



FCC TEST REPORT (15.407)

REPORT NO.: RF130111E10A-1

MODEL NO.: TC8706-C

FCC ID: G95-TC8706-C

RECEIVED: May 15, 2013

TESTED: May 15 to 24, 2013

ISSUED: July 24, 2013

APPLICANT: Technicolor USA, Inc.

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

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R.O.C.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF130111E10A-1	Original release	July 24, 2013



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1. CERTIFICATION

EQUIPMENT: Cable Modem
TRADE NAME: technicolor
MODEL NO.: TC8706-C
TEST SAMPLE: ENGINEERING SAMPLE
APPLICANT: Technicolor USA, Inc.
TESTED: May 15 to 24, 2013
STANDARDS: FCC Part 15, Subpart E (Section 15.407)
ANSI C63.10-2009
KDB789033 D01 General UNII Test Procedures v01 r03
KDB662911 D01 Multiple Transmitter Output v01r02

The above equipment (Model: TC8706-C) 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 : Phoenix Huang , **DATE**: July 24, 2013
(Phoenix Huang, Specialist)

APPROVED BY : May Chen , **DATE**: July 24, 2013
(May Chen, Manager)



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2. SUMMARY OF TEST RESULTS

2.1 SUMMARY OF THE 5GHz(5150~5250MHz) BAND TEST RESULTS

Applied Standard: 47 CFR FCC Part 15 Subpart E				
Part	Standard Clause	Description of Test	Result	Under Limit
4.1	15.407(b)(6)	AC Power Line Conducted Emissions	Complies	15.43dB
4.2	15.407(a/1/2/3)	Emission bandwidth Measurement	Complies	-
4.3	15.407(a/1/2/3)	Transmit Power	Complies	0.14dB
4.4	15.407(a/1/2/3)	Peak Power Spectral Density	Complies	1.04dB
4.5	15.407(a)(6)	Peak Power Excursion	Complies	-
4.6	15.407(b/1/2/3) (b)(5)	Spurious Emissions	Complies	3.08dB
4.7	15.407(b/1/2/3) (b)(5)	Band Edge Emissions	Complies	0.5dB
4.8	15.407(g)	Frequency Stability	Complies	-
4.9	15.203	Antenna Requirements	Complies	-

2.3 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:

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

Measurement	Value
Conducted emissions	2.98 dB
Radiated emissions (30MHz-1GHz)	5.43 dB
Radiated emissions (1GHz -6GHz)	3.54 dB
Radiated emissions (6GHz -18GHz)	4.08 dB
Radiated emissions (18GHz -40GHz)	4.11 dB



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2.4 INFORMATION PROVIDED BY THE MANUFACTURER

Equipment: Cable Modem

Model Number: TC8706-C

Trade Name: technicolor

Power Supply: 1) Internal power supply
 Brand : AcBel, Model: STC003
 AC Input : 100-130V 1.2A 60Hz
 DC Output : 12V 3.5A
 2) Battery
 Brand : SMP, Model: SMPCM11
 Rating : 7.4V 4300mAh

AC Power Cord: AC input cable(Detachable power cord, unshielded, 1.8m, 2pin)

Hardware Version: 1.0

Interface Availability

Interface Model	DC 12V 3.5A	LAN (10,100, 1000Mbps)	USB	Phone	Cable Modem DOCSIS 3.0 MoCA MoCA 2.0 D Band 1125MHz and 1525MHz	WLAN IEEE 802.11a/b/g/n (2.4GHz/5GHz 3*3)	DECT
TC8706-C	●	●(4 port)	●(2 port)	●(2 port)	●(1 port)	●	●

- : Equipped
- : Not Equipped

2.5 APPLICATION OF HARMONIZED STANDARD

US Standard: 47 CFR FCC Part 15 Subpart E § 15.407
 ANSI C63.10-2009
 KDB789033 D01 General UNII Test Procedures v01 r03
 KDB662911 D01 Multiple Transmitter Output v01r02

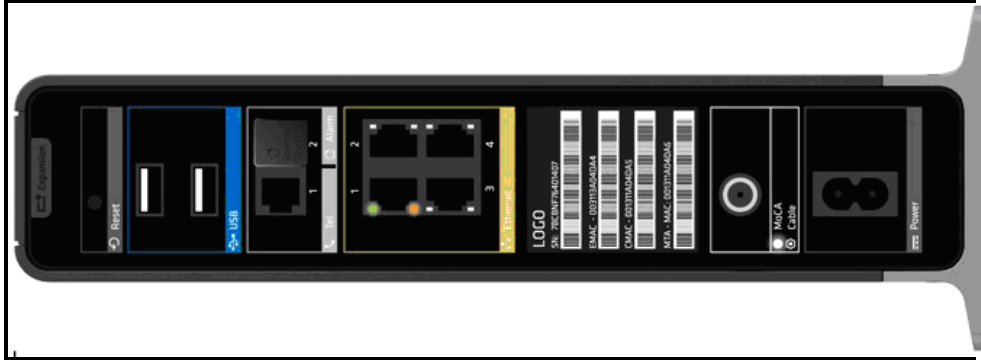
Note: The EUT has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

2.6 CABLING ATTACHED TO THE EQUIPMENT

Table 1- Cable and Interconnection

Interface	Cable type	Cable length delivered with the modem	“Real life” Cable length that can be attached to this type of interface	Cable length to be used for testing	Internal/ external connection
Cable & MoCA	coaxial	NA	> 10 meter	10 meter	External
Eth1/2/3/4	UTP Cat 5	NA	> 10 meter	10 meter	Internal
Line1/2	Pair conductor	NA	> 10 meter	3 meter flat cable	Internal
USB1/2	Shielding cable	NA	< 3 meter	0.1 meter	Internal
AC power					Internal
Battery					Internal

2.7 PANEL DRAWING





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3. GENERAL INFORMATION

3.1 PRODUCT DETAILS(15.407)

The radio detail of IEEE 802.11a/n is shown in the table below. For more detailed description, please refer to the manufacture's specifications or User's Manual.

Items	Description		
Product Type	802.11a: WLAN(1TX, 3RX) 802.11n: WLAN(3TX, 3RX)		
Power Type	From power adapter		
Modulation	OFDM		
Modulation	OFDM (BPSK / QPSK / 16QAM / 64QAM) See the below table for 802.11n		
Data Rate (Mbps)	802.11a: up to 54Mbps 802.11n: up to 450Mbps(MCS0~MCS23)		
Frequency Range	5150 ~ 5250MHz		
Channel Spacing	5150 ~ 5250MHz	■	IEEE 802.11a:20MHz
		■	IEEE 802.11n (20MHz) :20MHz
		■	IEEE 802.11n (40MHz) :40MHz
Operating Frequency	5180 ~ 5240MHz		
I/O Ports	LAN Port x 4 USB Port x 2 Phone Port x 2 Cable + MoCA Port x 1		
Channel Number	4 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz)		
Maximum Output Power	802.11a: 45.920mW 802.11n (20MHz): 46.823mW 802.11n (40MHz): 48.529mW		



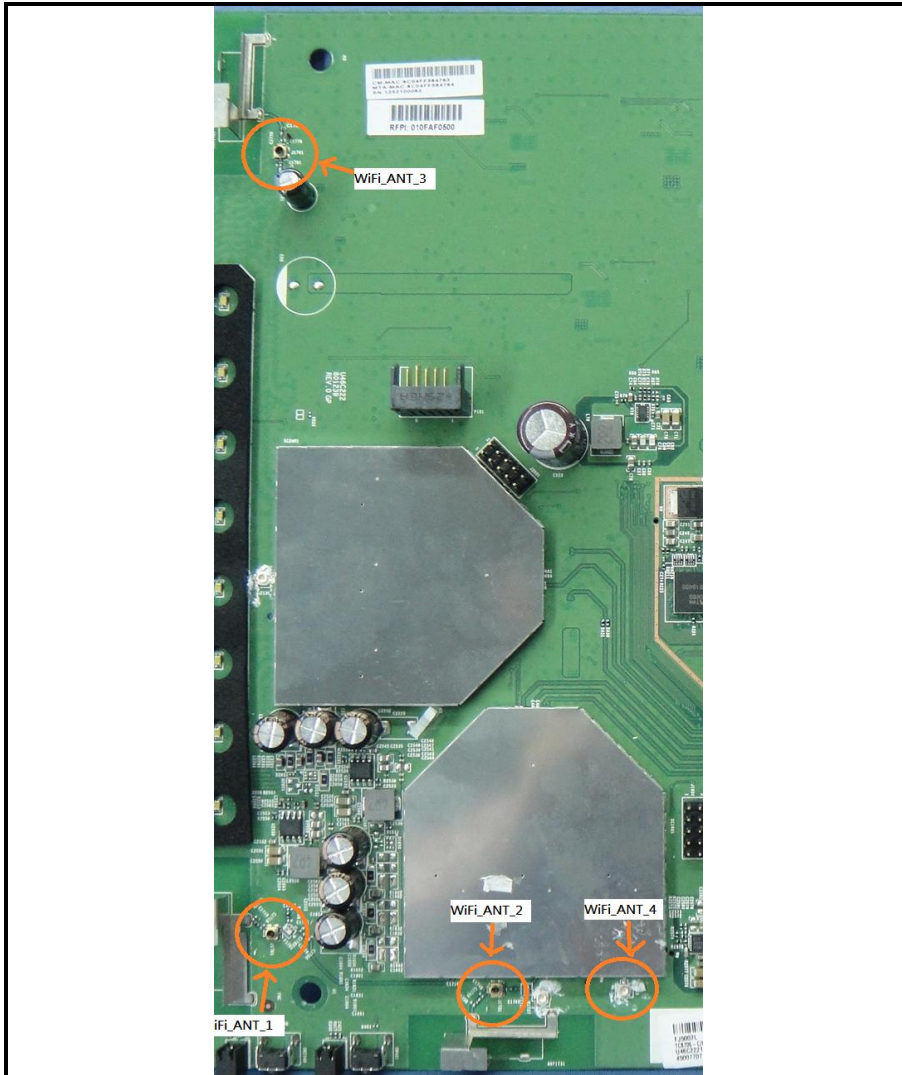
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3.2 TABLE FOR FILED ANTENNA

Antenna & Bandwidth

Transmitter Circuit	Brand	Model	Antenna Type	Peak Gain(dBi) (Include cable loss)	Frequency range (MHz to MHz)	Connector Type
Wi-Fi_1 (Ant. 1)	INPAO	WA-M-LB-00-005	Metal	4.24 for 2.4GHz 3.35 for 5GHz(Band 1) 2.57 for 5GHz(Band 4)	2400~2500 / 5150~5850	NA
Wi-Fi_2 (Ant. 2)	INPAO	WA-M-LB-00-006	Metal	3.96 for 2.4GHz 4.52 for 5GHz(Band 1) 5.52 for 5GHz(Band 4)	2400~2500 / 5150~5850	NA
Wi-Fi_3 (Ant. 3)	INPAO	WA-M-LB-00-004	Metal	2.28 for 5GHz(Band 1) 3.38 for 5GHz(Band 4)	5150~5850	NA
Wi-Fi_4 (Ant. 4)	INPAO	WA-P-LA-02-090	PCB	2.82	2400~2500	NA
DECT_1 (Ant. 5)	INPAO	WA-P-U2-01-101	PCB	3.00	1880~1950	NA
DECT_2 (Ant. 6)	INPAO	NA	Metal	2.44	1880~1950	NA

Antenna	1st (TX)		2nd (TX)		3rd (TX)	
	20 MHz	40 MHz	20 MHz	40 MHz	20 MHz	40 MHz
Bandwidth Mode						
802.11a	V	X	X	X	X	X
802.11b	V	X	X	X	X	X
802.11g	V	X	X	X	X	X
802.11n	V	V	V	V	V	V





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802.11n Data Rate spec

Standard	INDEX	Data Rate (Mbps)		Standard	INDEX	Data Rate (Mbps)	
		LGI (800ns)	SGL (400ns)			LGI (800ns)	SGL (400ns)
11n(20MHz) 1 stream	MCS0	6.5	7.2	11n(40MHz) 1 stream	MCS0	13.5	15
	MCS1	13	14.4		MCS1	27	30
	MCS2	19.5	21.7		MCS2	40.5	45
	MCS3	26	28.9		MCS3	54	60
	MCS4	39	43.3		MCS4	81	90
	MCS5	52	57.8		MCS5	108	120
	MCS6	58.5	65		MCS6	121.5	135
11n(20MHz) 2 stream	MCS7	65	72.2	MCS7	135	150	
	MCS8	13	14.4	11n(40MHz) 2 stream	MCS8	27	30
	MCS9	26	28.9		MCS9	54	60
	MCS10	39	43.3		MCS10	81	90
	MCS11	52	57.8		MCS11	108	120
	MCS12	78	86.7		MCS12	162	180
	MCS13	104	115.6		MCS13	216	240
MCS14	117	130	MCS14		243	270	
11n(20MHz) 3 stream	MCS15	130	144.4	MCS15	270	300	
	MCS16	19.5	21.7	11n(40MHz) 3 stream	MCS16	40.5	45
	MCS17	39	43.3		MCS17	81	90
	MCS18	58.5	65		MCS18	121.5	135
	MCS19	78	86.7		MCS19	162	180
	MCS20	117	130		MCS20	243	270
	MCS21	156	173.3		MCS21	324	360
MCS22	175.5	195	MCS22		364.5	405	
	MCS23	195	216.7	MCS23	405	450	

3.3 TRANSMIT OPERATING MODES

Transmit Operating Mode				Transmit Multiple Antennas						
<input type="checkbox"/>	Operating mode 1 (single antenna)			<input checked="" type="checkbox"/>	1TX					
<input type="checkbox"/>	Operating mode 2 (multiple antenna, no beam forming)			<input checked="" type="checkbox"/>	2TX	<input checked="" type="checkbox"/>	3TX	<input type="checkbox"/>	4TX	
<input type="checkbox"/>	Operating mode 3 (multiple antenna, with beam forming)			<input type="checkbox"/>	2TX	<input type="checkbox"/>	3TX	<input type="checkbox"/>	4TX	
<input type="checkbox"/>	802.11a	Operating mode	<input checked="" type="checkbox"/>	1TX	<input type="checkbox"/>	2TX	<input type="checkbox"/>	3TX	<input type="checkbox"/>	Cyclic shift
<input type="checkbox"/>	802.11n(20MHz)	Operating mode	<input checked="" type="checkbox"/>	1TX	<input checked="" type="checkbox"/>	2TX	<input checked="" type="checkbox"/>	3TX	<input type="checkbox"/>	Cyclic shift
<input type="checkbox"/>	802.11n(40MHz)	Operating mode	<input checked="" type="checkbox"/>	1TX	<input checked="" type="checkbox"/>	2TX	<input checked="" type="checkbox"/>	3TX	<input type="checkbox"/>	Cyclic shift

Note1: For IEEE802.11n, MCS0~MCS7: 1TX; MCS8~MCS15:2TX; MCS16~MCS23:3TX



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3.4 TABLE FOR THE 5G BAND 1 CARRIER FREQUENCIES

Operated in 5150 ~ 5250MHz band:

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

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

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

CHANNEL	FREQUENCY
38	5190 MHz
46	5230 MHz



3.5 TABLE FOR THE 5G BAND 1 TEST MODES

Preliminary tests were performed in different test configuration to find the worst radiated emission. The worst test configuration shown in the table below is the worst-case rate with respect to the specific test item. The below table is all possible configuration for searching the worst cases.

Test Items	Mode	Note	Channel	Data Rate	Antenna
AC Power Line Conducted Emissions	11n(20MHz)	OFDM/BPSK	48	MCS16	1+2+3
Transmit Output Power	11a	OFDM/BPSK	36/40/48	6Mbps	1
				6Mbps	2
				6Mbps	3
	11n(20MHz)		36/40/48	MCS0	1
				MCS0	2
				MCS0	3
				MCS8	1+2
				MCS8	1+3
				MCS8	2+3
	11n(40MHz)		38/46	MCS16	1+2+3
				MCS0	1
				MCS0	2
				MCS0	3
				MCS8	1+2
				MCS8	1+3
Power Spectral Density	11a	OFDM/BPSK	36/48	6Mbps	2
			40	6Mbps	1
	11n(20MHz)		36/40/48	MCS0	2
				MCS8	1+2
				MCS16	1+2+3
	11n(40MHz)		38	MCS0	3
			46	MCS0	2
			38	MCS8	1+3
			46	MCS8	1+2
			38/46	MCS16	1+2+3



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Test Items	Mode	Note	Channel	Data Rate	Antenna
Peak Power Excursion	11a	OFDM/BPSK	36/48	6Mbps	2
			40	6Mbps	1
	11n(20MHz)		36/40/48	MCS0	2
				MCS8	1+2
				MCS16	1+2+3
	11n(40MHz)		38	MCS0	3
			46	MCS0	2
			38	MCS8	1+3
			46	MCS8	1+2
			38/46	MCS16	1+2+3
Radiated Emissions Above 1GHz (Radiated)	11a	OFDM/BPSK	36/48	6Mbps	2
			40	6Mbps	1
	11n(20MHz)		36/40/48	MCS0	2
				MCS8	1+2
				MCS16	1+2+3
	11n(40MHz)		38	MCS0	3
			46	MCS0	2
			38	MCS8	1+3
			46	MCS8	1+2
			38/46	MCS16	1+2+3
Radiated Emissions Below 1GHz(Radiated)	11n(20MHz)	OFDM/BPSK	48	MCS16	1+2+3
Frequency Stability	-	Un-modulation	48	6Mbps	1



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3.6 TABLE FOR TEST LOCATIONS

Test Site No.	Site Category	Location	FCC Reg. No.	IC File No.	VCCI Reg. No.
Shielded Room No. C.	Conduction	Hsin Chu	-	-	C-3611
966 Chamber No. H	SAC	Hsin Chu	797305	IC 7450H-3	-
OVEN B	OVEN Room	Hsin Chu	-	-	-

Semi Anechoic Chamber(SAC)

3.7 TABLE FOR SUPPORTING UNITS

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK COMPUTER	DELL	PP32LA	FSLB32S	FCC DoC
2	iPod shuffle	Apple	MC749TA/A	CC4DMFJUDFD M	NA
3	iPod shuffle	Apple	MC749TA/A	CC4DN25WDF DM	NA
4	TELEPHONE	WONDER	WD-303	8C17DA02763	NA
5	TELEPHONE	WONDER	WD-303	7C17KA 05211	NA
6	HUB	ZyXEL	ES-116P	S060H0200021 5	FCC DoC



