

FCC TEST REPORT (CO-LOCATED)

REPORT NO.: RF130514C29-2
MODEL NO.: XR520H
FCC ID: SK6-XR520H
RECEIVED: May 10, 2013
TESTED: Jun. 25 ~ Jun. 26, 2013
ISSUED: Jul. 03, 2013

APPLICANT: Xirrus, INC.

ADDRESS: 2101 Corporate Center Drive Thousand Oaks,
California 91320

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.

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TABLE OF CONTENTS

RELEASE CONTROL RECORD	3
1. CERTIFICATION	4
2. SUMMARY OF TEST RESULTS	5
2.1 MEASUREMENT UNCERTAINTY	5
3. GENERAL INFORMATION	6
3.1 GENERAL DESCRIPTION OF EUT	6
3.2 DESCRIPTION OF TEST MODES	8
3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL	9
3.3 DESCRIPTION OF SUPPORT UNITS	12
3.3.1 CONFIGURATION OF SYSTEM UNDER TEST	12
3.4 GENERAL DESCRIPTION OF APPLIED STANDARDS	13
4. TEST TYPES AND RESULTS	14
4.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT	14
4.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT	14
4.1.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS	14
4.1.3 TEST INSTRUMENTS	15
4.1.4 TEST PROCEDURES	16
4.1.5 DEVIATION FROM TEST STANDARD	16
4.1.6 TEST SETUP	17
4.1.7 EUT OPERATING CONDITIONS	18
4.1.8 TEST RESULTS	19
4.2 CONDUCTED EMISSION MEASUREMENT	44
4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT	44
4.2.2 TEST INSTRUMENTS	44
4.2.3 TEST PROCEDURES	45
4.2.4 DEVIATION FROM TEST STANDARD	45
4.2.5 TEST SETUP	46
4.2.6 EUT OPERATING CONDITIONS	46
4.2.7 TEST RESULTS	47
5. PHOTOGRAPHS OF THE TEST CONFIGURATION	71
6. INFORMATION ON THE TESTING LABORATORIES	72
7. APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB	73



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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF130514C29-2	Original release	Jul. 03, 2013



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1. CERTIFICATION

PRODUCT: Hardened Wireless Access Point

MODEL NO.: XR520H

BRAND: Xirrus

APPLICANT: Xirrus, INC.

TESTED: Jun. 25 ~ Jun. 26, 2013

TEST SAMPLE: ENGINEERING SAMPLE

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

FCC Part 15, Subpart E (Section 15.407)

ANSI C63.10-2009

The above equipment (model: XR520H) 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 : Polly Chien , **DATE :** Jul. 03, 2013
Polly Chien / Specialist

APPROVED BY : Ken Liu , **DATE :** Jul. 03, 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) FCC PART 15, SUBPART E (SECTION 15.407)			
STANDARD SECTION	TEST TYPE AND LIMIT	RESULT	REMARK
15.207 15.407(b)(5)	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -6.59dB at 2.92647MHz.
15.247(d) 15.407(b/1/2/3) (b)(5)	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -3.9dB at 11490.00MHz.

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	3.19 dB
	200MHz ~ 1000MHz	3.21 dB
	1GHz ~ 18GHz	2.26 dB
	18GHz ~ 40GHz	1.94 dB

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

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	Hardened Wireless Access Point
MODEL NO.	XR520H
POWER SUPPLY	55Vdc (POE)
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11b: 11.0/ 5.5/ 2.0/ 1.0Mbps 802.11g: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to 300Mbps
OPERATING FREQUENCY	2.4GHz: 2412 ~ 2462MHz 5.0GHz: 5180 ~ 5240MHz, 5745 ~ 5825MHz
NUMBER OF CHANNEL	2.4GHz: 11 for 802.11b, 802.11g, 802.11n (20MHz) 7 for 802.11n (40MHz) 5.0GHz: 5180 ~ 5240MHz: 4 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz) 5745 ~ 5825MHz: 5 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz)
OUTPUT POWER	Antenna 1 415.949mW for 2412 ~ 2462MHz 25.826mW for 5180 ~ 5240MHz 523.726mW for 5745 ~ 5825MHz Antenna 2 893.887mW for 2412 ~ 2462MHz 49.368mW for 5180 ~ 5240MHz 765.051mW for 5745 ~ 5825MHz Antenna 3 995.663mW for 2412 ~ 2462MHz 49.368mW for 5180 ~ 5240MHz 765.051mW for 5745 ~ 5825MHz
ANTENNA TYPE	Refer to Note as below
ANTENNA CONNECTOR	Refer to Note as below
DATA CABLE	N/A
I/O PORTS	Refer to user's manual
ACCESSORY DEVICES	N/A

NOTE:

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

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

2. The EUT has two collocated dual band RF modules (top and bottom), which cannot co-transmit in the same band.
3. The antennas used in this EUT are listed as below table (for optional units):

NO.	MODEL	TYPE	2.4G			5G			Connector
			Gain (dBi)	Loss	Total Gain (dBi)	Gain (dBi)	Loss	Total Gain (dBi)	
Ant.1	EHS1GA202A	Panel	14	4.2	9.8	14	5.2	8.8	4 x N-Female
Ant.2	EHS1GA047A	Panel	8	4.2	3.8	8	5.2	2.8	6 x N-Female
Ant.3	MPMI2458-4-RPC	Omni	4	2.3	1.7	4	2.3	1.7	Reverse Polarity TNC male ANSI 7 / 16 - 28 UNEF 2B threads

4. The EUT was powered by the following POE (for support unit).

Brand	PowerDsine
Model	PD9001G
Input Power	100-250Vac, 50/60Hz, 0.8A
Output Power	55Vdc, 0.60A

5. The above EUT information is declared by manufacturer and for more detailed feature description, please refer to the manufacturer's specifications or user's manual.

3.2 DESCRIPTION OF TEST MODES

FOR 2.4GHz

11 channels are provided for 802.11b, 802.11g and 802.11n (20MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
1	2412MHz	7	2442MHz
2	2417MHz	8	2447MHz
3	2422MHz	9	2452MHz
4	2427MHz	10	2457MHz
5	2432MHz	11	2462MHz
6	2437MHz		

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

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

FOR 5180 ~ 5240MHz

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
36	5180 MHz	44	5220 MHz
40	5200 MHz	48	5240 MHz

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
38	5190 MHz	46	5230 MHz

FOR 5745 ~ 5825MHz

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

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

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
151	5755MHz	159	5795MHz

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO			DESCRIPTION
	RE≥1G	RE<1G	PLC	
A1	√	√	√	EUT with antenna 1 & Module 1 (Top)
A2	√	√	√	EUT with antenna 1 & Module 2 (Under)
B1	√	√	√	EUT with antenna 2 & Module 1 (Top)
B2	√	√	√	EUT with antenna 2 & Module 2 (Under)
C1	√	√	√	EUT with antenna 3 & Module 1 (Top)
C2	√	√	√	EUT with antenna 3 & Module 2 (Under)

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

NOTE:

Mode A1 & A2: The antenna had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Y-plane** for 2.4GHz and **Z-plane** for 5GHz.

Mode B1: The antenna had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-plane** for 2.4GHz and **Y-plane** for 5GHz.

Mode B2: The antenna had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Y-plane** for 2.4GHz and **Z-plane** for 5GHz.

Mode C1 & C2: The antenna had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-plane** for 2.4GHz and 5GHz.

RADIATED EMISSION TEST (ABOVE 1GHz):

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

EUT CONFIGURE MODE	MODE	FREQ. RANGE (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A1 + A2	802.11n (20MHz)	2412~2462	1 to 11	06 + 46	OFDM	BPSK	7.2
	802.11n (40MHz)	5180~5240	38 to 46				15.0
	802.11n (20MHz)	2412~2462	1 to 11	06 + 149	OFDM	BPSK	7.2
	802.11n (20MHz)	5745~5825	149 to 165				7.2
	802.11a	5180~5240	36 to 48	36 + 06	OFDM	BPSK	6.0
	802.11n (20MHz)	2412~2462	1 to 11				7.2
	802.11a	5745~5825	149 to 165	149 + 06	OFDM	BPSK	6.0
	802.11n (20MHz)	2412~2462	1 to 11				7.2
B1 + B2	802.11n (20MHz)	2412~2462	1 to 11	06 + 48	OFDM	BPSK	7.2
	802.11n (20MHz)	5180~5240	36 to 48				7.2
	802.11n (20MHz)	2412~2462	1 to 11	06 + 149	OFDM	BPSK	7.2
	802.11n (20MHz)	5745~5825	149 to 165				7.2
	802.11n (20MHz)	5180~5240	36 to 48	48 + 06	OFDM	BPSK	7.2
	802.11n (20MHz)	2412~2462	1 to 11				7.2
	802.11n (20MHz)	5745~5825	149 to 165	149 + 06	OFDM	BPSK	7.2
	802.11n (20MHz)	2412~2462	1 to 11				7.2

EUT CONFIGURE MODE	MODE	FREQ. RANGE (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
C1 + C2	802.11n (20MHz)	2412~2462	1 to 11	06 + 40	OFDM	BPSK	7.2
	802.11a	5180~5240	36 to 48				6.0
	802.11n (20MHz)	2412~2462	1 to 11	06 + 149	OFDM	BPSK	7.2
	802.11a	5745~5825	149 to 165				6.0
	802.11a	5180~5240	36 to 48	48 + 06	OFDM	BPSK	6.0
	802.11n (20MHz)	2412~2462	1 to 11				7.2
	802.11a	5745~5825	149 to 165	149 + 06	OFDM	BPSK	6.0
	802.11n (20MHz)	2412~2462	1 to 11				7.2

RADIATED EMISSION TEST (BELOW 1GHz):

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

EUT CONFIGURE MODE	MODE	FREQ. RANGE (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A1 + A2	802.11n (20MHz)	2412~2462	1 to 11	06 + 46	OFDM	BPSK	7.2
	802.11n (40MHz)	5180~5240	38 to 46				15.0
	802.11n (20MHz)	2412~2462	1 to 11	06 + 149	OFDM	BPSK	7.2
	802.11n (20MHz)	5745~5825	149 to 165				7.2
	802.11a	5180~5240	36 to 48	36 + 06	OFDM	BPSK	6.0
	802.11n (20MHz)	2412~2462	1 to 11				7.2
	802.11a	5745~5825	149 to 165	149 + 06	OFDM	BPSK	6.0
	802.11n (20MHz)	2412~2462	1 to 11				7.2
B1 + B2	802.11n (20MHz)	2412~2462	1 to 11	06 + 48	OFDM	BPSK	7.2
	802.11n (20MHz)	5180~5240	36 to 48				7.2
	802.11n (20MHz)	2412~2462	1 to 11	06 + 149	OFDM	BPSK	7.2
	802.11n (20MHz)	5745~5825	149 to 165				7.2
	802.11n (20MHz)	5180~5240	36 to 48	48 + 06	OFDM	BPSK	7.2
	802.11n (20MHz)	2412~2462	1 to 11				7.2
	802.11n (20MHz)	5745~5825	149 to 165	149 + 06	OFDM	BPSK	7.2
	802.11n (20MHz)	2412~2462	1 to 11				7.2
C1 + C2	802.11n (20MHz)	2412~2462	1 to 11	06 + 40	OFDM	BPSK	7.2
	802.11a	5180~5240	36 to 48				6.0
	802.11n (20MHz)	2412~2462	1 to 11	06 + 149	OFDM	BPSK	7.2
	802.11a	5745~5825	149 to 165				6.0
	802.11a	5180~5240	36 to 48	48 + 06	OFDM	BPSK	6.0
	802.11n (20MHz)	2412~2462	1 to 11				7.2
	802.11a	5745~5825	149 to 165	149 + 06	OFDM	BPSK	6.0
	802.11n (20MHz)	2412~2462	1 to 11				7.2



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CONDUCTED EMISSION TEST:

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

EUT CONFIGURE MODE	MODE	FREQ. RANGE (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A1 + A2	802.11n (20MHz)	2412~2462	1 to 11	06 + 46	OFDM	BPSK	6.0
	802.11n (40MHz)	5180~5240	38 to 46				15.0
	802.11n (20MHz)	2412~2462	1 to 11	06 + 149	OFDM	BPSK	7.2
	802.11n (20MHz)	5745~5825	149 to 165				7.2
	802.11a	5180~5240	38 to 46	36 + 06	OFDM	BPSK	6.0
	802.11n (20MHz)	2412~2462	1 to 11				7.2
	802.11a	5745~5825	149 to 165	149 + 06	OFDM	BPSK	6.0
	802.11n (20MHz)	2412~2462	1 to 11				7.2
B1 + B2	802.11n (20MHz)	2412~2462	1 to 11	06 + 48	OFDM	BPSK	7.2
	802.11n (20MHz)	5180~5240	36 to 48				7.2
	802.11n (20MHz)	2412~2462	1 to 11	06 + 149	OFDM	BPSK	7.2
	802.11n (20MHz)	5745~5825	149 to 165				7.2
	802.11n (20MHz)	5180~5240	36 to 48	48 + 06	OFDM	BPSK	7.2
	802.11n (20MHz)	2412~2462	1 to 11				7.2
	802.11n (20MHz)	5745~5825	149 to 165	149 + 06	OFDM	BPSK	7.2
	802.11n (20MHz)	2412~2462	1 to 11				7.2
C1 + C2	802.11n (20MHz)	2412~2462	1 to 11	06 + 40	OFDM	BPSK	7.2
	802.11a	5180~5240	36 to 48				6.0
	802.11n (20MHz)	2412~2462	1 to 11	06 + 149	OFDM	BPSK	7.2
	802.11n (20MHz)	5745~5825	149 to 165				7.2
	802.11a	5180~5240	36 to 48	48 + 06	OFDM	BPSK	6.0
	802.11n (20MHz)	2412~2462	1 to 11				7.2
	802.11n (20MHz)	5745~5825	149 to 165	149 + 06	OFDM	BPSK	7.2
	802.11n (20MHz)	2412~2462	1 to 11				7.2

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE $\geq$ 1G	25deg. C, 65%RH	120Vac, 60Hz	Cedric Wu
RE<1G	25deg. C, 65%RH	120Vac, 60Hz	Cedric Wu
PLC	24deg. C, 64%RH	120Vac, 60Hz	Match Tsui

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.

