



A D T

FCC TEST REPORT (15.247)

REPORT NO.: RF130110C21B

MODEL NO.: TEW-810DR

FCC ID: XU8TEW810DR

RECEIVED: Dec. 28, 2012

TESTED: Dec. 28, 2012 ~ Feb. 04, 2013

ISSUED: May 24, 2013

APPLICANT: TRENDnet, Inc.

ADDRESS: 20675 Manhattan Place, Torrance, CA 90501,
USA

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

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

TEST LOCATION: No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei
Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

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



This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification.



A D T

TABLE OF CONTENTS

RELEASE CONTROL RECORD.....	5
1. CERTIFICATION.....	6
2. SUMMARY OF TEST RESULTS.....	7
2.1 MEASUREMENT UNCERTAINTY.....	7
3. GENERAL INFORMATION.....	8
3.1 GENERAL DESCRIPTION OF EUT.....	8
3.2 DESCRIPTION OF TEST MODES.....	10
3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL.....	11
3.3 DESCRIPTION OF SUPPORT UNITS.....	16
3.3.1 CONFIGURATION OF SYSTEM UNDER TEST.....	17
3.4 GENERAL DESCRIPTION OF APPLIED STANDARDS.....	18
4. TEST TYPES AND RESULTS (FOR 2.4GHz BAND).....	19
4.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT.....	19
4.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT.....	19
4.1.2 TEST INSTRUMENTS.....	20
4.1.3 TEST PROCEDURES.....	21
4.1.4 DEVIATION FROM TEST STANDARD.....	21
4.1.5 TEST SETUP.....	22
4.1.6 EUT OPERATING CONDITIONS.....	22
4.1.7 TEST RESULTS.....	23
4.2 CONDUCTED EMISSION MEASUREMENT.....	38
4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT.....	38
4.2.2 TEST INSTRUMENTS.....	38
4.2.3 TEST PROCEDURES.....	39
4.2.4 DEVIATION FROM TEST STANDARD.....	39
4.2.5 TEST SETUP.....	39
4.2.6 EUT OPERATING CONDITIONS.....	39
4.2.7 TEST RESULTS.....	40
4.3 6dB BANDWIDTH MEASUREMENT.....	46
4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT.....	46
4.3.2 TEST SETUP.....	46
4.3.3 TEST INSTRUMENTS.....	46
4.3.4 TEST PROCEDURE.....	46
4.3.5 DEVIATION FROM TEST STANDARD.....	46
4.3.6 EUT OPERATING CONDITIONS.....	46
4.3.7 TEST RESULTS.....	47
4.4 CONDUCTED OUTPUT POWER.....	48
4.4.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT.....	48
4.4.2 TEST SETUP.....	48



A D T

4.4.3	TEST INSTRUMENTS	48
4.4.4	TEST PROCEDURES.....	48
4.4.5	DEVIATION FROM TEST STANDARD.....	49
4.4.6	EUT OPERATING CONDITIONS	49
4.4.7	TEST RESULTS.....	50
4.5	POWER SPECTRAL DENSITY MEASUREMENT	52
4.5.1	LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT	52
4.5.2	TEST SETUP	52
4.5.3	TEST INSTRUMENTS	52
4.5.4	TEST PROCEDURE	52
4.5.5	DEVIATION FROM TEST STANDARD.....	52
4.5.6	EUT OPERATING CONDITION.....	52
4.5.7	TEST RESULTS.....	53
4.6	CONDUCTED OUT OF BAND EMISSION MEASUREMENT.....	54
4.6.1	LIMITS OF CONDUCTED OUT OF BAND EMISSION MEASUREMENT	54
4.6.2	TEST SETUP	54
4.6.3	TEST INSTRUMENTS	54
4.6.4	TEST PROCEDURE	54
4.6.5	DEVIATION FROM TEST STANDARD.....	55
4.6.6	EUT OPERATING CONDITION.....	55
4.6.7	TEST RESULTS.....	55
4.6.8	TEST RESULTS.....	56
5.	TEST TYPES AND RESULTS (FOR 5.0GHz BAND)	62
5.1	RADIATED EMISSION MEASUREMENT	62
5.1.1	LIMITS OF RADIATED EMISSION MEASUREMENT.....	62
5.1.2	TEST INSTRUMENTS	63
5.1.3	TEST PROCEDURES.....	63
5.1.4	DEVIATION FROM TEST STANDARD.....	63
5.1.5	TEST SETUP	63
5.1.6	EUT OPERATING CONDITIONS	63
5.1.7	TEST RESULTS.....	64
5.2	CONDUCTED EMISSION MEASUREMENT	76
5.2.1	LIMITS OF CONDUCTED EMISSION MEASUREMENT.....	76
5.2.2	TEST INSTRUMENTS	76
5.2.3	TEST PROCEDURES.....	76
5.2.4	DEVIATION FROM TEST STANDARD.....	76
5.2.5	TEST SETUP	76
5.2.6	EUT OPERATING CONDITIONS	76
5.2.7	TEST RESULTS.....	77
5.3	6dB BANDWIDTH MEASUREMENT	83
5.3.1	LIMITS OF 6dB BANDWIDTH MEASUREMENT	83



A D T

5.3.2	TEST SETUP	83
5.3.3	TEST INSTRUMENTS	83
5.3.4	TEST PROCEDURE	83
5.3.5	DEVIATION FROM TEST STANDARD.....	83
5.3.6	EUT OPERATING CONDITIONS	83
5.3.7	TEST RESULTS.....	84
5.4	CONDUCTED OUTPUT POWER.....	85
5.4.1	LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT	85
5.4.2	TEST SETUP	85
5.4.3	INSTRUMENTS	85
5.4.4	TEST PROCEDURES.....	86
5.4.5	DEVIATION FROM TEST STANDARD.....	86
5.4.6	EUT OPERATING CONDITIONS	86
5.4.7	TEST RESULTS.....	87
5.5	POWER SPECTRAL DENSITY MEASUREMENT	89
5.5.1	LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT	89
5.5.2	TEST SETUP	89
5.5.3	TEST INSTRUMENTS	89
5.5.4	TEST PROCEDURE.....	89
5.5.5	DEVIATION FROM TEST STANDARD.....	89
5.5.6	EUT OPERATING CONDITION.....	89
5.5.7	TEST RESULTS.....	90
5.6	CONDUCTED OUT OF BAND EMISSION MEASUREMENT.....	91
5.6.1	LIMITS OF CONDUCTED OUT OF BAND EMISSION MEASUREMENT	91
5.6.2	TEST SETUP	91
5.6.3	TEST INSTRUMENTS	91
5.6.4	TEST PROCEDURE	91
5.6.5	DEVIATION FROM TEST STANDARD.....	91
5.6.6	EUT OPERATING CONDITION.....	91
5.6.7	TEST RESULTS.....	91
6.	PHOTOGRAPHS OF THE TEST CONFIGURATION.....	95
7.	INFORMATION ON THE TESTING LABORATORIES	96
8.	APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB	97



A D T

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF130110C21B	Original release.	May 24, 2013



A D T

1. CERTIFICATION

PRODUCT: AC750 Dual Band Wireless Router
MODEL NO.: TEW-810DR
BRAND: TRENDnet
APPLICANT: TRENDnet, Inc.
TESTED: Dec. 28, 2012 ~ Feb. 04, 2013
TEST SAMPLE: ENGINEERING SAMPLE
STANDARDS: **FCC Part 15, Subpart C (Section 15.247)**
ANSI C63.10-2009

The above equipment (model: TEW-810DR) 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 : Suntee Liu , **DATE :** May 24, 2013
Suntee Liu / Specialist

APPROVED BY : Ken Liu , **DATE :** May 24, 2013
Ken Liu / Senior 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 -6.41dB at 0.15391MHz.
15.247(d) 15.209	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -1.0dB at 7386.00MHz.
15.247(d)	Band Edge Measurement	PASS	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	PASS	Meet the requirement of limit.
15.247(b)	Conducted power	PASS	Meet the requirement of limit.
15.247(e)	Power Spectral Density	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Antenna connector is UFL 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 $k = 2$.



A D T

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	AC750 Dual Band Wireless Router
MODEL NO.	TEW-810DR
POWER SUPPLY	12Vdc (Adapter)
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode only.
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11b:11/5.5/2/1Mbps 802.11a/g: 54/48/36/24/18/12/9/6Mbps 802.11n (2.4GHz): up to 300Mbps 802.11n (5GHz): up to 150Mbps 802.11ac: up to 433Mbps
OPERATING FREQUENCY	2.4GHz: 2412 ~ 2462MHz 5.0GHz: 5745 ~ 5825MHz
NUMBER OF CHANNEL	2.4GHz: 802.11b, 802.11g, 802.11n (20MHz): 11 802.11n (40MHz): 7 5.0GHz: 802.11a, 802.11n (20MHz), 802.11ac (20MHz): 5 802.11n (40MHz), 802.11ac (40MHz): 2 802.11ac (80MHz): 1
OUTPUT POWER	979.558mW for 2412 ~ 2462MHz 281.838mW for 5745 ~ 5825MHz
ANTENNA TYPE	2.4GHz: Printed antenna with 0dBi gain 5.0GHz: Dipole antenna with 0dBi gain
ANTENNA CONNECTOR	UFL
DATA CABLE	NA
I/O PORTS	Refer to user's manual
ACCESSORY DEVICES	Adapter



NOTE:

1. The EUT incorporates a MIMO function. The EUT provides 2 completed transmitters and 2 receivers.

MODULATION MODE	TX FUNCTION
802.11b	1TX
802.11g	1TX
802.11a	1TX
802.11n (20MHz) for 2.4GHz	2TX
802.11n (40MHz) for 2.4GHz	2TX
802.11n (20MHz) for 5GHz	1TX
802.11n (40MHz) for 5GHz	1TX
802.11ac (20MHz)	1TX
802.11ac (40MHz)	1TX
802.11ac (80MHz)	1TX

2. The EUT consumes power from the following adapters.

Adapter 1	
Brand	AMIGO
Model	AMS9-1201000FU2
Input Power	100-240Vac, 50/60Hz, 0.5A/27VA
Output Power	12Vdc, 1.0A
Power Line	1.2m cable without core attached on adapter

Adapter 2	
Brand	FRECOM
Model	F12W-120100SPAU L.P.S
Input Power	100-240Vac, 50/60Hz, 0.3A
Output Power	12Vdc, 1A
Power Line	1.2m cable without core attached on adapter

Adapter 3	
Brand	OEM
Model	ADS012PM-W 120100
Input Power	100-240Vac, 50-60Hz, 0.5A
Output Power	12Vdc, 1.0A
Power Line	1.2m cable without core attached on adapter

3. 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, 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), 802.11ac (20MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
149	5745MHz	161	5805MHz
153	5765MHz	165	5825MHz
157	5785MHz		

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
151	5755MHz	159	5795MHz

1 channel is provided for 802.11ac (80MHz):

CHANNEL	FREQUENCY
155	5775MHz



3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

FOR 2.4GHz:

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
A	√	√	√	√	Power from adapter 1
B	-	√	√	-	Power from adapter 2
C	-	√	√	-	Power from adapter 3

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

NOTE: "-" means no effect.

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	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
A	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
A	802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	7.2
A	802.11n (40MHz)	3 to 9	3, 6, 9	OFDM	BPSK	15.0

RADIATED EMISSION TEST (BELOW 1GHz):

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A, B, C	802.11g	1 to 11	1	OFDM	BPSK	6.0



A D T

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, B, C	802.11g	1 to 11	1	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	802.11b	1 to 11	1, 11	DSSS	DBPSK	1.0
A	802.11g	1 to 11	1, 11	OFDM	BPSK	6.0
A	802.11n (20MHz)	1 to 11	1, 11	OFDM	BPSK	7.2
A	802.11n (40MHz)	3 to 9	3, 9	OFDM	BPSK	15.0

ANTENNA PORT CONDUCTED MEASUREMENT:

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
A	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
A	802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	7.2
A	802.11n (40MHz)	3 to 9	3, 6, 9	OFDM	BPSK	15.0



A D T

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE \geq 1G	17deg. C, 65%RH	120Vac, 60Hz	Martin Lee
RE $<$ 1G	19deg. C, 66%RH	120Vac, 60Hz	Martin Lee
PLC	25deg. C, 68%RH	120Vac, 60Hz	Sun Lin
APCM	25deg. C, 60%RH	120Vac, 60Hz	Martin Lee



A D T

FOR 5.0GHz (5745 ~ 5825MHz):

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
A	√	√	√	√	Power from adapter 1
B	-	√	√	-	Power from adapter 2
C	-	√	√	-	Power from adapter 3

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

NOTE: "-" means no effect.

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	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
A	802.11n (20MHz)	149 to 165	149, 157, 165	OFDM	BPSK	6.5
A	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	13.5
A	802.11ac (80MHz)	155	155	OFDM	BPSK	29.3

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, B, C	802.11n (20MHz)	149 to 165	165	OFDM	BPSK	6.5

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, B, C	802.11n (20MHz)	149 to 165	165	OFDM	BPSK	6.5



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	802.11a	149 to 165	149, 165	OFDM	BPSK	6.0
A	802.11n (20MHz)	149 to 165	149, 165	OFDM	BPSK	6.5
A	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	13.5
A	802.11ac (80MHz)	155	155	OFDM	BPSK	29.3

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	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
A	802.11n (20MHz)	149 to 165	149, 157, 165	OFDM	BPSK	6.5
A	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	13.5
A	802.11ac (80MHz)	155	155	OFDM	BPSK	29.3

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	17deg. C, 65%RH	120Vac, 60Hz	Martin Lee
RE<1G	19deg. C, 66%RH	120Vac, 60Hz	Martin Lee
PLC	25deg. C, 68%RH	120Vac, 60Hz	Sun Lin
APCM	24deg. C, 64%RH	120Vac, 60Hz	Match Tsui



A D T

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.

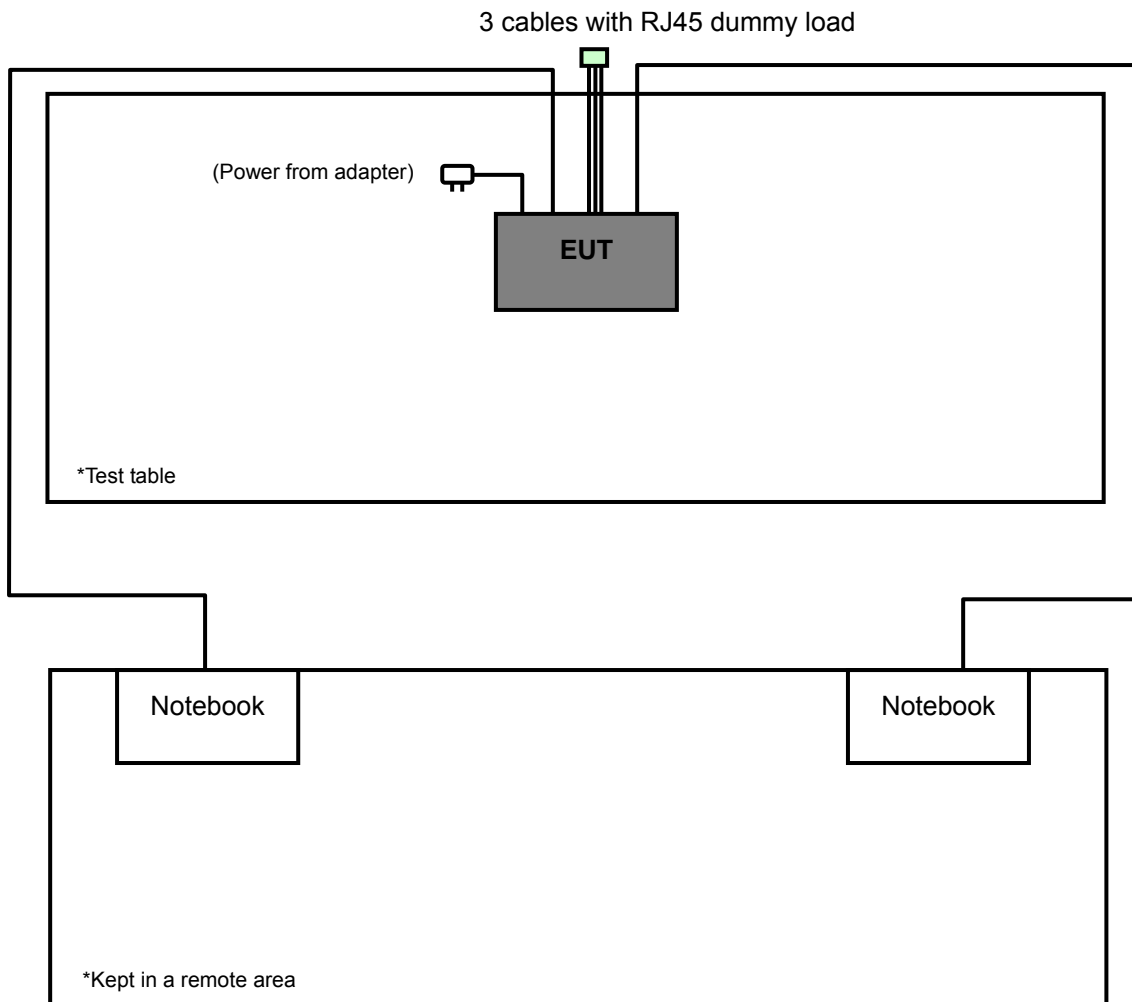
NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Dummy Load	NA	NA	NA	NA
2	Notebook	DELL	D600	CN-0G5152-48643-47H-7677	FCC DoC Approved
3	Notebook	DELL	D531	CN-0XM006-48643-81U-2973	QDS-BRCM1020

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	1.8m RJ45 UTP cable x 3 with load connected to EUT
2	10m RJ45 UTP cable
3	10m RJ45 UTP cable

NOTE:

1. All power cords of the above support units are non-shielded (1.8m).
2. Items 2-3 acted as communication partners to transfer data.