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3.8 TABLE FOR THE 5G BAND 4 PARAMETERS OF TEST SOFTWARE SETTING

During testing, Channel & Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

The Power Setting Parameter					
Power Level		1			
Test Software Version		DOS			
Worst Modulation Mode		Number of Transmit Chains (NTX)	Frequency (MHz)	Power Setting	Data Rate / MCS
Ant. 1	802.11a,	1	5180	65	6Mbps
Ant. 1	802.11a,	1	5200	65	6Mbps
Ant. 1	802.11a,	1	5240	69	6Mbps
Ant. 2	802.11a,	1	5180	61	6Mbps
Ant. 2	802.11a,	1	5200	61	6Mbps
Ant. 2	802.11a,	1	5240	65	6Mbps
Ant. 3	802.11a,	1	5180	60	6Mbps
Ant. 3	802.11a,	1	5200	61	6Mbps
Ant. 3	802.11a,	1	5240	62	6Mbps
Ant. 1	802.11n(20MHz)	1	5180	65	MCS0
Ant. 1	802.11n(20MHz)	1	5200	65	MCS0
Ant. 1	802.11n(20MHz)	1	5240	67	MCS0
Ant. 2	802.11n(20MHz)	1	5180	60	MCS0
Ant. 2	802.11n(20MHz)	1	5200	60	MCS0
Ant. 2	802.11n(20MHz)	1	5240	64	MCS0
Ant. 3	802.11n(20MHz)	1	5180	60	MCS0
Ant. 3	802.11n(20MHz)	1	5200	60	MCS0
Ant. 3	802.11n(20MHz)	1	5240	63	MCS0
Ant. 1+2	802.11n(20MHz)	2	5180	51	MCS8
Ant. 1+2	802.11n(20MHz)	2	5200	51	MCS8
Ant. 1+2	802.11n(20MHz)	2	5240	53	MCS8
Ant. 1+3	802.11n(20MHz)	2	5180	53	MCS8
Ant. 1+3	802.11n(20MHz)	2	5200	53	MCS8
Ant. 1+3	802.11n(20MHz)	2	5240	53	MCS8
Ant. 2+3	802.11n(20MHz)	2	5180	52	MCS8
Ant. 2+3	802.11n(20MHz)	2	5200	53	MCS8
Ant. 2+3	802.11n(20MHz)	2	5240	53	MCS8



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Ant. 1+2+3	802.11n(20MHz)	3	5180	42	MCS16
Ant. 1+2+3	802.11n(20MHz)	3	5200	42	MCS16
Ant. 1+2+3	802.11n(20MHz)	3	5240	43	MCS16
Ant. 1	802.11n(40MHz)	1	5190	49	MCS0
Ant. 1	802.11n(40MHz)	1	5230	67	MCS0
Ant. 2	802.11n(40MHz)	1	5190	35	MCS0
Ant. 2	802.11n(40MHz)	1	5230	67	MCS0
Ant. 3	802.11n(40MHz)	1	5190	55	MCS0
Ant. 3	802.11n(40MHz)	1	5230	69	MCS0
Ant. 1+2	802.11n(40MHz)	2	5190	34	MCS8
Ant. 1+2	802.11n(40MHz)	2	5230	54	MCS8
Ant. 1+3	802.11n(40MHz)	2	5190	46	MCS8
Ant. 1+3	802.11n(40MHz)	2	5230	54	MCS8
Ant. 2+3	802.11n(40MHz)	2	5190	36	MCS8
Ant. 2+3	802.11n(40MHz)	2	5230	54	MCS8
Ant. 1+2+3	802.11n(40MHz)	3	5190	31	MCS16
Ant. 1+2+3	802.11n(40MHz)	3	5230	45	MCS16



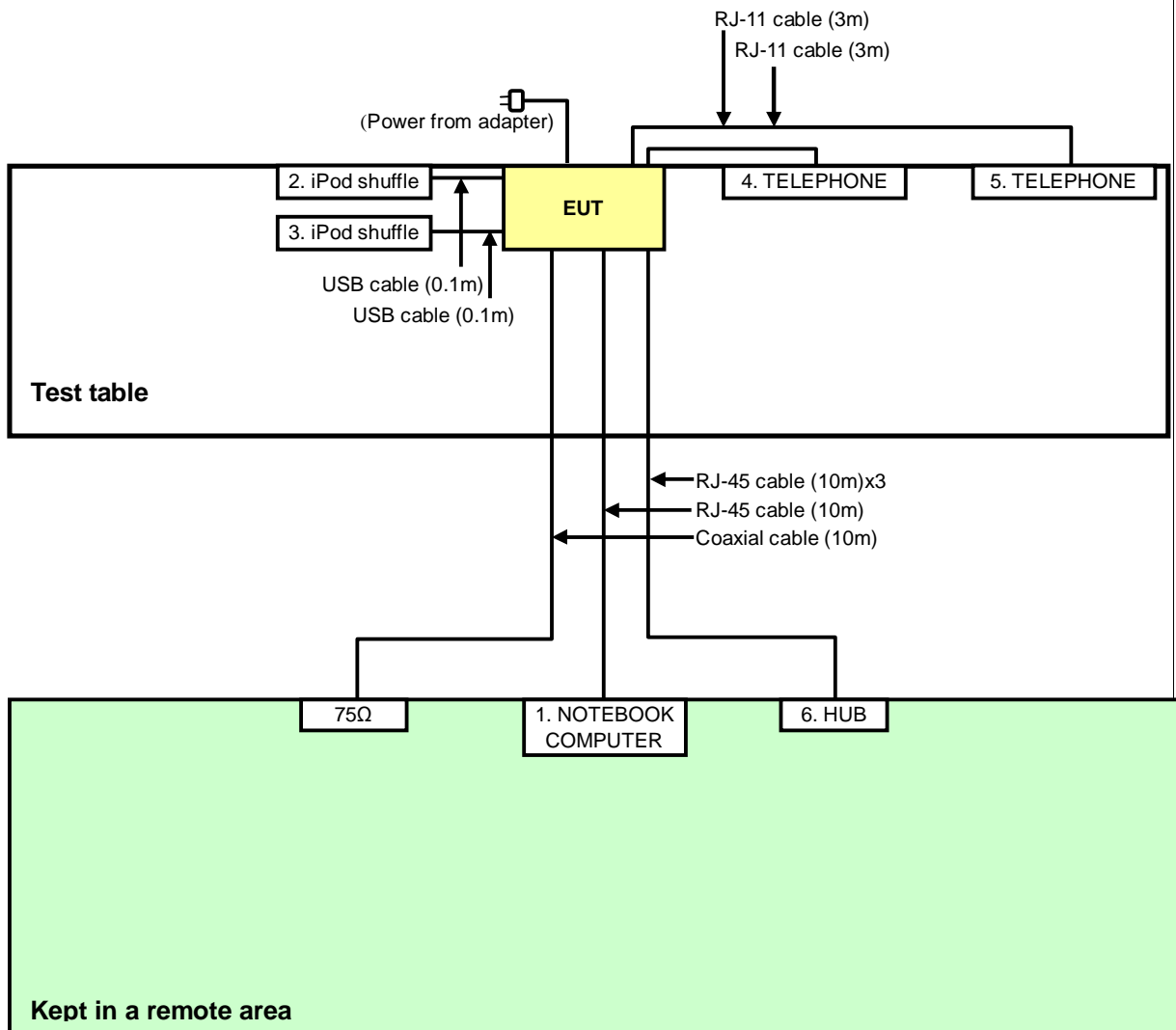
A D T

3.9 EUT OPERATING DURING TEST

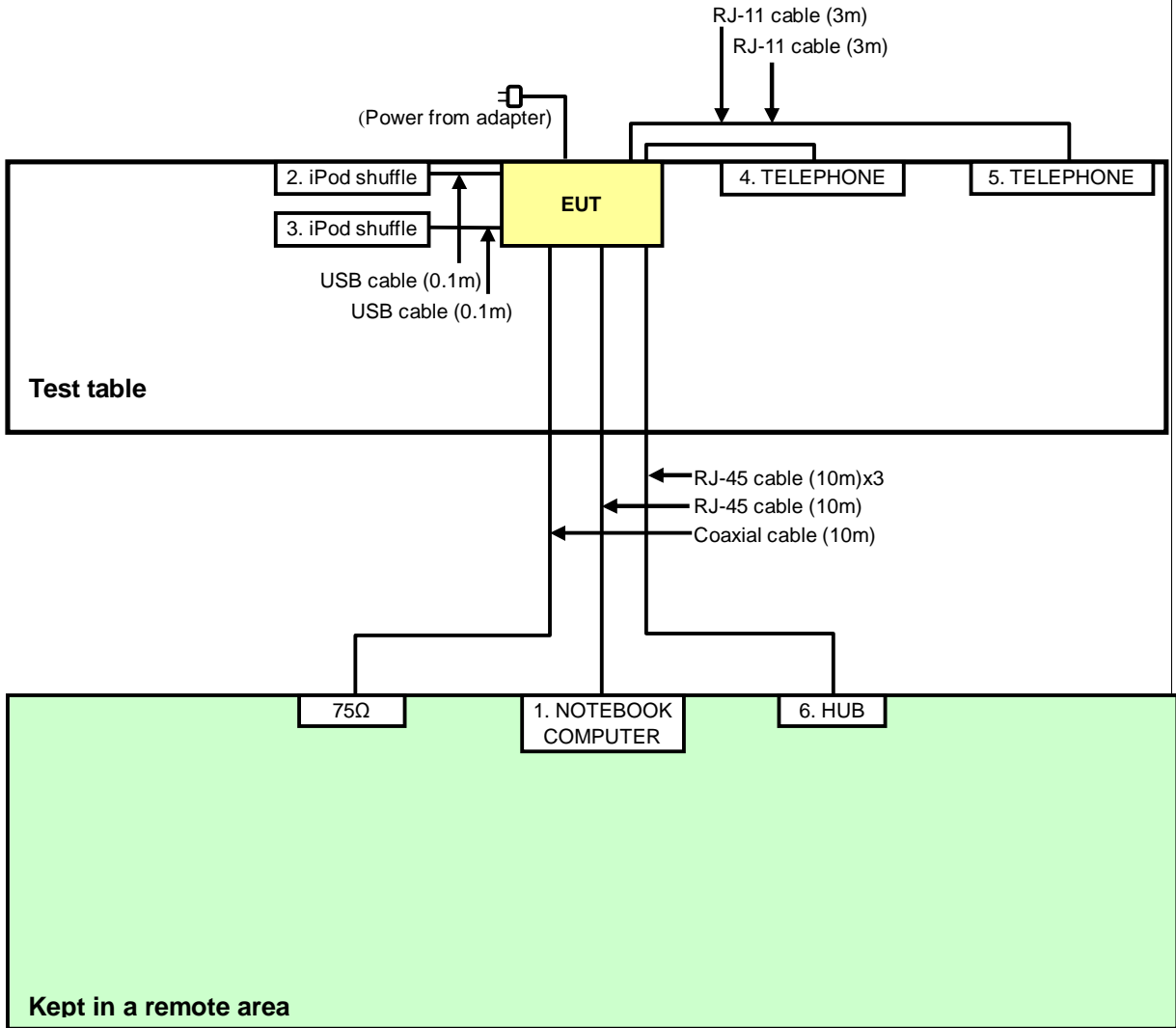
The communication partner run test program “MTool V2.0.0.3” to enable EUT under transmission/receiving condition continuously at specific channel frequency.

3.10 TEST CONFIGURATION

3.10.1 RADIATED EMISSION TEST CONFIGURATION



3.10.2 AC POWER LINE CONDUCTED EMISSION TEST CONFIGURATION



4. TEST 5G BAND 1 RESULTS

4.1 AC POWER LINE CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS

For this product which is designed to be connected to the AC power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed below limits table.

Frequency (MHz)	QP Limit (dBuV)	AV Limit (dBuV)
0.15~0.5	66~56	56~46
0.5~5	56	46
5~30	60	50

4.1.2 MEASURING INSTRUMENTS AND SETTING

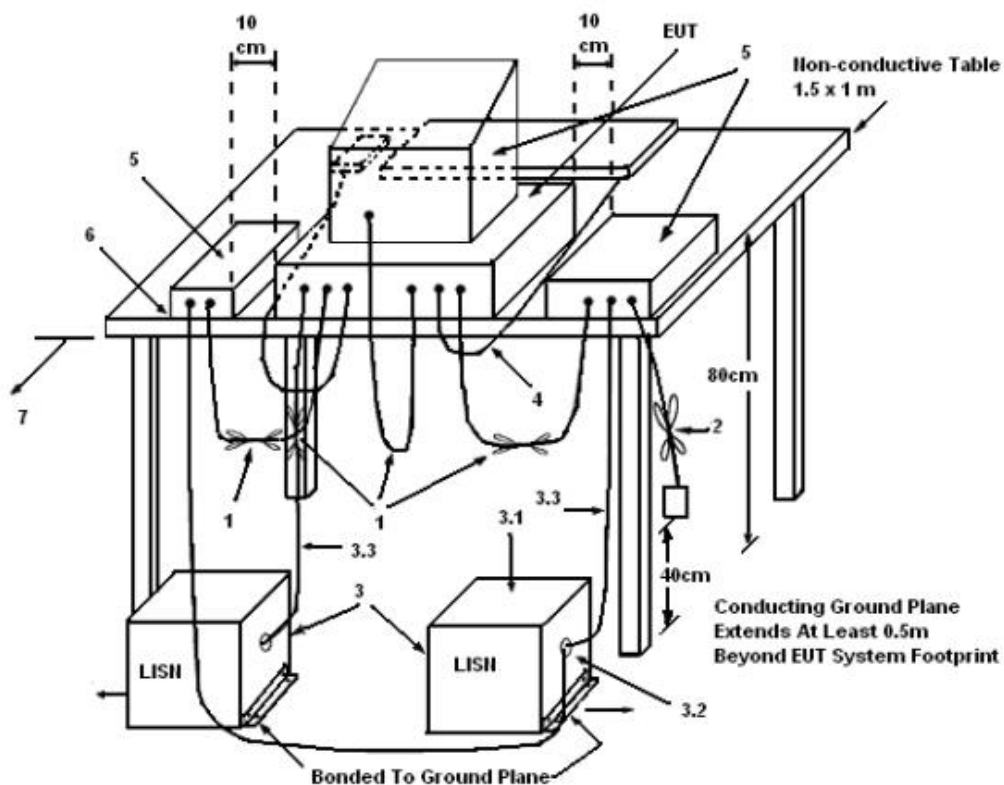
Please refer to section 5 of equipments list in this report. The following table is the setting of the receiver.

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

4.1.3 TEST PROCEDURES

1. Configure the EUT according to ANSI C63.10. The EUT or host of EUT has to be placed 0.4 meter far from the conducting wall of the shielding room and at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT or host of EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connected to the other LISNs. The LISN should provide 50uH/50ohms coupling impedance.
4. The frequency range from 150 kHz to 30 MHz was searched.
5. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. The measurement has to be done between each power line and ground at the power terminal.

4.1.4 TEST SETUP LAYOUT



LEGEND:

1. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
2. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
3. EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50 Ω . LISN can be placed on top of, or immediately beneath, reference ground plane.
 - (3.1) All other equipment powered from additional LISN(s).
 - (3.2) Multiple outlet strip can be used for multiple power cords of non-EUT equipment.
 - (3.3) LISN at least 80 cm from nearest part of EUT chassis.
4. Cables of hand-operated devices, such as keyboards, mice, etc., shall be placed as for normal use.
5. Non-EUT components of EUT system being tested.
6. Rear of EUT, including peripherals, shall all be aligned and flush with rear of tabletop.
7. Rear of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.



A D T

4.1.5 TEST DEVIATION

There is no deviation with the original standard.

4.1.6 EUT OPERATING DURING TEST

The EUT was placed on the test table and programmed in normal function.



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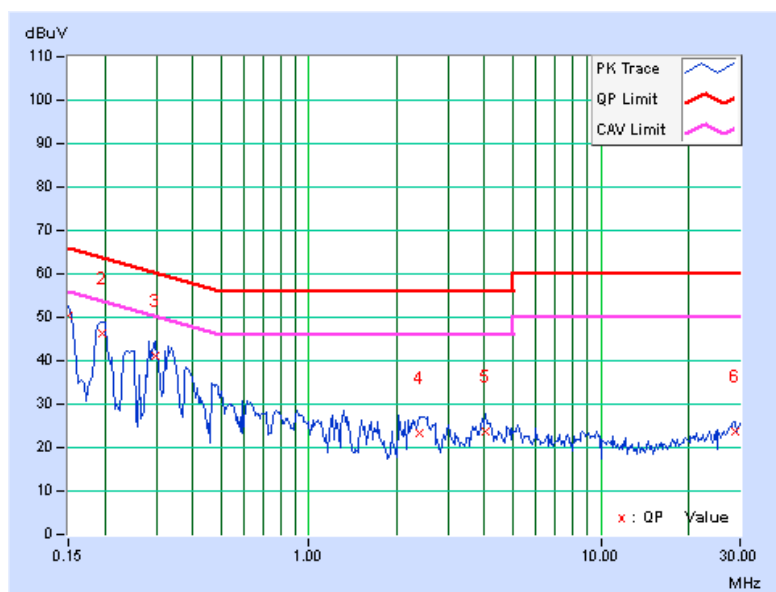
4.1.7 RESULTS OF AC POWER LINE CONDUCTED EMISSION MEASUREMENT

TEMPERATURE	25 °C	HUMIDITY	70 %
TEST ENGINEER	Mike Hsieh	PHASE	Line (L)
CONFIGURATIONS	802.11n(20MHz, MCS16) CH 48 / Ant.1 + Ant.2 + Ant.3		

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	0.15000	0.10	50.20	37.32	50.30	37.42	66.00	56.00	-15.70
2	0.19687	0.11	46.27	36.16	46.38	36.27	63.74	53.74	-17.36	-17.47
3	0.29844	0.12	41.02	30.51	41.14	30.63	60.29	50.29	-19.15	-19.66
4	2.37891	0.23	23.10	16.63	23.33	16.86	56.00	46.00	-32.67	-29.14
5	4.05469	0.33	23.43	19.28	23.76	19.61	56.00	46.00	-32.24	-26.39
6	28.80469	1.25	22.27	18.83	23.52	20.08	60.00	50.00	-36.48	-29.92

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





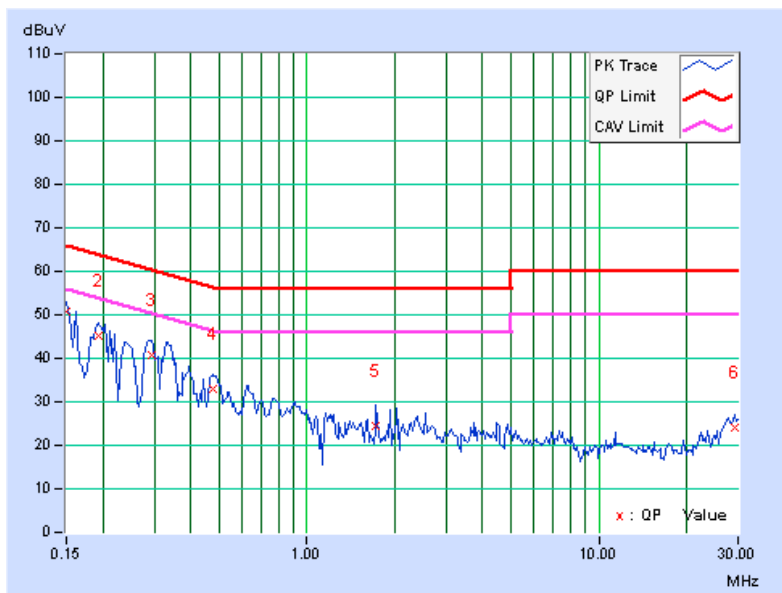
A D T

TEMPERATURE	25 °C	HUMIDITY	70 %
TEST ENGINEER	Mike Hsieh	PHASE	Neutral (N)
CONFIGURATIONS	802.11n(20MHz, MCS16) CH 48 / Ant.1 + Ant.2 + Ant.3		

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	0.15000	0.08	50.49	37.85	50.57	37.93	66.00	56.00	-15.43
2	0.19297	0.09	45.03	35.80	45.12	35.89	63.91	53.91	-18.79	-18.02
3	0.29453	0.10	40.82	31.85	40.92	31.95	60.40	50.40	-19.47	-18.44
4	0.47813	0.12	32.78	23.67	32.90	23.79	56.37	46.37	-23.47	-22.58
5	1.72266	0.18	24.30	22.37	24.48	22.55	56.00	46.00	-31.52	-23.45
6	29.10547	0.89	23.22	19.36	24.11	20.25	60.00	50.00	-35.89	-29.75

REMARKS:

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



4.2 EMISSION BANDWIDTH MEASUREMENT

4.2.1 LIMITS

No restriction limits

4.2.2 MEASURING INSTRUMENTS AND SETTING

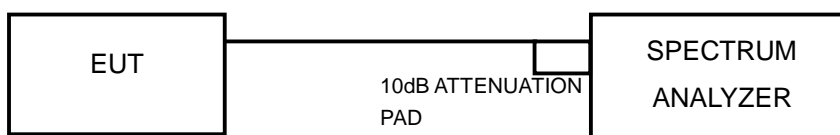
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Power Meter Parameter	Setting
Attenuation	Auto
Span Frequency	> 26dB Bandwidth
RB	approximately 1% of the emission bandwidth.
VB	> RBW.
Detector	peak
Trace	max hold
Sweep Time	Auto

4.2.3 TEST PROCEDURES

1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. Test was performed in accordance with Measurement of Digital Transmission Systems Operating under 789033 D01 General UNII Test Procedures v01 r03, in section "Emission bandwidth" , 09/26/2012
3. When measuring Emission bandwidth with multiple antenna systems, add every result of the values by mathematic formula.