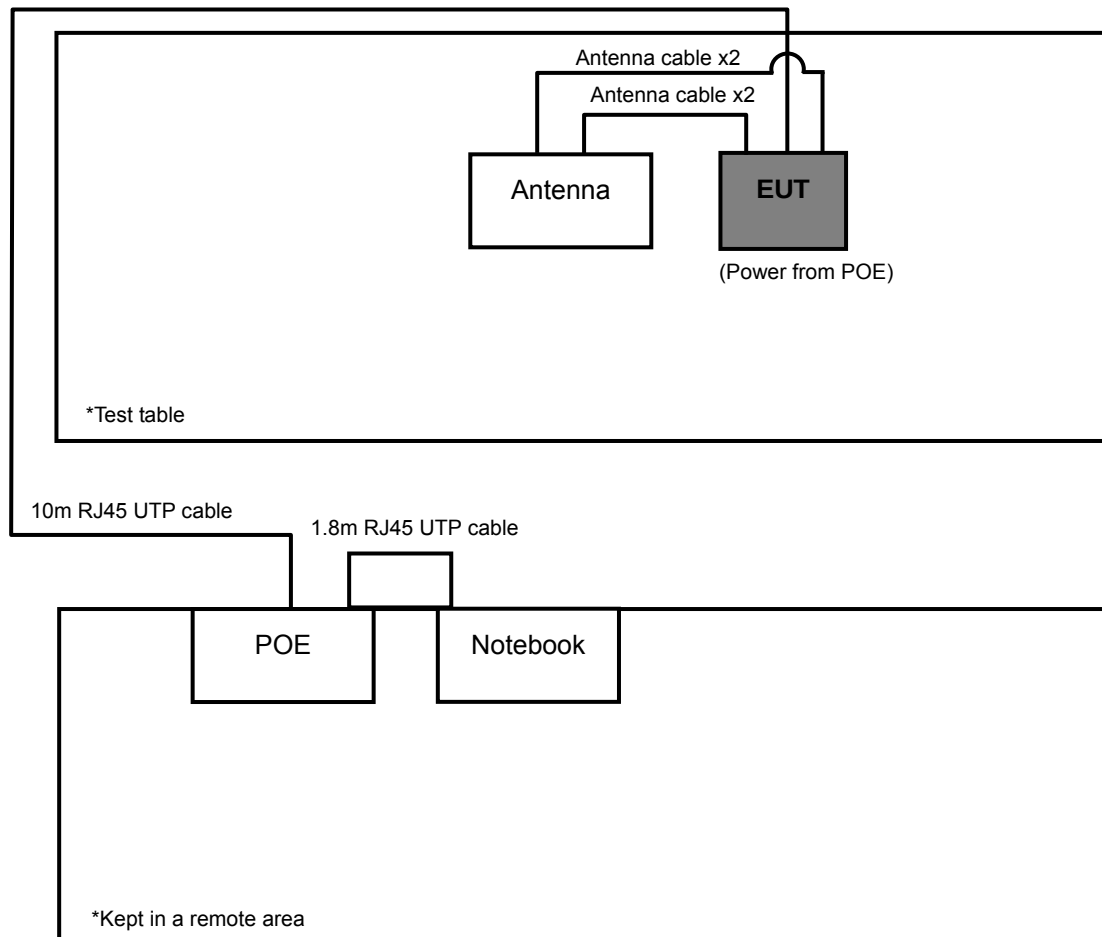
NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK	DELL	E5410	6RP2YM1	FCC DoC Approved
2	POE	PowerDsine	PD9001G	NA	NA

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	10m RJ45 UTP cable. 1.8m RJ45 UTP cable
2	NA

NOTE:

1. All power cords of the above support units are non shielded (1.8m).
2. Item 2 was provided by client.

3.3.1 CONFIGURATION OF SYSTEM UNDER TEST



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 (Section 15.247)

FCC Part 15, Subpart E (Section 15.407)

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

4.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

FREQUENCIES (MHz)	FIELD STRENGTH (microvolts/meter)	MEASUREMENT DISTANCE (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

4.1.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

APPLICABLE TO	LIMIT	
√	FIELD STRENGTH AT 3m (dBμV/m)	
	PK	AV
	74	54
	EIRP LIMIT (dBm)	EQUIVALENT FIELD STRENGTH AT 3m (dBμV/m)
	PK	PK
	-27	68.3

NOTE: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000\sqrt{30P}}{3} \mu\text{V/m, where P is the eirp (Watts).}$$

4.1.3 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Aug. 21, 2012	Aug. 20, 2013
Spectrum Analyzer ROHDE & SCHWARZ	FSU 43	100115	Oct. 25, 2012	Oct. 24, 2013
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Mar. 25, 2013	Mar. 24, 2014
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-404	Dec. 22, 2012	Dec. 21, 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	3008A01961	Oct. 25, 2012	Oct. 24, 2013
Preamplifier Agilent	8447D	2944A10738	Oct. 23, 2012	Oct. 22, 2013
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309220/4	Aug. 28, 2012	Aug. 27, 2013
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250724/4	Aug. 28, 2012	Aug. 27, 2013
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	295012/4	Aug. 28, 2012	Aug. 27, 2013
Software BV ADT	ADT_Radiated_ V7.6.15.9.3	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	010303	NA	NA
Antenna Tower Controller inn-co GmbH	CO2000	019303	NA	NA
Turn Table BV ADT	TT100.	TT93021704	NA	NA
Turn Table Controller BV ADT	SC100.	SC93021704	NA	NA
26GHz ~ 40GHz Amplifier	EM26400	815221	Oct. 25, 2012	Oct. 24, 2013

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

4.1.4 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meters semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

NOTE:

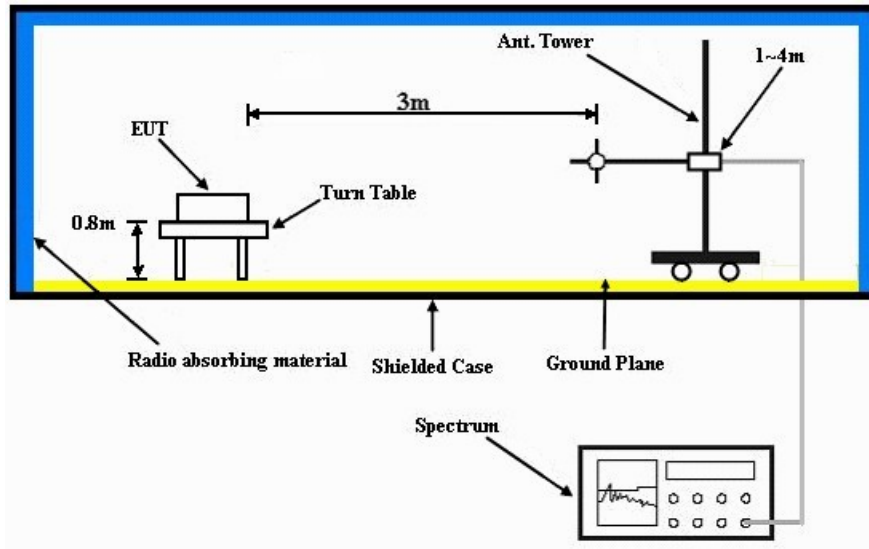
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution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

4.1.5 DEVIATION FROM TEST STANDARD

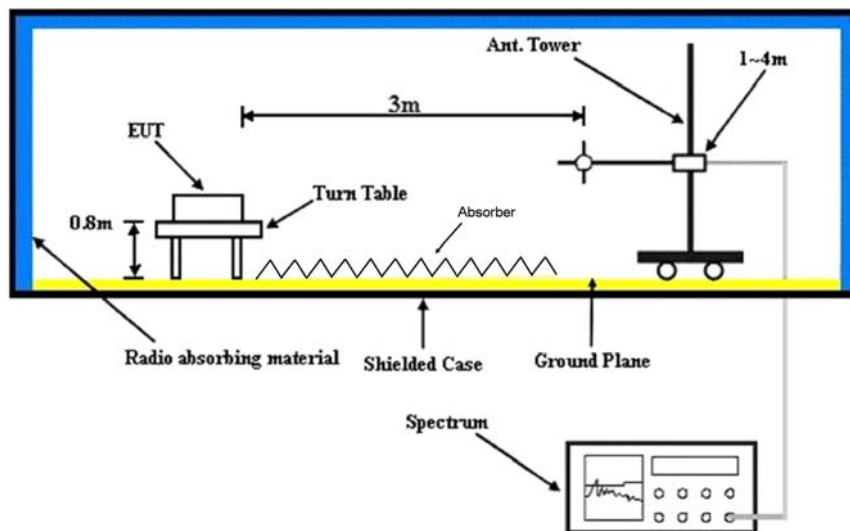
No deviation.

4.1.6 TEST SETUP

Frequency range 30MHz~1GHz



Frequency range above 1GHz



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



A D T

4.1.7 EUT OPERATING CONDITIONS

- a. Placed the EUT on the testing table.
- b. The notebook system ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
- c. The necessary accessories enable the system in full functions.



A D T

4.1.8 TEST RESULTS

ABOVE 1GHz DATA :

TEST MODE A1+A2

802.11n (20MHz) + 802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	CH 6 + CH 46	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Cedric Wu

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	121.1 PK			1.00 H	5	89.00	32.10
2	*2437.00	109.0 AV			1.00 H	5	76.90	32.10
3	4874.00	47.8 PK	74.0	-26.2	1.00 H	159	9.10	38.70
4	4874.00	34.8 AV	54.0	-19.2	1.00 H	159	-3.90	38.70
5	*5230.00	106.8 PK			1.02 H	15	67.50	39.30
6	*5230.00	94.2 AV			1.02 H	15	54.90	39.30
7	5350.00	55.8 PK	74.0	-18.2	1.05 H	16	16.40	39.40
8	5350.00	45.2 AV	54.0	-8.8	1.05 H	16	5.80	39.40
9	#10460.00	55.6 PK	74.0	-18.4	1.00 H	315	4.60	51.00
10	#10460.00	42.9 AV	54.0	-11.1	1.00 H	315	-8.10	51.00

REMARKS:

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



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	CH 6 + CH 46	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Cedric Wu

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	120.3 PK			1.35 V	5	88.20	32.10
2	*2437.00	106.9 AV			1.35 V	5	74.80	32.10
3	4874.00	46.8 PK	74.0	-27.2	1.00 V	314	8.10	38.70
4	4874.00	33.5 AV	54.0	-20.5	1.00 V	314	-5.20	38.70
5	*5230.00	104.3 PK			1.00 V	6	65.00	39.30
6	*5230.00	95.0 AV			1.00 V	6	55.70	39.30
7	5350.00	57.3 PK	74.0	-16.7	1.00 V	7	17.90	39.40
8	5350.00	45.1 AV	54.0	-8.9	1.00 V	7	5.70	39.40
9	#10460.00	56.4 PK	74.0	-17.6	1.00 V	61	5.40	51.00
10	#10460.00	43.3 AV	54.0	-10.7	1.00 V	61	-7.70	51.00

REMARKS:

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



A D T

802.11n (20MHz) + 802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	CH 6 + CH 149	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Cedric Wu

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	121.1 PK			1.00 H	5	89.00	32.10
2	*2437.00	109.0 AV			1.00 H	5	76.90	32.10
3	4874.00	47.8 PK	74.0	-26.2	1.00 H	159	9.10	38.70
4	4874.00	34.8 AV	54.0	-19.2	1.00 H	159	-3.90	38.70
5	#5725.00	89.3 PK	95.1	-5.8	1.60 H	13	49.20	40.10
6	#5725.00	79.3 AV	85.1	-5.8	1.60 H	13	39.20	40.10
7	*5745.00	115.1 PK			1.62 H	12	74.90	40.20
8	*5745.00	105.1 AV			1.62 H	12	64.90	40.20
9	11490.00	59.9 PK	74.0	-14.1	1.00 H	331	7.10	52.80
10	11490.00	47.2 AV	54.0	-6.8	1.00 H	331	-5.60	52.80
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	*2437.00	120.3 PK			1.35 V	5	88.20	32.10
2	*2437.00	106.9 AV			1.35 V	5	74.80	32.10
3	4874.00	46.8 PK	74.0	-27.2	1.00 V	314	8.10	38.70
4	4874.00	33.5 AV	54.0	-20.5	1.00 V	314	-5.20	38.70
5	#5725.00	91.9 PK	96.4	-4.5	1.00 V	351	51.80	40.10
6	#5725.00	80.0 AV	84.5	-4.5	1.00 V	351	39.90	40.10
7	*5745.00	116.4 PK			1.00 V	358	76.20	40.20
8	*5745.00	104.5 AV			1.00 V	358	64.30	40.20
9	11490.00	60.4 PK	74.0	-13.6	1.00 V	255	7.60	52.80
10	11490.00	47.7 AV	54.0	-6.3	1.00 V	255	-5.10	52.80

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



A D T

802.11a + 802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	CH 36 + CH 06	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Cedric Wu

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	116.0 PK			1.80 H	304	83.90	32.10
2	*2437.00	104.1 AV			1.80 H	304	72.00	32.10
3	4874.00	46.3 PK	74.0	-27.7	1.00 H	133	7.60	38.70
4	4874.00	35.0 AV	54.0	-19.0	1.00 H	133	-3.70	38.70
5	5150.00	55.9 PK	74.0	-18.1	1.00 H	321	16.70	39.20
6	5150.00	41.0 AV	54.0	-13.0	1.00 H	321	1.80	39.20
7	*5180.00	100.1 PK			1.00 H	320	60.90	39.20
8	*5180.00	90.5 AV			1.00 H	320	51.30	39.20
9	#10360.00	57.2 PK	74.0	-16.8	1.00 H	125	6.40	50.80
10	#10360.00	43.9 AV	54.0	-10.1	1.00 H	125	-6.90	50.80
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	*2437.00	108.1 PK			1.23 V	309	76.00	32.10
2	*2437.00	97.2 AV			1.23 V	309	65.10	32.10
3	4874.00	46.6 PK	74.0	-27.4	1.00 V	245	7.90	38.70
4	4874.00	33.9 AV	54.0	-20.1	1.00 V	245	-4.80	38.70
5	5150.00	55.3 PK	74.0	-18.7	1.00 V	351	16.10	39.20
6	5150.00	42.8 AV	54.0	-11.2	1.00 V	351	3.60	39.20
7	*5180.00	101.8 PK			1.00 V	350	62.60	39.20
8	*5180.00	90.7 AV			1.00 V	350	51.50	39.20
9	#10360.00	58.1 PK	74.0	-15.9	1.00 V	250	7.30	50.80
10	#10360.00	45.1 AV	54.0	-8.9	1.00 V	250	-5.70	50.80

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



A D T

802.11a + 802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	CH 149 + CH 06	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Cedric Wu