3.3.1 CONFIGURATION OF SYSTEM UNDER TEST





A D T

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.



A D T

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCI	100744	Apr. 19, 2012	Apr. 18, 2013
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	Jan. 30, 2012	Jan. 29, 2013
BILOG Antenna SCHWARZBECK	VULB9168	9168-156	Apr. 03, 2012	Apr. 02, 2013
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-563	Sep. 12, 2012	Sep. 11, 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	8449B	3008A01911	Oct. 25, 2012	Oct. 24, 2013
Preamplifier Agilent	8447D	2944A10638	Oct. 25, 2012	Oct. 24, 2013
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	295013/4 283403/4	Aug. 28, 2012	Aug. 27, 2013
RF signal cable Worken	8D-FB	Cable-HYCH9-01	Aug. 11, 2012	Aug. 10, 2013
Software	ADT_Radiated_ V7.6.15.9.2	NA	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA	NA
Turn Table EMCO	2087-2.03	NA	NA	NA
Antenna Tower & Turn Table Controller EMCO	2090	NA	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 9.
 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 IC 7450F-4.



A D T

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.

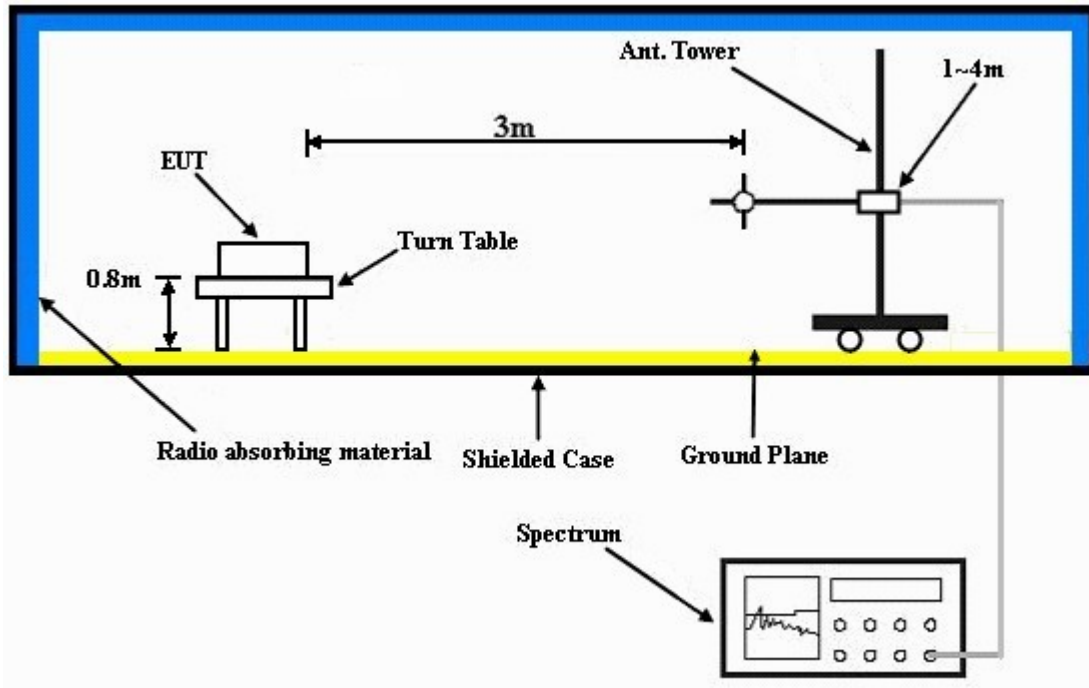
NOTE:

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 two notebooks to act as communication partner and placed them outside of testing area.
- The communication partners 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 partners sent data to EUT by command "PING".
- The necessary accessories enabled the system in full functions.



A D T

4.1.7 TEST RESULTS

ABOVE 1GHz WORST-CASE DATA :

802.11b

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	17deg. C, 65%RH	TESTED BY	Martin Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	58.1 PK	74.0	-15.9	1.32 H	182	27.20	30.90
2	2390.00	45.7 AV	54.0	-8.3	1.32 H	182	14.80	30.90
3	*2412.00	103.2 PK			1.32 H	164	72.20	31.00
4	*2412.00	98.6 AV			1.32 H	164	67.60	31.00
5	4824.00	48.5 PK	74.0	-25.5	1.24 H	172	11.40	37.10
6	4824.00	43.4 AV	54.0	-10.6	1.24 H	172	6.30	37.10

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	2390.00	57.1 PK	74.0	-16.9	1.95 V	237	26.20	30.90
2	2390.00	46.1 AV	54.0	-7.9	1.95 V	237	15.20	30.90
3	*2412.00	105.2 PK			1.02 V	262	74.20	31.00
4	*2412.00	101.4 AV			1.02 V	262	70.40	31.00
5	4824.00	54.8 PK	74.0	-19.2	1.06 V	171	17.70	37.10
6	4824.00	52.1 AV	54.0	-1.9	1.06 V	171	15.00	37.10

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	17deg. C, 65%RH	TESTED BY	Martin Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	102.6 PK			1.05 H	178	71.50	31.10
2	*2437.00	98.6 AV			1.05 H	178	67.50	31.10
3	4874.00	46.7 PK	74.0	-27.3	1.14 H	228	9.50	37.20
4	4874.00	40.3 AV	54.0	-13.7	1.14 H	228	3.10	37.20
5	7311.00	50.3 PK	74.0	-23.7	1.52 H	41	6.80	43.50
6	7311.00	39.5 AV	54.0	-14.5	1.52 H	41	-4.00	43.50
7	12185.00	54.2 PK	74.0	-19.8	1.38 H	102	5.70	48.50
8	12185.00	42.5 AV	54.0	-11.5	1.38 H	102	-6.00	48.50
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	*2437.00	104.5 PK			1.02 V	260	73.40	31.10
2	*2437.00	101.0 AV			1.02 V	260	69.90	31.10
3	4874.00	53.0 PK	74.0	-21.0	1.02 V	174	15.80	37.20
4	4874.00	49.4 AV	54.0	-4.6	1.02 V	174	12.20	37.20
5	7311.00	58.8 PK	74.0	-15.2	1.00 V	0	15.30	43.50
6	7311.00	52.9 AV	54.0	-1.1	1.00 V	0	9.40	43.50
7	12185.00	56.8 PK	74.0	-17.2	1.12 V	268	8.30	48.50
8	12185.00	45.5 AV	54.0	-8.5	1.12 V	268	-3.00	48.50

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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	17deg. C, 65%RH	TESTED BY	Martin Lee

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	102.4 PK			1.08 H	165	71.20	31.20
2	*2462.00	98.0 AV			1.08 H	165	66.80	31.20
3	2483.50	52.8 PK	74.0	-21.2	1.09 H	177	21.50	31.30
4	2483.50	42.2 AV	54.0	-11.8	1.09 H	177	10.90	31.30
5	4924.00	46.1 PK	74.0	-27.9	1.18 H	213	8.80	37.30
6	4924.00	39.8 AV	54.0	-14.2	1.18 H	213	2.50	37.30
7	7386.00	49.2 PK	74.0	-24.8	1.45 H	62	5.40	43.80
8	7386.00	38.5 AV	54.0	-15.5	1.45 H	62	-5.30	43.80
9	12310.00	53.7 PK	74.0	-20.3	1.45 H	108	5.20	48.50
10	12310.00	42.4 AV	54.0	-11.6	1.45 H	108	-6.10	48.50

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	*2462.00	104.6 PK			1.58 V	221	73.40	31.20
2	*2462.00	101.0 AV			1.58 V	221	69.80	31.20
3	2483.50	55.6 PK	74.0	-18.4	1.58 V	221	24.30	31.30
4	2483.50	45.9 AV	54.0	-8.1	1.58 V	221	14.60	31.30
5	4924.00	51.1 PK	74.0	-22.9	1.04 V	182	13.80	37.30
6	4924.00	47.1 AV	54.0	-6.9	1.04 V	182	9.80	37.30
7	7386.00	57.5 PK	74.0	-16.5	1.04 V	186	13.70	43.80
8	7386.00	53.0 AV	54.0	-1.0	1.04 V	186	9.20	43.80
9	12310.00	54.6 PK	74.0	-19.4	1.22 V	25	6.10	48.50
10	12310.00	43.2 AV	54.0	-10.8	1.22 V	25	-5.30	48.50

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.



A D T

802.11g

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	17deg. C, 65%RH	TESTED BY	Martin Lee

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	67.4 PK	74.0	-6.6	1.12 H	162	36.50	30.90
2	2390.00	50.5 AV	54.0	-3.5	1.12 H	162	19.60	30.90
3	*2412.00	101.2 PK			1.08 H	158	70.20	31.00
4	*2412.00	91.0 AV			1.08 H	158	60.00	31.00
5	4824.00	42.2 PK	74.0	-31.8	1.32 H	58	5.10	37.10
6	4824.00	30.8 AV	54.0	-23.2	1.32 H	58	-6.30	37.10

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	2390.00	70.8 PK	74.0	-3.2	1.34 V	236	39.90	30.90
2	2390.00	53.0 AV	54.0	-1.0	1.34 V	236	22.10	30.90
3	*2412.00	102.7 PK			1.34 V	236	71.70	31.00
4	*2412.00	93.6 AV			1.34 V	236	62.60	31.00
5	4824.00	41.7 PK	74.0	-32.3	1.20 V	177	4.60	37.10
6	4824.00	31.8 AV	54.0	-22.2	1.20 V	177	-5.30	37.10

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	17deg. C, 65%RH	TESTED BY	Martin Lee

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	106.6 PK			1.06 H	177	75.50	31.10
2	*2437.00	96.5 AV			1.06 H	177	65.40	31.10
3	4874.00	42.5 PK	74.0	-31.5	1.29 H	52	5.30	37.20
4	4874.00	31.6 AV	54.0	-22.4	1.29 H	52	-5.60	37.20

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	*2437.00	107.1 PK			1.99 V	237	76.00	31.10
2	*2437.00	97.4 AV			1.99 V	237	66.30	31.10
3	4874.00	44.6 PK	74.0	-29.4	1.53 V	225	7.40	37.20
4	4874.00	31.5 AV	54.0	-22.5	1.53 V	225	-5.70	37.20

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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	17deg. C, 65%RH	TESTED BY	Martin Lee

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			1.05 H	201	69.20	31.20
2	*2462.00	90.2 AV			1.05 H	201	59.00	31.20
3	2483.50	64.2 PK	74.0	-9.8	1.07 H	205	32.90	31.30
4	2483.50	46.8 AV	54.0	-7.2	1.07 H	205	15.50	31.30
5	4924.00	42.8 PK	74.0	-31.2	1.22 H	48	5.50	37.30
6	4924.00	31.3 AV	54.0	-22.7	1.22 H	48	-6.00	37.30
7	7386.00	65.8 PK	74.0	-8.2	1.34 H	289	22.00	43.80
8	7386.00	45.2 AV	54.0	-8.8	1.34 H	289	1.40	43.80

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	*2462.00	102.0 PK			1.29 V	215	70.80	31.20
2	*2462.00	91.6 AV			1.29 V	215	60.40	31.20
3	2483.50	67.2 PK	74.0	-6.8	1.30 V	275	35.90	31.30
4	2483.50	49.9 AV	54.0	-4.1	1.30 V	275	18.60	31.30
5	4924.00	43.4 PK	74.0	-30.6	1.10 V	86	6.10	37.30
6	4924.00	32.6 AV	54.0	-21.4	1.10 V	86	-4.70	37.30
7	7386.00	71.1 PK	74.0	-2.9	1.26 V	318	27.30	43.80
8	7386.00	48.8 AV	54.0	-5.2	1.26 V	318	5.00	43.80

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.



A D T

802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	17deg. C, 65%RH	TESTED BY	Martin Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	62.8 PK	74.0	-11.2	1.21 H	154	31.90	30.90
2	2390.00	44.5 AV	54.0	-9.5	1.21 H	154	13.60	30.90
3	*2412.00	100.0 PK			1.15 H	158	69.00	31.00
4	*2412.00	90.1 AV			1.15 H	158	59.10	31.00
5	4824.00	42.5 PK	74.0	-31.5	1.24 H	78	5.40	37.10
6	4824.00	31.2 AV	54.0	-22.8	1.24 H	78	-5.90	37.10

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	2390.00	64.9 PK	74.0	-9.1	1.58 V	200	34.00	30.90
2	2390.00	46.1 AV	54.0	-7.9	1.58 V	200	15.20	30.90
3	*2412.00	101.1 PK			1.64 V	212	70.10	31.00
4	*2412.00	92.1 AV			1.64 V	212	61.10	31.00
5	4824.00	44.5 PK	74.0	-29.5	1.08 V	243	7.40	37.10
6	4824.00	33.7 AV	54.0	-20.3	1.08 V	243	-3.40	37.10

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	17deg. C, 65%RH	TESTED BY	Martin Lee

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	98.6 PK			1.06 H	176	67.50	31.10
2	*2437.00	90.1 AV			1.06 H	176	59.00	31.10
3	4874.00	42.5 PK	74.0	-31.5	1.15 H	64	5.30	37.20
4	4874.00	32.8 AV	54.0	-21.2	1.15 H	64	-4.40	37.20
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	*2437.00	100.5 PK			1.32 V	237	69.40	31.10
2	*2437.00	91.0 AV			1.32 V	237	59.90	31.10
3	4874.00	44.6 PK	74.0	-29.4	1.12 V	256	7.40	37.20
4	4874.00	33.6 AV	54.0	-20.4	1.12 V	256	-3.60	37.20

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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	17deg. C, 65%RH	TESTED BY	Martin Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	98.8 PK			1.14 H	165	67.60	31.20
2	*2462.00	88.7 AV			1.14 H	165	57.50	31.20
3	2483.50	61.5 PK	74.0	-12.5	1.12 H	158	30.20	31.30
4	2483.50	45.8 AV	54.0	-8.2	1.12 H	158	14.50	31.30
5	4924.00	42.8 PK	74.0	-31.2	1.28 H	69	5.50	37.30
6	4924.00	31.6 AV	54.0	-22.4	1.28 H	69	-5.70	37.30
7	7386.00	48.4 PK	74.0	-25.6	1.48 H	57	4.60	43.80
8	7386.00	39.3 AV	54.0	-14.7	1.48 H	57	-4.50	43.80
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	*2462.00	100.0 PK			1.59 V	211	68.80	31.20
2	*2462.00	90.6 AV			1.59 V	211	59.40	31.20
3	2483.50	63.6 PK	74.0	-10.4	1.55 V	220	32.30	31.30
4	2483.50	47.5 AV	54.0	-6.5	1.55 V	220	16.20	31.30
5	4924.00	44.3 PK	74.0	-29.7	1.20 V	163	7.00	37.30
6	4924.00	32.9 AV	54.0	-21.1	1.20 V	163	-4.40	37.30
7	7386.00	72.6 PK	74.0	-1.4	1.37 V	320	28.80	43.80
8	7386.00	47.2 AV	54.0	-6.8	1.37 V	320	3.40	43.80

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.