4.2.4 TEST SETUP LAYOUT



4.2.5 TEST DEVIATION

There is no deviation with the original standard.

4.2.6 EUT OPERATING DURING TEST

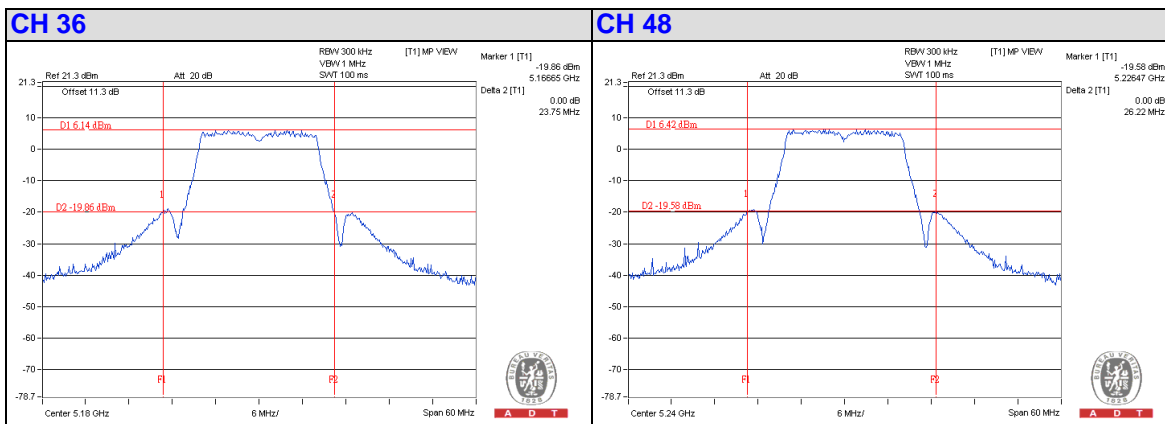
The EUT was programmed to be in continuously transmitting mode.

4.2.7 TEST RESULT OF EMISSION BANDWIDTH

FINAL TEST DATE	May 23, 2013	TEST SITE NO.	OVEN B
TEMPERATURE	25 °C	HUMIDITY	60 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11a

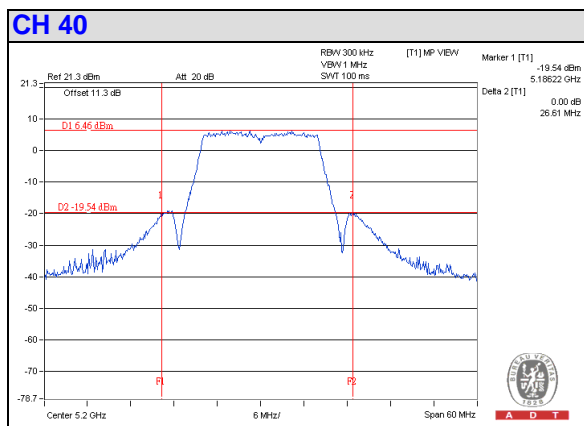
802.11a<Ant. 2>

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)
36	5180	23.75
48	5240	26.22



802.11a<Ant. 1>

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)
40	5200	26.61



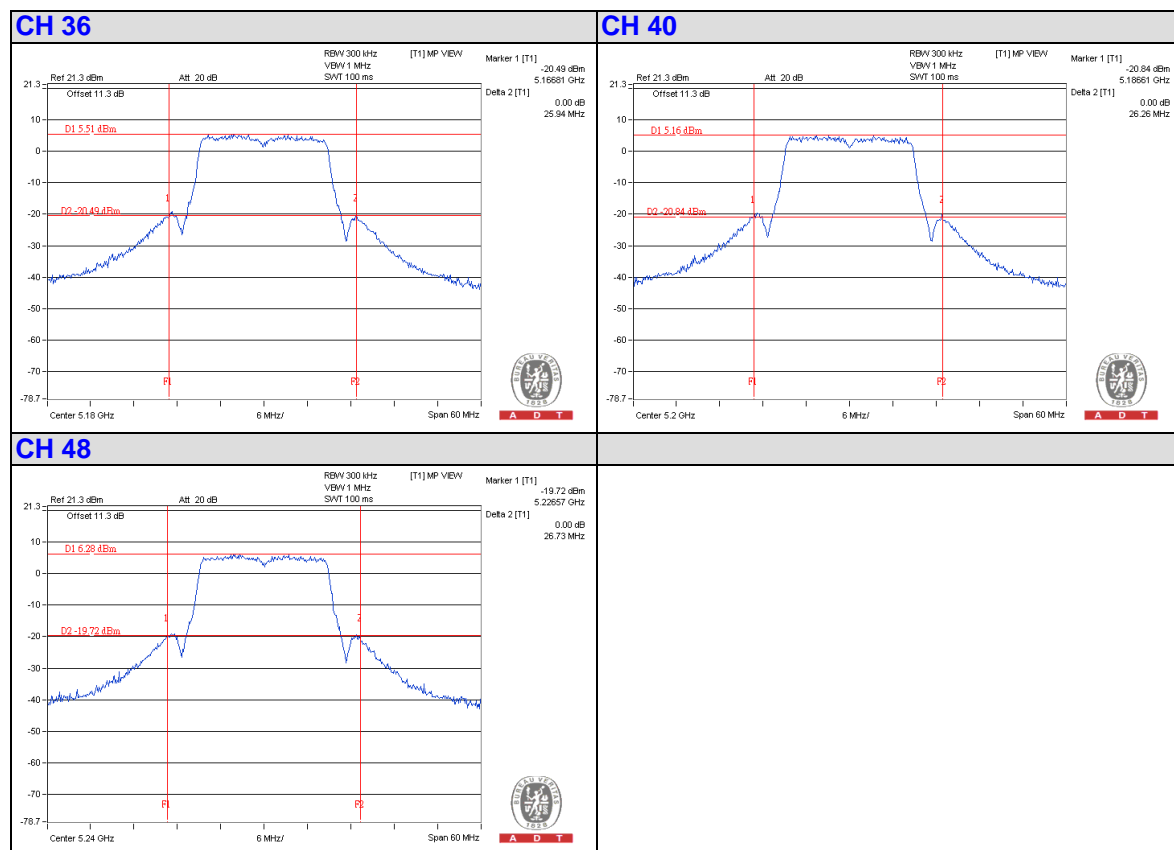


A D T

FINAL TEST DATE	May 23, 2013	TEST SITE NO.	OVEN B
TEMPERATURE	25 °C	HUMIDITY	60 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n (20MHz, MCS0)

802.11n(20MHz, MCS0)<Ant. 2>

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)
36	5180	25.94
40	5200	26.26
48	5240	26.73





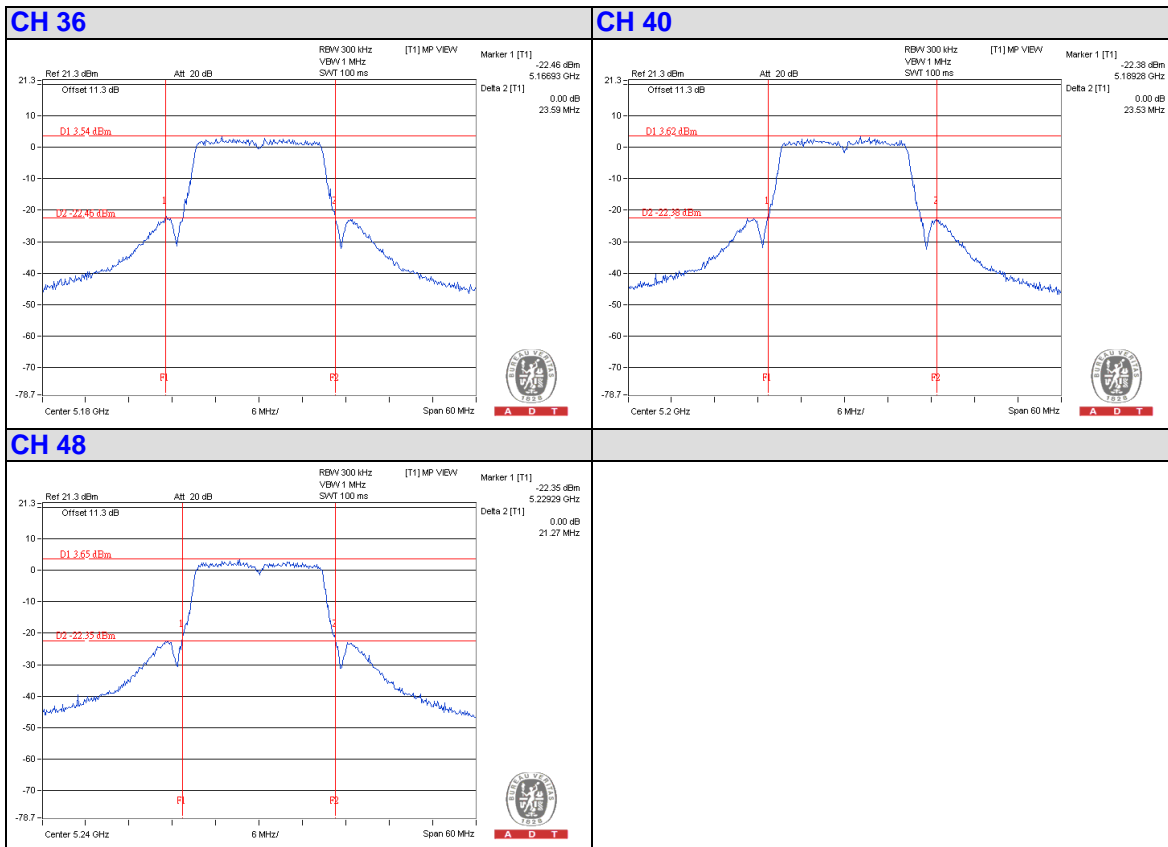
A D T

FINAL TEST DATE	May 23, 2013	TEST SITE NO.	OVEN B
TEMPERATURE	25 °C	HUMIDITY	60 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n (20MHz, MCS8)

802.11n(20MHz, MCS8)<Ant. 1+ Ant. 2>

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	
		Ant. 1	Ant. 2
36	5180	23.59	26.39
40	5200	23.53	23.55
48	5240	21.27	26.30

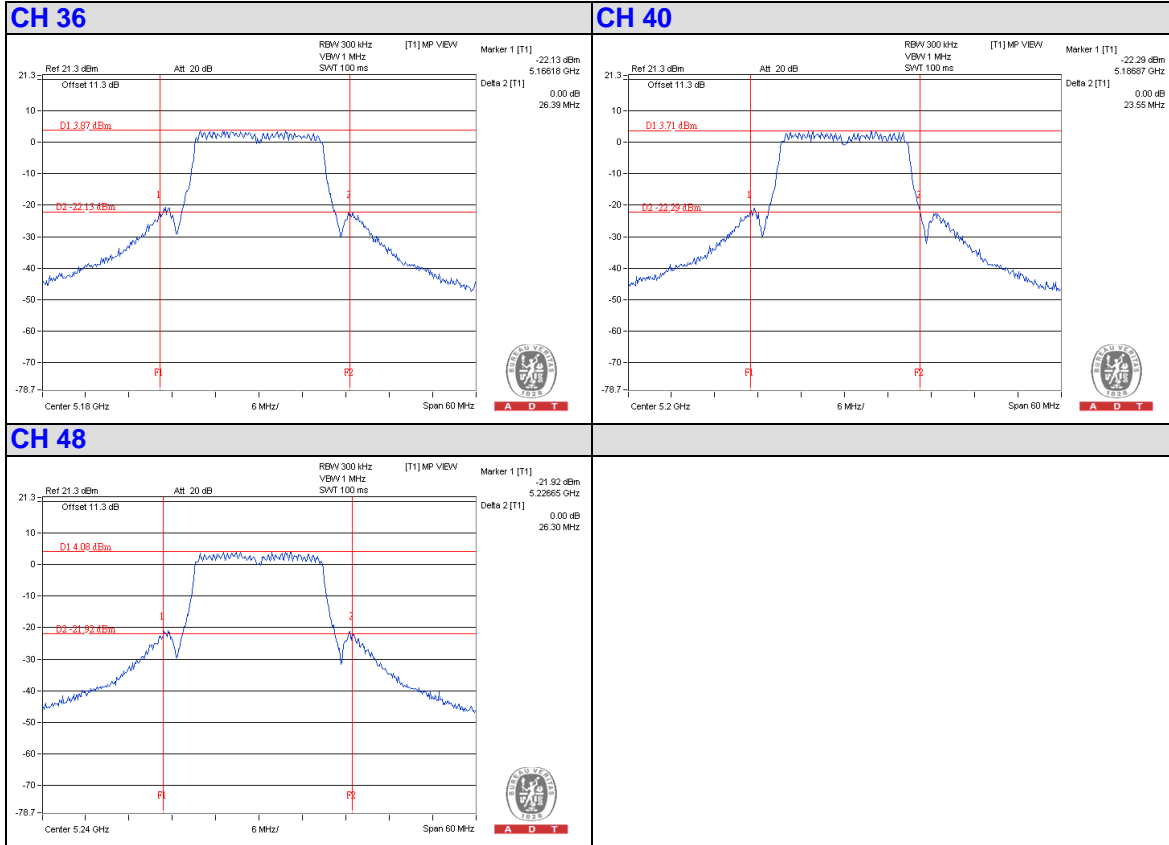
Ant. 1





A D T

Ant. 2





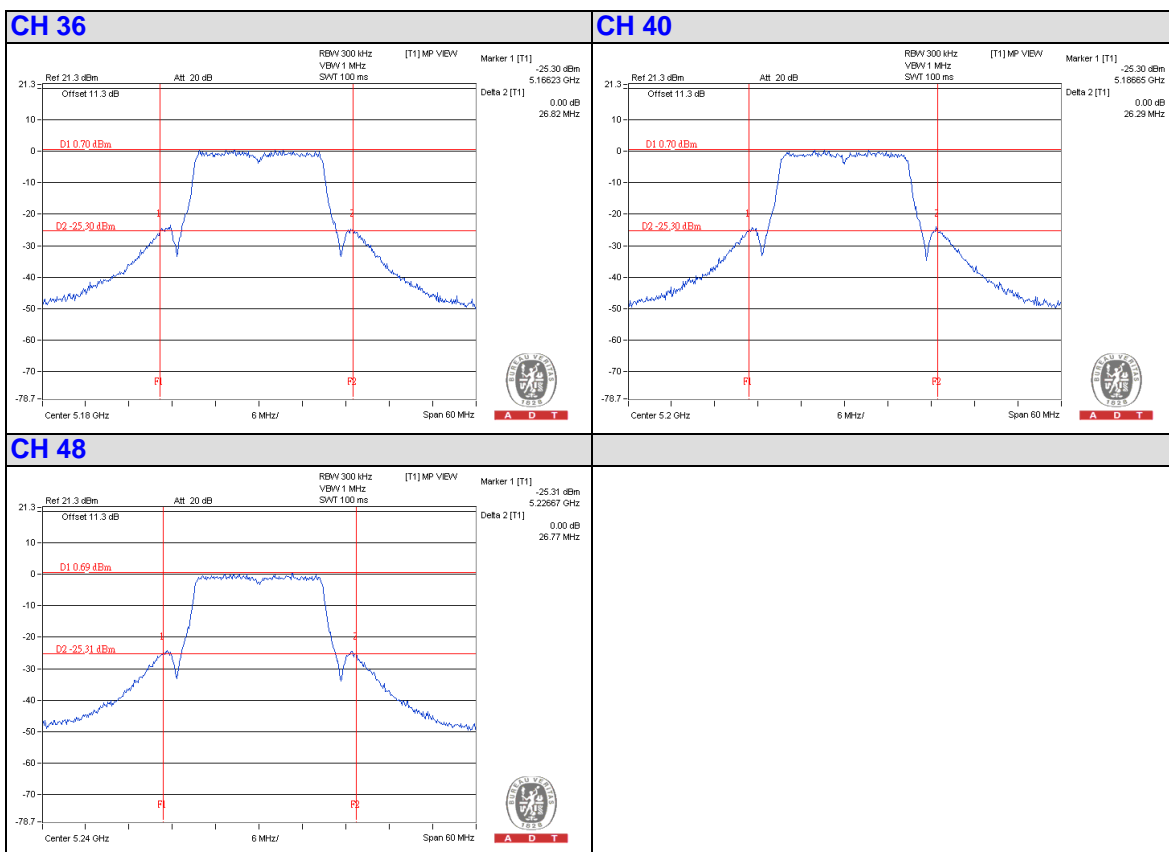
A D T

FINAL TEST DATE	May 24, 2013	TEST SITE NO.	OVEN B
TEMPERATURE	25 °C	HUMIDITY	60 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n (20MHz, MCS16)