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	116.0 PK			1.80 H	304	83.90	32.10
2	*2437.00	104.1 AV			1.80 H	304	72.00	32.10
3	4874.00	46.3 PK	74.0	-27.7	1.00 H	133	7.60	38.70
4	4874.00	35.0 AV	54.0	-19.0	1.00 H	133	-3.70	38.70
5	#5725.00	83.6 PK	90.0	-6.5	1.07 H	347	43.50	40.10
6	#5725.00	72.9 AV	79.3	-6.4	1.07 H	347	32.80	40.10
7	*5745.00	110.0 PK			1.06 H	346	69.80	40.20
8	*5745.00	99.3 AV			1.06 H	346	59.10	40.20
9	11490.00	58.3 PK	74.0	-15.7	1.00 H	20	5.50	52.80
10	11490.00	46.0 AV	54.0	-8.0	1.00 H	20	-6.80	52.80
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	*2437.00	108.1 PK			1.23 V	309	76.00	32.10
2	*2437.00	97.2 AV			1.23 V	309	65.10	32.10
3	4874.00	46.6 PK	74.0	-27.4	1.00 V	245	7.90	38.70
4	4874.00	33.9 AV	54.0	-20.1	1.00 V	245	-4.80	38.70
5	#5725.00	84.8 PK	91.2	-6.4	1.30 V	18	44.70	40.10
6	#5725.00	74.0 AV	80.4	-6.4	1.30 V	18	33.90	40.10
7	*5745.00	111.2 PK			1.29 V	16	71.00	40.20
8	*5745.00	100.4 AV			1.29 V	16	60.20	40.20
9	11490.00	58.9 PK	74.0	-15.1	1.00 V	256	6.10	52.80
10	11490.00	46.3 AV	54.0	-7.7	1.00 V	256	-6.50	52.80

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



A D T

TEST MODE B1 + B2**802.11n (20MHz) + 802.11n (20MHz)**

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	CH 06 + CH 48	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Cedric Wu

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	119.4 PK			1.17 H	11	87.30	32.10
2	*2437.00	109.6 AV			1.17 H	11	77.50	32.10
3	4874.00	51.8 PK	74.0	-22.2	1.00 H	77	13.10	38.70
4	4874.00	38.5 AV	54.0	-15.5	1.00 H	77	-0.20	38.70
5	*5240.00	110.3 PK			1.00 H	36	71.00	39.30
6	*5240.00	99.7 AV			1.00 H	36	60.40	39.30
7	5350.00	59.3 PK	74.0	-14.7	1.00 H	40	19.90	39.40
8	5350.00	46.7 AV	54.0	-7.3	1.00 H	40	7.30	39.40
9	#10480.00	60.1 PK	74.0	-13.9	1.00 H	234	9.00	51.10
10	#10480.00	47.1 AV	54.0	-6.9	1.00 H	234	-4.00	51.10
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	*2437.00	117.1 PK			1.05 V	357	85.00	32.10
2	*2437.00	107.7 AV			1.05 V	357	75.60	32.10
3	4874.00	51.3 PK	74.0	-22.7	1.00 V	334	12.60	38.70
4	4874.00	38.3 AV	54.0	-15.7	1.00 V	334	-0.40	38.70
5	*5240.00	112.3 PK			1.00 V	3	73.00	39.30
6	*5240.00	101.3 AV			1.00 V	3	62.00	39.30
7	5350.00	59.7 PK	74.0	-14.3	1.00 V	1	20.30	39.40
8	5350.00	47.3 AV	54.0	-6.7	1.00 V	1	7.90	39.40
9	#10480.00	61.1 PK	74.0	-12.9	1.00 V	82	10.00	51.10
10	#10480.00	47.6 AV	54.0	-6.4	1.00 V	82	-3.50	51.10

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 radiated frequency is out the restricted band.



A D T

802.11n (20MHz) + 802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	CH 06 + CH 149	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Cedric Wu

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	119.4 PK			1.17 H	11	87.30	32.10
2	*2437.00	109.6 AV			1.17 H	11	77.50	32.10
3	4874.00	51.8 PK	74.0	-22.2	1.00 H	77	13.10	38.70
4	4874.00	38.5 AV	54.0	-15.5	1.00 H	77	-0.20	38.70
5	#5725.00	90.5 PK	98.8	-8.3	1.00 H	3	50.40	40.10
6	#5725.00	79.6 AV	87.9	-8.3	1.00 H	3	39.50	40.10
7	*5745.00	118.8 PK			1.00 H	1	78.60	40.20
8	*5745.00	107.9 AV			1.00 H	1	67.70	40.20
9	11490.00	61.3 PK	74.0	-12.7	1.00 H	275	8.50	52.80
10	11490.00	48.9 AV	54.0	-5.1	1.00 H	275	-3.90	52.80
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	*2437.00	117.1 PK			1.05 V	357	85.00	32.10
2	*2437.00	107.7 AV			1.05 V	357	75.60	32.10
3	4874.00	51.3 PK	74.0	-22.7	1.00 V	334	12.60	38.70
4	4874.00	38.3 AV	54.0	-15.7	1.00 V	334	-0.40	38.70
5	#5725.00	95.5 PK	101.2	-5.7	1.00 V	351	55.40	40.10
6	#5725.00	84.1 AV	89.8	-5.7	1.00 V	351	44.00	40.10
7	*5745.00	121.2 PK			1.00 V	358	81.00	40.20
8	*5745.00	109.8 AV			1.00 V	358	69.60	40.20
9	11490.00	62.5 PK	74.0	-11.5	1.00 V	86	9.70	52.80
10	11490.00	50.1 AV	54.0	-3.9	1.00 V	86	-2.70	52.80

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



A D T

802.11n (20MHz) + 802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	CH 48 + CH 06	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Cedric Wu

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	117.1 PK			1.00 H	321	85.00	32.10
2	*2437.00	107.3 AV			1.00 H	321	75.20	32.10
3	4874.00	47.6 PK	74.0	-26.4	1.00 H	1	8.90	38.70
4	4874.00	35.0 AV	54.0	-19.0	1.00 H	1	-3.70	38.70
5	*5240.00	106.6 PK			1.01 H	36	67.30	39.30
6	*5240.00	95.7 AV			1.01 H	36	56.40	39.30
7	5350.00	59.2 PK	74.0	-14.8	1.02 H	35	19.80	39.40
8	5350.00	46.0 AV	54.0	-8.0	1.02 H	35	6.60	39.40
9	#10480.00	60.7 PK	74.0	-13.3	1.00 H	333	9.60	51.10
10	#10480.00	47.5 AV	54.0	-6.5	1.00 H	333	-3.60	51.10
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	*2437.00	108.4 PK			1.00 V	31	76.30	32.10
2	*2437.00	99.3 AV			1.00 V	31	67.20	32.10
3	4874.00	46.7 PK	74.0	-27.3	1.00 V	246	8.00	38.70
4	4874.00	34.0 AV	54.0	-20.0	1.00 V	246	-4.70	38.70
5	*5240.00	105.8 PK			1.00 V	311	66.50	39.30
6	*5240.00	95.3 AV			1.00 V	311	56.00	39.30
7	5350.00	58.6 PK	74.0	-15.4	1.00 V	310	19.20	39.40
8	5350.00	45.7 AV	54.0	-8.3	1.00 V	310	6.30	39.40
9	#10480.00	60.1 PK	74.0	-13.9	1.00 V	218	9.00	51.10
10	#10480.00	46.9 AV	54.0	-7.1	1.00 V	218	-4.20	51.10

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 radiated frequency is out the restricted band.



A D T

802.11n (20MHz) + 802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	CH 149 + CH 06	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Cedric Wu

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	117.1 PK			1.00 H	321	85.00	32.10
2	*2437.00	107.3 AV			1.00 H	321	75.20	32.10
3	4874.00	47.6 PK	74.0	-26.4	1.00 H	1	8.90	38.70
4	4874.00	35.0 AV	54.0	-19.0	1.00 H	1	-3.70	38.70
5	#5725.00	90.7 PK	95.8	-5.1	1.15 H	346	50.60	40.10
6	#5725.00	80.2 AV	85.3	-5.1	1.15 H	346	40.10	40.10
7	*5745.00	115.8 PK			1.14 H	345	75.60	40.20
8	*5745.00	105.3 AV			1.14 H	345	65.10	40.20
9	11490.00	59.8 PK	74.0	-14.2	1.00 H	230	7.00	52.80
10	11490.00	47.8 AV	54.0	-6.2	1.00 H	230	-5.00	52.80
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	*2437.00	108.4 PK			1.00 V	31	76.30	32.10
2	*2437.00	99.3 AV			1.00 V	31	67.20	32.10
3	4874.00	46.7 PK	74.0	-27.3	1.00 V	246	8.00	38.70
4	4874.00	34.0 AV	54.0	-20.0	1.00 V	246	-4.70	38.70
5	#5725.00	85.1 PK	91.2	-6.1	1.00 V	320	45.00	40.10
6	#5725.00	74.8 AV	80.9	-6.1	1.00 V	320	34.70	40.10
7	*5745.00	111.2 PK			1.00 V	320	71.00	40.20
8	*5745.00	100.9 AV			1.00 V	320	60.70	40.20
9	11490.00	59.2 PK	74.0	-14.8	1.00 V	70	6.40	52.80
10	11490.00	47.3 AV	54.0	-6.7	1.00 V	70	-5.50	52.80

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



A D T

TEST MODE C1 + C2

802.11n (20MHz) + 802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	CH 06 + CH 40	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Cedric Wu

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	108.3 PK			1.22 H	60	76.20	32.10
2	*2437.00	96.0 AV			1.22 H	60	63.90	32.10
3	4874.00	48.1 PK	74.0	-25.9	1.38 H	103	9.40	38.70
4	4874.00	33.2 AV	54.0	-20.8	1.38 H	103	-5.50	38.70
5	*5200.00	102.9 PK			1.05 H	172	63.70	39.20
6	*5200.00	91.7 AV			1.05 H	172	52.50	39.20
7	#10400.00	58.6 PK	74.0	-15.4	1.33 H	66	7.80	50.80
8	#10400.00	46.4 AV	54.0	-7.6	1.33 H	66	-4.40	50.80
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	*2437.00	116.0 PK			1.57 V	20	83.90	32.10
2	*2437.00	103.5 AV			1.57 V	20	71.40	32.10
3	4874.00	48.8 PK	74.0	-25.2	1.30 V	300	10.10	38.70
4	4874.00	35.1 AV	54.0	-18.9	1.30 V	300	-3.60	38.70
5	*5200.00	111.6 PK			1.00 V	30	72.40	39.20
6	*5200.00	100.1 AV			1.00 V	30	60.90	39.20
7	#10400.00	59.0 PK	74.0	-15.0	1.42 V	136	8.20	50.80
8	#10400.00	47.2 AV	54.0	-6.8	1.42 V	136	-3.60	50.80

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



A D T

802.11n (20MHz) + 802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	CH 06 + CH 149	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Cedric Wu

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	108.3 PK			1.22 H	60	76.20	32.10
2	*2437.00	96.0 AV			1.22 H	60	63.90	32.10
3	4874.00	48.1 PK	74.0	-25.9	1.38 H	103	9.40	38.70
4	4874.00	33.2 AV	54.0	-20.8	1.38 H	103	-5.50	38.70
5	#5725.00	82.3 PK	89.1	-6.8	1.05 H	138	42.20	40.10
6	#5725.00	70.0 AV	76.8	-6.8	1.05 H	138	29.90	40.10
7	*5745.00	109.1 PK			1.05 H	135	68.90	40.20
8	*5745.00	96.8 AV			1.05 H	135	56.60	40.20
9	11490.00	58.6 PK	74.0	-15.4	1.00 H	180	5.80	52.80
10	11490.00	46.2 AV	54.0	-7.8	1.00 H	180	-6.60	52.80
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	*2437.00	116.0 PK			1.57 V	20	83.90	32.10
2	*2437.00	103.5 AV			1.57 V	20	71.40	32.10
3	4874.00	48.8 PK	74.0	-25.2	1.30 V	300	10.10	38.70
4	4874.00	35.1 AV	54.0	-18.9	1.30 V	300	-3.60	38.70
5	#5725.00	88.9 PK	97.1	-8.2	1.10 V	147	48.80	40.10
6	#5725.00	76.3 AV	84.4	-8.1	1.10 V	147	36.20	40.10
7	*5745.00	117.1 PK			1.11 V	145	76.90	40.20
8	*5745.00	104.4 AV			1.11 V	145	64.20	40.20
9	11490.00	59.0 PK	74.0	-15.0	1.00 V	100	6.20	52.80
10	11490.00	46.5 AV	54.0	-7.5	1.00 V	100	-6.30	52.80

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



A D T

802.11a + 802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	CH 48 + CH 06	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Cedric Wu

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			1.00 H	211	74.50	32.10
2	*2437.00	95.9 AV			1.00 H	211	63.80	32.10
3	4874.00	45.9 PK	74.0	-28.1	1.00 H	325	7.20	38.70
4	4874.00	33.3 AV	54.0	-20.7	1.00 H	325	-5.40	38.70
5	*5240.00	102.7 PK			1.07 H	168	63.40	39.30
6	*5240.00	92.2 AV			1.07 H	168	52.90	39.30
7	#10480.00	58.5 PK	74.0	-15.5	1.30 H	44	7.40	51.10
8	#10480.00	46.8 AV	54.0	-7.2	1.30 H	44	-4.30	51.10
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	*2437.00	117.4 PK			1.00 V	255	85.30	32.10
2	*2437.00	106.3 AV			1.00 V	255	74.20	32.10
3	4874.00	46.2 PK	74.0	-27.8	1.00 V	95	7.50	38.70
4	4874.00	33.7 AV	54.0	-20.3	1.00 V	95	-5.00	38.70
5	*5240.00	112.2 PK			1.06 V	339	73.00	39.20
6	*5240.00	100.4 AV			1.06 V	339	61.20	39.20
7	#10480.00	59.3 PK	74.0	-14.7	1.18 V	250	8.50	50.80
8	#10480.00	47.2 AV	54.0	-6.8	1.18 V	250	-3.60	50.80

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



A D T

802.11a + 802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	CH 149 + CH 06	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Cedric Wu