A D T

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 3	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	17deg. C, 65%RH	TESTED BY	Martin Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	62.0 PK	74.0	-12.0	1.16 H	165	31.10	30.90
2	2390.00	47.1 AV	54.0	-6.9	1.16 H	165	16.20	30.90
3	*2422.00	96.2 PK			1.18 H	169	65.20	31.00
4	*2422.00	86.8 AV			1.18 H	169	55.80	31.00
5	4844.00	42.6 PK	74.0	-31.4	1.28 H	102	5.50	37.10
6	4844.00	31.8 AV	54.0	-22.2	1.28 H	102	-5.30	37.10
7	7266.00	45.1 PK	74.0	-28.9	1.04 H	96	1.70	43.40
8	7266.00	34.9 AV	54.0	-19.1	1.04 H	96	-8.50	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	2390.00	65.6 PK	74.0	-8.4	1.95 V	220	34.70	30.90
2	2390.00	49.3 AV	54.0	-4.7	1.95 V	220	18.40	30.90
3	*2422.00	97.6 PK			1.95 V	211	66.50	31.10
4	*2422.00	88.1 AV			1.95 V	211	57.00	31.10
5	4844.00	44.1 PK	74.0	-29.9	1.30 V	244	7.00	37.10
6	4844.00	32.7 AV	54.0	-21.3	1.30 V	244	-4.40	37.10
7	7266.00	50.1 PK	74.0	-23.9	1.20 V	218	6.70	43.40
8	7266.00	37.8 AV	54.0	-16.2	1.20 V	218	-5.60	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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	17deg. C, 65%RH	TESTED BY	Martin Lee

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	95.2 PK			1.21 H	201	64.10	31.10
2	*2437.00	85.8 AV			1.21 H	201	54.70	31.10
3	4874.00	42.2 PK	74.0	-31.8	1.24 H	104	5.00	37.20
4	4874.00	31.2 AV	54.0	-22.8	1.24 H	104	-6.00	37.20

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	*2437.00	96.7 PK			1.89 V	238	65.60	31.10
2	*2437.00	87.6 AV			1.89 V	238	56.50	31.10
3	4874.00	44.6 PK	74.0	-29.4	1.28 V	252	7.40	37.20
4	4874.00	33.8 AV	54.0	-20.2	1.28 V	252	-3.40	37.20

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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 9	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	17deg. C, 65%RH	TESTED BY	Martin Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	99.9 PK			1.12 H	152	68.70	31.20
2	*2452.00	90.8 AV			1.12 H	152	59.60	31.20
3	2483.50	62.4 PK	74.0	-11.6	1.24 H	167	31.10	31.30
4	2483.50	48.9 AV	54.0	-5.1	1.24 H	167	17.60	31.30
5	4904.00	42.5 PK	74.0	-31.5	1.21 H	115	5.30	37.20
6	4904.00	32.1 AV	54.0	-21.9	1.21 H	115	-5.10	37.20

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	101.2 PK			1.61 V	212	70.00	31.20
2	*2452.00	92.2 AV			1.61 V	212	61.00	31.20
3	2483.50	65.0 PK	74.0	-9.0	1.61 V	210	33.70	31.30
4	2483.50	52.6 AV	54.0	-1.4	1.61 V	210	21.30	31.30
5	4904.00	44.1 PK	74.0	-29.9	1.28 V	350	6.90	37.20
6	4904.00	32.5 AV	54.0	-21.5	1.28 V	350	-4.70	37.20
7	7356.00	71.6 PK	74.0	-2.4	1.33 V	340	27.90	43.70
8	7356.00	51.2 AV	54.0	-2.8	1.33 V	340	7.50	43.70

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.



A D T

BELOW 1GHz WORST-CASE DATA : 802.11g

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	19deg. C, 66%RH	TESTED BY	Martin Lee
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	76.56	33.0 QP	40.0	-7.0	1.99 H	159	22.70	10.30
2	101.78	35.1 QP	43.5	-8.4	1.99 H	16	25.90	9.20
3	309.36	36.7 QP	46.0	-9.3	1.00 H	247	21.60	15.10
4	418.00	35.2 QP	46.0	-10.8	1.99 H	154	17.40	17.80
5	580.96	32.9 QP	46.0	-13.1	1.49 H	7	11.00	21.90
6	809.88	32.5 QP	46.0	-13.5	1.00 H	215	7.30	25.20

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	58.70	37.6 QP	40.0	-2.4	1.00 V	295	24.40	13.20
2	105.66	37.0 QP	43.5	-6.5	1.00 V	199	27.40	9.60
3	163.86	29.0 QP	43.5	-14.5	1.49 V	16	15.50	13.50
4	305.48	36.3 QP	46.0	-9.7	1.49 V	206	21.30	15.00
5	416.06	36.0 QP	46.0	-10.0	1.00 V	198	18.20	17.80
6	850.62	39.9 QP	46.0	-6.1	1.00 V	14	14.10	25.80

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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	19deg. C, 66%RH	TESTED BY	Martin Lee
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	101.78	37.6 QP	43.5	-5.9	1.50 H	226	28.40	9.20
2	233.70	34.8 QP	46.0	-11.2	1.00 H	114	22.60	12.20
3	255.04	34.4 QP	46.0	-11.6	1.00 H	92	21.20	13.20
4	307.42	34.8 QP	46.0	-11.2	1.00 H	255	19.70	15.10
5	373.38	32.0 QP	46.0	-14.0	1.00 H	250	15.30	16.70
6	416.06	31.3 QP	46.0	-14.7	1.50 H	151	13.50	17.80

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	30.00	34.9 QP	40.0	-5.1	1.00 V	311	22.70	12.20
2	59.10	35.8 QP	40.0	-4.2	1.36 V	296	22.60	13.20
3	105.66	37.9 QP	43.5	-5.6	1.00 V	176	28.30	9.60
4	142.52	31.4 QP	43.5	-12.1	1.00 V	257	18.20	13.20
5	319.06	35.2 QP	46.0	-10.8	1.50 V	221	19.80	15.40
6	418.00	34.1 QP	46.0	-11.9	1.00 V	195	16.30	17.80

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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	19deg. C, 66%RH	TESTED BY	Martin Lee
TEST MODE	C		

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	59.10	25.9 QP	40.0	-14.1	1.00 H	331	12.70	13.20
2	101.78	37.1 QP	43.5	-6.4	1.49 H	223	27.90	9.20
3	225.94	34.8 QP	46.0	-11.2	1.00 H	267	22.90	11.90
4	249.22	34.5 QP	46.0	-11.5	1.00 H	116	21.60	12.90
5	301.60	32.6 QP	46.0	-13.4	1.00 H	245	17.70	14.90
6	580.96	29.6 QP	46.0	-16.4	1.49 H	135	7.70	21.90

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	55.22	35.3 QP	40.0	-4.7	1.00 V	5	22.00	13.30
2	62.98	35.4 QP	40.0	-4.6	1.00 V	25	22.50	12.90
3	107.60	38.3 QP	43.5	-5.2	1.00 V	235	28.40	9.90
4	225.94	35.9 QP	46.0	-10.1	1.50 V	266	24.00	11.90
5	299.66	32.4 QP	46.0	-13.6	1.50 V	231	17.50	14.90
6	916.58	37.3 QP	46.0	-8.7	1.50 V	181	10.70	26.60

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

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 1.
3. The VCCI Site Registration No. is C-2040.

4.2.3 TEST PROCEDURES

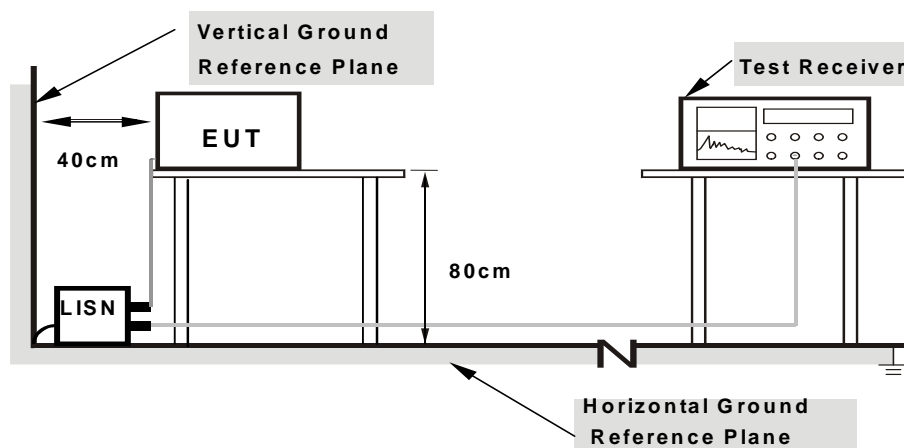
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

NOTE: All modes of operation were investigated and the worst-case emissions are reported.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation.

4.2.5 TEST SETUP



- Note:**
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

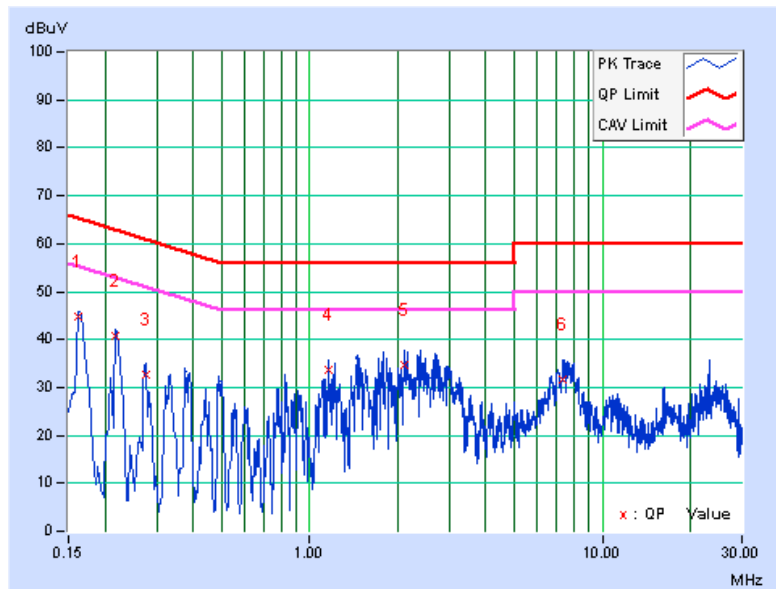
CONDUCTED WORST-CASE DATA : 802.11g

PHASE	Line 1	6dB BANDWIDTH	9kHz
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	0.16181	0.13	44.49	33.98	44.62	34.11	65.37	55.37	-20.75	-21.26
2	0.21679	0.13	40.69	29.01	40.82	29.14	62.94	52.94	-22.12	-23.80
3	0.27480	0.15	32.48	24.27	32.63	24.42	60.97	50.97	-28.34	-26.55
4	1.15878	0.21	33.32	18.69	33.53	18.90	56.00	46.00	-22.47	-27.10
5	2.11282	0.25	34.29	21.10	34.54	21.35	56.00	46.00	-21.46	-24.65
6	7.36395	0.52	31.05	14.58	31.57	15.10	60.00	50.00	-28.43	-34.90

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.



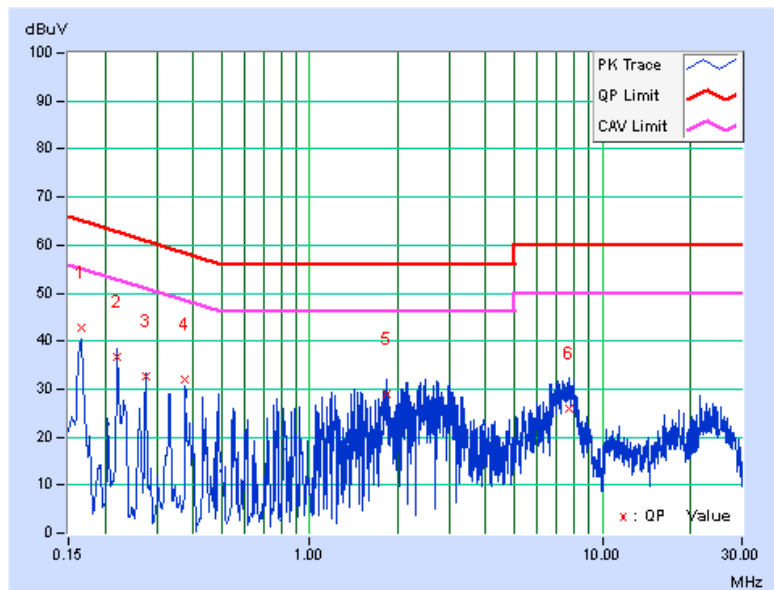


A D T

PHASE	Line 2	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	0.16564	0.14	42.52	32.18	42.66	32.32	65.18	55.18	-22.52	-22.86
2	0.22038	0.15	36.52	28.10	36.67	28.25	62.80	52.80	-26.14	-24.56
3	0.27512	0.16	32.40	21.92	32.56	22.08	60.96	50.96	-28.40	-28.88
4	0.37678	0.19	31.72	15.96	31.91	16.15	58.35	48.35	-26.44	-32.20
5	1.83521	0.25	28.70	14.48	28.95	14.73	56.00	46.00	-27.05	-31.27
6	7.70021	0.51	25.32	12.34	25.83	12.85	60.00	50.00	-34.17	-37.15

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





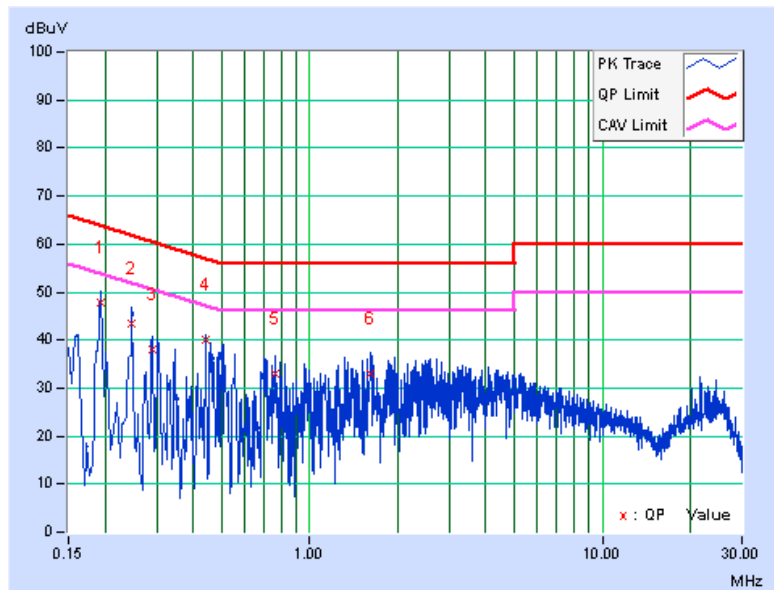
A D T

PHASE	Line 1	6dB BANDWIDTH	9kHz
TEST MODE	B		

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	0.19301	0.13	47.69	31.90	47.82	32.03	63.91	53.91	-16.09	-21.88
2	0.24775	0.13	43.30	26.29	43.43	26.42	61.83	51.83	-18.40	-25.41
3	0.29043	0.14	37.79	19.13	37.93	19.27	60.51	50.51	-22.58	-31.24
4	0.44325	0.15	40.01	21.96	40.16	22.11	57.00	47.00	-16.84	-24.89
5	0.76386	0.18	32.66	14.89	32.84	15.07	56.00	46.00	-23.16	-30.93
6	1.62289	0.26	32.80	14.06	33.06	14.32	56.00	46.00	-22.94	-31.68

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.



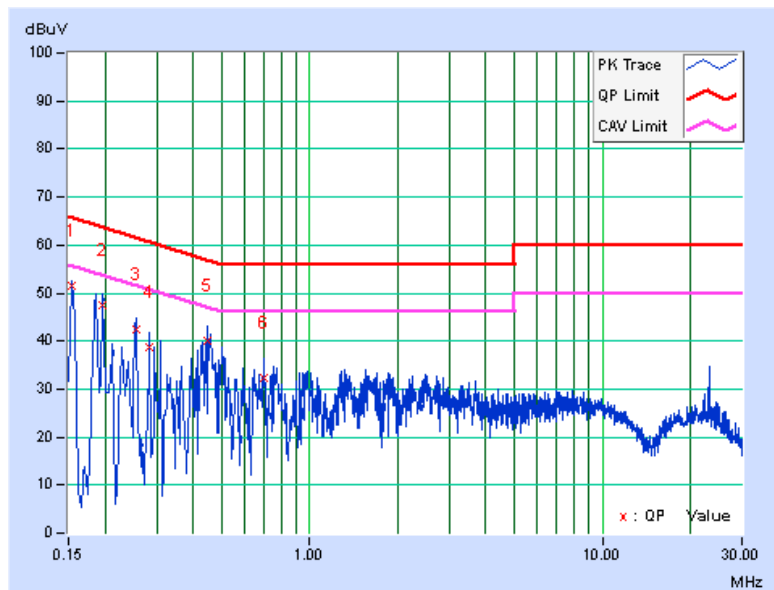


A D T

PHASE	Line 2	6dB BANDWIDTH	9kHz
TEST MODE	B		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	0.13	51.38	35.30	51.51	35.43	65.79	55.79	-14.28	-20.36
2	0.19692	0.14	47.48	31.66	47.62	31.80	63.74	53.74	-16.12	-21.94
3	0.25557	0.15	42.14	23.89	42.29	24.04	61.57	51.57	-19.29	-27.54
4	0.28294	0.15	38.73	20.03	38.88	20.18	60.73	50.73	-21.85	-30.55
5	0.44716	0.17	40.05	25.28	40.22	25.45	56.93	46.93	-16.70	-21.47
6	0.69740	0.19	32.27	18.62	32.46	18.81	56.00	46.00	-23.54	-27.19

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





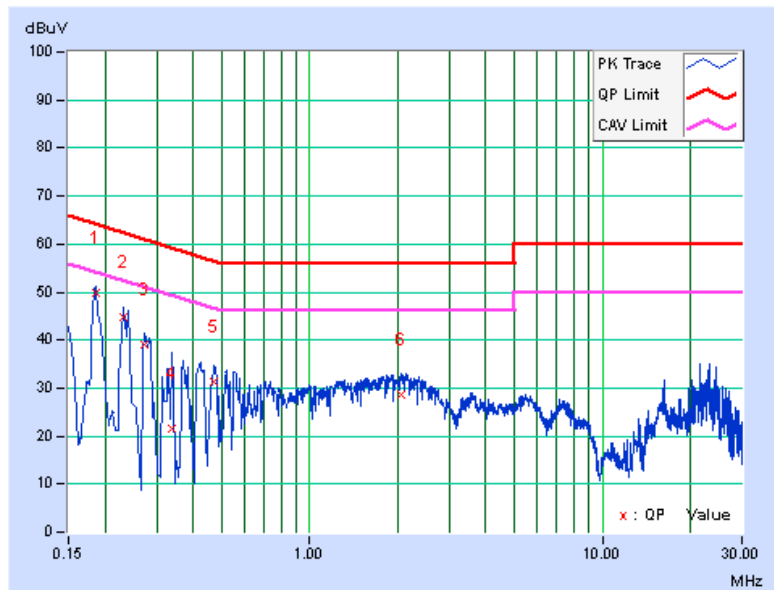
A D T

PHASE	Line 1	6dB BANDWIDTH	9kHz
TEST MODE	C		

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	0.18508	0.13	49.65	40.08	49.78	40.21	64.25	54.25	-14.48	-14.05
2	0.23216	0.13	44.75	35.92	44.88	36.05	62.37	52.37	-17.49	-16.32
3	0.27120	0.14	38.96	26.34	39.10	26.48	61.08	51.08	-21.98	-24.60
4	0.33768	0.14	21.46	2.20	21.60	2.34	59.26	49.26	-37.66	-46.92
5	0.47062	0.16	31.06	16.96	31.22	17.12	56.50	46.50	-25.29	-29.39
6	2.04244	0.29	28.39	17.20	28.68	17.49	56.00	46.00	-27.32	-28.51

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.