802.11n(20MHz, MCS16)< Ant. 1+ Ant. 2+ Ant. 3>

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)		
		Ant. 1	Ant. 2	Ant. 3
36	5180	26.82	26.53	23.72
40	5200	26.29	24.50	26.44
48	5240	26.77	26.08	26.57

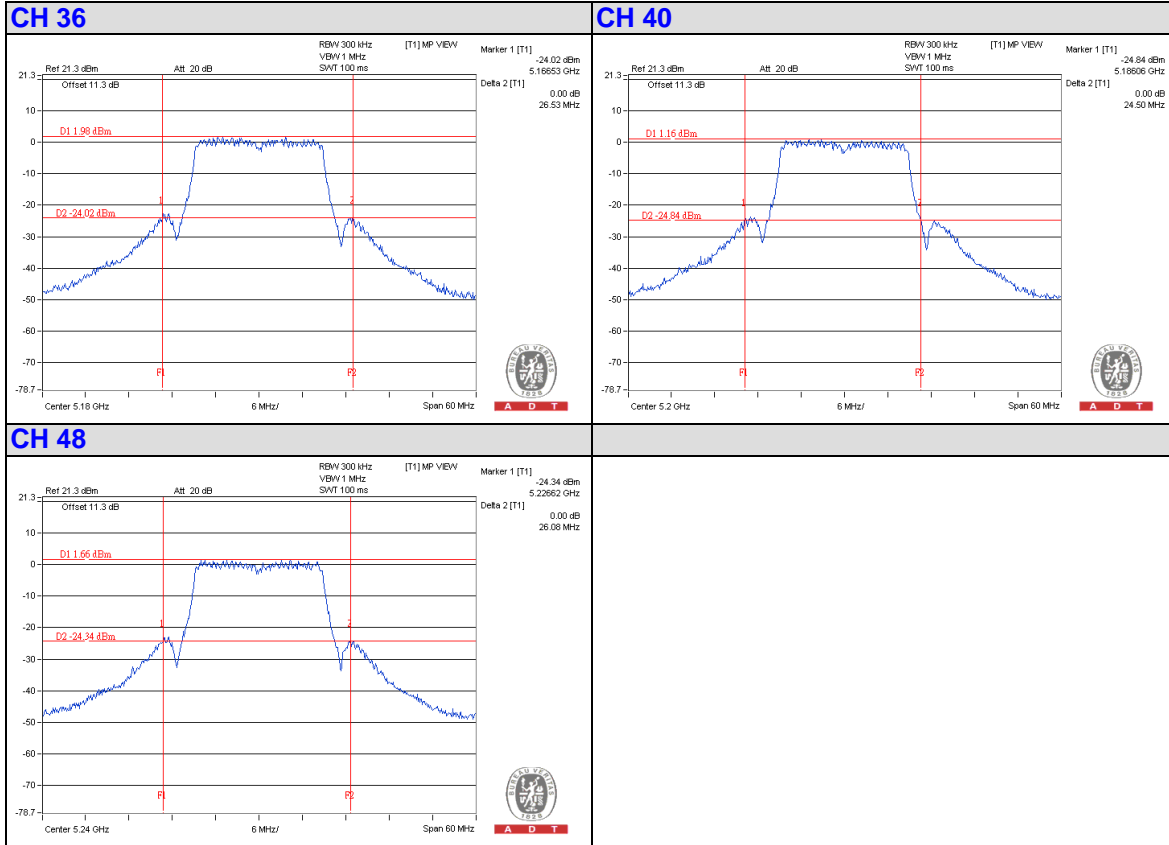
Ant. 1





A D T

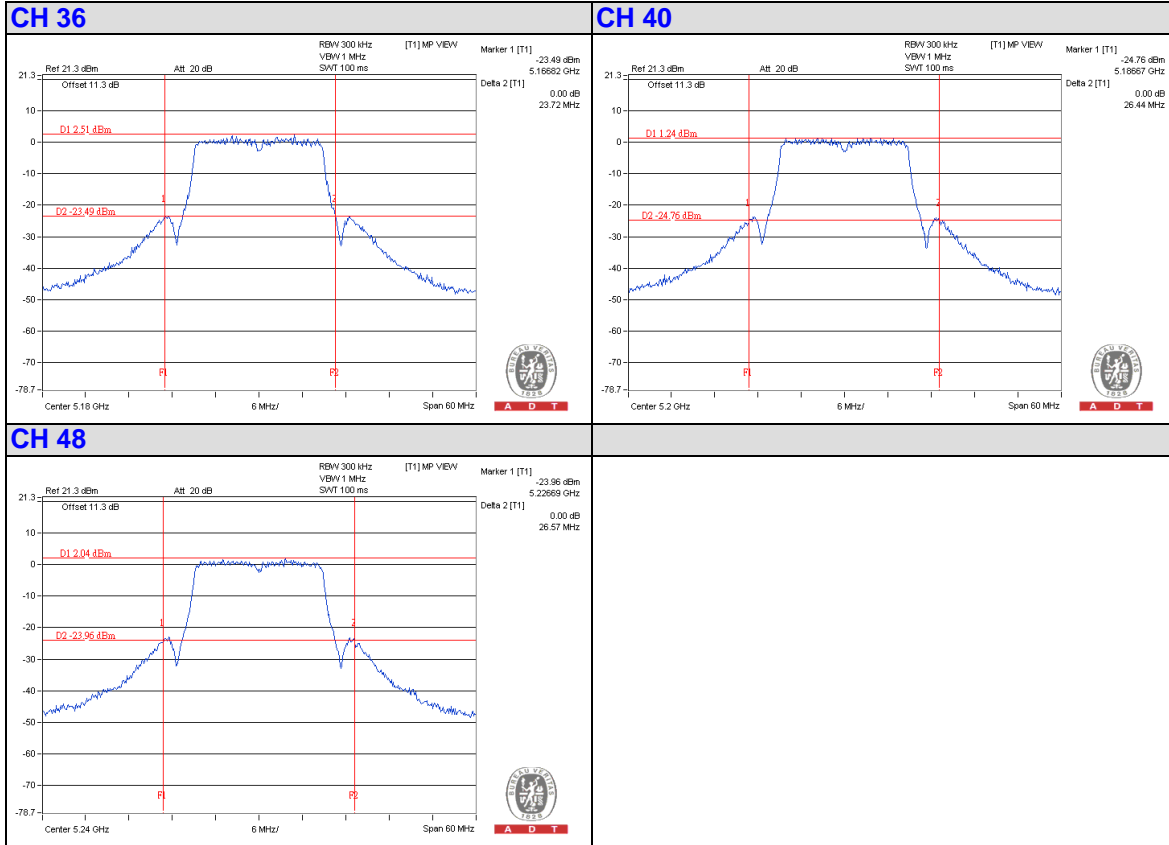
Ant. 2





A D T

Ant. 3



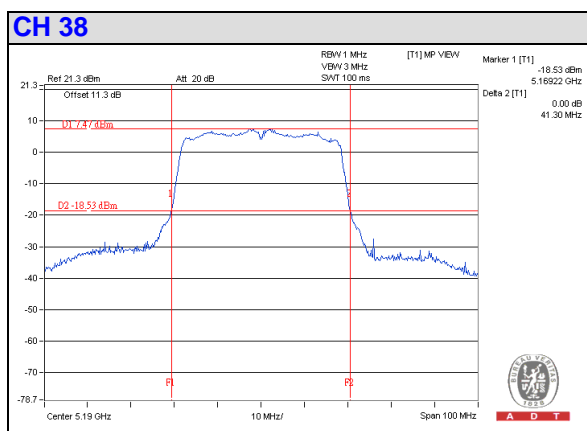


A D T

FINAL TEST DATE	May 23, 2013	TEST SITE NO.	OVEN B
TEMPERATURE	25 °C	HUMIDITY	60 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n (40MHz, MCS0)

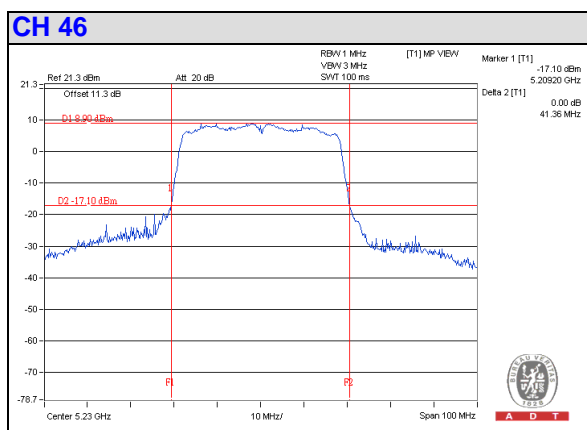
802.11n(40MHz, MCS0)<Ant. 3>

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)
38	5190	41.30



802.11n(40MHz, MCS0)<Ant. 2>

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)
46	5230	41.36





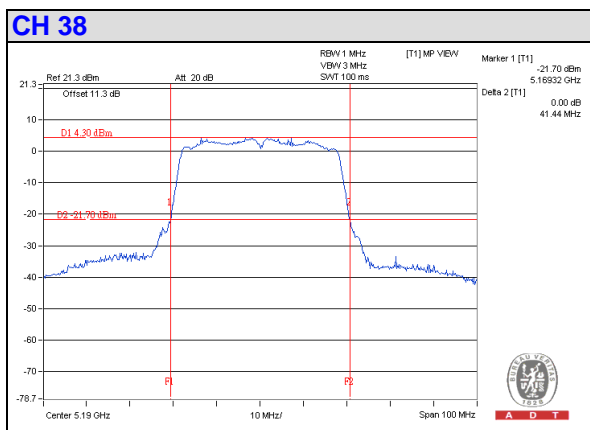
A D T

FINAL TEST DATE	May 24, 2013	TEST SITE NO.	OVEN B
TEMPERATURE	25 °C	HUMIDITY	60 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n (40MHz, MCS8)

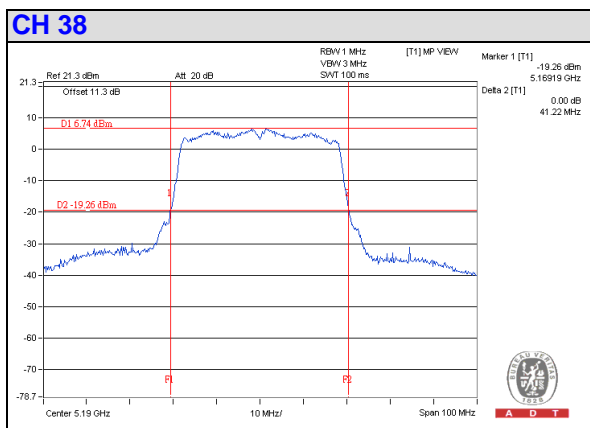
802.11n(40MHz, MCS8)<Ant. 1+ Ant. 3>

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	
		Ant. 1	Ant. 3
38	5190	41.44	41.22

Ant. 1



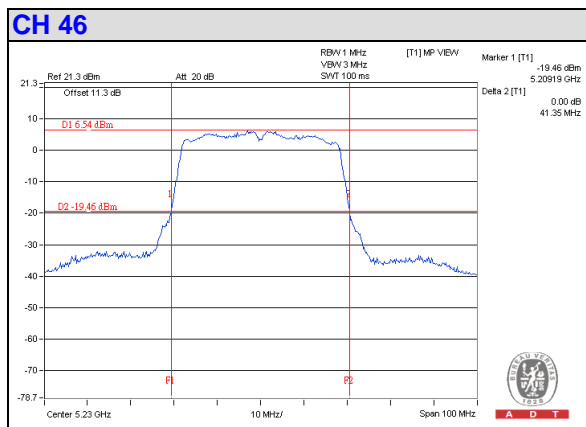
Ant. 3



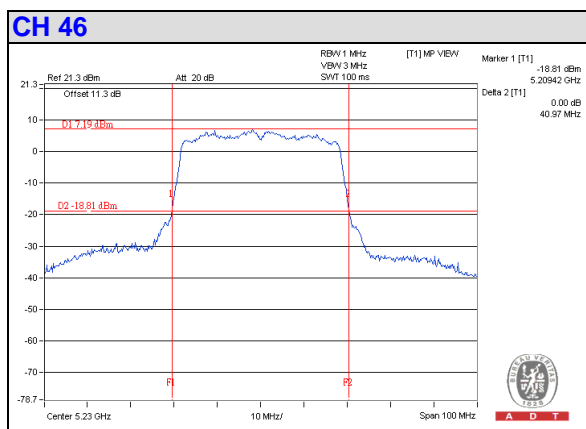
802.11n(40MHz, MCS8)<Ant. 1+ Ant. 2>

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	
		Ant. 1	Ant. 2
46	5230	41.35	40.97

Ant. 1



Ant. 2





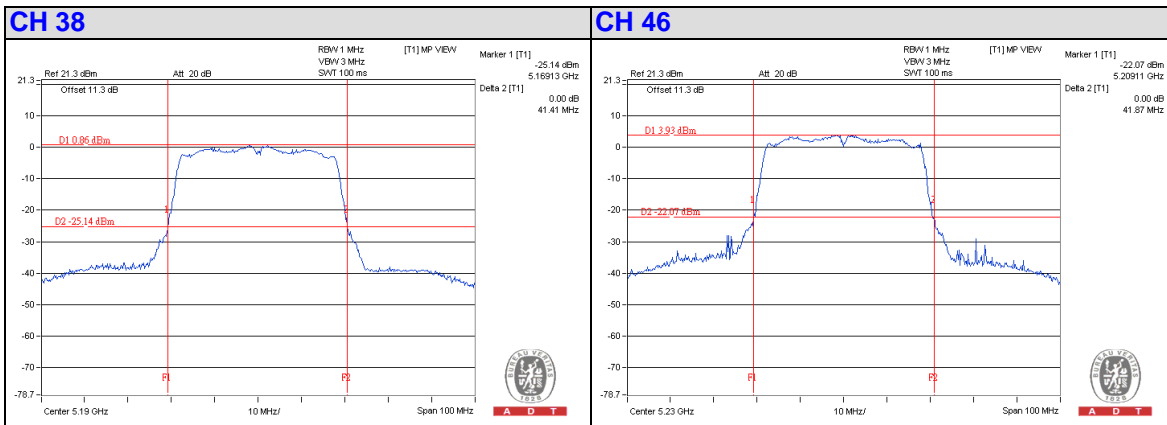
A D T

FINAL TEST DATE	May 24, 2013	TEST SITE NO.	OVEN B
TEMPERATURE	25 °C	HUMIDITY	60 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n (40MHz, MCS16)

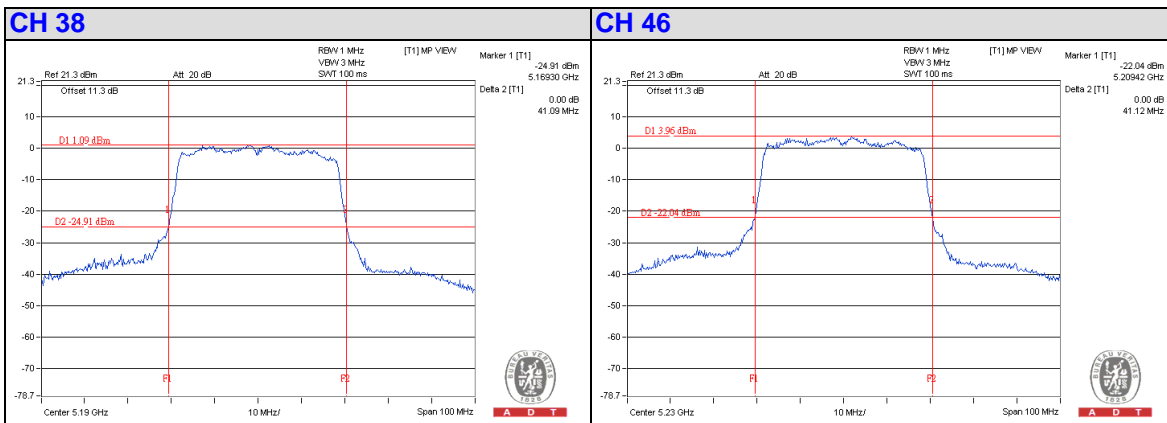
802.11n(40MHz, MCS16)< Ant. 1+ Ant. 2+ Ant. 3>

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)		
		Ant. 1	Ant. 2	Ant. 3
38	5190	41.41	41.09	41.23
46	5230	41.87	41.12	41.24

Ant. 1



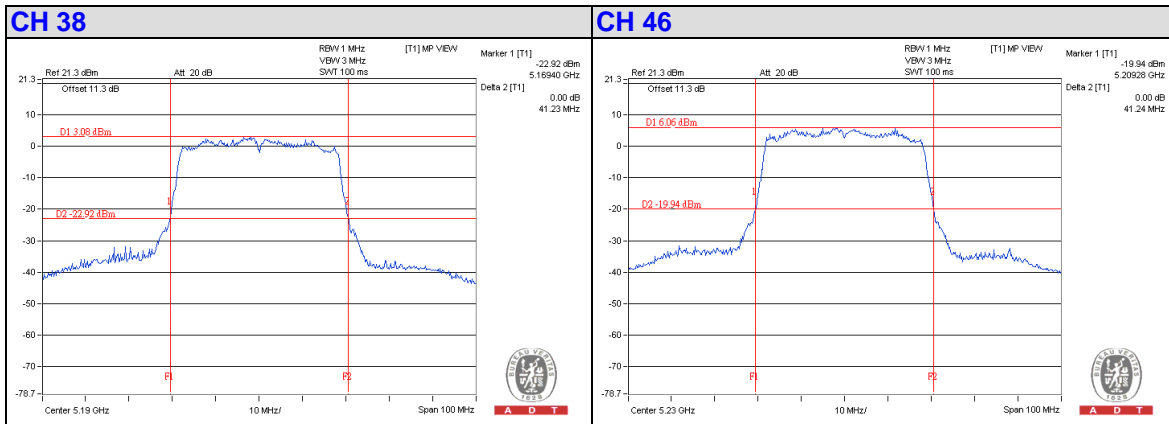
Ant. 2





A D T

Ant. 3



4.3 TRANSMIT POWER MEASUREMENT

4.3.1 LIMITS

FREQUENCY BAND	LIMIT
5.15 ~ 5.25GHz	The lesser of 50mW (17dBm) or 4dBm + 10logB

NOTE: Where B is the 26dB emission bandwidth in MHz.

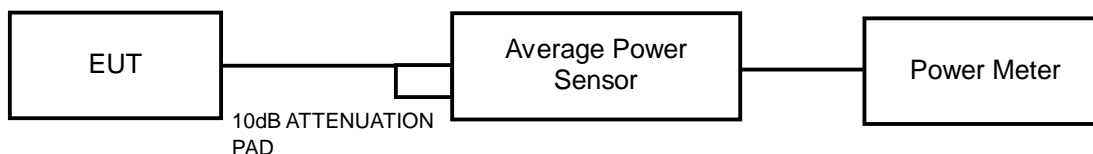
4.3.2 MEASURING INSTRUMENTS AND SETTING

Please refer to section 5 of equipments list in this report.