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			1.00 H	211	74.50	32.10
2	*2437.00	95.9 AV			1.00 H	211	63.80	32.10
3	4874.00	45.9 PK	74.0	-28.1	1.00 H	325	7.20	38.70
4	4874.00	33.3 AV	54.0	-20.7	1.00 H	325	-5.40	38.70
5	#5725.00	82.6 PK	89.6	-7.0	1.21 H	64	42.50	40.10
6	#5725.00	70.4 AV	77.4	-7.0	1.21 H	64	30.30	40.10
7	*5745.00	109.6 PK			1.21 H	63	69.40	40.20
8	*5745.00	97.4 AV			1.21 H	63	57.20	40.20
9	11490.00	61.3 PK	74.0	-12.7	1.25 H	33	8.50	52.80
10	11490.00	45.3 AV	54.0	-8.7	1.25 H	33	-7.50	52.80
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	*2437.00	117.4 PK			1.00 V	255	85.30	32.10
2	*2437.00	106.3 AV			1.00 V	255	74.20	32.10
3	4874.00	46.2 PK	74.0	-27.8	1.00 V	95	7.50	38.70
4	4874.00	33.7 AV	54.0	-20.3	1.00 V	95	-5.00	38.70
5	#5725.00	91.5 PK	98.3	-6.8	1.09 V	196	51.40	40.10
6	#5725.00	79.3 AV	86.1	-6.8	1.09 V	196	39.20	40.10
7	*5745.00	118.3 PK			1.09 V	196	78.10	40.20
8	*5745.00	106.1 AV			1.09 V	196	65.90	40.20
9	11490.00	63.0 PK	74.0	-11.0	1.36 V	149	10.20	52.80
10	11490.00	48.8 AV	54.0	-5.2	1.36 V	149	-4.00	52.80

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



A D T

BELOW 1GHz DATA :

TEST MODE A1 + A2

802.11n (20MHz) + 802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	CH 6 + CH 46	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Cedric Wu

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	45.42	28.9 QP	40.0	-11.1	1.00 H	320	14.80	14.10
2	119.16	29.4 QP	43.5	-14.1	1.00 H	277	17.60	11.80
3	198.71	32.3 QP	43.5	-11.2	2.00 H	16	21.70	10.60
4	280.21	31.0 QP	46.0	-15.0	1.00 H	25	17.30	13.70
5	375.29	28.5 QP	46.0	-17.5	1.00 H	108	12.20	16.30
6	734.27	32.6 QP	46.0	-13.4	1.00 H	15	9.00	23.60
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	64.83	28.2 QP	40.0	-11.8	1.00 V	28	16.10	12.10
2	119.16	29.5 QP	43.5	-14.0	1.00 V	301	17.70	11.80
3	249.17	27.8 QP	46.0	-18.2	1.00 V	94	15.10	12.70
4	289.91	33.3 QP	46.0	-12.7	1.25 V	355	19.30	14.00
5	400.52	29.9 QP	46.0	-16.1	1.00 V	256	12.90	17.00
6	734.27	32.3 QP	46.0	-13.7	1.00 V	45	8.70	23.60

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

802.11n (20MHz) + 802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	CH 06 + CH 149	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Cedric Wu

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	84.23	28.5 QP	40.0	-11.5	1.00 H	30	19.60	8.90
2	142.44	28.5 QP	43.5	-15.0	1.75 H	125	15.20	13.30
3	161.85	29.9 QP	43.5	-13.6	1.25 H	125	16.30	13.60
4	289.91	29.6 QP	46.0	-16.4	1.00 H	5	15.60	14.00
5	375.29	29.9 QP	46.0	-16.1	1.00 H	113	13.60	16.30
6	398.58	34.7 QP	46.0	-11.3	2.00 H	139	17.80	16.90
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	64.83	27.8 QP	40.0	-12.2	1.00 V	25	15.70	12.10
2	119.16	30.8 QP	43.5	-12.7	1.00 V	168	19.00	11.80
3	150.20	25.8 QP	43.5	-17.7	1.00 V	227	12.30	13.50
4	441.26	29.6 QP	46.0	-16.4	1.00 V	326	11.70	17.90
5	734.27	29.2 QP	46.0	-16.8	1.50 V	3	5.60	23.60
6	868.15	30.1 QP	46.0	-15.9	1.75 V	100	4.40	25.70
7	999.99	34.8 QP	54.0	-19.2	1.50 V	228	8.00	26.80

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

802.11a + 802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	CH 36 + CH 06	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Cedric Wu

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	51.24	29.3 QP	40.0	-10.7	1.00 H	305	15.80	13.50
2	142.44	27.9 QP	43.5	-15.6	1.00 H	95	14.60	13.30
3	198.71	31.1 QP	43.5	-12.4	1.25 H	88	20.50	10.60
4	280.21	29.8 QP	46.0	-16.2	1.00 H	358	16.10	13.70
5	324.84	31.3 QP	46.0	-14.7	1.00 H	117	16.30	15.00
6	734.27	38.9 QP	46.0	-7.1	1.25 H	99	15.30	23.60
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	51.24	29.9 QP	40.0	-10.1	1.00 V	167	16.40	13.50
2	90.05	30.6 QP	43.5	-12.9	1.00 V	157	21.50	9.10
3	111.40	32.5 QP	43.5	-11.0	1.25 V	153	21.50	11.00
4	157.97	28.0 QP	43.5	-15.5	1.00 V	205	14.30	13.70
5	299.62	26.1 QP	46.0	-19.9	1.75 V	55	11.80	14.30
6	375.29	28.7 QP	46.0	-17.3	1.00 V	12	12.40	16.30

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



A D T

802.11a + 802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	CH 149 + CH 06	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Cedric Wu

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	76.47	28.6 QP	40.0	-11.4	1.00 H	357	18.80	9.80
2	119.16	29.0 QP	43.5	-14.5	1.00 H	103	17.20	11.80
3	165.73	27.4 QP	43.5	-16.1	1.00 H	166	14.00	13.40
4	198.71	31.8 QP	43.5	-11.7	2.00 H	64	21.20	10.60
5	332.60	35.4 QP	46.0	-10.6	1.50 H	278	20.20	15.20
6	398.58	33.0 QP	46.0	-13.0	1.25 H	255	16.10	16.90
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	51.24	28.2 QP	40.0	-11.8	1.00 V	122	14.70	13.50
2	90.05	32.0 QP	43.5	-11.5	1.75 V	66	22.90	9.10
3	103.64	31.6 QP	43.5	-11.9	1.00 V	123	21.40	10.20
4	400.52	32.0 QP	46.0	-14.0	1.00 V	4	15.00	17.00
5	466.49	24.6 QP	46.0	-21.4	1.00 V	311	6.20	18.40
6	775.01	29.6 QP	46.0	-16.4	1.00 V	14	5.30	24.30

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



A D T

TEST MODE B1 + B2**802.11n (20MHz) + 802.11n (20MHz)**

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	CH 06 + CH 48	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Cedric Wu

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	80.35	29.3 QP	40.0	-10.7	1.25 H	245	20.40	8.90
2	161.85	31.1 QP	43.5	-12.4	1.50 H	358	17.50	13.60
3	198.71	31.2 QP	43.5	-12.3	2.00 H	20	20.60	10.60
4	332.60	32.1 QP	46.0	-13.9	1.00 H	247	16.90	15.20
5	400.52	27.3 QP	46.0	-18.7	1.25 H	244	10.30	17.00
6	625.60	27.8 QP	46.0	-18.2	1.00 H	1	5.80	22.00
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	64.83	31.0 QP	40.0	-9.0	1.00 V	265	18.90	12.10
2	86.17	31.7 QP	40.0	-8.3	1.25 V	121	22.70	9.00
3	218.12	24.7 QP	46.0	-21.3	1.00 V	18	13.40	11.30
4	400.52	25.2 QP	46.0	-20.8	1.00 V	99	8.20	17.00
5	625.60	24.3 QP	46.0	-21.7	1.00 V	255	2.30	22.00
6	868.15	32.9 QP	46.0	-13.1	1.00 V	61	7.20	25.70

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



A D T

802.11n (20MHz) + 802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	CH 06 + CH 149	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Cedric Wu

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	80.35	29.3 QP	40.0	-10.7	1.50 H	55	20.40	8.90
2	119.77	29.7 QP	43.5	-13.8	1.00 H	253	17.80	11.90
3	144.38	29.5 QP	43.5	-14.0	1.00 H	93	16.10	13.40
4	342.30	24.6 QP	46.0	-21.4	1.00 H	2	9.10	15.50
5	625.60	29.4 QP	46.0	-16.6	1.00 H	2	7.40	22.00
6	875.91	32.4 QP	46.0	-13.6	1.00 H	315	6.60	25.80
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	39.60	33.1 QP	40.0	-6.9	1.00 V	97	19.10	14.00
2	64.83	27.8 QP	40.0	-12.2	1.25 V	8	15.70	12.10
3	86.17	32.0 QP	40.0	-8.0	1.00 V	95	23.00	9.00
4	249.17	24.5 QP	46.0	-21.5	1.00 V	55	11.80	12.70
5	400.52	28.8 QP	46.0	-17.2	1.00 V	311	11.80	17.00
6	466.49	28.0 QP	46.0	-18.0	1.50 V	277	9.60	18.40

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



A D T

802.11n (20MHz) + 802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	CH 48 + CH 06	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Cedric Wu

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	41.54	27.5 QP	40.0	-12.5	1.00 H	325	13.40	14.10
2	80.35	28.4 QP	40.0	-11.6	1.00 H	347	19.50	8.90
3	144.38	27.3 QP	43.5	-16.2	1.00 H	91	13.90	13.40
4	249.17	29.6 QP	46.0	-16.4	1.00 H	77	16.90	12.70
5	375.29	28.6 QP	46.0	-17.4	1.00 H	106	12.30	16.30
6	625.60	27.5 QP	46.0	-18.5	1.00 H	358	5.50	22.00
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	80.35	29.0 QP	40.0	-11.0	1.25 V	8	20.10	8.90
2	119.16	29.3 QP	43.5	-14.2	1.50 V	136	17.50	11.80
3	198.71	31.5 QP	43.5	-12.0	1.50 V	256	20.90	10.60
4	280.21	29.8 QP	46.0	-16.2	1.00 V	359	16.10	13.70
5	299.62	29.1 QP	46.0	-16.9	1.25 V	224	14.80	14.30
6	600.38	25.3 QP	46.0	-20.7	1.00 V	1	3.70	21.60

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

802.11n (20MHz) + 802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	CH 149 + CH 06	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Cedric Wu

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	64.83	27.1 QP	40.0	-12.9	1.00 H	125	15.00	12.10
2	80.35	28.3 QP	40.0	-11.7	2.00 H	10	19.40	8.90
3	161.85	29.1 QP	43.5	-14.4	1.00 H	163	15.50	13.60
4	249.17	29.6 QP	46.0	-16.4	1.00 H	99	16.90	12.70
5	400.52	28.9 QP	46.0	-17.1	1.00 H	158	11.90	17.00
6	625.60	28.9 QP	46.0	-17.1	1.00 H	286	6.90	22.00
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	80.35	28.6 QP	40.0	-11.4	1.25 V	266	19.70	8.90
2	156.03	28.4 QP	43.5	-15.1	1.00 V	290	14.70	13.70
3	249.17	30.4 QP	46.0	-15.6	1.00 V	106	17.70	12.70
4	280.21	29.8 QP	46.0	-16.2	2.00 V	94	16.10	13.70
5	332.60	32.5 QP	46.0	-13.5	1.00 V	280	17.30	15.20
6	868.15	31.1 QP	46.0	-14.9	1.25 V	325	5.40	25.70

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



A D T

TEST MODE C1 + C2**802.11n (20MHz) + 802.11a**

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	CH 06 + CH 40	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Cedric Wu

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	66.77	31.5 QP	40.0	-8.5	1.00 H	329	19.70	11.80
2	119.16	30.6 QP	43.5	-12.9	1.00 H	83	18.80	11.80
3	163.79	29.8 QP	43.5	-13.7	1.00 H	100	16.30	13.50
4	299.62	32.4 QP	46.0	-13.6	1.00 H	115	18.10	14.30
5	332.60	33.3 QP	46.0	-12.7	1.00 H	8	18.10	15.20
6	875.91	34.5 QP	46.0	-11.5	1.00 H	182	8.70	25.80
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	103.64	38.7 QP	43.5	-4.8	1.00 V	198	28.50	10.20
2	198.71	30.8 QP	43.5	-12.7	1.00 V	41	20.20	10.60
3	299.62	28.2 QP	46.0	-17.8	1.00 V	10	13.90	14.30
4	375.29	29.1 QP	46.0	-16.9	1.00 V	51	12.80	16.30
5	792.48	29.9 QP	46.0	-16.1	1.00 V	91	5.30	24.60
6	868.15	31.3 QP	46.0	-14.7	1.00 V	95	5.60	25.70

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



A D T

802.11n (20MHz) + 802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	CH 06 + CH 149	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Cedric Wu

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	53.18	30.7 QP	40.0	-9.3	1.00 H	306	17.40	13.30
2	95.87	30.1 QP	43.5	-13.4	1.00 H	18	20.60	9.50
3	140.50	29.4 QP	43.5	-14.1	1.00 H	82	16.10	13.30
4	280.21	29.4 QP	46.0	-16.6	1.00 H	116	15.70	13.70
5	332.60	32.1 QP	46.0	-13.9	1.00 H	216	16.90	15.20
6	875.91	35.4 QP	46.0	-10.6	1.00 H	189	9.60	25.80
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	39.60	32.1 QP	40.0	-7.9	1.00 V	168	18.10	14.00
2	90.05	28.7 QP	43.5	-14.8	1.00 V	93	19.60	9.10
3	299.62	30.8 QP	46.0	-15.2	1.00 V	23	16.50	14.30
4	375.29	30.1 QP	46.0	-15.9	1.00 V	59	13.80	16.30
5	782.78	29.0 QP	46.0	-17.0	1.00 V	45	4.60	24.40
6	868.15	35.2 QP	46.0	-10.8	1.00 V	303	9.50	25.70

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



A D T

802.11a + 802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	CH 48 + CH 06	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Cedric Wu

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	64.83	31.7 QP	40.0	-8.3	1.00 H	137	19.60	12.10
2	119.16	29.9 QP	43.5	-13.6	1.00 H	79	18.10	11.80
3	328.72	31.5 QP	46.0	-14.5	1.00 H	113	16.40	15.10
4	338.42	31.3 QP	46.0	-14.7	1.00 H	24	15.90	15.40
5	466.49	26.9 QP	46.0	-19.1	1.00 H	135	8.50	18.40
6	778.89	32.6 QP	46.0	-13.4	1.00 H	16	8.30	24.30
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	103.64	38.9 QP	43.5	-4.6	1.00 V	209	28.70	10.20
2	119.16	34.4 QP	43.5	-9.1	1.00 V	310	22.60	11.80
3	307.38	28.8 QP	46.0	-17.2	1.00 V	359	14.30	14.50
4	328.72	30.3 QP	46.0	-15.7	1.00 V	353	15.20	15.10
5	466.49	25.5 QP	46.0	-20.5	1.00 V	9	7.10	18.40
6	875.91	32.1 QP	46.0	-13.9	1.00 V	214	6.30	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

802.11a + 802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	CH 149 + CH 06	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Cedric Wu

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	93.93	31.0 QP	43.5	-12.5	1.00 H	5	21.60	9.40
2	119.16	30.6 QP	43.5	-12.9	1.00 H	85	18.80	11.80
3	161.85	29.3 QP	43.5	-14.2	1.00 H	112	15.70	13.60
4	249.17	27.8 QP	46.0	-18.2	1.00 H	115	15.10	12.70
5	375.29	30.4 QP	46.0	-15.6	1.00 H	357	14.10	16.30
6	868.15	35.8 QP	46.0	-10.2	1.00 H	129	10.10	25.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	39.60	27.8 QP	40.0	-12.2	1.00 V	80	13.80	14.00
2	90.05	32.2 QP	43.5	-11.3	1.25 V	100	23.10	9.10
3	299.62	30.8 QP	46.0	-15.2	1.00 V	16	16.50	14.30
4	375.29	31.0 QP	46.0	-15.0	1.00 V	46	14.70	16.30
5	466.49	28.7 QP	46.0	-17.3	1.00 V	134	10.30	18.40
6	817.70	27.4 QP	46.0	-18.6	1.00 V	97	2.50	24.90

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

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 0.50 MHz.
 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. 04, 2013	Feb. 03, 2014
Software ADT	BV ADT_Cond_ V7.3.7.3	NA	NA	NA

- NOTE:**
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 2. The test was performed in HwaYa Shielded Room 1.
 3. The VCCI Site Registration No. is C-2040.