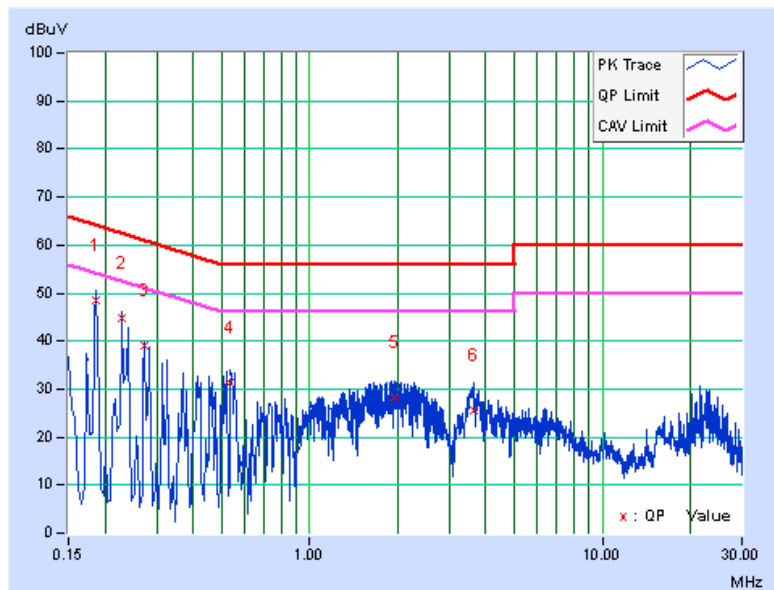


A D T

PHASE	Line 2	6dB BANDWIDTH	9kHz
TEST MODE	C		

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	0.18519	0.14	48.33	35.22	48.47	35.36	64.25	54.25	-15.78	-18.89
2	0.22820	0.14	44.67	34.43	44.81	34.57	62.51	52.51	-17.70	-17.94
3	0.27121	0.15	38.98	28.32	39.13	28.47	61.08	51.08	-21.95	-22.61
4	0.53709	0.18	31.15	17.64	31.33	17.82	56.00	46.00	-24.67	-28.18
5	1.95251	0.30	27.96	15.89	28.26	16.19	56.00	46.00	-27.74	-29.81
6	3.63772	0.42	25.26	13.75	25.68	14.17	56.00	46.00	-30.32	-31.83

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

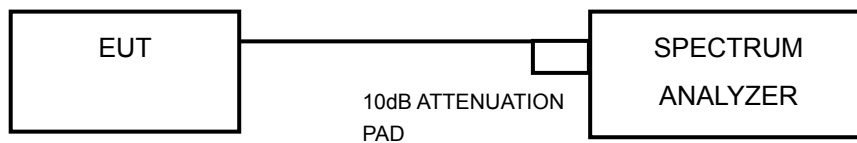


4.3 6dB BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 TEST SETUP



4.3.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

4.3.4 TEST PROCEDURE

- a. Set resolution bandwidth (RBW) = approximately 1% of the emission bandwidth
- b. Set the video bandwidth (VBW) $\geq 3 \times$ RBW, Detector = Peak.
- c. Trace mode = max hold.
- d. Sweep = auto couple.
- e. Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

4.3.5 DEVIATION FROM TEST STANDARD

No deviation.

4.3.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.



A D T

4.3.7 TEST RESULTS

802.11b

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	10.110	0.5	PASS
6	2437	10.120	0.5	PASS
11	2462	10.120	0.5	PASS

802.11g

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.640	0.5	PASS
6	2437	16.630	0.5	PASS
11	2462	16.630	0.5	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
1	2412	17.720	17.710	0.5	PASS
6	2437	17.720	17.750	0.5	PASS
11	2462	17.760	17.730	0.5	PASS

802.11n (40MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
3	2422	36.430	36.510	0.5	PASS
6	2437	36.180	36.470	0.5	PASS
9	2452	36.460	36.520	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,

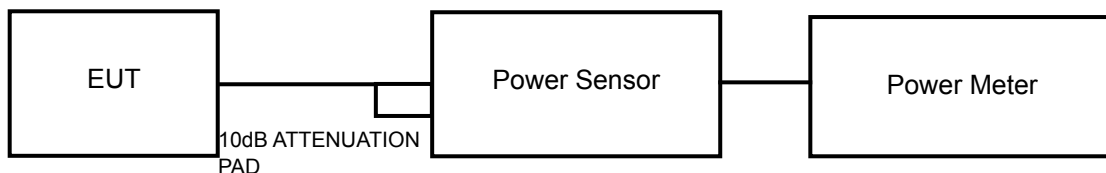
Array Gain = 0 dB (i.e., no array gain) for $NANT \leq 4$;

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.



A D T

4.4.5 DEVIATION FROM TEST STANDARD

No deviation.

4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6.



A D T

4.4.7 TEST RESULTS

FOR PEAK POWER

802.11b

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
1	2412	776.247	28.90	30	PASS
6	2437	660.693	28.20	30	PASS
11	2462	616.595	27.90	30	PASS

802.11g

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
1	2412	954.993	29.80	30	PASS
6	2437	912.011	29.60	30	PASS
11	2462	741.310	28.70	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	26.90	26.40	926.295	29.67	30	PASS
6	2437	26.40	26.50	883.200	29.46	30	PASS
11	2462	26.90	26.90	979.558	29.91	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	26.80	26.80	957.260	29.81	30	PASS
6	2437	26.50	26.90	936.463	29.71	30	PASS
9	2452	26.90	26.90	979.558	29.91	30	PASS



A D T

FOR AVERAGE POWER

802.11b

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)
1	2412	325.594	25.10
6	2437	231.087	23.60
11	2462	215.796	23.30

802.11g

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)
1	2412	146.544	21.60
6	2437	175.780	22.40
11	2462	97.499	19.80

802.11n (20MHz)

CHAN.	FREQUENCY (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1		
1	2412	17.20	16.50	97.149	19.87
6	2437	16.90	17.40	103.932	20.17
11	2462	17.40	17.60	112.498	20.51

802.11n (40MHz)

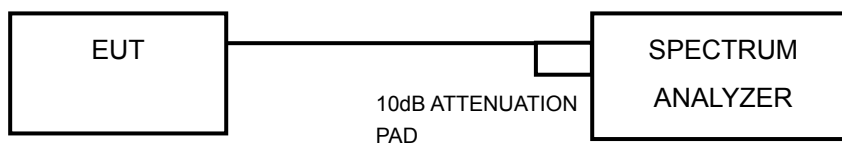
CHAN.	FREQUENCY (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)
		CHAIN 0	CHAIN 1		
3	2422	17.10	17.00	101.405	20.06
6	2437	16.40	17.80	103.908	20.17
9	2452	17.20	17.50	108.715	20.36

4.5 POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

4.5.2 TEST SETUP



4.5.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

4.5.4 TEST PROCEDURE

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

4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

4.5.6 EUT OPERATING CONDITION

Same as Item 4.3.6



A D T

4.5.7 TEST RESULTS

802.11b

Channel	Freq. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	-4.60	8	PASS
6	2437	-6.73	8	PASS
11	2462	-6.25	8	PASS

802.11g

Channel	Freq. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	1.70	8	PASS
6	2437	0.88	8	PASS
11	2462	-0.28	8	PASS

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	0.67	3.01	3.68	8	PASS
	6	2437	0.56	3.01	3.57	8	PASS
	11	2462	-0.44	3.01	2.57	8	PASS
1	1	2412	1.09	3.01	4.10	8	PASS
	6	2437	-0.09	3.01	2.92	8	PASS
	11	2462	-1.79	3.01	1.22	8	PASS

NOTE: Directional gain = 0dBi + 10log(2) = 3dBi < 6dBi, so the limit no need to reduced.

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	1.54	3.01	4.55	8	PASS
	6	2437	0.01	3.01	3.02	8	PASS
	9	2452	-0.33	3.01	2.68	8	PASS
1	3	2422	-0.20	3.01	2.81	8	PASS
	6	2437	-0.25	3.01	2.76	8	PASS
	9	2452	-0.50	3.01	2.51	8	PASS

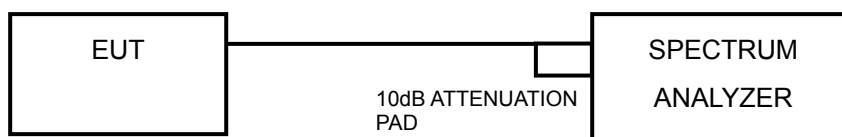
NOTE: Directional gain = 0dBi + 10log(2) = 3dBi < 6dBi, so the limit no need to reduced.

4.6 CONDUCTED OUT OF BAND EMISSION MEASUREMENT

4.6.1 LIMITS OF CONDUCTED OUT OF BAND EMISSION MEASUREMENT

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

4.6.2 TEST SETUP



4.6.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

4.6.4 TEST PROCEDURE

MEASUREMENT PROCEDURE REF

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



A D T

MEASUREMENT PROCEDURE OOB

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

4.6.5 DEVIATION FROM TEST STANDARD

No deviation.

4.6.6 EUT OPERATING CONDITION

Same as Item 4.3.6

4.6.7 TEST RESULTS

The 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. Only worst data of each operating mode is presented.

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.

