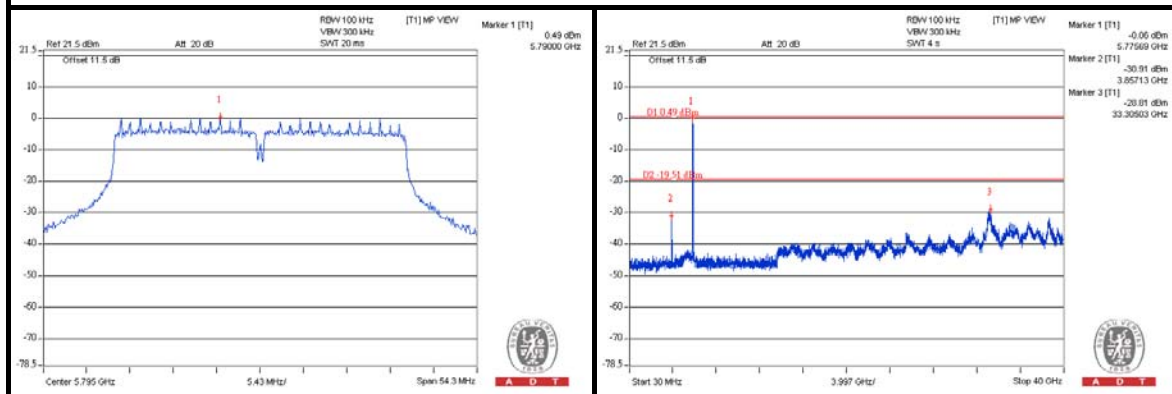
A D T

CHAIN 1

CH 151



CH 159





A D T

6. PHOTOGRAPHS OF THE TEST CONFIGURATION

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



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7. 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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Fax: 886-2-26051924

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Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

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



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8. 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---