4.3.3 TEST PROCEDURES

The average power sensor was used on the output port of the EUT. A power meter was used to read the response of the average power sensor and enable the trigger function to get the all on time transmission. Record the average power level.

4.3.4 TEST SETUP LAYOUT



4.3.5 TEST DEVIATION

There is no deviation with the original standard.

4.3.6 EUT OPERATING DURING TEST

The EUT was programmed to be in continuously transmitting mode.



A D T

4.3.7 TEST RESULT OF TRANSMIT POWER

FINAL TEST DATE	May 23, 2013	TEST SITE NO.	OVEN B
TEMPERATURE	25 °C	HUMIDITY	60 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11a
DUTY CYCLE	98.8%		

The power meter can be triggered/signal-gated such that the power is measured only when the EUT is transmitting at its maximum power control level.

802.11a<Ant. 1 >

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	42.658	16.30	17	PASS
40	5200	44.875	16.52	17	PASS
48	5240	45.186	16.55	17	PASS

802.11a< Ant. 2 >

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	45.499	16.58	17	PASS
40	5200	44.771	16.51	17	PASS
48	5240	45.082	16.54	17	PASS

802.11a< Ant. 3>

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	43.954	16.43	17	PASS
40	5200	44.361	16.47	17	PASS
48	5240	45.920	16.62	17	PASS



A D T

FINAL TEST DATE	May 23, 2013	TEST SITE NO.	OVEN B
TEMPERATURE	25 °C	HUMIDITY	60 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n (20MHz, MCS0)
DUTY CYCLE	98.9%		

The power meter can be triggered/signal-gated such that the power is measured only when the EUT is transmitting at its maximum power control level.

802.11n(20MHz, MCS0)<Ant. 1 >

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	44.566	16.49	17	PASS
40	5200	44.055	16.44	17	PASS
48	5240	44.566	16.49	17	PASS

802.11n(20MHz, MCS0)< Ant. 2 >

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	45.186	16.55	17	PASS
40	5200	44.978	16.53	17	PASS
48	5240	44.771	16.51	17	PASS

802.11n(20MHz, MCS0)< Ant. 3>

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	44.259	16.46	17	PASS
40	5200	44.771	16.51	17	PASS
48	5240	43.853	16.42	17	PASS



A D T

FINAL TEST DATE	May 23 to 24, 2013	TEST SITE NO.	OVEN B
TEMPERATURE	25 °C	HUMIDITY	60 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n (20MHz, MCS8)
DUTY CYCLE	98.4%		

The power meter can be triggered/signal-gated such that the power is measured only when the EUT is transmitting at its maximum power control level.

802.11n(20MHz, MCS8)<Ant. 1+ Ant. 2>

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		Ant. 1	Ant. 2				
36	5180	13.16	14.17	46.823	16.70	17	PASS
40	5200	13.01	13.95	44.830	16.52	17	PASS
48	5240	13.64	13.52	45.612	16.59	17	PASS

802.11n(20MHz, MCS8)< Ant. 1+ Ant. 3>

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		Ant. 1	Ant. 3				
36	5180	13.31	13.95	46.260	16.65	17	PASS
40	5200	13.21	13.72	44.491	16.48	17	PASS
48	5240	13.29	13.68	44.665	16.50	17	PASS

802.11n(20MHz, MCS8)< Ant. 2+ Ant. 3>

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		Ant. 2	Ant. 3				
36	5180	13.49	13.52	44.827	16.52	17	PASS
40	5200	13.41	13.49	44.264	16.46	17	PASS
48	5240	12.92	14.06	45.056	16.54	17	PASS



A D T

FINAL TEST DATE	May 24, 2013	TEST SITE NO.	OVEN B
TEMPERATURE	25 °C	HUMIDITY	60 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n (20MHz, MCS16)
DUTY CYCLE	97.5%		

The power meter can be triggered/signal-gated such that the power is measured only when the EUT is transmitting at its maximum power control level.

802.11n(20MHz, MCS16)< Ant. 1+ Ant. 2+ Ant. 3>

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		Ant. 1	Ant. 2	Ant. 3				
36	5180	11.45	11.82	11.95	44.837	16.52	17	PASS
40	5200	11.46	11.64	11.98	44.360	16.47	17	PASS
48	5240	11.61	11.66	12.42	46.601	16.68	17	PASS



A D T

FINAL TEST DATE	May 23, 2013	TEST SITE NO.	OVEN B
TEMPERATURE	25 °C	HUMIDITY	60 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n (40MHz, MCS0)
DUTY CYCLE	98.2%		

The power meter can be triggered/signal-gated such that the power is measured only when the EUT is transmitting at its maximum power control level.

802.11n(40MHz, MCS0)<Ant. 1>

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
38	5190	13.709	11.37	17	PASS
46	5230	46.238	16.65	17	PASS

802.11n(40MHz, MCS0)< Ant. 2 >

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
38	5190	7.852	8.95	17	PASS
46	5230	48.529	16.86	17	PASS

802.11n(40MHz, MCS0)< Ant. 3>

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
38	5190	27.290	14.36	17	PASS
46	5230	45.920	16.62	17	PASS



A D T

FINAL TEST DATE	May 24, 2013	TEST SITE NO.	OVEN B
TEMPERATURE	25 °C	HUMIDITY	60 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n (40MHz, MCS8)
DUTY CYCLE	97.3%		

The power meter can be triggered/signal-gated such that the power is measured only when the EUT is transmitting at its maximum power control level.

802.11n(40MHz, MCS8)<Ant. 1+ Ant. 2>

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		Ant. 1	Ant. 2				
38	5190	7.86	8.72	13.556	11.32	17	PASS
46	5230	13.58	13.62	45.817	16.61	17	PASS

802.11n(40MHz, MCS8)< Ant. 1+ Ant. 3>

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		Ant. 1	Ant. 3				
38	5190	10.55	11.74	26.278	14.20	17	PASS
46	5230	13.35	13.76	45.395	16.57	17	PASS

802.11n(40MHz, MCS8)< Ant. 2+ Ant. 3>

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		Ant. 2	Ant. 3				
38	5190	8.83	10.18	18.061	12.57	17	PASS
46	5230	13.25	13.91	45.739	16.60	17	PASS



A D T

FINAL TEST DATE	May 24, 2013	TEST SITE NO.	OVEN B
TEMPERATURE	25 °C	HUMIDITY	60 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n (40MHz, MCS16)
DUTY CYCLE	95.9%		

The power meter can be triggered/signal-gated such that the power is measured only when the EUT is transmitting at its maximum power control level.

802.11n(40MHz, MCS16)< Ant. 1+ Ant. 2+ Ant. 3>

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)			TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		Ant. 1	Ant. 2	Ant. 3				
38	5190	6.93	7.51	8.71	17.998	12.55	17	PASS
46	5230	11.33	12.31	12.48	48.306	16.84	17	PASS

4.4 POWER SPECTRAL DENSITY MEASUREMENT

4.4.1 LIMITS

FREQUENCY BAND	LIMIT
5.15 ~ 5.25GHz	4 dBm/MHz

4.4.2 MEASURING INSTRUMENTS AND SETTING

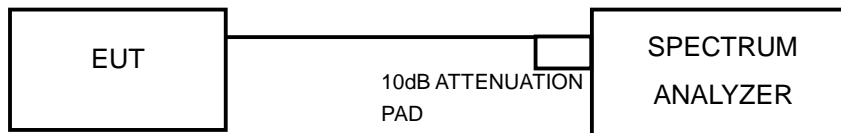
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	Encompass the entire emission bandwidth (EBW) of the signal.
RB	1 MHz.
VB	≥ 3 MHz
Detector	RMS
Sweep Time	Auto
Number of points in sweep	≥ 2 Span / RBW
Sweep triggering	free run
Trace average	100 times

4.4.3 TEST PROCEDURES

- Test was performed in accordance with Measurement of Digital Transmission Systems Operating under 789033 D01 General UNII Test Procedures v01 r03, in section "Maximum conducted output power Method SA-2" , 09/26/2012.
- The transmitter output (antenna port) was connected to the spectrum analyzer.
- Measure the duty cycle, x , of the transmitter output signal
 - Centre Frequency: The centre frequency of the channel under test
 - Resolution BW: \geq EBW; Video BW: \geq RBW
 - Frequency Span: Zero
 - Detector Mode: Peak; Trace Mode: View
 - The observed duty cycle of the transmitter (Tx on / (Tx on + Tx off)) shall be noted as x ($0 < x \leq 1$), and recorded in the test report.
- Measure the PPSD from the RF output port of the EUT in continuously transmitting mode
- Use the setting under Section 4.4.2 to measure the PPSD
- Use the peak search function on the spectrum analyzer to find the peak of the spectrum, and the result is the PPSD.
- The PPSD = $P+10*\log(1/x)$, where P is the power density measured in (6), and x is the duty cycle of the EUT in continuously transmitting mode. For example, add $10 \log(1/0.25) = 6$ dB if the duty cycle is 25 percent
- When measuring PPSD with multiple antenna systems, add every result of the values by mathematic formula.

4.4.4 TEST SETUP LAYOUT



4.4.5 TEST DEVIATION

There is no deviation with the original standard.

4.4.6 EUT OPERATING DURING TEST

The EUT was programmed to be in continuously transmitting mode.



A D T

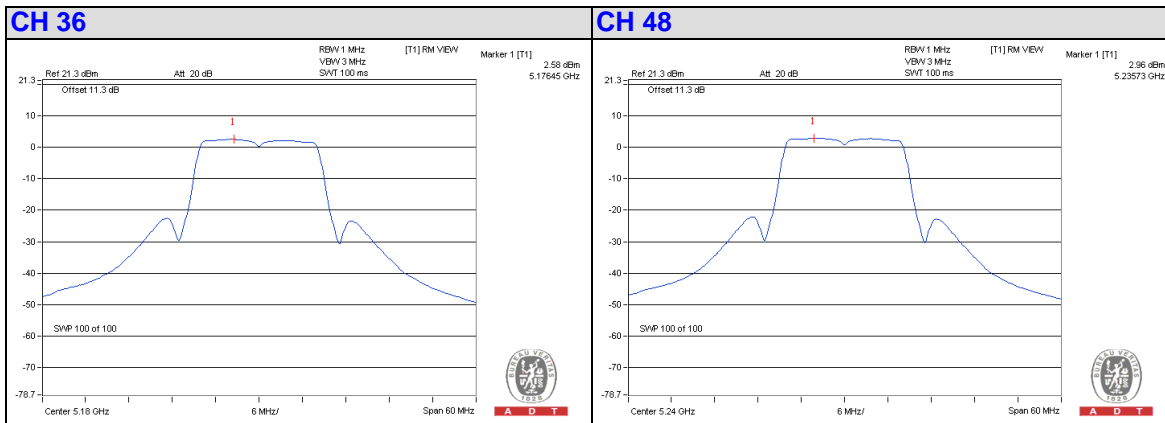
4.4.7 TEST RESULT OF POWER SPECTRAL DENSITY

FINAL TEST DATE	May 23, 2013	TEST SITE NO.	OVEN B
TEMPERATURE	25 °C	HUMIDITY	60 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11a
DUTY CYCLE	98.8%	DUTY FACTOR	0.05dB

802.11a< Ant. 2>

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	TOTAL POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
36	5180	2.58	2.63	4	PASS
48	5240	2.96	3.01	4	PASS

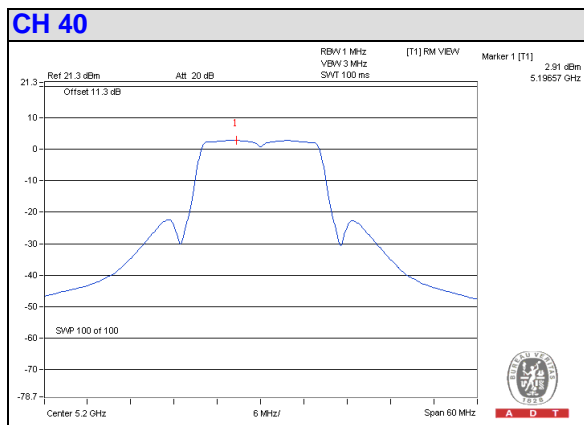
Power Density + duty factor = Total Power Density



802.11a< Ant. 1>

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	TOTAL POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
40	5200	2.91	2.96	4	PASS

Power Density + duty factor = Total Power Density





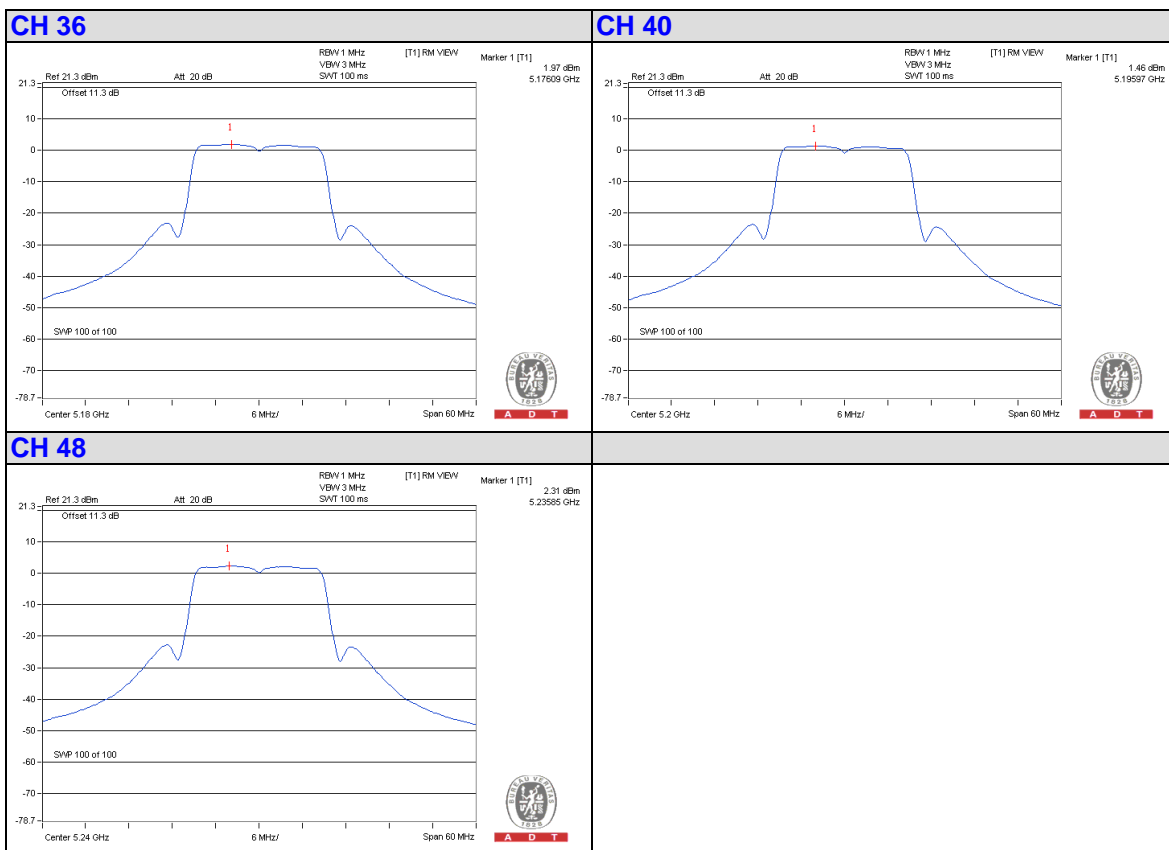
A D T

FINAL TEST DATE	May 23, 2013	TEST SITE NO.	OVEN B
TEMPERATURE	25 °C	HUMIDITY	60 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n (20MHz, MCS0)
DUTY CYCLE	98.9%	DUTY FACTOR	0.05dB

802.11n(20MHz, MCS0)< Ant. 2 >

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	TOTAL POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
36	5180	1.97	2.02	4	PASS
40	5200	1.46	1.51	4	PASS
48	5240	2.31	2.36	4	PASS

Power Density + duty factor = Total Power Density





A D T

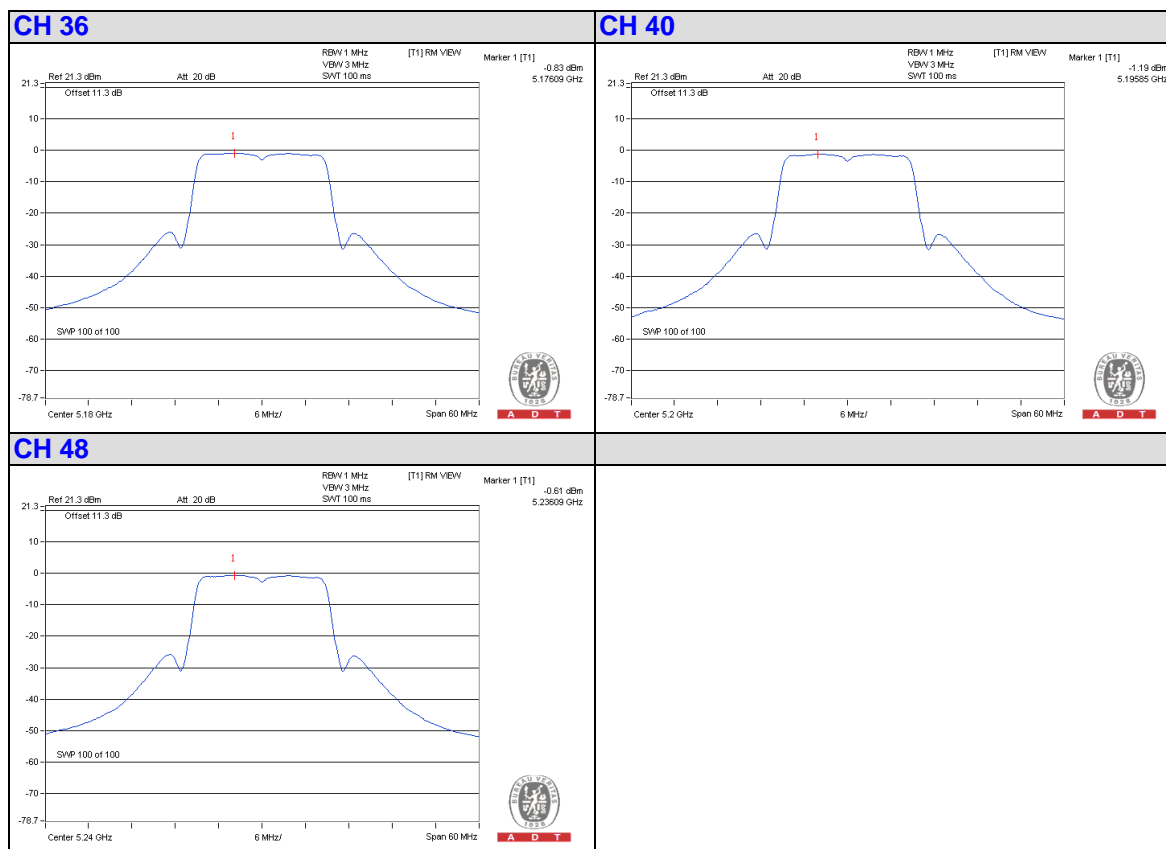
FINAL TEST DATE	May 23, 2013	TEST SITE NO.	OVEN B
TEMPERATURE	25 °C	HUMIDITY	60 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n (20MHz, MCS8)
DUTY CYCLE	98.4%	DUTY FACTOR	0.07dB

802.11n(20MHz, MCS8)<Ant. 1+ Ant. 2>

CHANNEL	FREQUENCY (MHz)	PSD (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS/FAIL
		Ant. 1	Ant. 2			
36	5180	-0.84	-0.60	2.36	4	PASS
40	5200	-1.19	-1.08	1.95	4	PASS
48	5240	-0.63	-0.46	2.54	4	PASS

NOTE: 1. Power Density + duty factor = Total Power Density
 2. The PSD values were recorded per KDB662911 "In-band Power Spectral Density Measurement" reference only item (1) procedure. Below plots were for reference only.