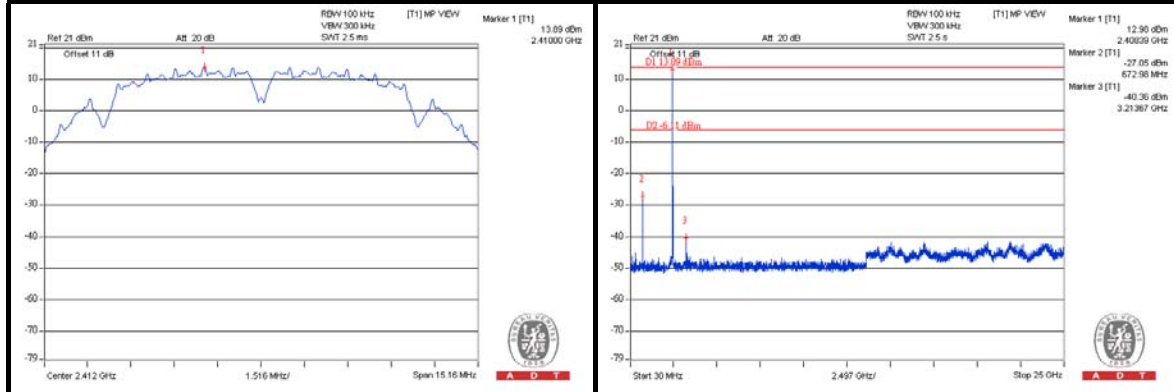


A D T

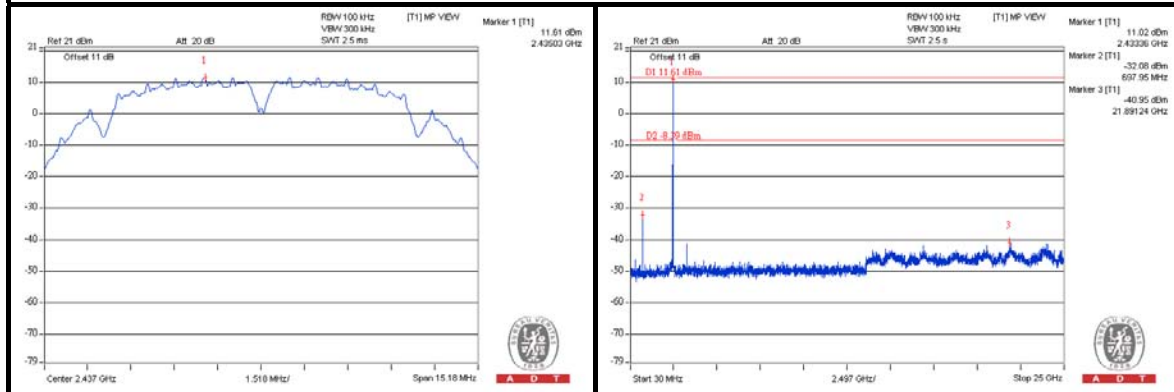
4.6.8 TEST RESULTS

802.11b

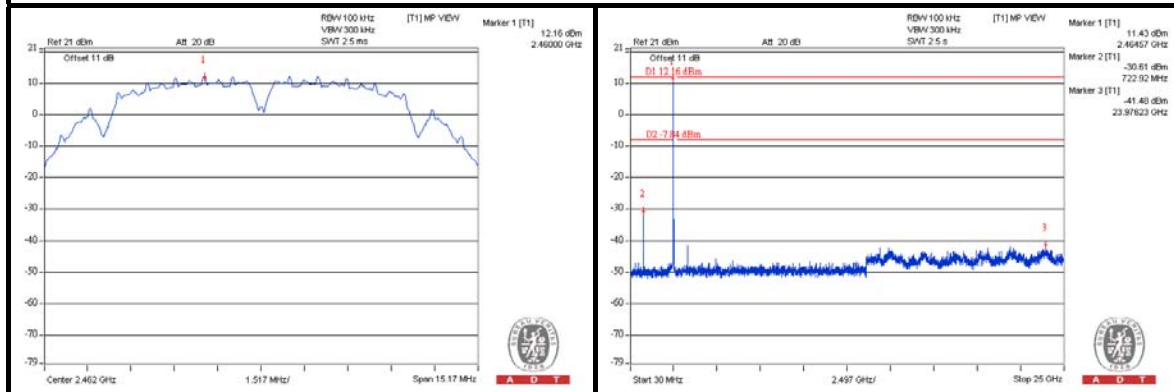
CH 1



CH 6



CH 11

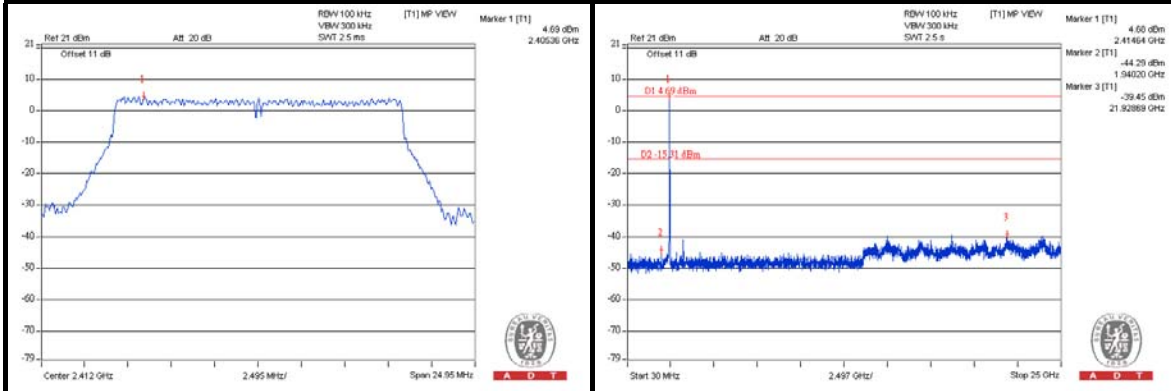




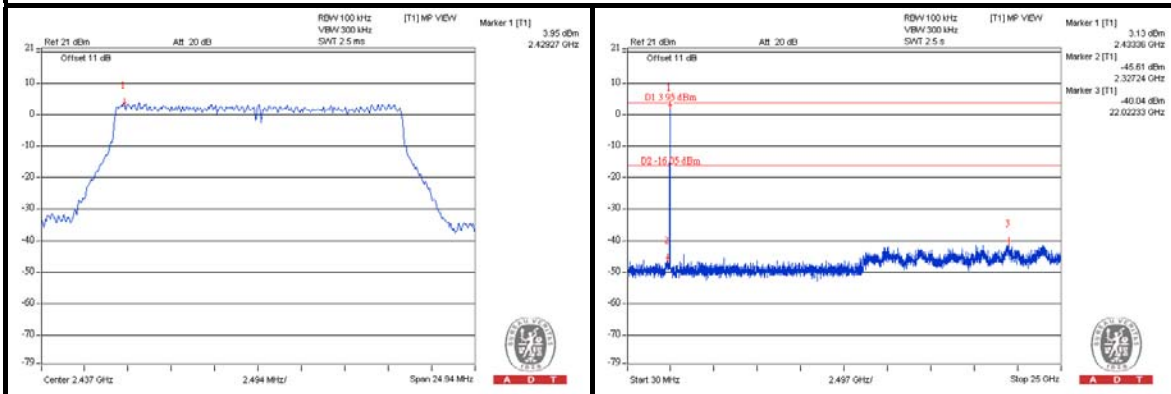
A D T

802.11g

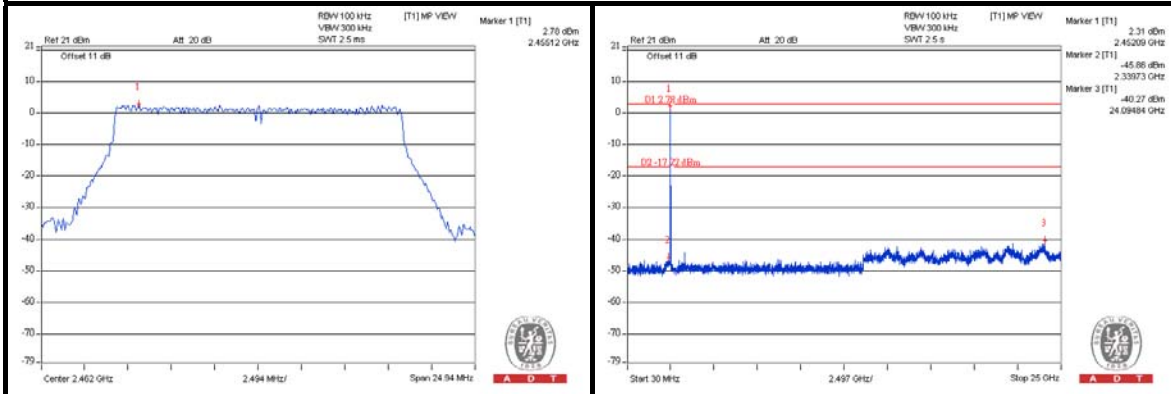
CH 1



CH 6



CH 11



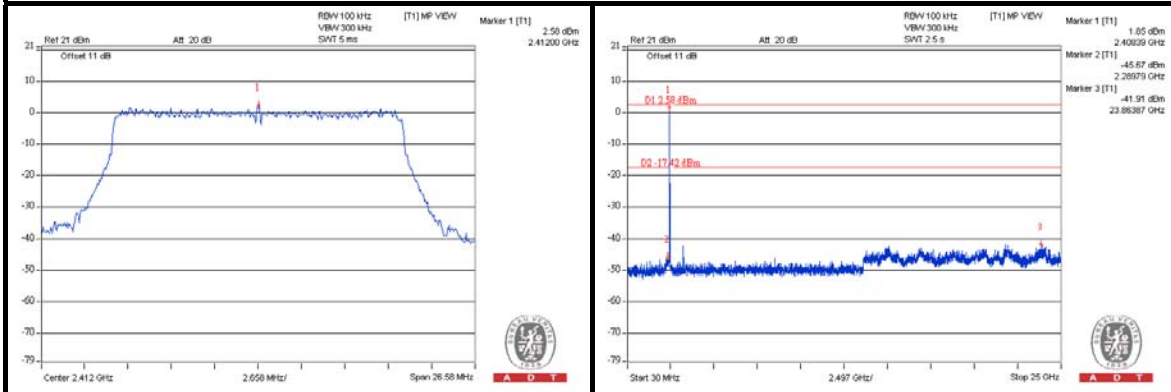


A D T

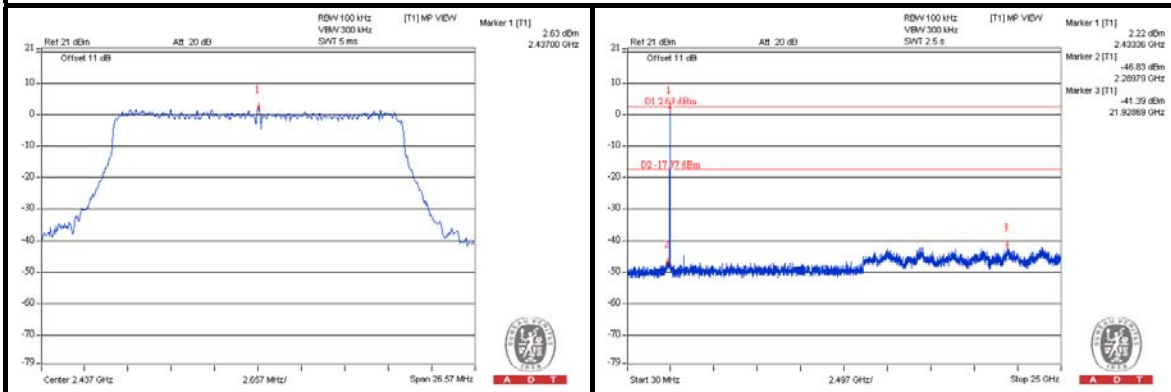
802.11n (20MHz)

CHAIN 0

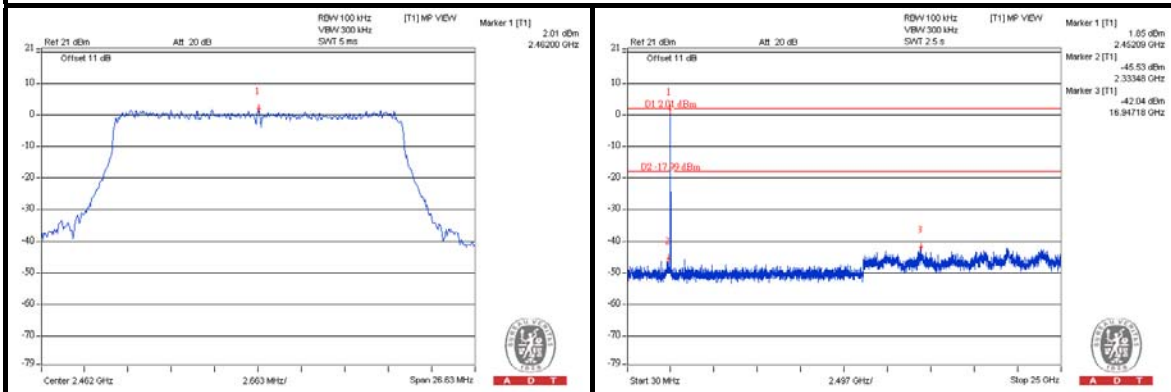
CH 1



CH 6



CH 11

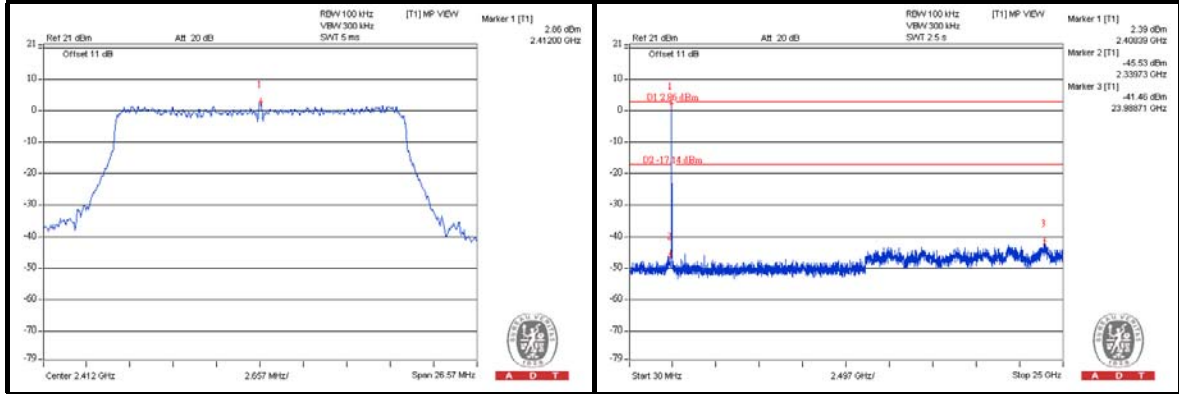




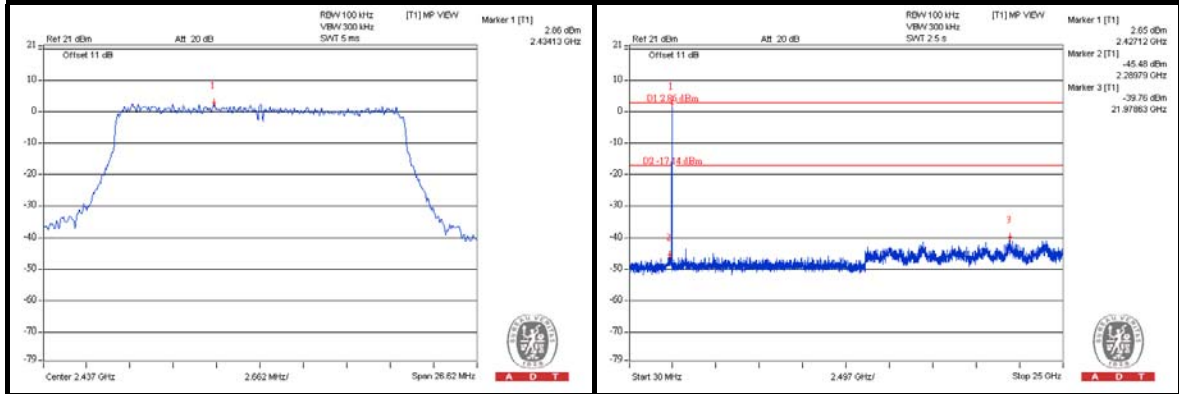
A D T

CHAIN 1

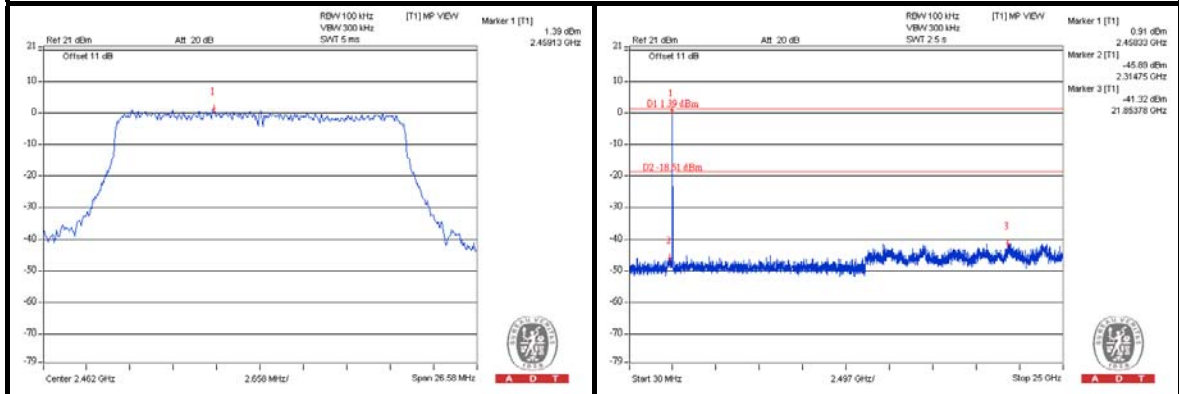
CH 1



CH 6



CH 11



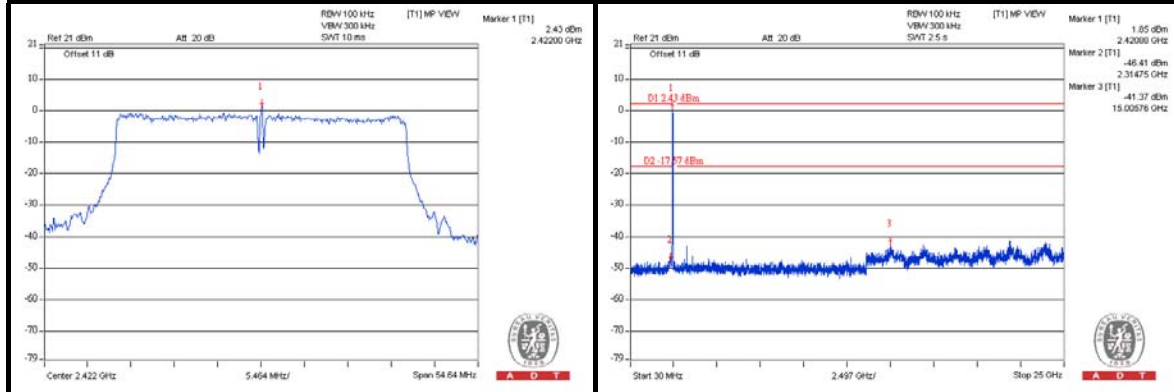


A D T

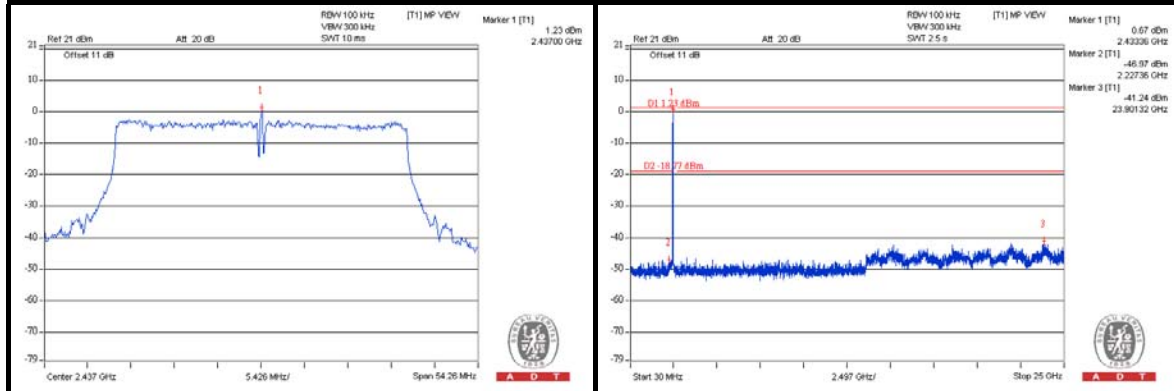
802.11n (40MHz)