4.2.3 TEST PROCEDURES

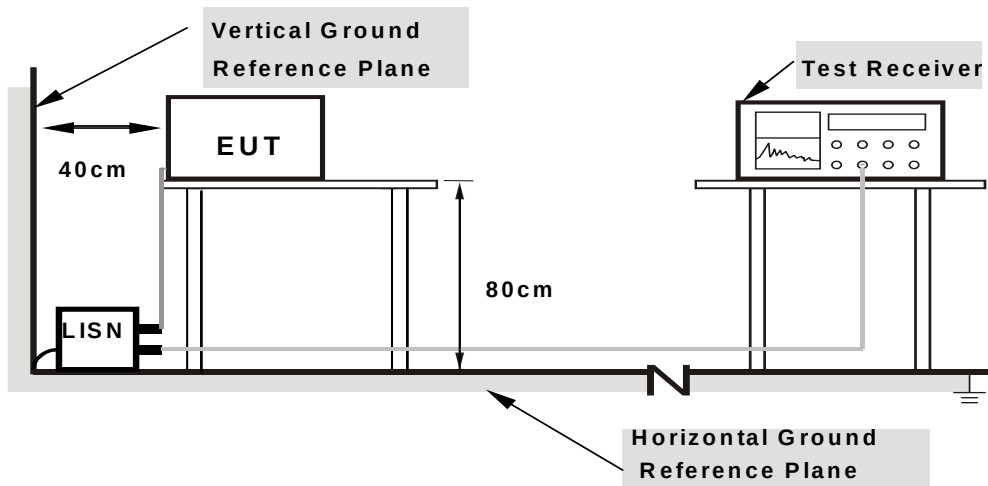
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

TEST MODE A1 + A2

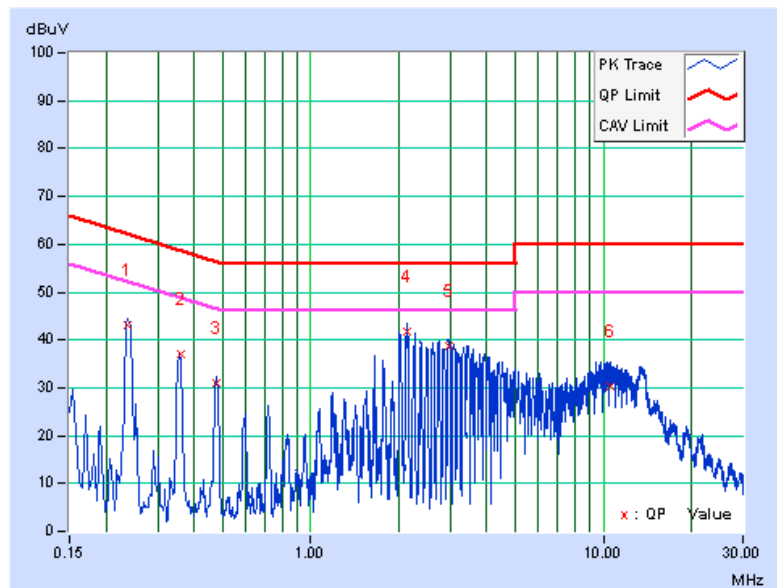
802.11n (20MHz) + 802.11n (40MHz)

CHANNEL	CH 06 + CH 46	6dB BANDWIDTH	9kHz
PHASE	Line 1		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.23785	0.16	43.08	36.24	43.24	36.40	62.17	52.17	-18.93	-15.77
2	0.35876	0.19	36.99	35.53	37.18	35.72	58.76	48.76	-21.58	-13.04
3	0.47874	0.20	30.77	29.89	30.97	30.09	56.36	46.36	-25.39	-16.27
4	2.14601	0.27	41.54	29.57	41.81	29.84	56.00	46.00	-14.19	-16.16
5	2.96644	0.32	38.39	27.87	38.71	28.19	56.00	46.00	-17.29	-17.81
6	10.54239	0.72	29.59	18.47	30.31	19.19	60.00	50.00	-29.69	-30.81

REMARKS:

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

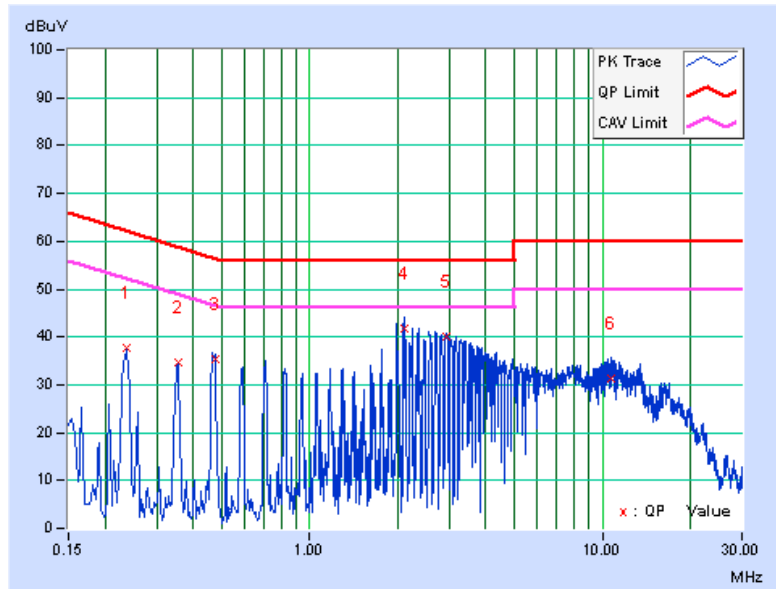


CHANNEL	CH 06 + CH 46	6dB BANDWIDTH	9kHz
PHASE	Line 2		

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
	[MHz]	Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.23689	0.21	37.36	35.85	37.57	36.06	62.20	52.20	-24.63	-16.14
2	0.35508	0.25	34.36	33.57	34.61	33.82	58.84	48.84	-24.24	-15.03
3	0.47447	0.26	35.03	32.47	35.29	32.73	56.44	46.44	-21.14	-13.70
4	2.11800	0.32	41.54	30.56	41.86	30.88	56.00	46.00	-14.14	-15.12
5	2.94674	0.36	39.74	31.38	40.10	31.74	56.00	46.00	-15.90	-14.26
6	10.78115	0.66	30.71	19.47	31.37	20.13	60.00	50.00	-28.63	-29.87

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



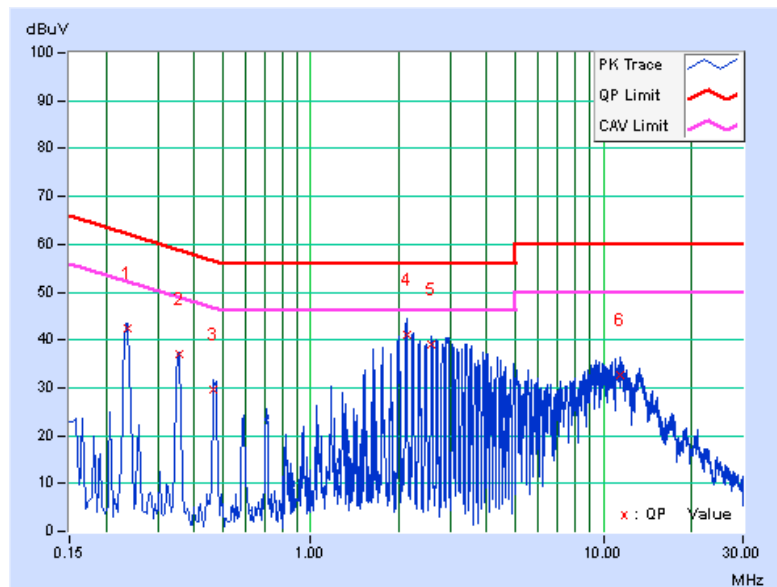
802.11n (20MHz) + 802.11n (20MHz)

CHANNEL	CH 06 + CH 149	6dB BANDWIDTH	9kHz
PHASE	Line 1		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.23574	0.16	42.28	35.75	42.44	35.91	62.24	52.24	-19.81	-16.34
2	0.35407	0.19	36.94	36.53	37.13	36.72	58.87	48.87	-21.74	-12.15
3	0.46655	0.20	29.47	24.08	29.67	24.28	56.58	46.58	-26.90	-22.29
4	2.12247	0.27	40.78	29.56	41.05	29.83	56.00	46.00	-14.95	-16.17
5	2.58200	0.29	38.82	30.31	39.11	30.60	56.00	46.00	-16.89	-15.40
6	11.35439	0.77	31.89	20.58	32.66	21.35	60.00	50.00	-27.34	-28.65

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

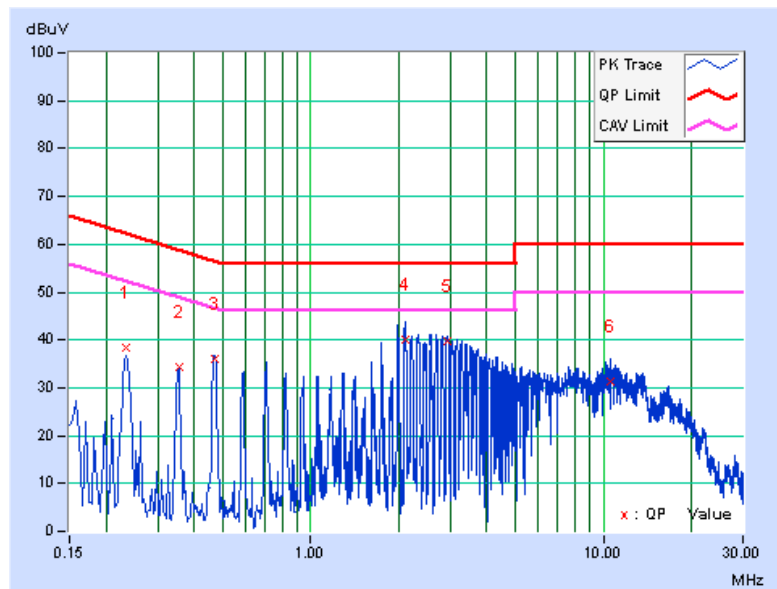


CHANNEL	CH 06 + CH 149	6dB BANDWIDTH	9kHz
PHASE	Line 2		

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
	[MHz]	Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.23404	0.21	38.11	36.77	38.32	36.98	62.31	52.31	-23.98	-15.32
2	0.35452	0.25	34.13	32.52	34.38	32.77	58.86	48.86	-24.48	-16.09
3	0.47000	0.26	35.82	35.28	36.08	35.54	56.51	46.51	-20.43	-10.97
4	2.11810	0.32	39.74	28.08	40.06	28.40	56.00	46.00	-15.94	-17.60
5	2.94320	0.36	39.47	30.86	39.83	31.22	56.00	46.00	-16.17	-14.78
6	10.64238	0.65	30.57	19.23	31.22	19.88	60.00	50.00	-28.78	-30.12

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



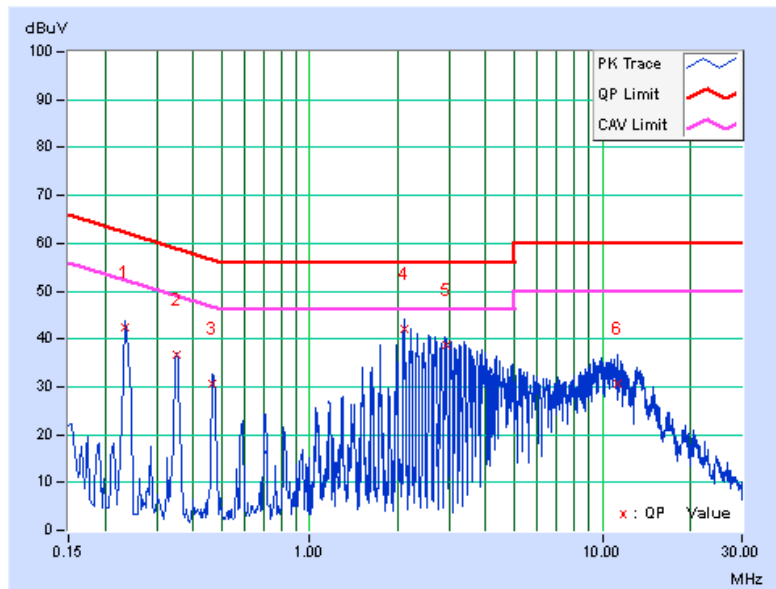
802.11a+ 802.11n (20MHz)

CHANNEL	CH 36 + CH 06	6dB BANDWIDTH	9kHz
PHASE	Line 1		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.23401	0.16	42.24	35.90	42.40	36.06	62.31	52.31	-19.91	-16.25
2	0.35035	0.19	36.63	35.05	36.82	35.24	58.95	48.95	-22.14	-13.72
3	0.46652	0.20	30.41	27.15	30.61	27.35	56.58	46.58	-25.96	-19.22
4	2.11047	0.27	41.71	31.58	41.98	31.85	56.00	46.00	-14.02	-14.15
5	2.94200	0.32	38.28	29.90	38.60	30.22	56.00	46.00	-17.40	-15.78
6	11.31439	0.77	29.81	19.47	30.58	20.24	60.00	50.00	-29.42	-29.76