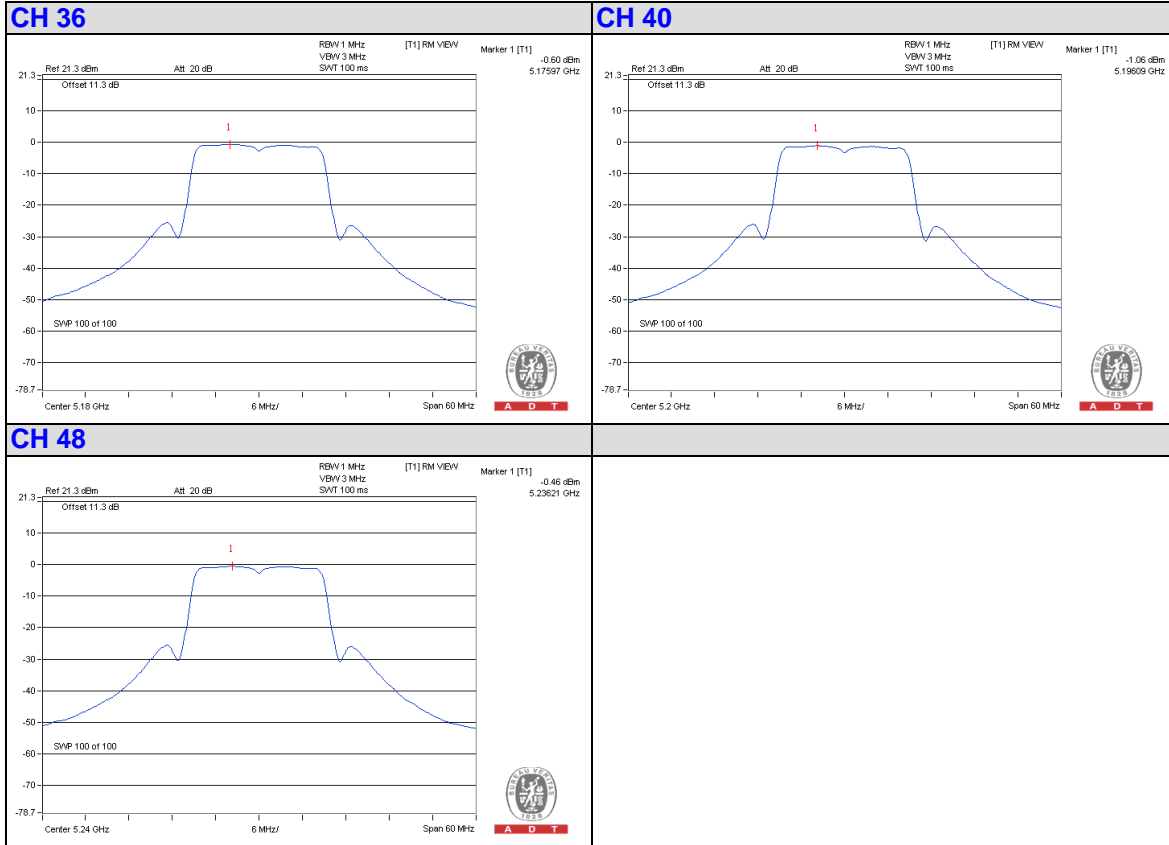
Ant. 1





A D T

Ant. 2





A D T

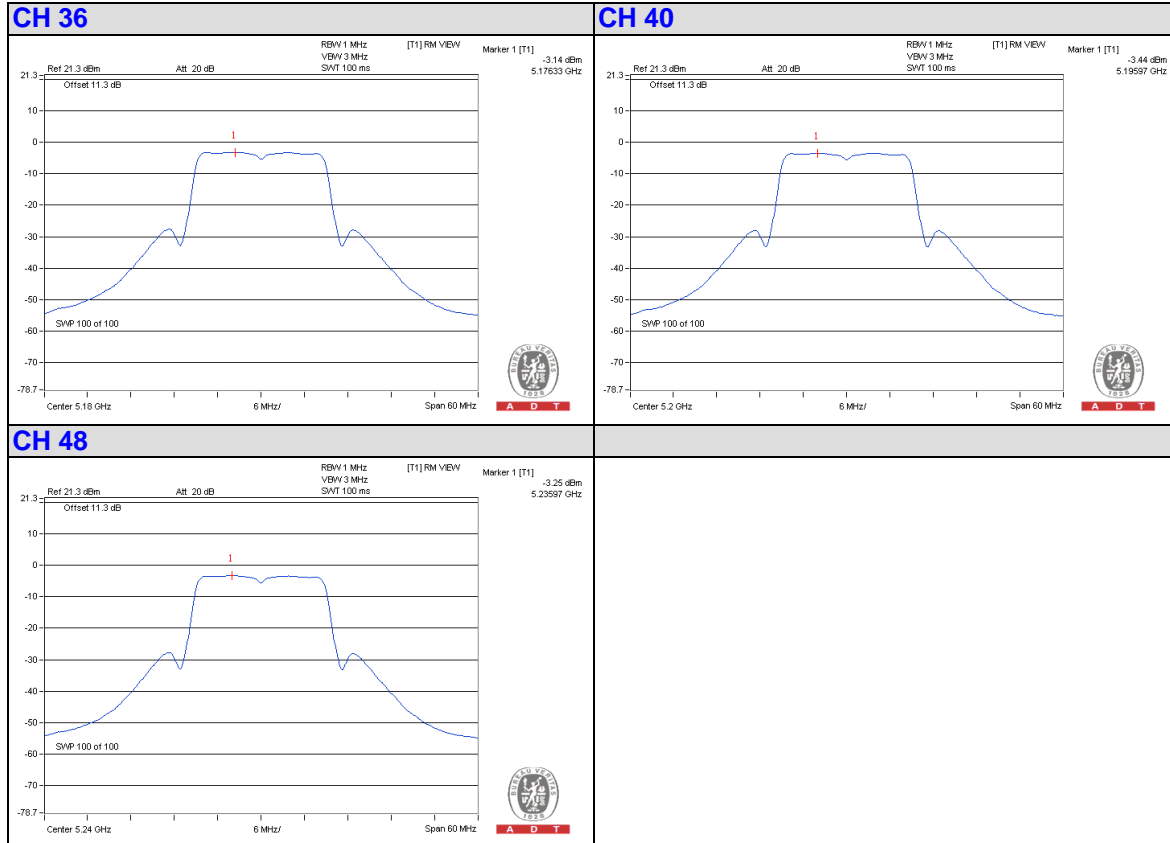
FINAL TEST DATE	May 24, 2013	TEST SITE NO.	OVEN B
TEMPERATURE	25 °C	HUMIDITY	60 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n (20MHz, MCS16)
DUTY CYCLE	97.5%	DUTY FACTOR	0.11dB

802.11n(20MHz, MCS16)< Ant. 1+ Ant. 2+ Ant. 3>

CHANNEL	FREQUENCY (MHz)	PSD (dBm)			TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS/FAIL
		Ant. 1	Ant. 2	Ant. 3			
36	5180	-3.16	-2.73	-2.60	2.06	4	PASS
40	5200	-3.47	-3.31	-2.67	1.75	4	PASS
48	5240	-3.25	-2.97	-2.46	2.00	4	PASS

NOTE: 1. Power Density + duty factor = Total Power Density
 2. The PSD values were recorded per KDB662911 "In-band Power Spectral Density Measurement" reference only item (1) procedure. Below plots were for reference only.

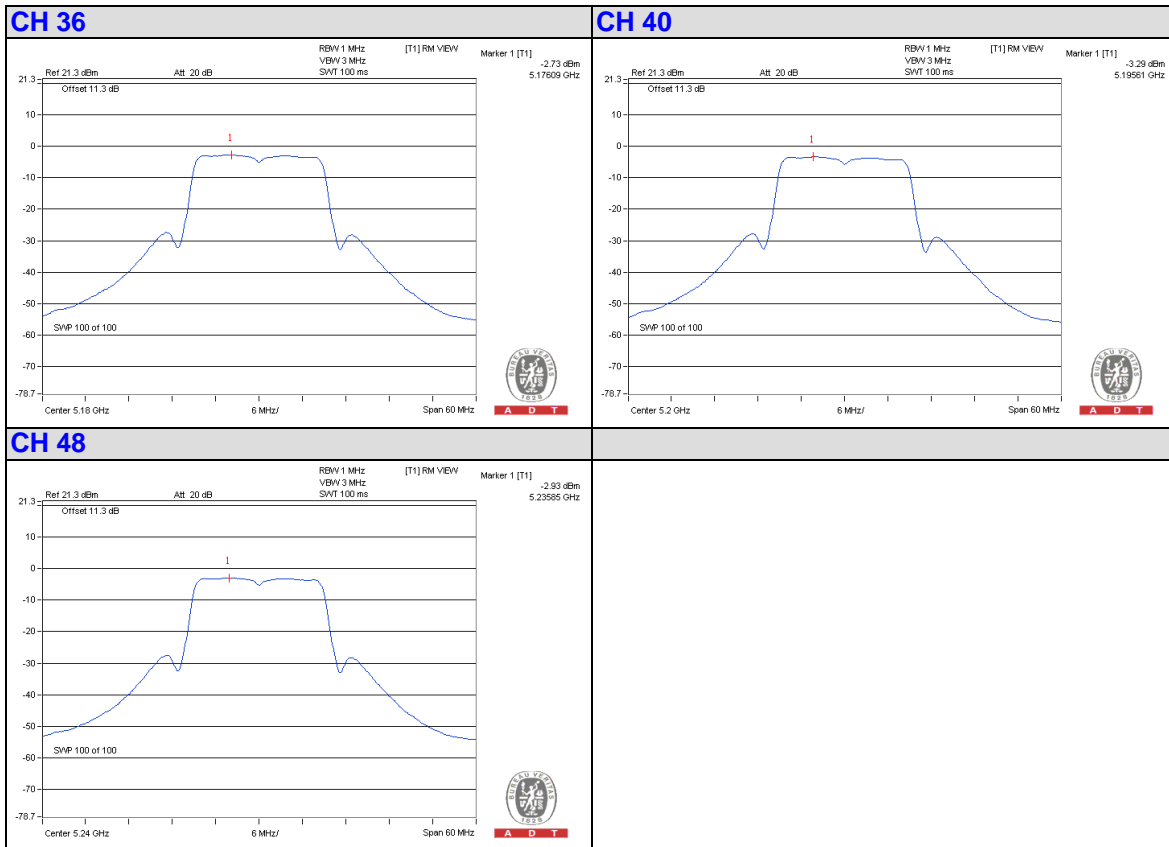
Ant. 1





A D T

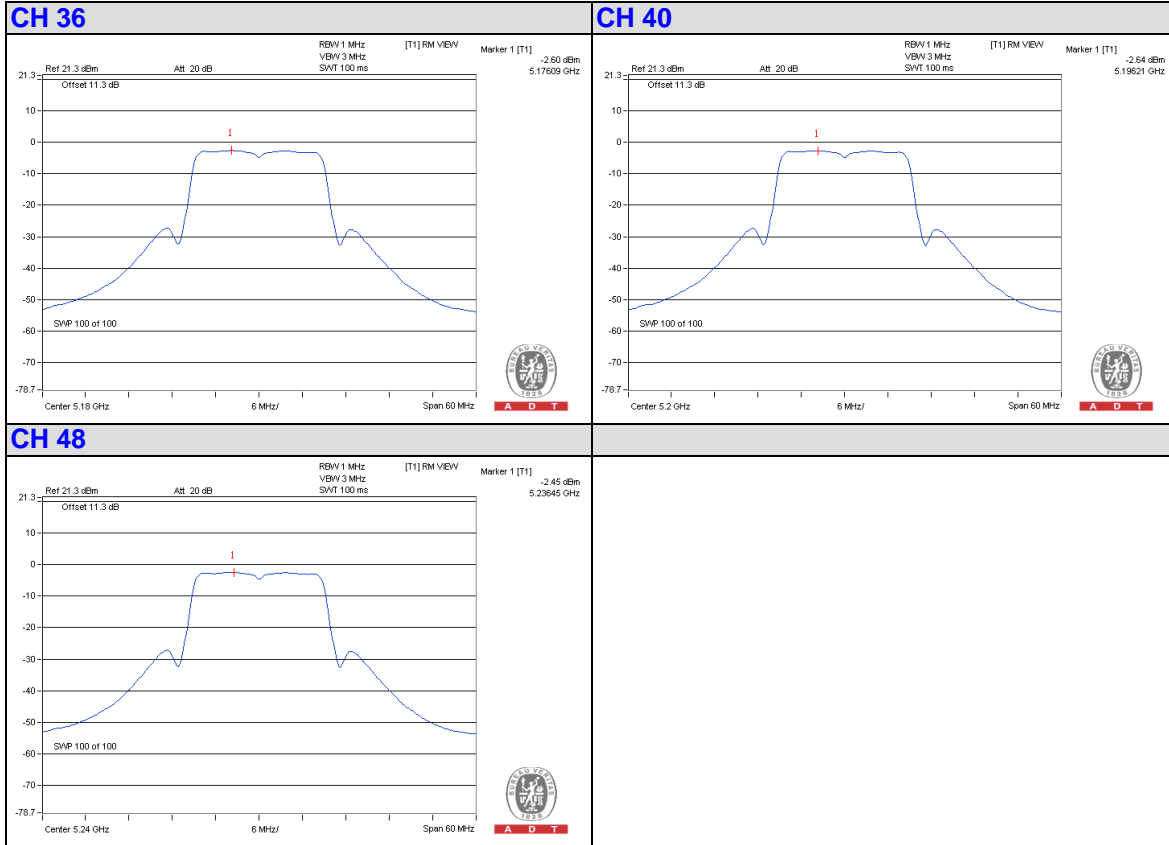
Ant. 2





A D T

Ant. 3





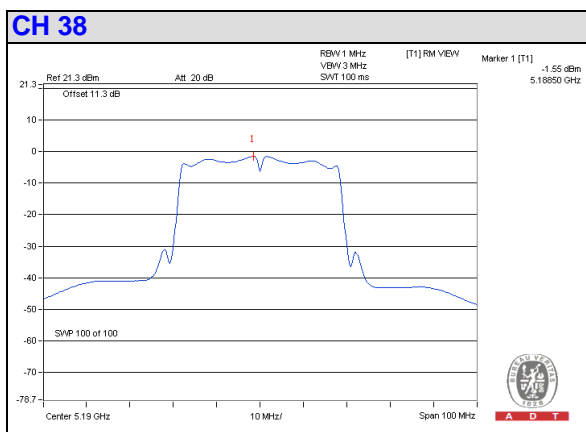
A D T

FINAL TEST DATE	May 23, 2013	TEST SITE NO.	OVEN B
TEMPERATURE	25 °C	HUMIDITY	60 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n (40MHz, MCS0)
DUTY CYCLE	98.2%	DUTY FACTOR	0.08dB

802.11n(40MHz, MCS0)< Ant. 3 >

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	TOTAL POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
38	5190	-1.55	-1.47	4	PASS

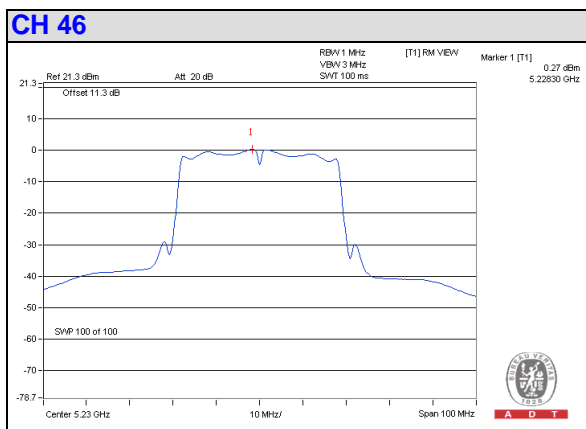
Power Density + duty factor = Total Power Density



802.11n(40MHz, MCS0)< Ant. 2 >

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	TOTAL POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
46	5230	0.27	0.35	4	PASS

Power Density + duty factor = Total Power Density





A D T

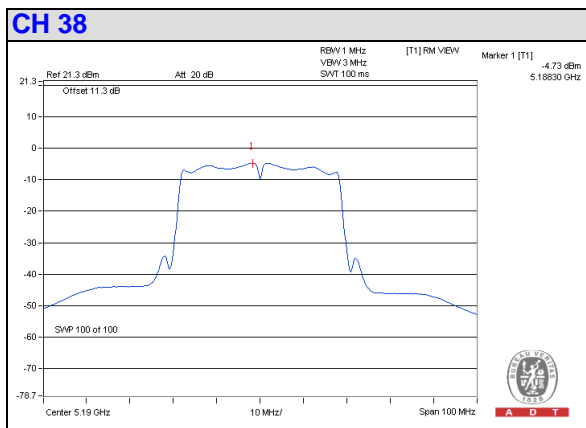
FINAL TEST DATE	May 24, 2013	TEST SITE NO.	OVEN B
TEMPERATURE	25 °C	HUMIDITY	60 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n (40MHz, MCS8)
DUTY CYCLE	97.3%	DUTY FACTOR	0.12dB

802.11n(40MHz, MCS8)<Ant. 1+ Ant. 3>

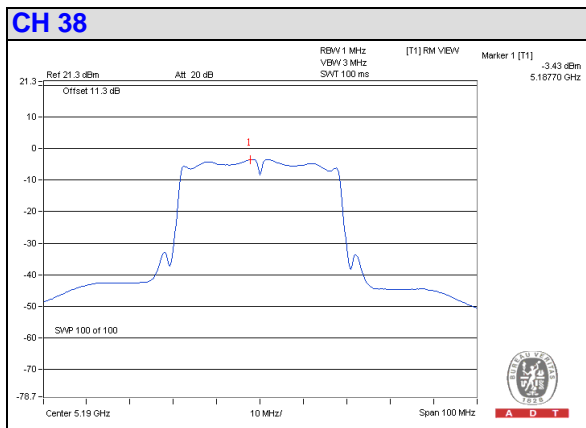
CHANNEL	FREQUENCY (MHz)	PSD (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS/FAIL
		Ant. 1	Ant. 3			
38	5190	-4.75	-3.43	-0.91	4	PASS

NOTE: 1. Power Density + duty factor = Total Power Density
 2. The PSD values were recorded per KDB662911 "In-band Power Spectral Density Measurement" reference only item (1) procedure. Below plots were for reference only.