CHAIN 0

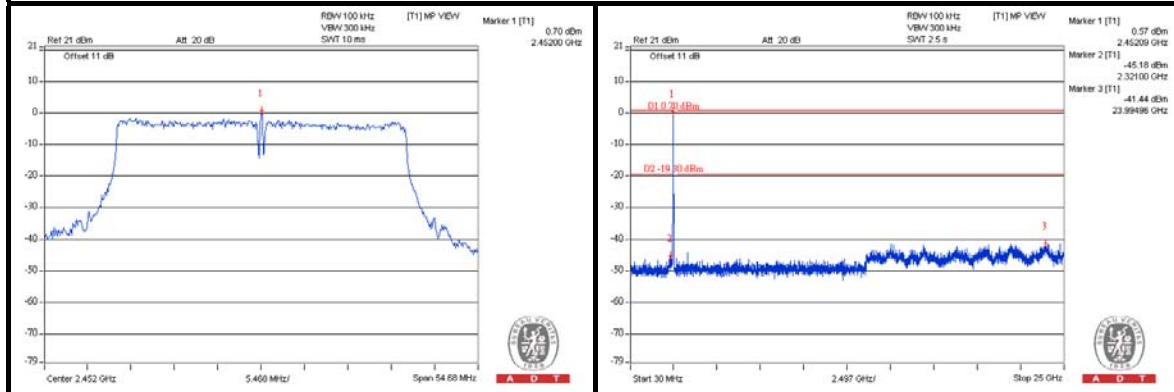
CH 3



CH 6



CH 9

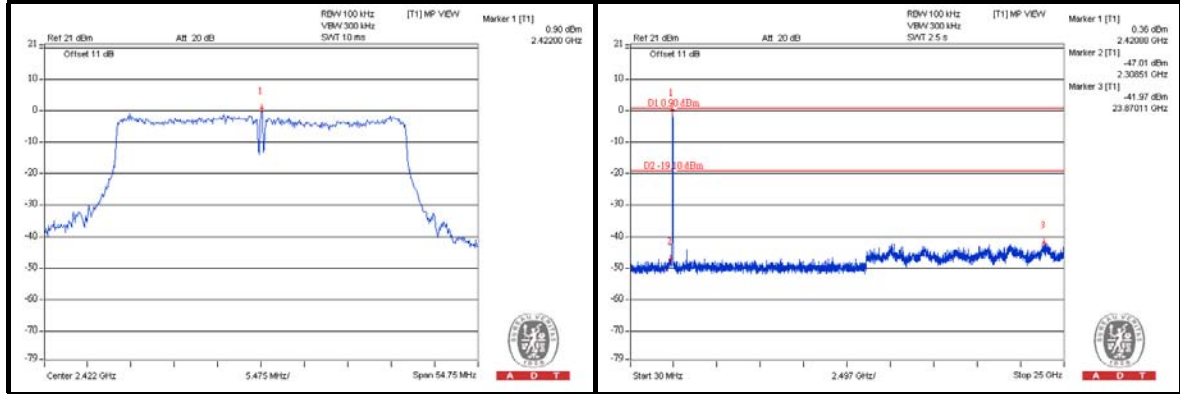




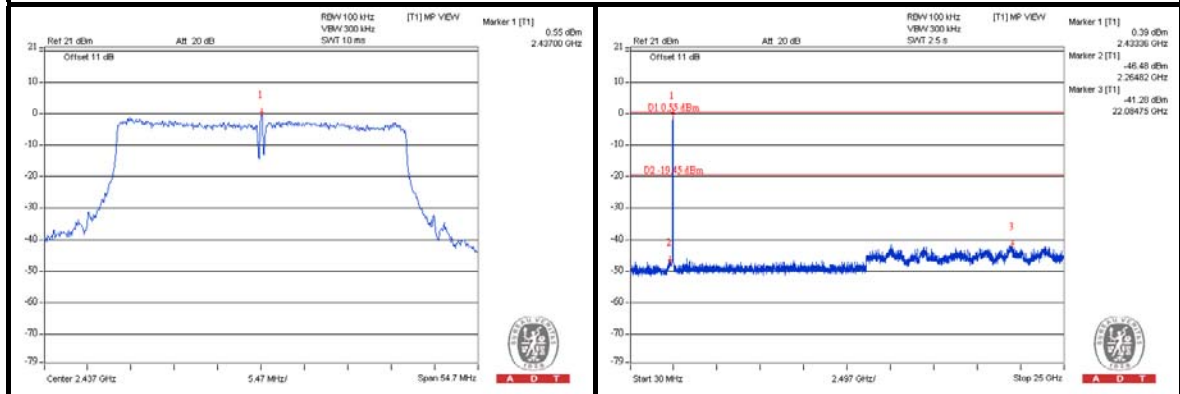
A D T

CHAIN 1

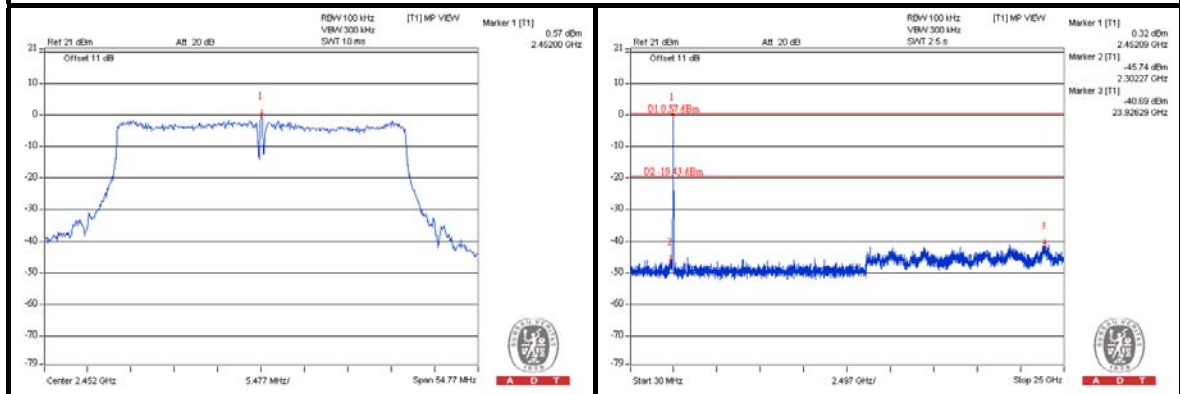
CH 3



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

ABOVE 1GHz WORST-CASE DATA :

802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	17deg. C, 65%RH	TESTED BY	Martin Lee

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	71.9 PK	83.4	-11.5	1.02 H	14	33.20	38.70
2	#5725.00	63.1 AV	74.6	-11.5	1.02 H	14	24.40	38.70
3	*5745.00	103.4 PK			1.00 H	14	64.60	38.80
4	*5745.00	94.6 AV			1.00 H	14	55.80	38.80
5	11490.00	57.0 PK	74.0	-17.0	1.72 H	117	7.60	49.40
6	11490.00	43.7 AV	54.0	-10.3	1.72 H	117	-5.70	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	#5725.00	75.5 PK	86.1	-10.6	1.07 V	128	36.80	38.70
2	#5725.00	66.6 AV	77.2	-10.6	1.07 V	128	27.90	38.70
3	*5745.00	106.1 PK			1.31 V	140	67.30	38.80
4	*5745.00	97.2 AV			1.31 V	140	58.40	38.80
5	11490.00	55.2 PK	74.0	-18.8	1.22 V	104	5.80	49.40
6	11490.00	45.1 AV	54.0	-8.9	1.22 V	104	-4.30	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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	17deg. C, 65%RH	TESTED BY	Martin Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	103.6 PK			1.00 H	21	64.70	38.90
2	*5785.00	94.2 AV			1.00 H	21	55.30	38.90
3	11570.00	55.8 PK	74.0	-18.2	1.62 H	104	6.60	49.20
4	11570.00	43.4 AV	54.0	-10.6	1.62 H	104	-5.80	49.20

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	*5785.00	106.4 PK			1.35 V	122	67.50	38.90
2	*5785.00	96.8 AV			1.35 V	122	57.90	38.90
3	11570.00	55.8 PK	74.0	-18.2	1.12 V	112	6.60	49.20
4	11570.00	44.8 AV	54.0	-9.2	1.12 V	112	-4.40	49.20

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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	17deg. C, 65%RH	TESTED BY	Martin Lee

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	103.2 PK			1.00 H	25	64.30	38.90
2	*5825.00	94.2 AV			1.00 H	25	55.30	38.90
3	#5850.00	65.0 PK	83.2	-18.2	1.05 H	27	26.00	39.00
4	#5850.00	56.0 AV	74.2	-18.2	1.05 H	27	17.00	39.00
5	11650.00	56.7 PK	74.0	-17.3	1.52 H	128	7.60	49.10
6	11650.00	43.8 AV	54.0	-10.2	1.52 H	128	-5.30	49.10
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	*5825.00	106.2 PK			1.18 V	144	67.30	38.90
2	*5825.00	97.4 AV			1.18 V	144	58.50	38.90
3	#5850.00	68.6 PK	86.2	-17.6	1.18 V	145	29.60	39.00
4	#5850.00	59.8 AV	77.4	-17.6	1.18 V	145	20.80	39.00
5	11650.00	54.8 PK	74.0	-19.2	1.25 V	108	5.70	49.10
6	11650.00	45.2 AV	54.0	-8.8	1.25 V	108	-3.90	49.10

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.
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 (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	17deg. C, 65%RH	TESTED BY	Martin Lee

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	73.8 PK	82.6	-8.8	1.00 H	12	35.10	38.70
2	#5725.00	64.2 AV	73.0	-8.8	1.00 H	12	25.50	38.70
3	*5745.00	102.6 PK			1.00 H	16	63.80	38.80
4	*5745.00	93.0 AV			1.00 H	16	54.20	38.80
5	11490.00	53.8 PK	74.0	-20.2	1.22 H	41	4.40	49.40
6	11490.00	42.8 AV	54.0	-11.2	1.22 H	41	-6.60	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	#5725.00	77.0 PK	86.0	-9.0	1.14 V	145	38.30	38.70
2	#5725.00	67.7 AV	76.7	-9.0	1.14 V	145	29.00	38.70
3	*5745.00	106.0 PK			1.12 V	145	67.20	38.80
4	*5745.00	96.7 AV			1.12 V	145	57.90	38.80
5	11490.00	55.8 PK	74.0	-18.2	1.05 V	165	6.40	49.40
6	11490.00	45.2 AV	54.0	-8.8	1.05 V	165	-4.20	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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	17deg. C, 65%RH	TESTED BY	Martin Lee

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	102.2 PK			1.02 H	14	63.30	38.90
2	*5785.00	93.1 AV			1.02 H	14	54.20	38.90
3	11570.00	55.2 PK	74.0	-18.8	1.52 H	89	6.00	49.20
4	11570.00	42.8 AV	54.0	-11.2	1.52 H	89	-6.40	49.20

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	*5785.00	105.8 PK			1.25 V	118	66.90	38.90
2	*5785.00	95.6 AV			1.25 V	118	56.70	38.90
3	11570.00	55.2 PK	74.0	-18.8	1.15 V	108	6.00	49.20
4	11570.00	44.2 AV	54.0	-9.8	1.15 V	108	-5.00	49.20

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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	17deg. C, 65%RH	TESTED BY	Martin Lee

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	102.7 PK			1.04 H	16	63.80	38.90
2	*5825.00	93.5 AV			1.04 H	16	54.60	38.90
3	#5850.00	63.9 PK	82.7	-18.8	1.04 H	18	24.90	39.00
4	#5850.00	54.7 AV	73.5	-18.8	1.04 H	18	15.70	39.00
5	11650.00	56.2 PK	74.0	-17.8	1.41 H	132	7.10	49.10
6	11650.00	43.4 AV	54.0	-10.6	1.41 H	132	-5.70	49.10

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	*5825.00	105.9 PK			1.36 V	152	67.00	38.90
2	*5825.00	97.0 AV			1.36 V	152	58.10	38.90
3	#5850.00	68.2 PK	85.9	-17.7	1.31 V	147	29.20	39.00
4	#5850.00	59.3 AV	77.0	-17.7	1.31 V	147	20.30	39.00
5	11650.00	54.6 PK	74.0	-19.4	1.26 V	85	5.50	49.10
6	11650.00	44.8 AV	54.0	-9.2	1.26 V	85	-4.30	49.10

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.
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 (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	17deg. C, 65%RH	TESTED BY	Martin Lee

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	78.5 PK	80.3	-1.8	1.02 H	18	39.80	38.70
2	#5725.00	69.0 AV	70.8	-1.8	1.02 H	18	30.30	38.70
3	*5755.00	100.3 PK			1.00 H	14	61.50	38.80
4	*5755.00	90.8 AV			1.00 H	14	52.00	38.80
5	11510.00	54.2 PK	74.0	-19.8	1.25 H	69	4.80	49.40
6	11510.00	42.8 AV	54.0	-11.2	1.25 H	69	-6.60	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	#5725.00	82.6 PK	84.2	-1.6	1.31 V	147	43.90	38.70
2	#5725.00	72.9 AV	74.5	-1.6	1.31 V	147	34.20	38.70
3	*5755.00	104.2 PK			1.32 V	146	65.40	38.80
4	*5755.00	94.5 AV			1.32 V	146	55.70	38.80
5	11510.00	55.2 PK	74.0	-18.8	1.16 V	161	5.80	49.40
6	11510.00	43.4 AV	54.0	-10.6	1.16 V	161	-6.00	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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 159	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	17deg. C, 65%RH	TESTED BY	Martin Lee

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	100.8 PK			1.00 H	2	61.30	39.50
2	*5795.00	91.3 AV			1.00 H	2	51.80	39.50
3	#5850.00	50.6 PK	80.8	-30.2	1.00 H	2	11.00	39.60
4	#5850.00	41.1 AV	71.3	-30.2	1.00 H	2	1.50	39.60
5	11590.00	53.6 PK	74.0	-20.4	1.32 H	77	4.50	49.10
6	11590.00	42.8 AV	54.0	-11.2	1.32 H	77	-6.30	49.10

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	*5795.00	105.3 PK			1.12 V	157	65.90	39.40
2	*5795.00	95.4 AV			1.12 V	157	56.00	39.40
3	#5850.00	56.0 PK	85.3	-29.3	1.12 V	158	16.40	39.60
4	#5850.00	46.1 AV	75.4	-29.3	1.12 V	158	6.50	39.60
5	11590.00	54.8 PK	74.0	-19.2	1.21 V	162	5.70	49.10
6	11590.00	42.2 AV	54.0	-11.8	1.21 V	162	-6.90	49.10

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.
6. The limit value is defined as per 15.247.
7. “#”:The radiated frequency is out the restricted band.



A D T

802.11ac (80MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 155	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	17deg. C, 65%RH	TESTED BY	Martin Lee

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	77.0 PK	78.2	-1.2	1.02 H	12	38.30	38.70
2	#5725.00	66.8 AV	68.0	-1.2	1.02 H	12	28.10	38.70
3	*5775.00	98.2 PK			1.00 H	12	59.40	38.80
4	*5775.00	88.0 AV			1.00 H	12	49.20	38.80
5	#5850.00	73.0 PK	78.2	-5.2	1.02 H	12	34.00	39.00
6	#5850.00	62.8 AV	68.0	-5.2	1.02 H	12	23.80	39.00
7	11550.00	52.2 PK	74.0	-21.8	1.36 H	252	2.90	49.30
8	11550.00	42.2 AV	54.0	-11.8	1.36 H	252	-7.10	49.30
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	79.4 PK	81.7	-2.3	1.12 V	140	40.70	38.70
2	#5725.00	69.4 AV	71.7	-2.3	1.12 V	140	30.70	38.70
3	*5775.00	101.7 PK			1.18 V	140	62.90	38.80
4	*5775.00	91.7 AV			1.18 V	140	52.90	38.80
5	#5850.00	76.5 PK	81.7	-5.2	1.12 V	140	37.50	39.00
6	#5850.00	66.5 AV	71.7	-5.2	1.12 V	140	27.50	39.00
7	11550.00	54.8 PK	74.0	-19.2	1.08 V	185	5.50	49.30
8	11550.00	43.2 AV	54.0	-10.8	1.08 V	185	-6.10	49.30

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 radiated frequency is out of the restricted band.



A D T

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	19deg. C, 66%RH	TESTED BY	Martin Lee
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	59.10	28.3 QP	40.0	-11.7	1.49 H	15	15.10	13.20
2	101.78	36.1 QP	43.5	-7.4	1.49 H	218	26.90	9.20
3	224.00	33.4 QP	46.0	-12.6	1.49 H	130	21.60	11.80
4	309.36	36.3 QP	46.0	-9.7	1.00 H	253	21.20	15.10
5	373.38	32.0 QP	46.0	-14.0	1.00 H	247	15.30	16.70
6	414.12	31.0 QP	46.0	-15.0	1.49 H	243	13.30	17.70
7	916.58	40.9 QP	46.0	-5.1	1.00 H	166	14.30	26.60

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	30.00	35.7 QP	40.0	-4.3	1.00 V	11	23.50	12.20
2	59.10	36.8 QP	40.0	-3.2	1.24 V	351	23.60	13.20
3	62.98	36.2 QP	40.0	-3.8	1.00 V	273	23.30	12.90
4	105.66	37.2 QP	43.5	-6.3	1.00 V	185	27.60	9.60
5	309.36	36.5 QP	46.0	-9.5	1.49 V	225	21.40	15.10
6	414.12	35.4 QP	46.0	-10.6	1.00 V	199	17.70	17.70
7	916.58	38.8 QP	46.0	-7.2	1.49 V	198	12.20	26.60

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	19deg. C, 66%RH	TESTED BY	Martin Lee
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	55.22	25.9 QP	40.0	-14.1	1.49 H	49	12.60	13.30
2	101.78	36.9 QP	43.5	-6.6	1.49 H	210	27.70	9.20
3	231.76	34.0 QP	46.0	-12.0	1.49 H	93	21.80	12.20
4	307.42	35.0 QP	46.0	-11.0	1.00 H	246	19.90	15.10
5	365.62	32.3 QP	46.0	-13.7	1.00 H	259	15.80	16.50
6	418.00	31.1 QP	46.0	-14.9	1.49 H	170	13.30	17.80

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	30.00	35.2 QP	40.0	-4.8	1.00 V	6	23.00	12.20
2	59.10	36.0 QP	40.0	-4.0	1.85 V	303	22.80	13.20
3	64.92	34.6 QP	40.0	-5.4	1.00 V	6	21.90	12.70
4	105.66	37.7 QP	43.5	-5.8	1.50 V	223	28.10	9.60
5	319.06	35.2 QP	46.0	-10.8	1.50 V	208	19.80	15.40
6	418.00	34.4 QP	46.0	-11.6	1.00 V	198	16.60	17.80

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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	19deg. C, 66%RH	TESTED BY	Martin Lee
TEST MODE	C		

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	101.78	36.7 QP	43.5	-6.8	1.24 H	235	27.50	9.20
2	140.58	28.3 QP	43.5	-15.2	1.24 H	122	15.20	13.10
3	225.94	35.0 QP	46.0	-11.0	1.00 H	277	23.10	11.90
4	251.16	35.4 QP	46.0	-10.6	1.00 H	125	22.40	13.00
5	301.60	31.9 QP	46.0	-14.1	1.00 H	256	17.00	14.90
6	792.42	32.8 QP	46.0	-13.2	1.00 H	330	7.80	25.00

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	37.76	34.2 QP	40.0	-5.8	1.00 V	255	21.40	12.80
2	59.10	35.5 QP	40.0	-4.5	1.54 V	331	22.30	13.20
3	62.98	36.0 QP	40.0	-4.0	1.00 V	347	23.10	12.90
4	107.60	38.4 QP	43.5	-5.1	1.77 V	250	28.50	9.90
5	231.76	27.5 QP	46.0	-18.5	1.00 V	68	15.30	12.20
6	303.54	31.1 QP	46.0	-14.9	1.24 V	194	16.10	15.00
7	381.14	28.4 QP	46.0	-17.6	1.00 V	190	11.50	16.90

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.