REMARKS:

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

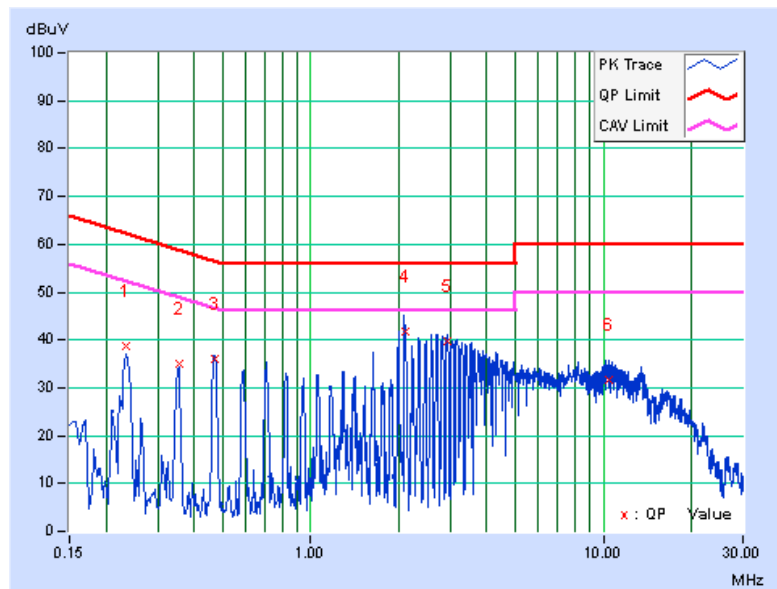


CHANNEL	CH 36 + CH 06	6dB BANDWIDTH	9kHz
PHASE	Line 2		

No	Freq.	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
	[MHz]		[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.23400	0.21	38.52	36.96	38.73	37.17	62.31	52.31	-23.58	-15.14
2	0.35407	0.25	34.74	32.57	34.99	32.82	58.87	48.87	-23.88	-16.05
3	0.47057	0.26	35.87	35.47	36.13	35.73	56.50	46.50	-20.37	-10.77
4	2.11449	0.32	41.56	30.16	41.88	30.48	56.00	46.00	-14.12	-15.52
5	2.93800	0.36	39.28	31.57	39.64	31.93	56.00	46.00	-16.36	-14.07
6	10.50456	0.65	30.95	18.97	31.60	19.62	60.00	50.00	-28.40	-30.38

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



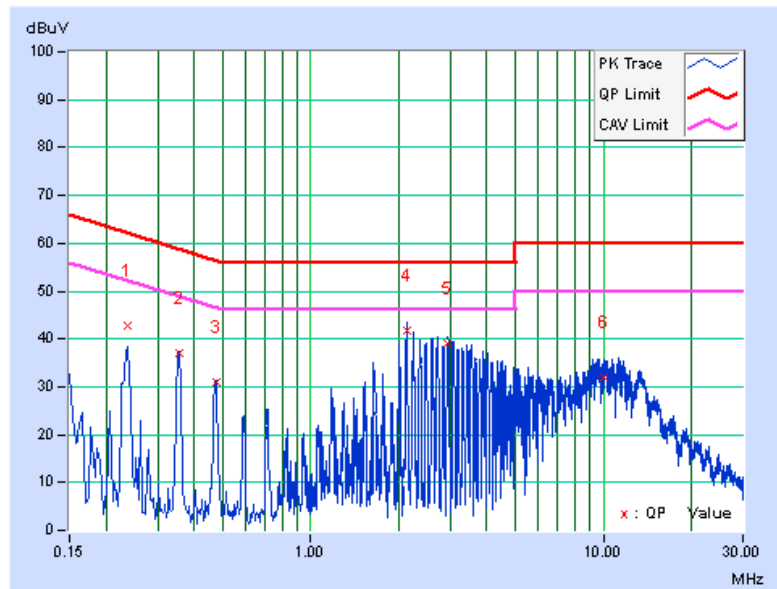
802.11a+ 802.11n (20MHz)

CHANNEL	CH 149 + CH 06	6dB BANDWIDTH	9kHz
PHASE	Line 1		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.23750	0.16	42.45	35.33	42.61	35.49	62.18	52.18	-19.57	-16.69
2	0.35407	0.19	36.87	36.38	37.06	36.57	58.87	48.87	-21.81	-12.30
3	0.47440	0.20	30.62	30.14	30.82	30.34	56.44	46.44	-25.61	-16.09
4	2.12678	0.27	41.41	31.49	41.68	31.76	56.00	46.00	-14.32	-14.24
5	2.95039	0.32	38.78	30.41	39.10	30.73	56.00	46.00	-16.90	-15.27
6	10.01408	0.69	31.28	19.58	31.97	20.27	60.00	50.00	-28.03	-29.73

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

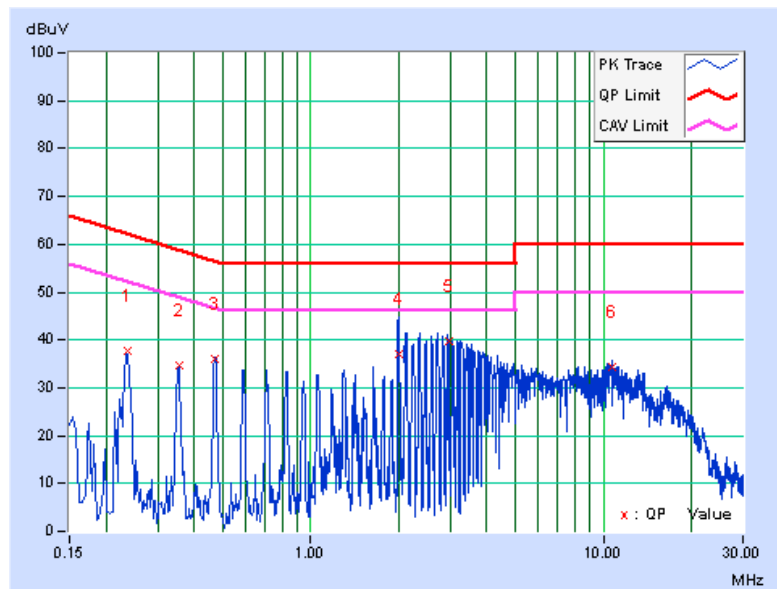


CHANNEL	CH 149 + CH 06	6dB BANDWIDTH	9kHz
PHASE	Line 2		

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
	[MHz]	Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.23800	0.21	37.52	35.95	37.73	36.16	62.17	52.17	-24.43	-16.00
2	0.35450	0.25	34.42	33.33	34.67	33.58	58.86	48.86	-24.19	-15.28
3	0.47060	0.26	35.85	34.67	36.11	34.93	56.50	46.50	-20.39	-11.57
4	2.00860	0.31	36.74	26.59	37.05	26.90	56.00	46.00	-18.95	-19.10
5	2.95500	0.36	39.28	31.05	39.64	31.41	56.00	46.00	-16.36	-14.59
6	10.75080	0.66	33.52	21.57	34.18	22.23	60.00	50.00	-25.82	-27.77

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



TEST MODE B1 + B2

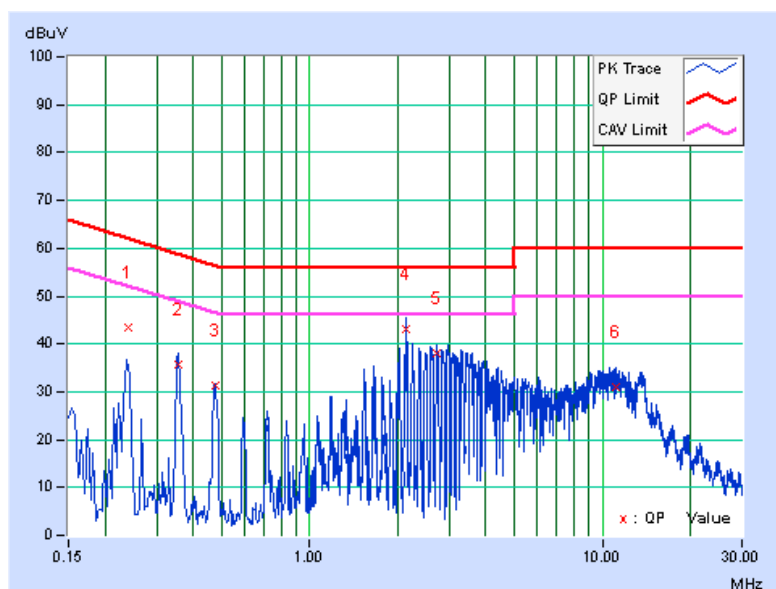
802.11n (20MHz) + 802.11n (20MHz)

CHANNEL	CH 06 + CH 48	6dB BANDWIDTH	9kHz
PHASE	Line 1		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.23884	0.16	43.24	35.93	43.40	36.09	62.14	52.14	-18.74	-16.05
2	0.35407	0.19	35.60	32.27	35.79	32.46	58.87	48.87	-23.08	-16.41
3	0.47538	0.20	31.04	28.41	31.24	28.61	56.42	46.42	-25.18	-17.81
4	2.13857	0.27	42.67	31.03	42.94	31.30	56.00	46.00	-13.06	-14.70
5	2.73474	0.30	37.78	28.65	38.08	28.95	56.00	46.00	-17.92	-17.05
6	11.20638	0.76	30.07	20.09	30.83	20.85	60.00	50.00	-29.17	-29.15

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

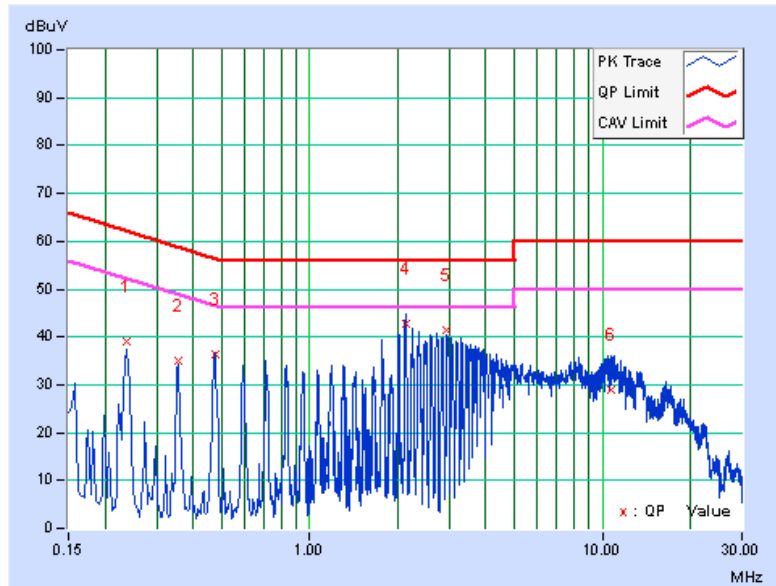


CHANNEL	CH 06 + CH 48	6dB BANDWIDTH	9kHz
PHASE	Line 2		

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
	[MHz]	Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.23825	0.21	38.82	37.54	39.03	37.75	62.16	52.16	-23.13	-14.41
2	0.35407	0.25	34.63	32.53	34.88	32.78	58.87	48.87	-23.99	-16.09
3	0.47428	0.26	35.99	34.87	36.25	35.13	56.44	46.44	-20.19	-11.31
4	2.13438	0.32	42.38	31.36	42.70	31.68	56.00	46.00	-13.30	-14.32
5	2.92647	0.36	40.94	39.05	41.30	39.41	56.00	46.00	-14.70	-6.59
6	10.69474	0.65	28.47	18.14	29.12	18.79	60.00	50.00	-30.88	-31.21

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



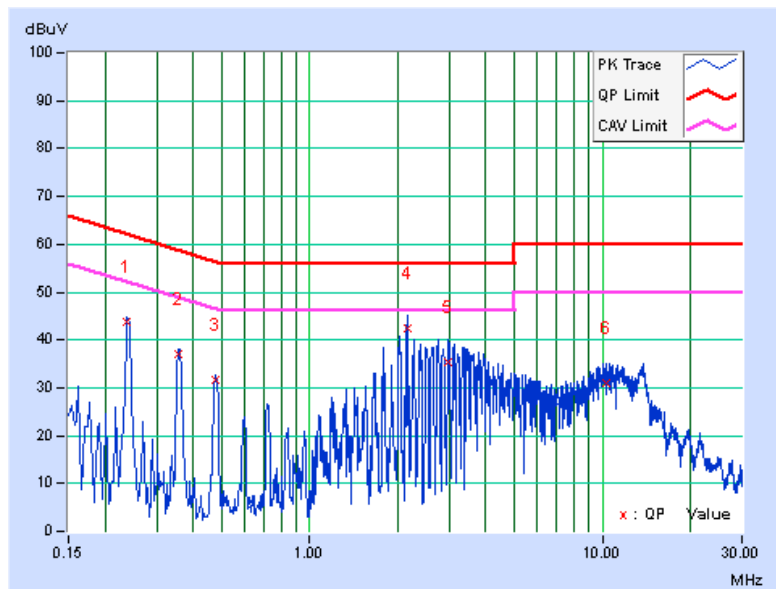
802.11n (20MHz) + 802.11n (20MHz)

CHANNEL	CH 06 + CH 149	6dB BANDWIDTH	9kHz
PHASE	Line 1		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.23817	0.16	43.56	35.60	43.72	35.76	62.16	52.16	-18.44	-16.40
2	0.35782	0.19	36.77	35.19	36.96	35.38	58.78	48.78	-21.82	-13.40
3	0.47805	0.20	31.56	30.38	31.76	30.58	56.37	46.37	-24.61	-15.79
4	2.15757	0.27	42.06	29.73	42.33	30.00	56.00	46.00	-13.67	-16.00
5	2.97041	0.32	35.01	18.44	35.33	18.76	56.00	46.00	-20.67	-27.24
6	10.33758	0.71	30.42	19.57	31.13	20.28	60.00	50.00	-28.87	-29.72