Ant. 1



Ant. 3





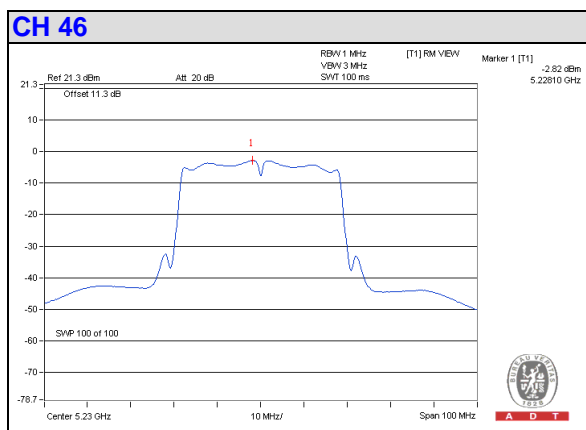
A D T

802.11n(40MHz, MCS8)<Ant. 1+ Ant. 2>

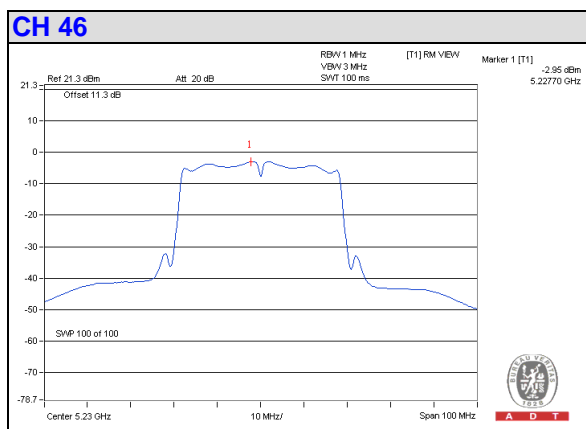
CHANNEL	FREQUENCY (MHz)	PSD (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS/FAIL
		Ant. 1	Ant. 2			
46	5230	-2.82	-2.97	0.24	4	PASS

- NOTE:**
1. Power Density + duty factor = Total Power Density
 2. The PSD values were recorded per KDB662911 "In-band Power Spectral Density Measurement" reference only item (1) procedure. Below plots were for reference only.

Ant. 1



Ant. 2





A D T

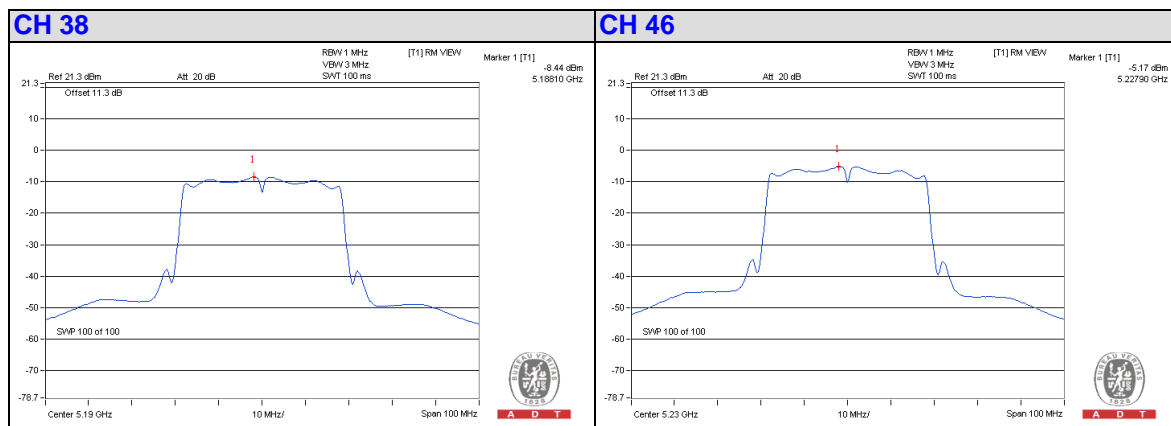
FINAL TEST DATE	May 24, 2013	TEST SITE NO.	OVEN B
TEMPERATURE	25 °C	HUMIDITY	60 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n (40MHz, MCS16)
DUTY CYCLE	95.9%	DUTY FACTOR	0.18dB

802.11n(40MHz, MCS16)< Ant. 1+ Ant. 2+ Ant. 3>

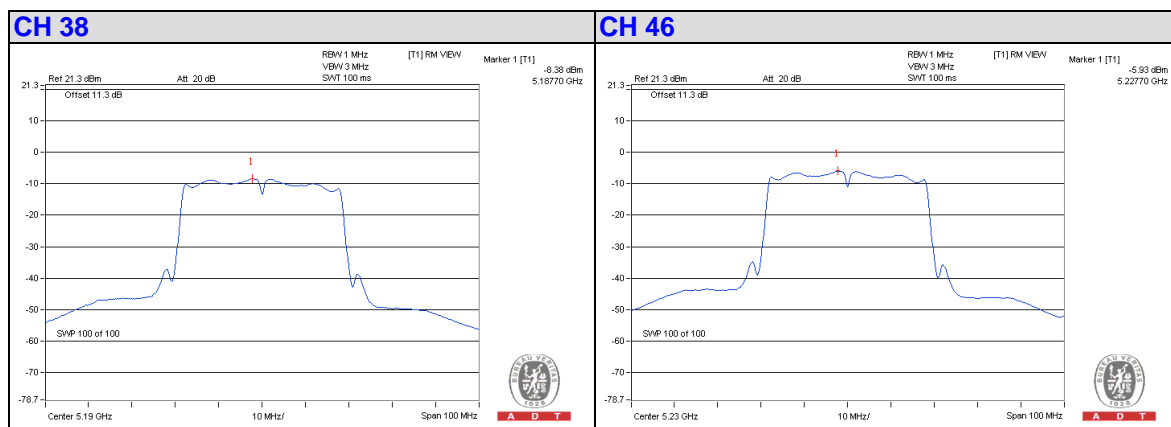
CHANNEL	FREQUENCY (MHz)	PSD (dBm)			TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS/FAIL
		Ant. 1	Ant. 2	Ant. 3			
38	5190	-8.49	-8.38	-6.92	-2.92	3.42	PASS
46	5230	-5.21	-5.93	-3.93	0.01	3.42	PASS

NOTE: 1. Power Density + duty factor = Total Power Density
 2. The PSD values were recorded per KDB662911 "In-band Power Spectral Density Measurement" reference only item (1) procedure. Below plots were for reference only.

Ant. 1



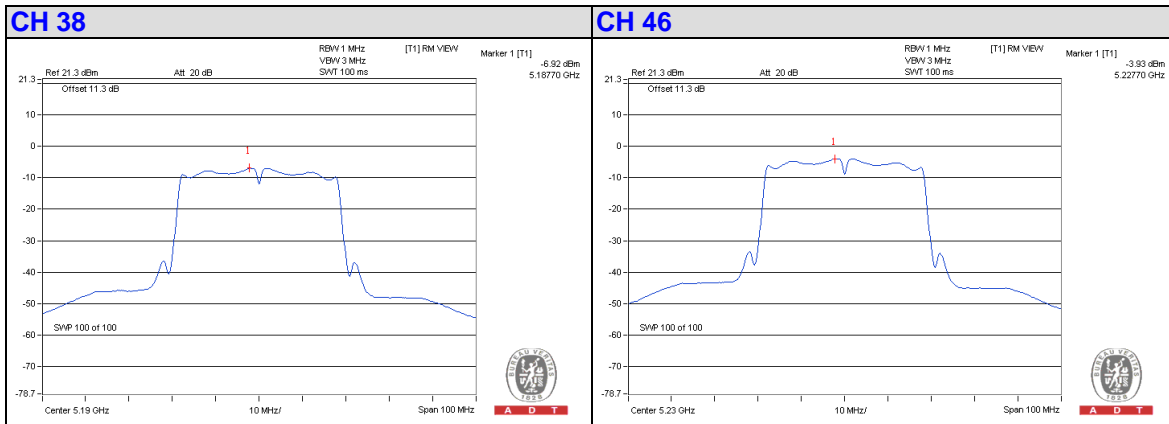
Ant. 2





A D T

Ant. 3





A D T

4.5 PEAK EXCURSION MEASUREMENT

4.5.1 LIMITS

The ratio of the peak excursion requirement shall be demonstrated by confirming that the ratio of the maximum of the peak-max-hold spectrum to the maximum of the average spectrum for continuous transmission does not exceed 13 dB.

4.5.2 MEASURING INSTRUMENTS AND SETTING

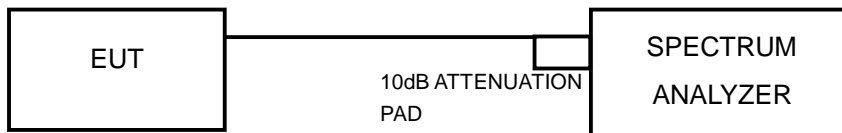
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	Encompass the entire emission bandwidth (EBW) of the signal.
RB	1 MHz
VB	≥ 3 MHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

4.5.3 TEST PROCEDURES

1. Test was performed in accordance with Measurement of Digital Transmission Systems Operating under 789033 D01 General UNII Test Procedures v01 r03, in section "Peak excursion measurement" , 09/26/2012.
2. The transmitter output (antenna port) was connected to the spectrum analyzer in peak hold mode.
3. Set RBW = 1 MHz, VBW ≥ 3 MHz, Detector = peak.
4. Trace mode = max-hold. Allow the sweeps to continue until the trace stabilizes.
5. Use the peak search function on the spectrum analyzer to find the peak of the spectrum.
6. Use the procedure found under Section 4.4.3 to measure the PPSD
7. Compute the ratio of the maximum of the peak-max-hold spectrum to the PPSD, and the result does not exceed 13 dB.
8. When measuring peak excursion with multiple antenna systems, add every result of the values by mathematic formula.

4.5.4 TEST SETUP LAYOUT



4.5.5 TEST DEVIATION

There is no deviation with the original standard.

4.5.6 EUT OPERATING DURING TEST

The EUT was programmed to be in continuously transmitting mode.



A D T

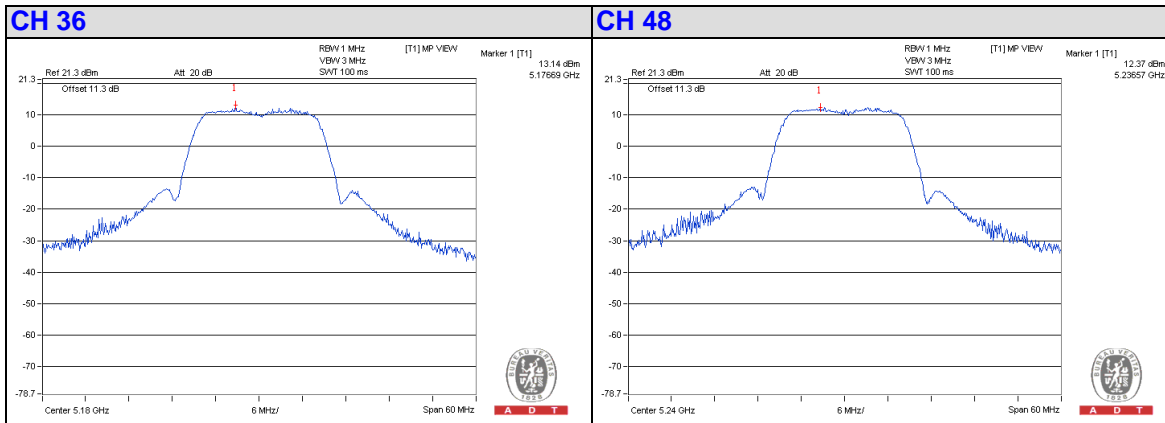
4.5.7 TEST RESULT OF PEAK EXCURSION

FINAL TEST DATE	May 23, 2013	TEST SITE NO.	OVEN B
TEMPERATURE	25 °C	HUMIDITY	60 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11a

802.11a< Ant. 2>

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD (dBm)	PEAK EXCURSION (dB)	LIMIT (dB)	PASS/FAIL
36	5180	13.14	2.63	10.51	13	PASS
48	5240	12.37	3.01	9.36	13	PASS

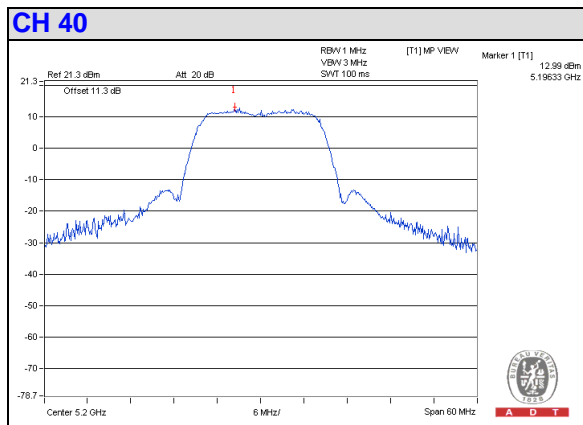
NOTE: 1. Power Density was included the duty factor.



802.11a< Ant. 1>

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD (dBm)	PEAK EXCURSION (dB)	LIMIT (dB)	PASS/FAIL
40	5200	12.99	2.96	10.03	13	PASS

NOTE: 1. Power Density was included the duty factor.





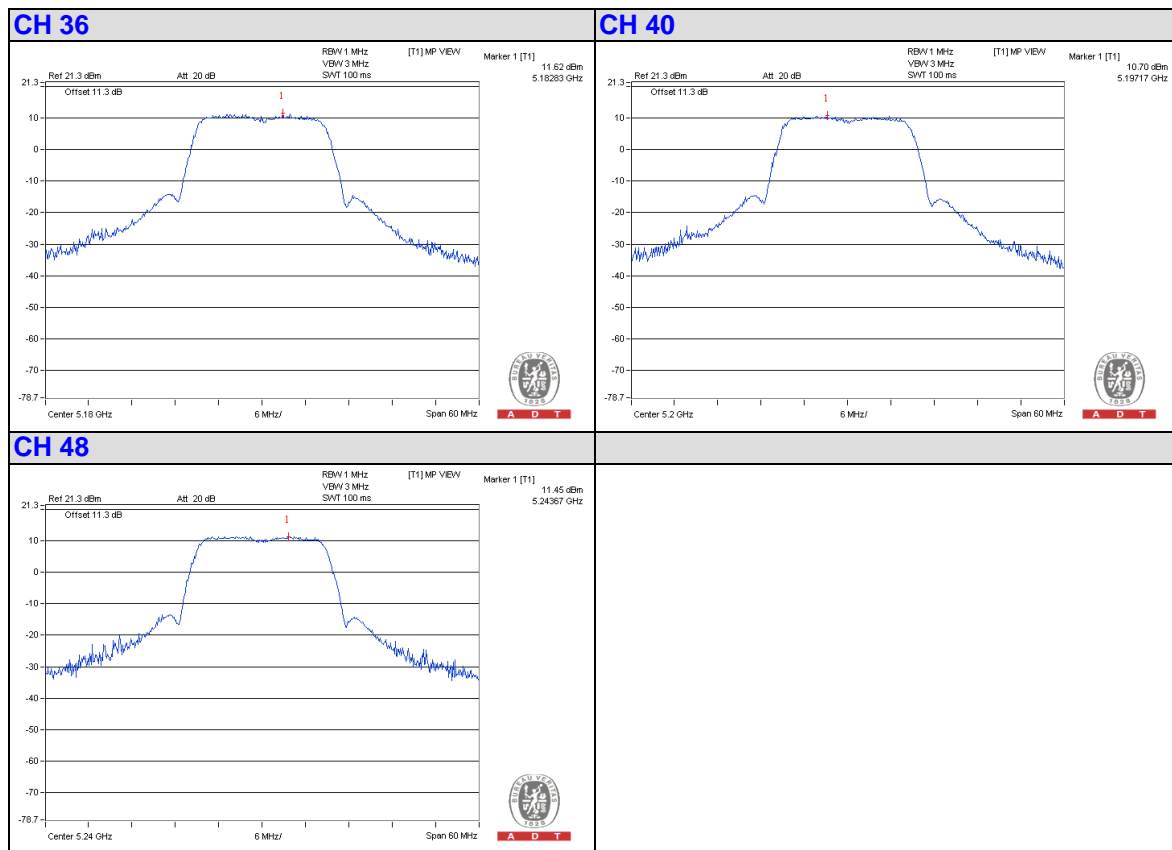
A D T

FINAL TEST DATE	May 23, 2013	TEST SITE NO.	OVEN B
TEMPERATURE	25 °C	HUMIDITY	60 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n (20MHz, MCS 0)

802.11n(20MHz, MCS0)< Ant. 2 >

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD (dBm)	PEAK EXCURSION (dB)	LIMIT (dB)	PASS/FAIL
36	5180	11.62	2.02	9.60	13	PASS
40	5200	10.70	1.51	9.19	13	PASS
48	5240	11.45	2.36	9.09	13	PASS

NOTE: 1. Power Density was included the duty factor.