5.2 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

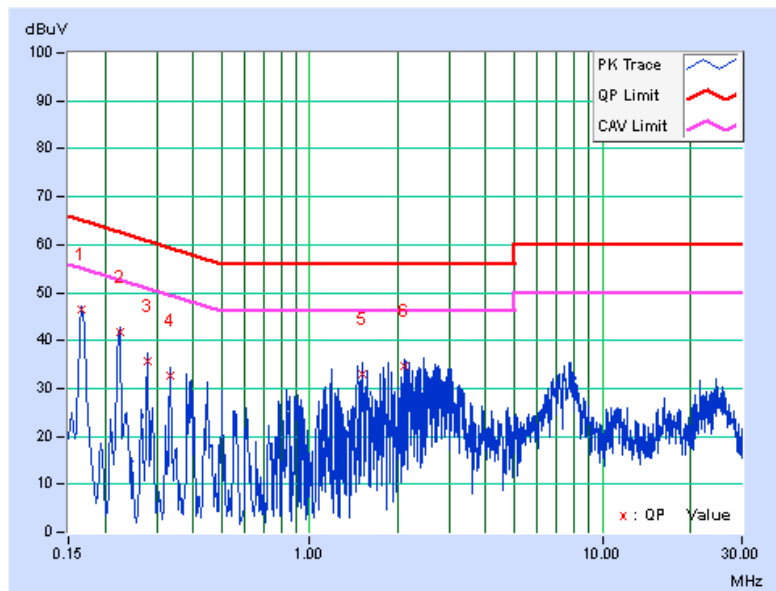
CONDUCTED WORST-CASE DATA : 802.11n (20MHz)

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	0.16569	0.12	46.25	36.99	46.37	37.11	65.17	55.17	-18.80	-18.06
2	0.22429	0.13	41.71	30.59	41.84	30.72	62.66	52.66	-20.82	-21.94
3	0.27903	0.14	35.49	25.49	35.63	25.63	60.84	50.84	-25.22	-25.22
4	0.33377	0.14	32.56	24.57	32.70	24.71	59.36	49.36	-26.65	-24.64
5	1.51459	0.25	32.91	18.91	33.16	19.16	56.00	46.00	-22.84	-26.84
6	2.12064	0.30	34.38	21.22	34.68	21.52	56.00	46.00	-21.32	-24.48

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.



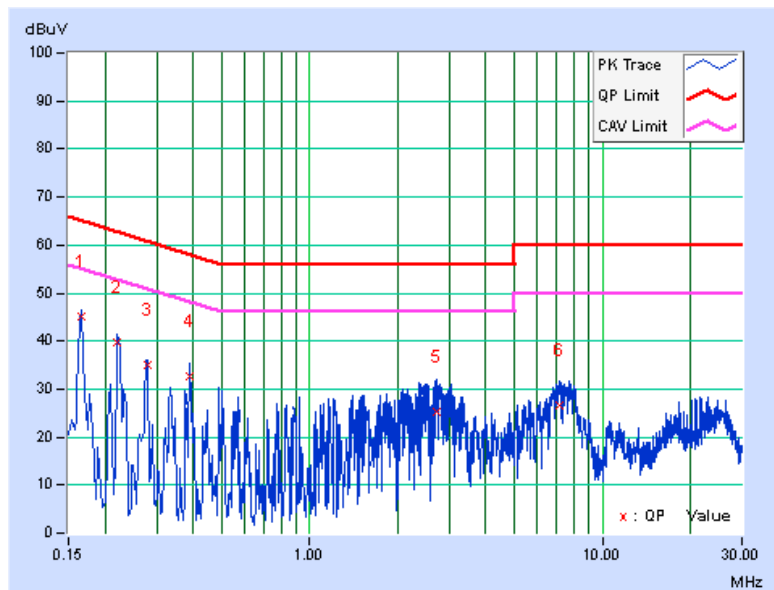


A D T

PHASE	Line 2	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	0.16564	0.13	45.02	34.80	45.15	34.93	65.18	55.18	-20.03	-20.25
2	0.22038	0.14	39.45	29.87	39.59	30.01	62.80	52.80	-23.21	-22.79
3	0.27844	0.15	34.76	23.53	34.91	23.68	60.86	50.86	-25.95	-27.18
4	0.38851	0.17	32.38	20.21	32.55	20.38	58.10	48.10	-25.55	-27.72
5	2.71105	0.35	24.83	5.86	25.18	6.21	56.00	46.00	-30.82	-39.79
6	7.16454	0.62	25.94	12.09	26.56	12.71	60.00	50.00	-33.44	-37.29

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





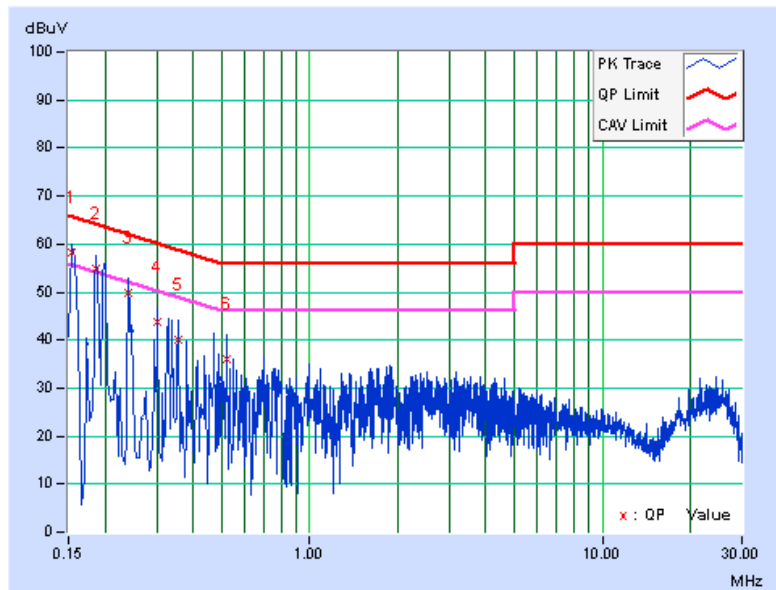
A D T

PHASE	Line 1	6dB BANDWIDTH	9kHz
TEST MODE	B		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	0.12	58.09	41.07	58.21	41.19	65.79	55.79	-7.58	-14.60
2	0.18519	0.13	54.80	36.43	54.93	36.56	64.25	54.25	-9.32	-17.69
3	0.23993	0.13	49.67	31.29	49.80	31.42	62.10	52.10	-12.29	-20.67
4	0.30249	0.14	43.66	24.67	43.80	24.81	60.17	50.17	-16.37	-25.36
5	0.35723	0.15	39.88	19.00	40.03	19.15	58.79	48.79	-18.77	-29.65
6	0.52145	0.16	35.90	17.05	36.06	17.21	56.00	46.00	-19.94	-28.79

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.



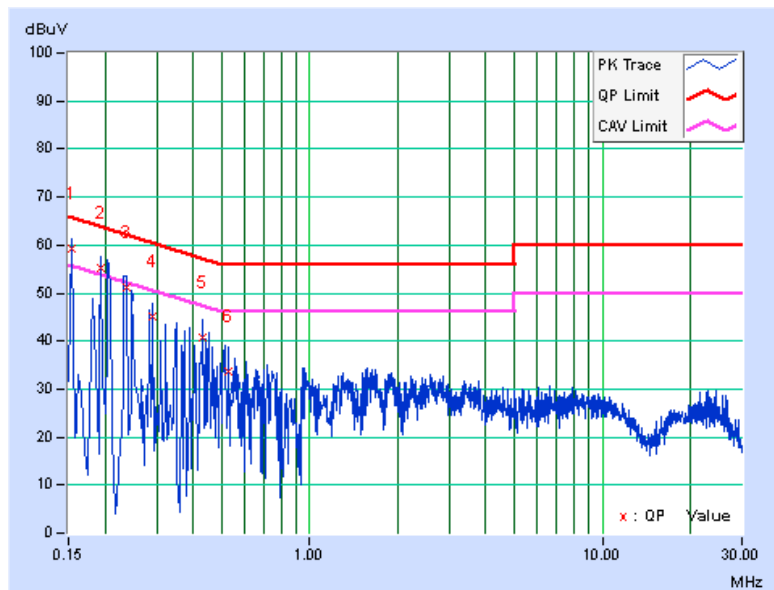


A D T

PHASE	Line 2	6dB BANDWIDTH	9kHz
TEST MODE	B		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	0.13	59.25	41.40	59.38	41.53	65.79	55.79	-6.41	-14.26
2	0.19301	0.14	55.22	37.90	55.36	38.04	63.91	53.91	-8.55	-15.87
3	0.23602	0.15	51.06	33.26	51.21	33.41	62.24	52.24	-11.03	-18.83
4	0.29076	0.15	44.92	24.33	45.07	24.48	60.50	50.50	-15.43	-26.02
5	0.43152	0.17	40.48	25.46	40.65	25.63	57.22	47.22	-16.57	-21.59
6	0.52927	0.18	33.49	16.81	33.67	16.99	56.00	46.00	-22.33	-29.01

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





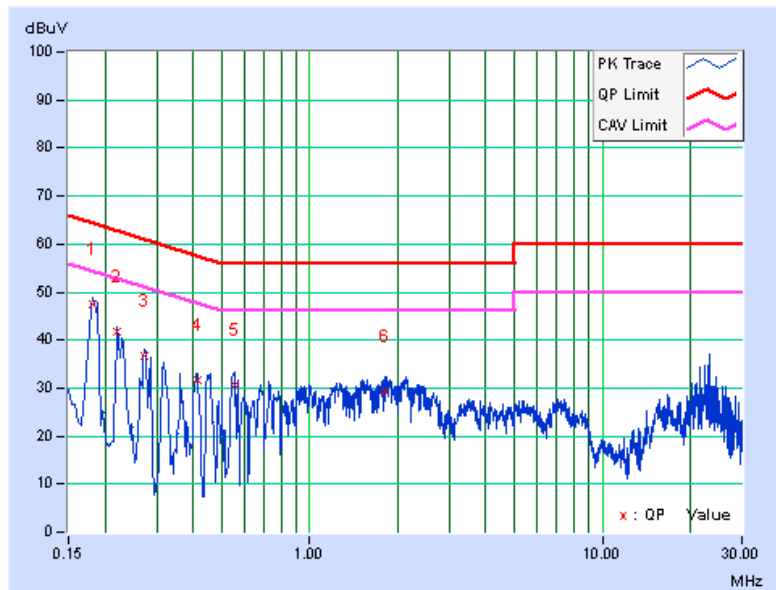
A D T

PHASE	Line 1	6dB BANDWIDTH	9kHz
TEST MODE	C		

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	0.18122	0.12	47.38	39.40	47.50	39.52	64.43	54.43	-16.93	-14.91
2	0.22038	0.13	41.70	29.37	41.83	29.50	62.80	52.80	-20.97	-23.30
3	0.27120	0.14	36.59	29.45	36.73	29.59	61.08	51.08	-24.35	-21.49
4	0.41233	0.15	31.64	22.11	31.79	22.26	57.60	47.60	-25.81	-25.34
5	0.55241	0.16	30.55	16.32	30.71	16.48	56.00	46.00	-25.29	-29.52
6	1.81957	0.27	29.05	17.39	29.32	17.66	56.00	46.00	-26.68	-28.34

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.



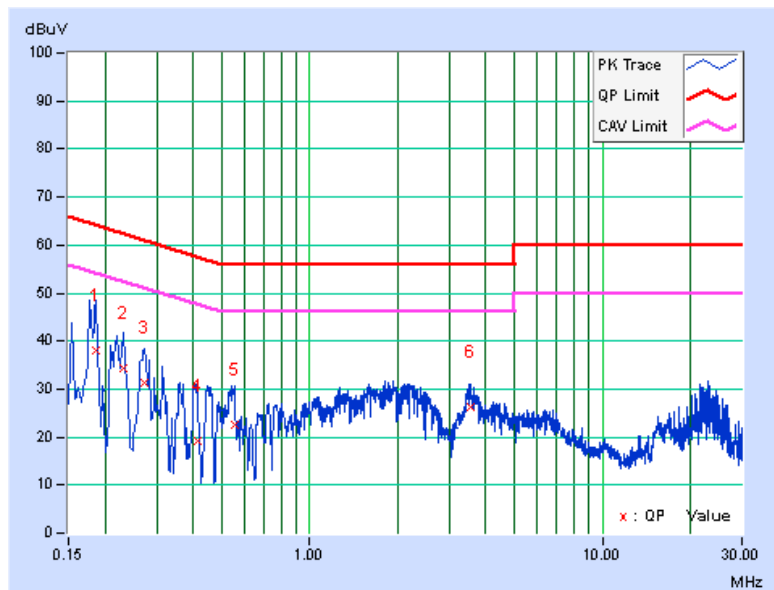


A D T

PHASE	Line 2	6dB BANDWIDTH	9kHz
TEST MODE	C		

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	0.18519	0.14	37.84	20.56	37.98	20.70	64.25	54.25	-26.27	-33.55
2	0.23216	0.14	34.20	20.22	34.34	20.36	62.37	52.37	-28.03	-32.01
3	0.27120	0.15	31.15	17.29	31.30	17.44	61.08	51.08	-29.78	-33.64
4	0.41197	0.17	18.95	7.39	19.12	7.56	57.61	47.61	-38.49	-40.05
5	0.55273	0.18	22.43	14.50	22.61	14.68	56.00	46.00	-33.39	-31.32
6	3.54779	0.42	25.89	17.18	26.31	17.60	56.00	46.00	-29.69	-28.40

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





A D T

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

802.11a

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	16.360	0.5	PASS
157	5785	16.360	0.5	PASS
165	5825	16.360	0.5	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	16.930	0.5	PASS
157	5785	16.630	0.5	PASS
165	5825	17.000	0.5	PASS

802.11n (40MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
151	5755	35.720	0.5	PASS
159	5795	35.900	0.5	PASS

802.11ac (80MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
155	5775	75.590	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;

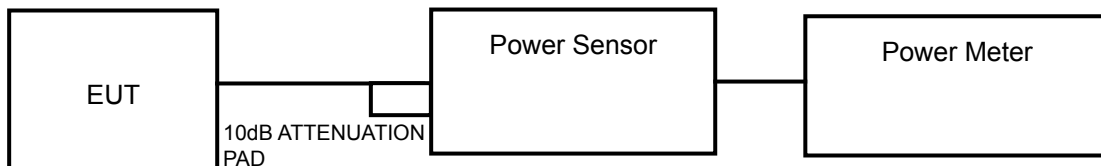
Array Gain = 0 dB (i.e., no array gain) for channel widths \geq 40 MHz for any NANT;

Array Gain = $5 \log(\text{NANT}/\text{NSS})$ dB or 3 dB, whichever is less for 20-MHz channel widths with NANT \geq 5.

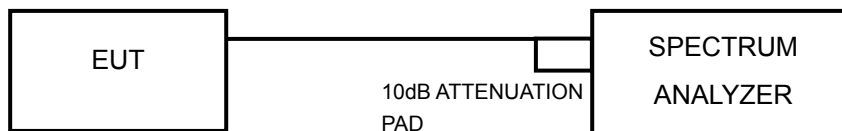
For power measurements on all other devices: Array Gain = $10 \log(\text{NANT}/\text{NSS})$ dB.