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

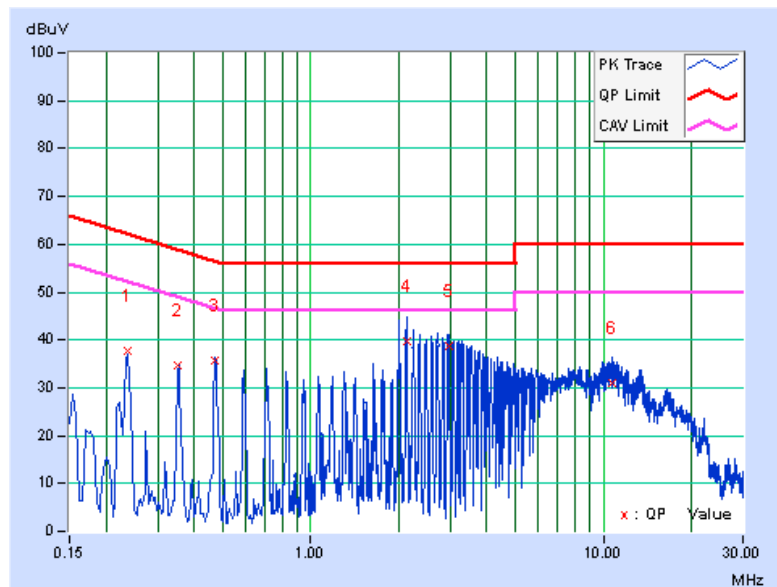


CHANNEL	CH 06 + CH 149	6dB BANDWIDTH	9kHz
PHASE	Line 2		

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
	[MHz]	Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.23725	0.21	37.57	36.53	37.78	36.74	62.19	52.19	-24.41	-15.45
2	0.35358	0.25	34.45	33.44	34.70	33.69	58.88	48.88	-24.18	-15.19
3	0.47052	0.26	35.47	34.35	35.73	34.61	56.50	46.50	-20.77	-11.89
4	2.13000	0.32	39.26	27.85	39.58	28.17	56.00	46.00	-16.42	-17.83
5	2.96136	0.36	38.47	28.56	38.83	28.92	56.00	46.00	-17.17	-17.08
6	10.67352	0.65	30.47	19.09	31.12	19.74	60.00	50.00	-28.88	-30.26

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



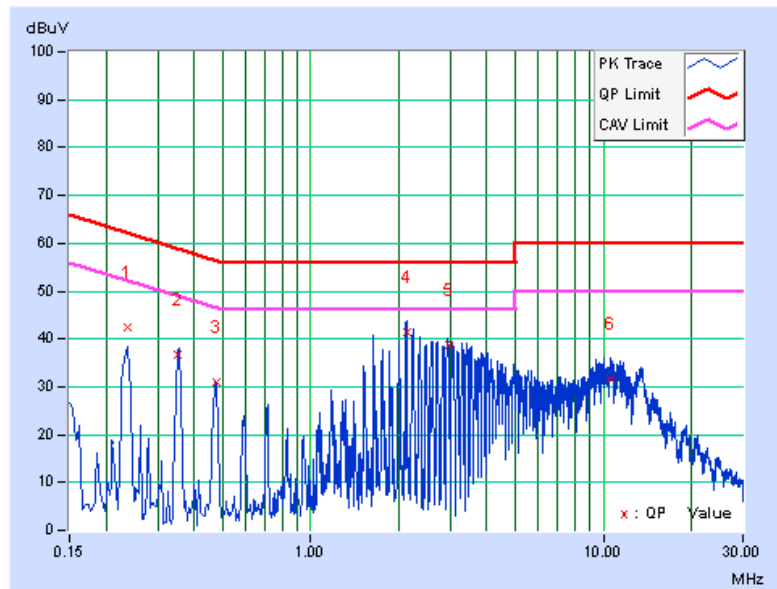
802.11n (20MHz) + 802.11n (20MHz)

CHANNEL	CH 48 + CH 06	6dB BANDWIDTH	9kHz
PHASE	Line 1		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.23635	0.16	42.28	35.68	42.44	35.84	62.22	52.22	-19.78	-16.38
2	0.35357	0.19	36.47	36.16	36.66	36.35	58.88	48.88	-22.22	-12.53
3	0.47418	0.20	30.74	30.47	30.94	30.67	56.44	46.44	-25.50	-15.77
4	2.12685	0.27	41.29	31.69	41.56	31.96	56.00	46.00	-14.44	-14.04
5	2.96147	0.32	38.35	30.58	38.67	30.90	56.00	46.00	-17.33	-15.10
6	10.62639	0.73	30.78	19.28	31.51	20.01	60.00	50.00	-28.49	-29.99

REMARKS:

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

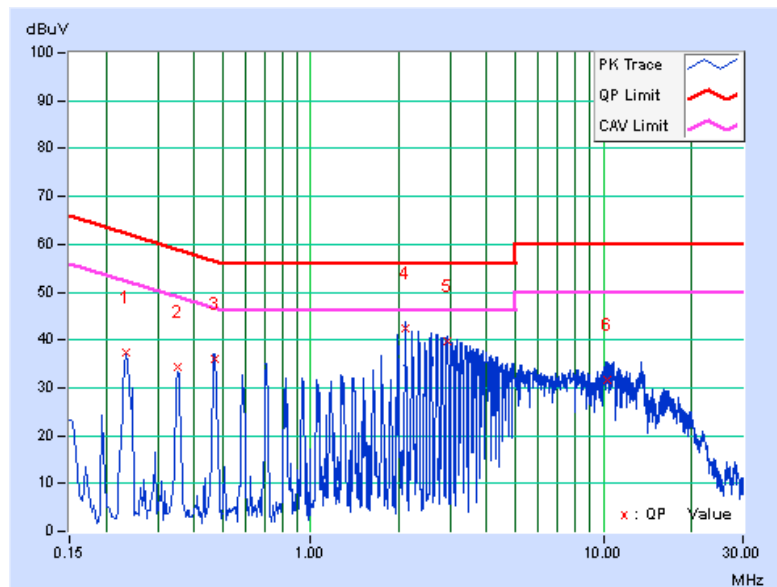


CHANNEL	CH 48 + CH 06	6dB BANDWIDTH	9kHz
PHASE	Line 2		

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
	[MHz]	Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.23457	0.21	37.05	36.54	37.26	36.75	62.29	52.29	-25.03	-15.54
2	0.35035	0.25	33.96	31.93	34.21	32.18	58.95	48.95	-24.75	-16.78
3	0.47078	0.26	35.85	35.58	36.11	35.84	56.50	46.50	-20.39	-10.66
4	2.11065	0.32	42.05	30.74	42.37	31.06	56.00	46.00	-13.63	-14.94
5	2.93317	0.36	39.38	31.56	39.74	31.92	56.00	46.00	-16.26	-14.08
6	10.33836	0.64	31.07	19.77	31.71	20.41	60.00	50.00	-28.29	-29.59

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



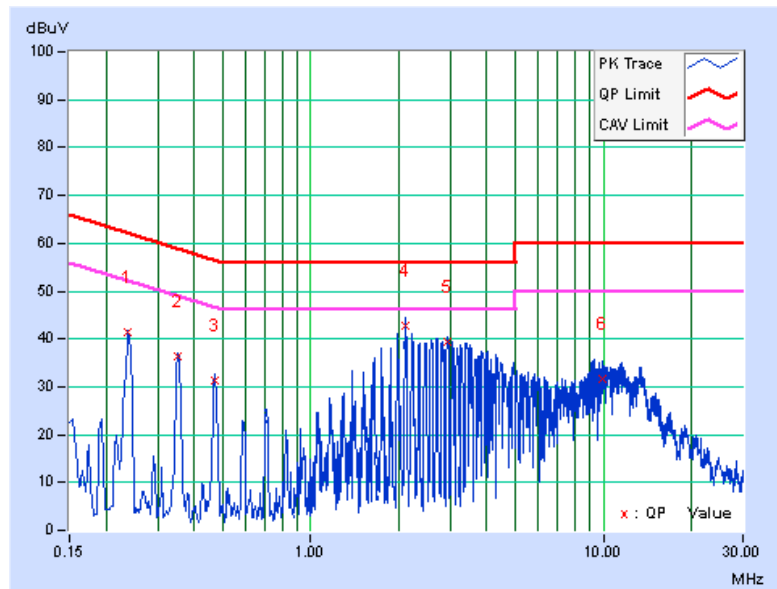
802.11n (20MHz) + 802.11n (20MHz)

CHANNEL	CH 149 + CH 06	6dB BANDWIDTH	9kHz
PHASE	Line 1		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.23807	0.16	41.18	34.09	41.34	34.25	62.16	52.16	-20.82	-17.91
2	0.35035	0.19	36.22	33.78	36.41	33.97	58.95	48.95	-22.55	-14.99
3	0.47014	0.20	31.24	30.17	31.44	30.37	56.51	46.51	-25.07	-16.14
4	2.11036	0.27	42.48	30.58	42.75	30.85	56.00	46.00	-13.25	-15.15
5	2.93900	0.32	38.95	30.28	39.27	30.60	56.00	46.00	-16.73	-15.40
6	9.99017	0.69	31.09	20.47	31.78	21.16	60.00	50.00	-28.22	-28.84

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

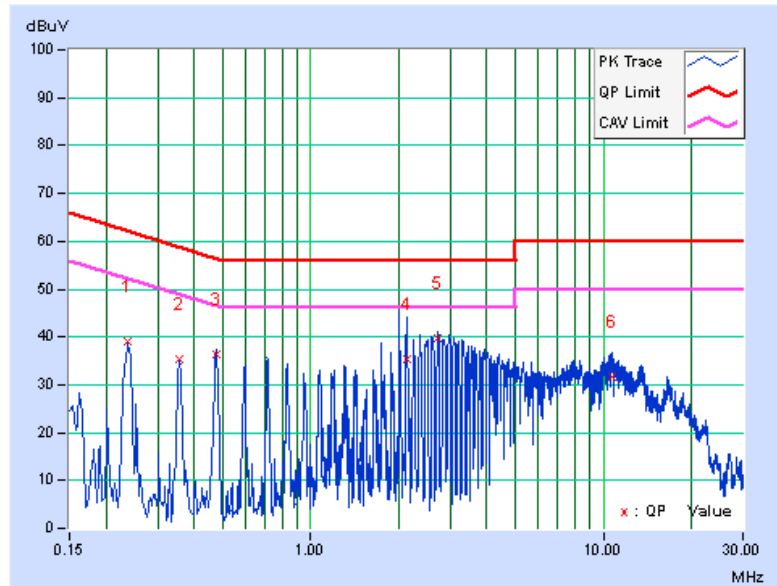


CHANNEL	CH 149 + CH 06	6dB BANDWIDTH	9kHz
PHASE	Line 2		

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
	[MHz]	Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.23741	0.21	38.74	37.37	38.95	37.58	62.19	52.19	-23.24	-14.61
2	0.35752	0.25	35.15	33.39	35.40	33.64	58.79	48.79	-23.39	-15.15
3	0.47400	0.26	36.00	34.36	36.26	34.62	56.44	46.44	-20.18	-11.82
4	2.12247	0.32	35.19	26.43	35.51	26.75	56.00	46.00	-20.49	-19.25
5	2.73400	0.35	39.50	31.34	39.85	31.69	56.00	46.00	-16.15	-14.31
6	10.76252	0.66	30.85	19.21	31.51	19.87	60.00	50.00	-28.49	-30.13

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



TEST MODE C1 + C2

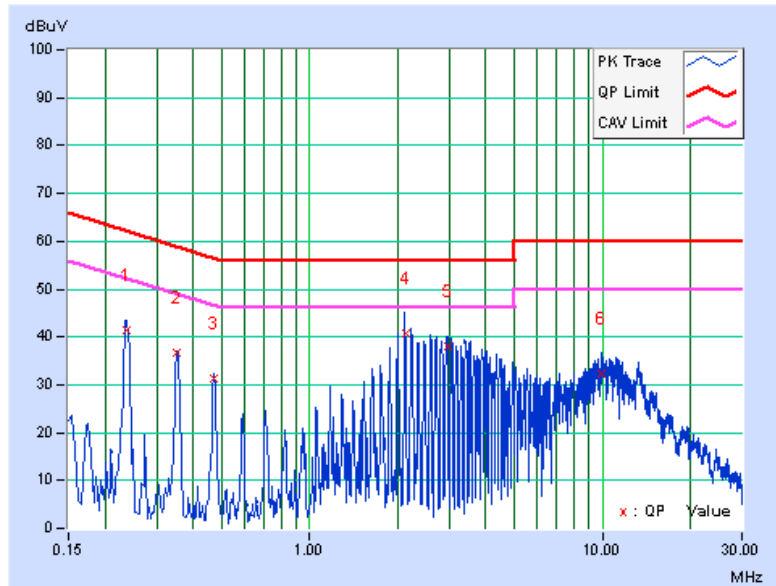
802.11n (20MHz) + 802.11a

CHANNEL	CH 06 + CH 40	6dB BANDWIDTH	9kHz
PHASE	Line 1		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.23810	0.16	41.27	33.75	41.43	33.91	62.16	52.16	-20.73	-18.25
2	0.35035	0.19	36.46	34.85	36.65	35.04	58.95	48.95	-22.31	-13.92
3	0.47020	0.20	31.25	30.74	31.45	30.94	56.51	46.51	-25.06	-15.57
4	2.12240	0.27	40.35	28.85	40.62	29.12	56.00	46.00	-15.38	-16.88
5	2.95800	0.32	37.85	24.47	38.17	24.79	56.00	46.00	-17.83	-21.21
6	9.97850	0.69	31.47	20.39	32.16	21.08	60.00	50.00	-27.84	-28.92

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

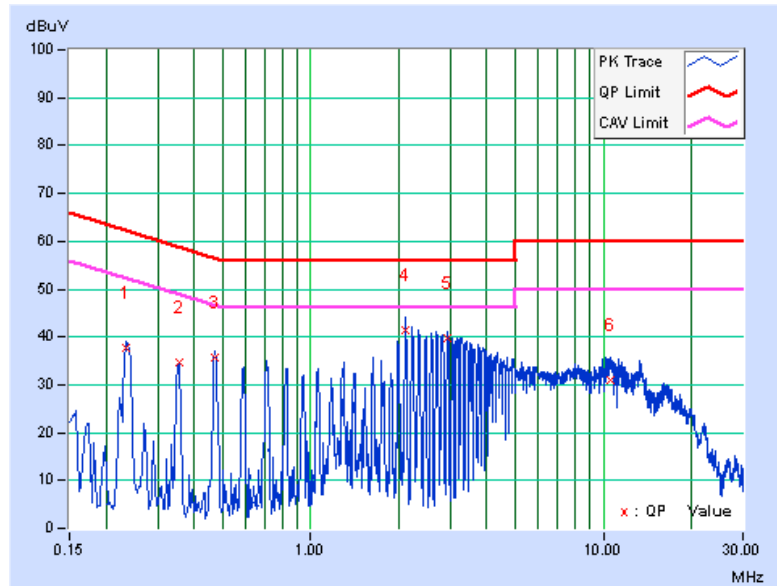


CHANNEL	CH 06 + CH 40	6dB BANDWIDTH	9kHz
PHASE	Line 2		

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
	[MHz]	Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.23450	0.21	37.54	36.28	37.75	36.49	62.29	52.29	-24.54	-15.80
2	0.35407	0.25	34.35	33.09	34.60	33.34	58.87	48.87	-24.27	-15.53
3	0.47040	0.26	35.42	34.85	35.68	35.11	56.51	46.51	-20.83	-11.40
4	2.12100	0.32	41.09	29.31	41.41	29.63	56.00	46.00	-14.59	-16.37
5	2.94130	0.36	39.52	30.57	39.88	30.93	56.00	46.00	-16.12	-15.07
6	10.63054	0.65	30.35	18.54	31.00	19.19	60.00	50.00	-29.00	-30.81