5.4.2 TEST SETUP

For 802.11a, 802.11n (20MHz), 802.11n (40MHz)



For 802.11ac (80MHz)



5.4.3 INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.



A D T

5.4.4 TEST PROCEDURES

For 802.11a, 802.11n (20MHz), 802.11n (40MHz)

Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst. Duty factor is not added to measured value.

For 802.11ac (80MHz)

Method SA-1

This procedure should be used when the maximum available RBW of the spectrum/signal analyzer is less than the DTS bandwidth.

1. Set the RBW = maximum available (at least 1 MHz).
2. Set the VBW = 3 x RBW or maximum available setting (must be \geq RBW).
3. Set the span to fully encompass the DTS bandwidth.
4. Detector = peak.
5. Sweep time = auto couple.
6. Trace mode = max hold.
7. Allow trace to fully stabilize.
8. Use the spectrum analyzer's band/channel power measurement function with the band limits set equal to the DTS bandwidth edges (for some analyzers, this may require a manual override to ensure use of peak detector). If the spectrum analyzer does not have a band power function, sum the spectrum levels (in linear power units) at intervals equal to the RBW extending across the DTS channel bandwidth.

5.4.5 DEVIATION FROM TEST STANDARD

No deviation.

5.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6.



A D T

5.4.7 TEST RESULTS

FOR PEAK POWER

802.11a

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
149	5745	263.027	24.20	30	PASS
157	5785	257.040	24.10	30	PASS
165	5825	281.838	24.50	30	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
149	5745	257.040	24.10	30	PASS
157	5785	257.040	24.10	30	PASS
165	5825	281.838	24.50	30	PASS

802.11n (40MHz)

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
151	5755	199.526	23.00	30	PASS
159	5795	257.040	24.10	30	PASS

802.11ac (80MHz)

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
155	5775	257.040	24.10	30	PASS



A D T

FOR AVERAGE POWER

802.11a

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)
149	5745	160.325	22.05
157	5785	162.181	22.10
165	5825	165.959	22.20

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)
149	5745	165.959	22.20
157	5785	162.181	22.10
165	5825	162.181	22.10

802.11n (40MHz)

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)
151	5755	165.959	22.20
159	5795	171.396	22.34

802.11ac (80MHz)

CHANNEL	FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)
151	5755	64.269	18.08



A D T

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.



A D T

5.5.7 TEST RESULTS

802.11a

Channel	Freq. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
149	5745	-7.890	8	PASS
157	5785	-5.620	8	PASS
165	5825	-6.540	8	PASS

802.11n (20MHz)

Channel	Freq. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
149	5745	-7.330	8	PASS
157	5785	-5.510	8	PASS
165	5825	-6.060	8	PASS

802.11n (40MHz)

Channel	Freq. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
151	5755	-13.570	8	PASS
159	5795	-9.160	8	PASS

802.11ac (80MHz)

Channel	Freq. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
155	5775	-10.830	8	PASS



A D T

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 $10\log(N)$ since the limit is relative emission limit. Only worst data of each operating mode is presented.

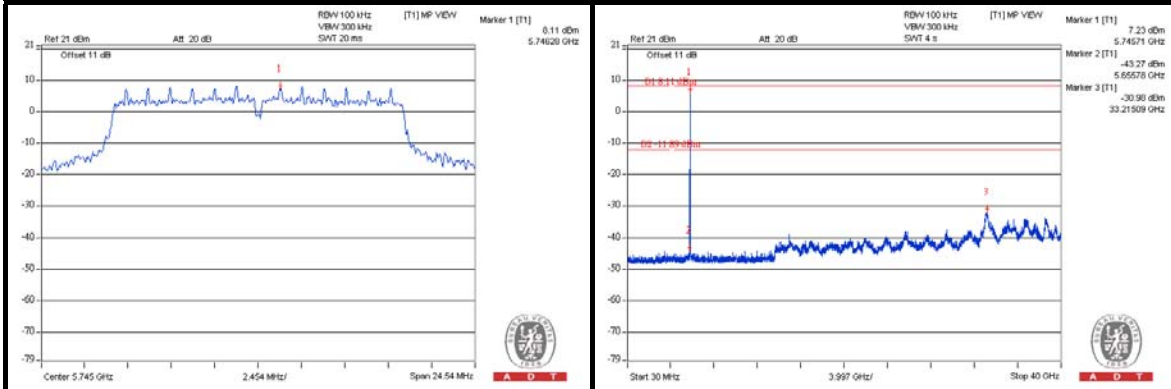
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.



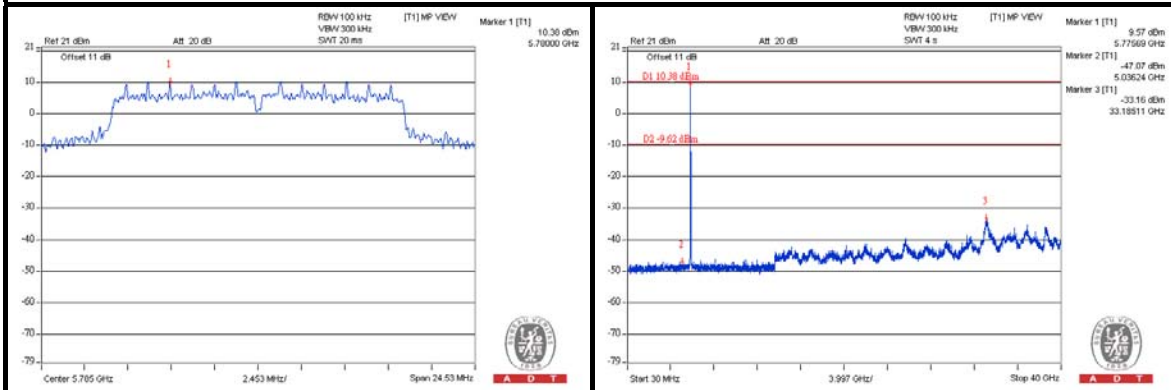
A D T

802.11a

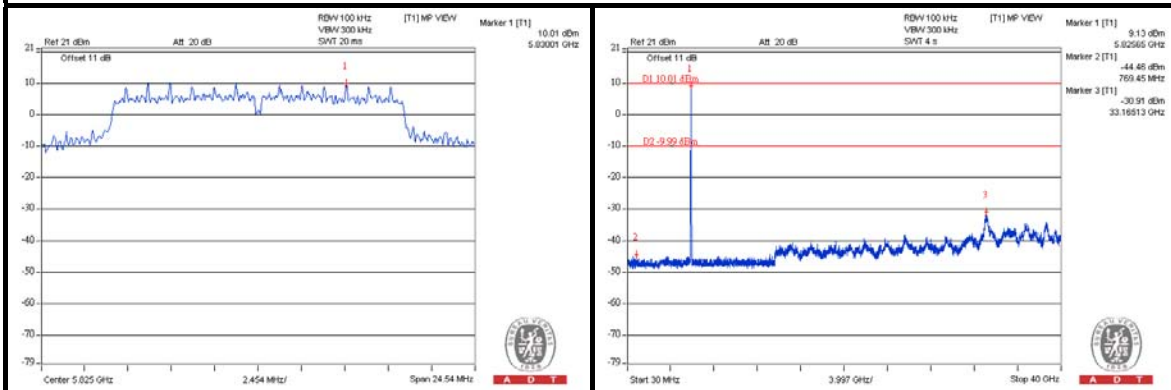
CH 149



CH 157



CH 165

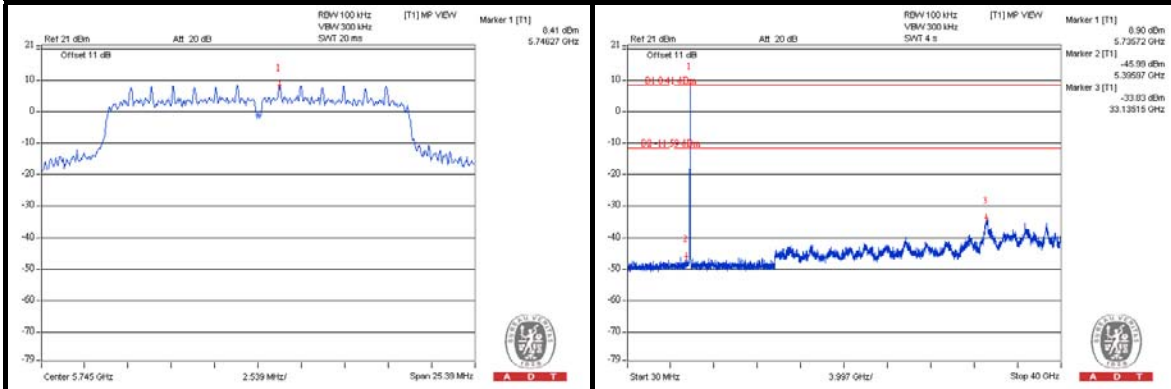




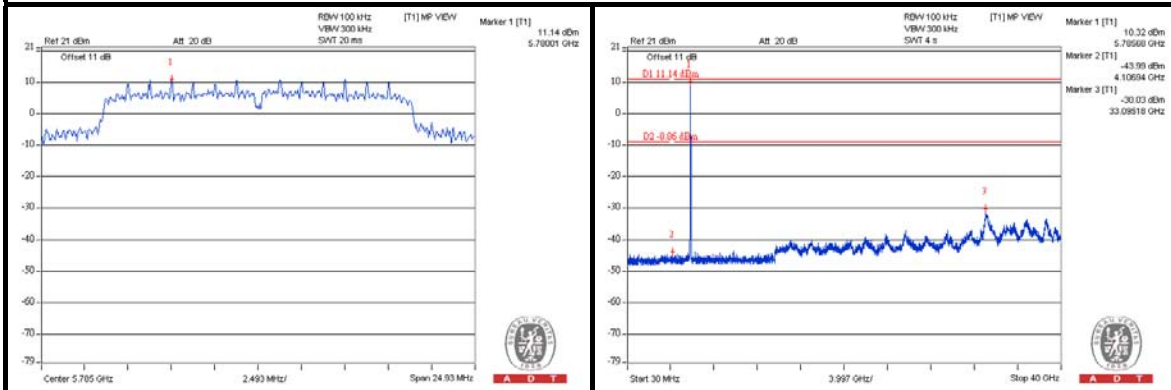
A D T

802.11n (20MHz)

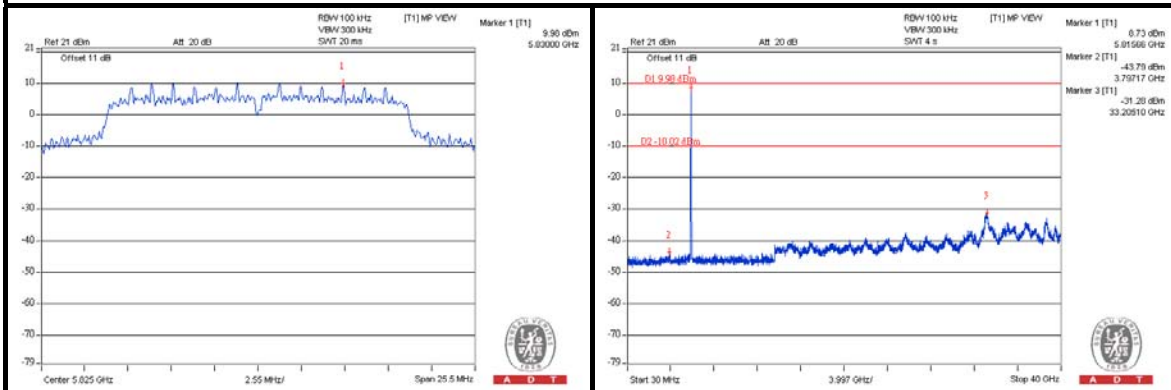
CH 149



CH 157



CH 165

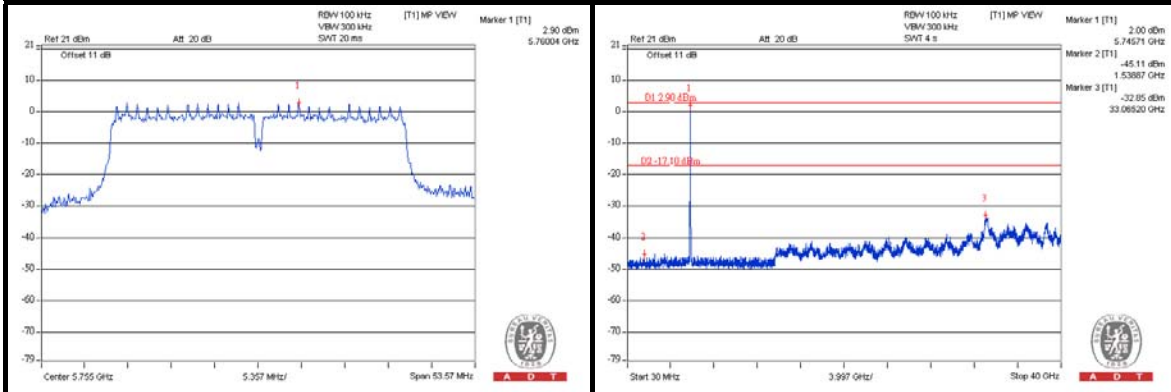




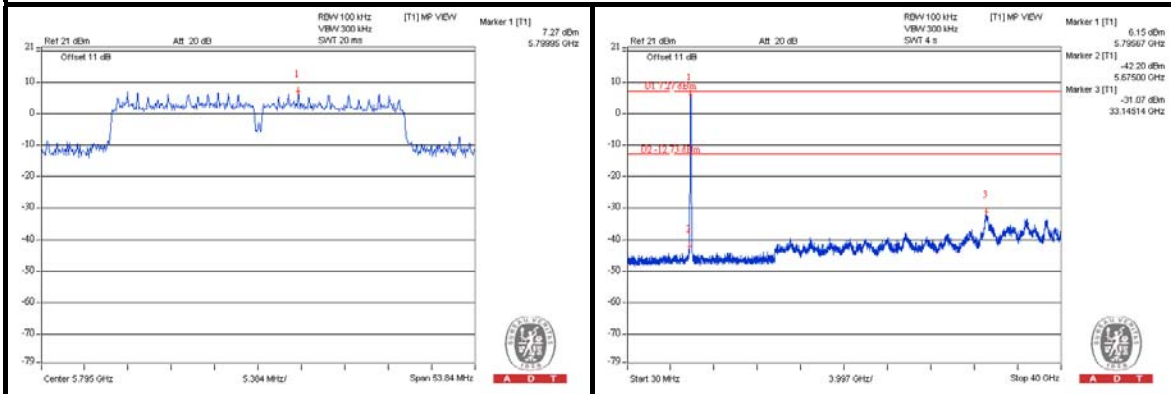
A D T

802.11n (40MHz)

CH 151

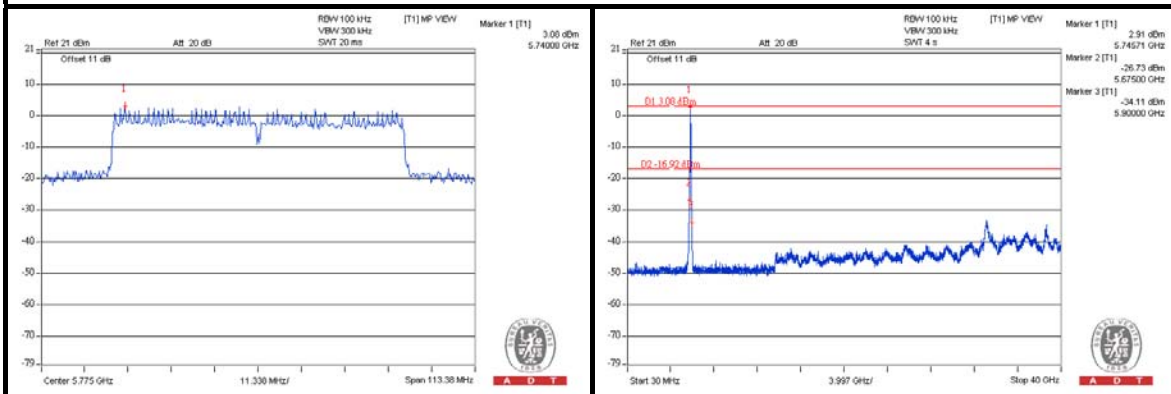


CH 159



802.11ac (80MHz)

CH 155





A D T

6. PHOTOGRAPHS OF THE TEST CONFIGURATION

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



A D T

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:

Linko EMC/RF Lab

Tel: 886-2-26052180

Fax: 886-2-26051924

Hsin Chu EMC/RF Lab

Tel: 886-3-5935343

Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety/Telecom Lab

Tel: 886-3-3183232

Fax: 886-3-3270892

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.



A D T

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---