REMARKS:

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



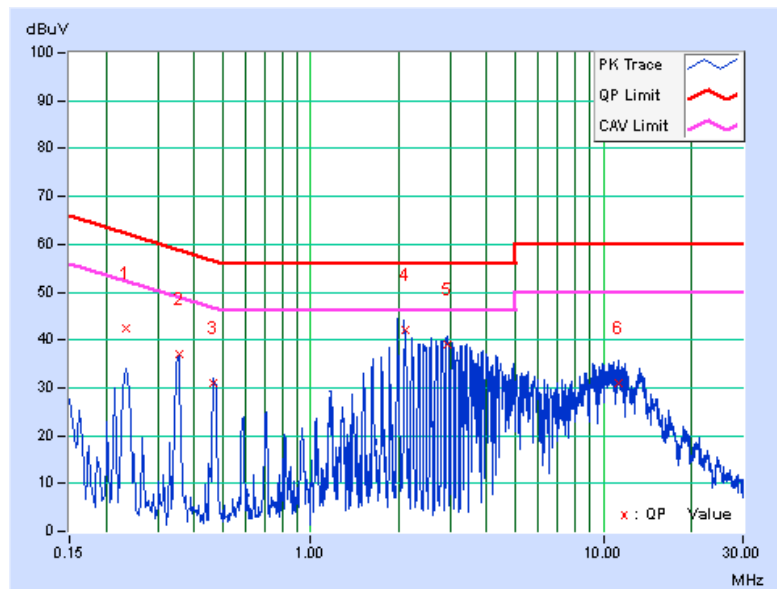
802.11n (20MHz) + 802.11n (20MHz)

CHANNEL	CH 06 + CH 149	6dB BANDWIDTH	9kHz
PHASE	Line 1		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.23440	0.16	42.24	35.86	42.40	36.02	62.29	52.29	-19.89	-16.27
2	0.35400	0.19	36.70	35.17	36.89	35.36	58.87	48.87	-21.98	-13.51
3	0.46660	0.20	30.68	27.64	30.88	27.84	56.57	46.57	-25.69	-18.73
4	2.11070	0.27	41.89	32.65	42.16	32.92	56.00	46.00	-13.84	-13.08
5	2.93450	0.32	38.78	31.57	39.10	31.89	56.00	46.00	-16.90	-14.11
6	11.22660	0.76	30.08	17.45	30.84	18.21	60.00	50.00	-29.16	-31.79

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

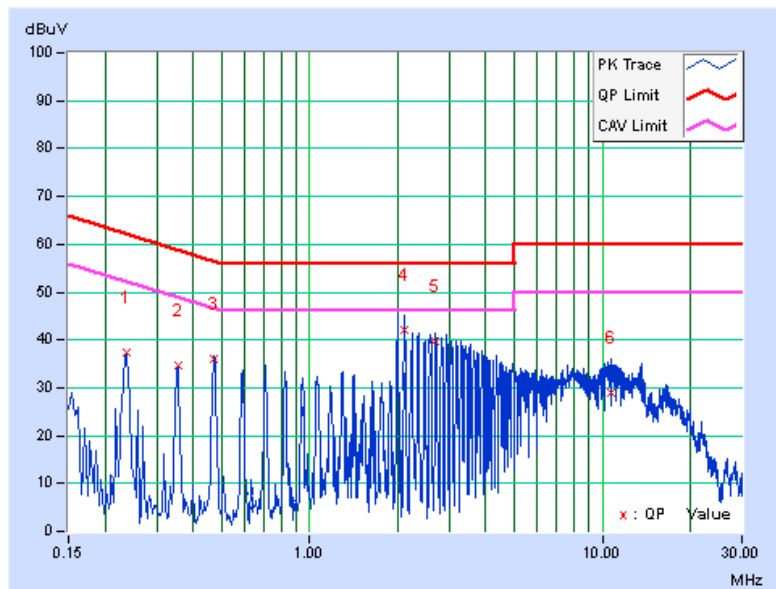


CHANNEL	CH 06 + CH 149	6dB BANDWIDTH	9kHz
PHASE	Line 2		

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
	[MHz]	Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.23660	0.21	37.14	36.85	37.35	37.06	62.21	52.21	-24.86	-15.15
2	0.35450	0.25	34.52	31.13	34.77	31.38	58.86	48.86	-24.09	-17.48
3	0.47074	0.26	35.88	35.13	36.14	35.39	56.50	46.50	-20.36	-11.11
4	2.11869	0.32	41.69	29.63	42.01	29.95	56.00	46.00	-13.99	-16.05
5	2.69800	0.34	39.54	30.47	39.88	30.81	56.00	46.00	-16.12	-15.19
6	10.74675	0.66	28.44	14.94	29.10	15.60	60.00	50.00	-30.90	-34.40

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



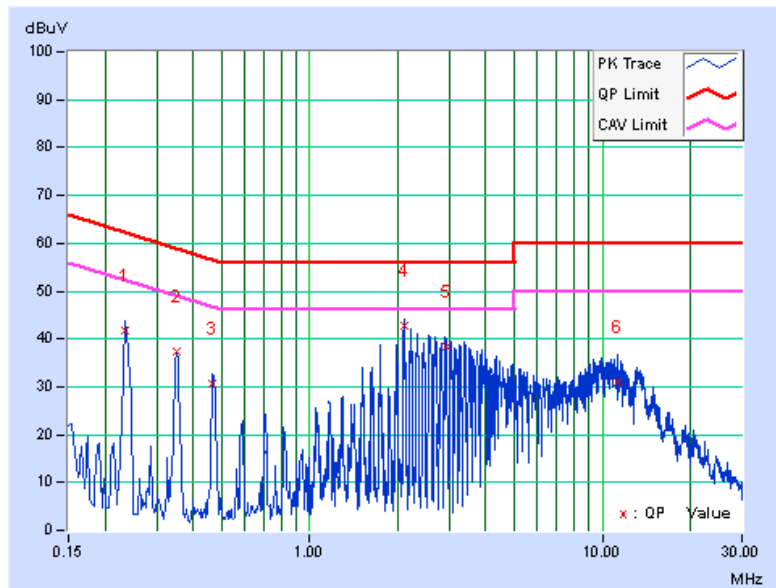
802.11a + 802.11n (20MHz)

CHANNEL	CH 48 + CH 06	6dB BANDWIDTH	9kHz
PHASE	Line 1		

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
	[MHz]	Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.23452	0.16	41.56	35.90	41.72	36.06	62.29	52.29	-20.57	-16.23
2	0.35047	0.19	37.25	36.54	37.44	36.73	58.95	48.95	-21.51	-12.22
3	0.46660	0.20	30.46	29.21	30.66	29.41	56.57	46.57	-25.91	-17.16
4	2.11048	0.27	42.42	31.20	42.69	31.47	56.00	46.00	-13.31	-14.53
5	2.94263	0.32	38.18	30.54	38.50	30.86	56.00	46.00	-17.50	-15.14
6	11.31405	0.77	30.14	19.47	30.91	20.24	60.00	50.00	-29.09	-29.76

REMARKS:

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

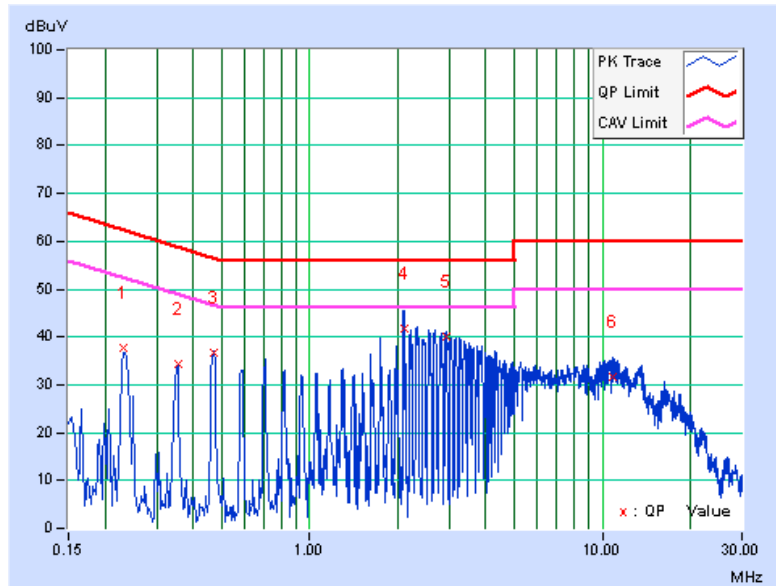


CHANNEL	CH 48 + CH 06	6dB BANDWIDTH	9kHz
PHASE	Line 2		

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
	[MHz]	Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.23207	0.21	37.42	35.80	37.63	36.01	62.38	52.38	-24.75	-16.37
2	0.35400	0.25	34.20	33.52	34.45	33.77	58.87	48.87	-24.42	-15.10
3	0.46978	0.26	36.36	35.04	36.62	35.30	56.52	46.52	-19.90	-11.22
4	2.11460	0.32	41.36	30.54	41.68	30.86	56.00	46.00	-14.32	-15.14
5	2.93370	0.36	39.74	31.47	40.10	31.83	56.00	46.00	-15.90	-14.17
6	10.79860	0.66	30.96	19.28	31.62	19.94	60.00	50.00	-28.38	-30.06

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



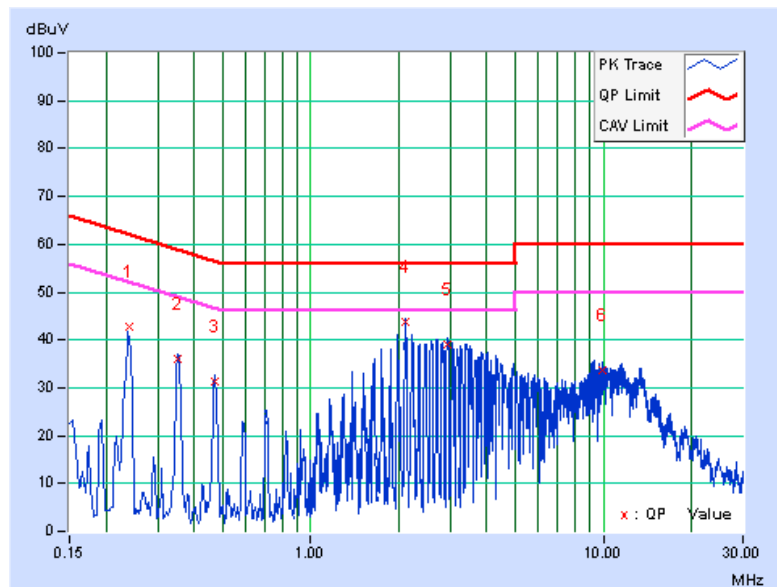
802.11n (20MHz) + 802.11n (20MHz)

CHANNEL	CH 149 + CH 06	6dB BANDWIDTH	9kHz
PHASE	Line 1		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.23860	0.16	42.53	34.09	42.69	34.25	62.14	52.14	-19.46	-17.90
2	0.35145	0.19	35.75	31.87	35.94	32.06	58.93	48.93	-22.99	-16.87
3	0.47000	0.20	31.24	30.74	31.44	30.94	56.51	46.51	-25.07	-15.57
4	2.11085	0.27	43.52	31.52	43.79	31.79	56.00	46.00	-12.21	-14.21
5	2.93960	0.32	38.71	31.31	39.03	31.63	56.00	46.00	-16.97	-14.37
6	9.99090	0.69	32.87	20.00	33.56	20.69	60.00	50.00	-26.44	-29.31

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

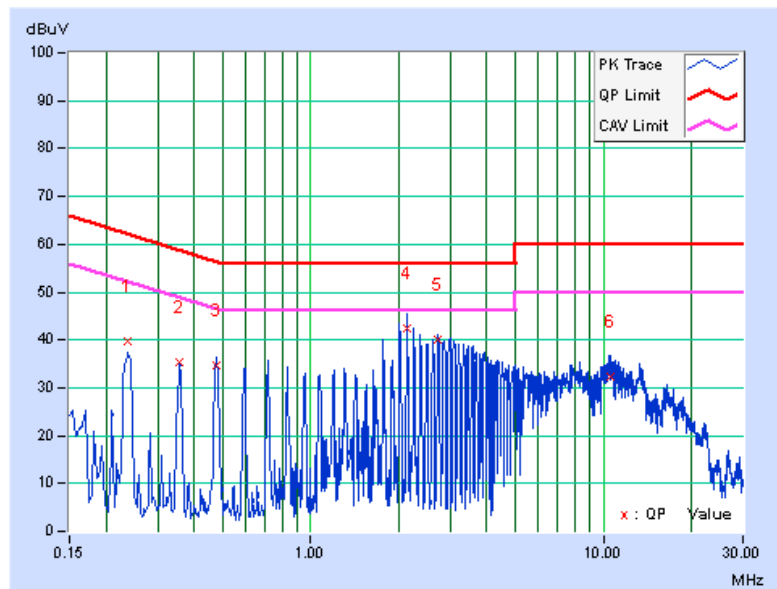


CHANNEL	CH 149 + CH 06	6dB BANDWIDTH	9kHz
PHASE	Line 2		

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
	[MHz]	Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.23790	0.21	39.54	37.33	39.75	37.54	62.17	52.17	-22.42	-14.63
2	0.35810	0.25	35.02	32.74	35.27	32.99	58.77	48.77	-23.51	-15.79
3	0.47840	0.26	34.58	33.06	34.84	33.32	56.37	46.37	-21.53	-13.05
4	2.13840	0.32	42.26	32.54	42.58	32.86	56.00	46.00	-13.42	-13.14
5	2.73490	0.35	39.87	31.57	40.22	31.92	56.00	46.00	-15.78	-14.08
6	10.57047	0.65	31.56	21.54	32.21	22.19	60.00	50.00	-27.79	-27.81

REMARKS:

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



5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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



A D T

6. INFORMATION ON THE TESTING LABORATORIES

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

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

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

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

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

---END---