A D T

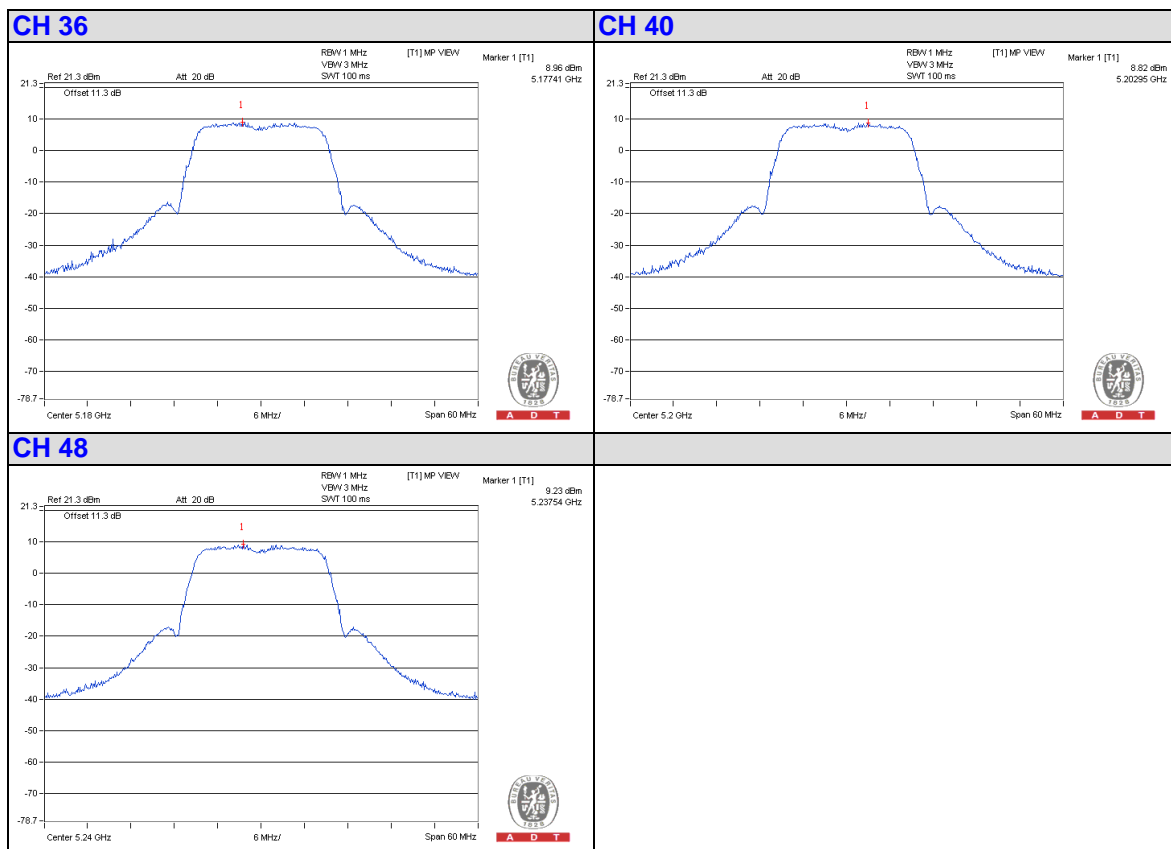
FINAL TEST DATE	May 23, 2013	TEST SITE NO.	OVEN B
TEMPERATURE	25 °C	HUMIDITY	60 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n (20MHz, MCS 8)

802.11n(20MHz, MCS8)<Ant. 1+ Ant. 2>

CHAN.	CHAN. FREQ. (MHz)	PEAK VALUE (dBm)		PPSD (dBm)		PEAK EXCURSION (dB)		LIMIT (dB)	PASS/FAIL
		Ant. 1	Ant. 2	Ant. 1	Ant. 2	Ant. 1	Ant. 2		
36	5180	8.96	9.48	-0.77	-0.53	9.73	10.01	13	PASS
40	5200	8.82	9.46	-1.12	-1.01	9.94	10.47	13	PASS
48	5240	9.23	9.69	-0.56	-0.39	9.79	10.08	13	PASS

NOTE: 1. Power Density was included the duty factor.

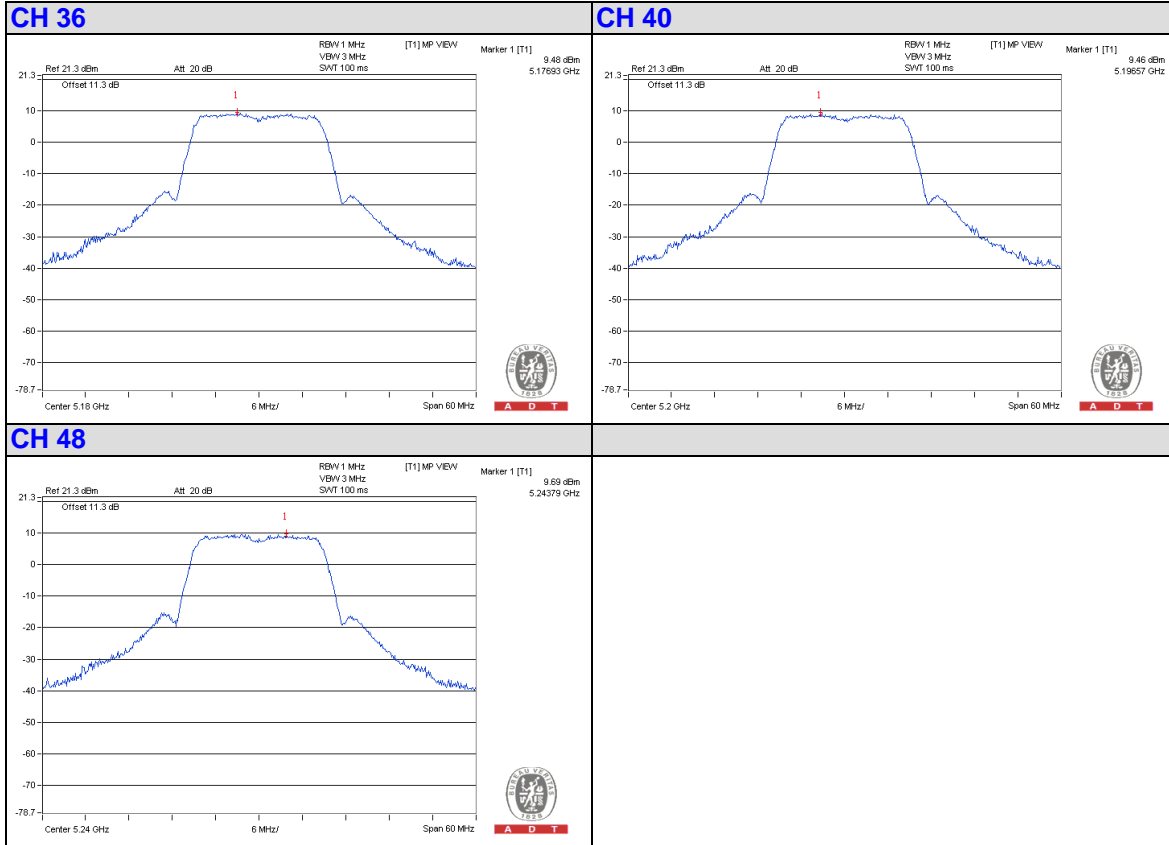
Ant. 1





A D T

Ant. 2





A D T

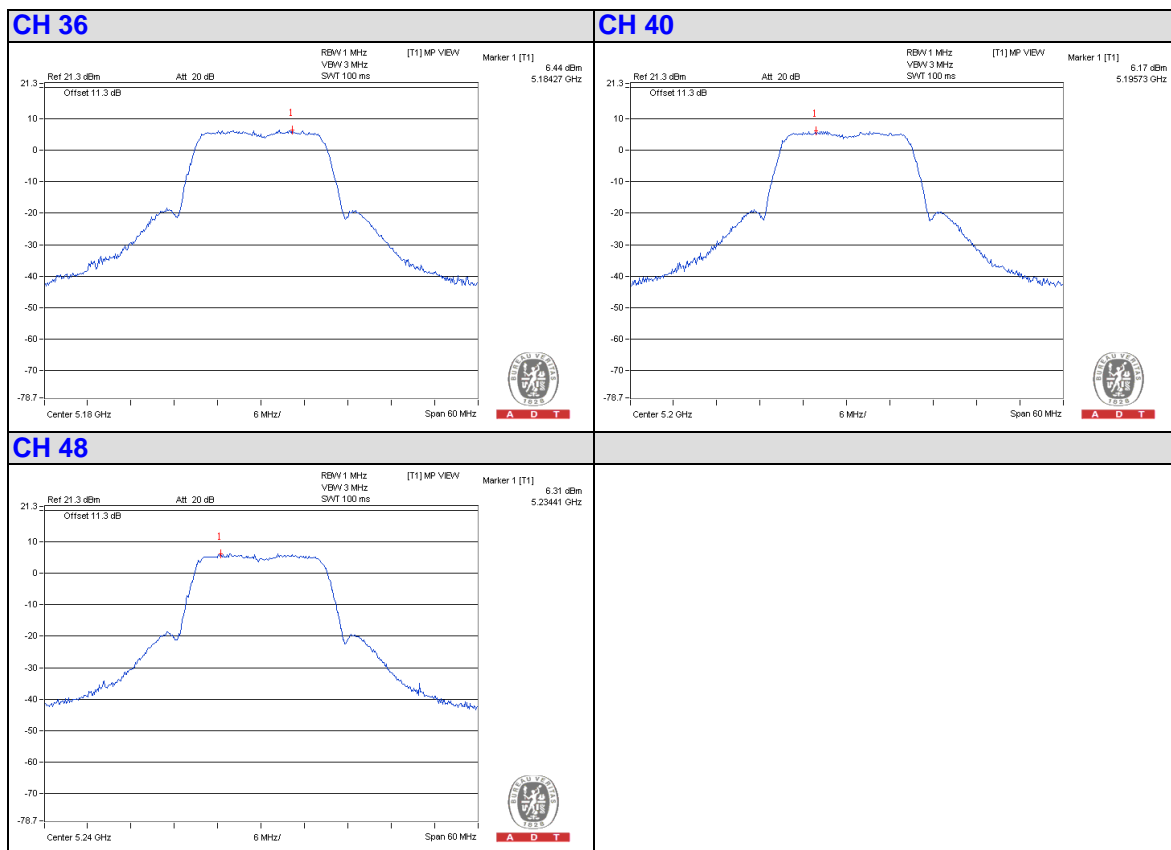
FINAL TEST DATE	May 24, 2013	TEST SITE NO.	OVEN B
TEMPERATURE	25 °C	HUMIDITY	60 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n (20MHz, MCS 16)

802.11n(20MHz, MCS16)< Ant. 1+ Ant. 2+ Ant. 3>

CHAN.	CHAN. FREQ. (MHz)	PEAK VALUE (dBm)			PPSD (dBm)			PEAK EXCURSION (dB)			LIMIT (dB)	PASS/FAIL
		Ant. 1	Ant. 2	Ant. 3	Ant. 1	Ant. 2	Ant. 3	Ant. 1	Ant. 2	Ant. 3		
36	5180	6.44	7.27	8.50	-3.05	-2.62	-2.49	9.49	9.89	10.99	13	PASS
40	5200	6.17	6.85	8.36	-3.36	-3.20	-2.56	9.53	10.05	10.92	13	PASS
48	5240	6.31	7.08	8.74	-3.14	-2.86	-2.35	9.45	9.94	11.09	13	PASS

NOTE: 1. Power Density was included the duty factor.

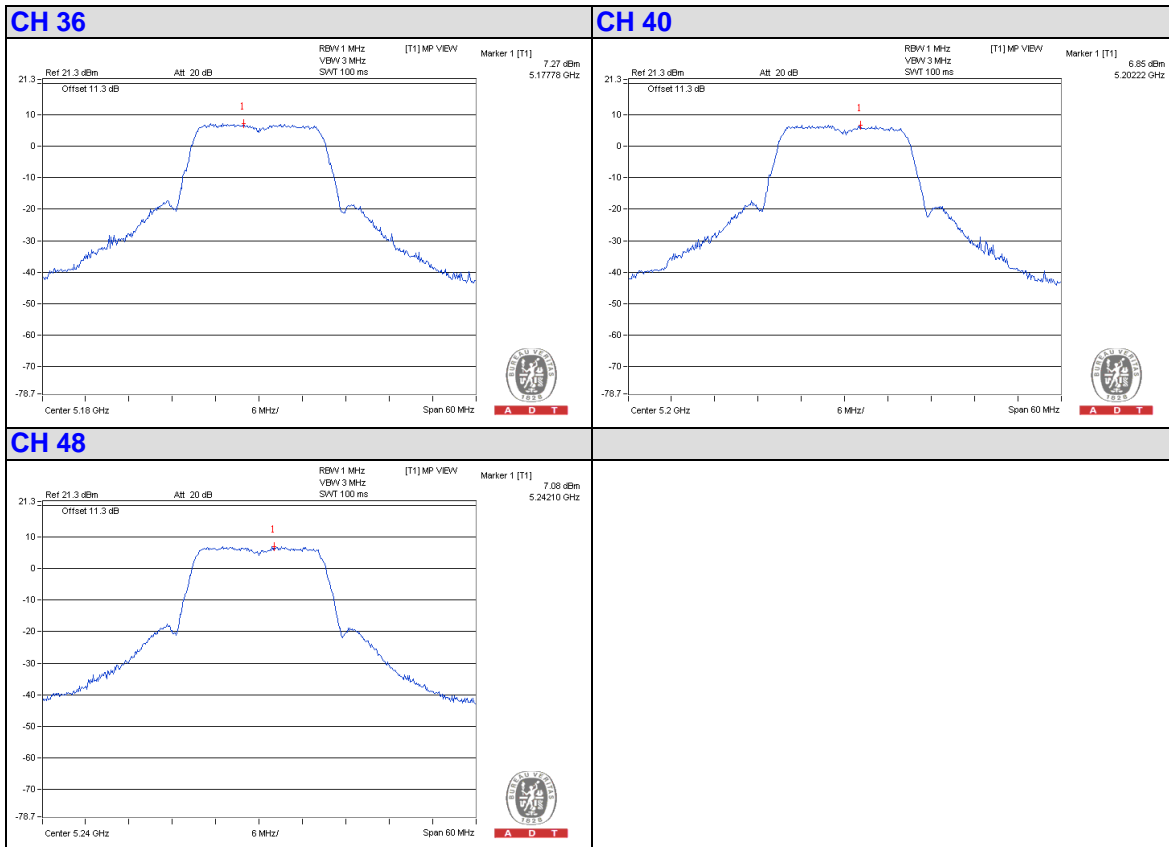
Ant. 1





A D T

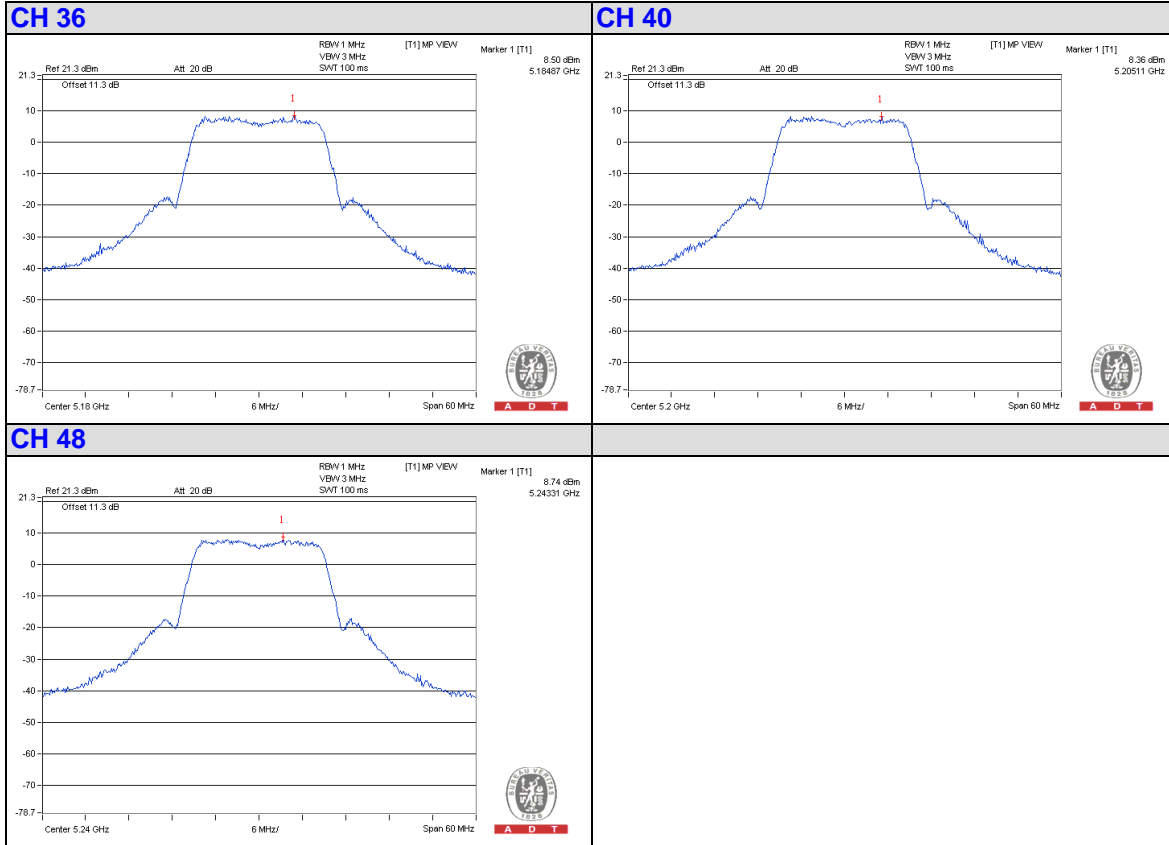
Ant. 2





A D T

Ant. 3





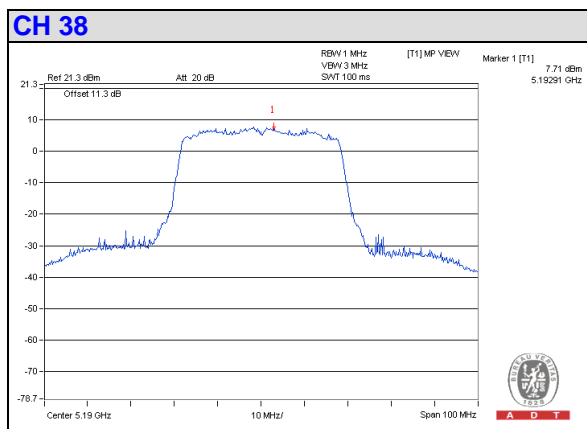
A D T

FINAL TEST DATE	May 23, 2013	TEST SITE NO.	OVEN B
TEMPERATURE	25 °C	HUMIDITY	60 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n (40MHz, MCS 0)

802.11n(40MHz, MCS0)< Ant. 3>

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD (dBm)	PEAK EXCURSION (dB)	LIMIT (dB)	PASS/FAIL
38	5190	7.71	-1.47	9.18	13	PASS

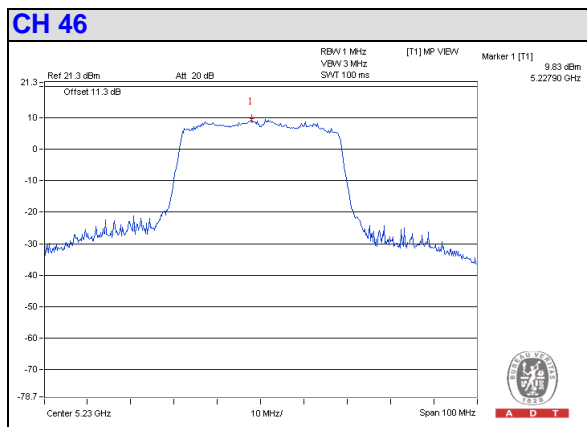
NOTE: 1. Power Density was included the duty factor.



802.11n(40MHz, MCS0)< Ant. 2>

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD (dBm)	PEAK EXCURSION (dB)	LIMIT (dB)	PASS/FAIL
46	5230	9.83	0.35	9.48	13	PASS

NOTE: 1. Power Density was included the duty factor.





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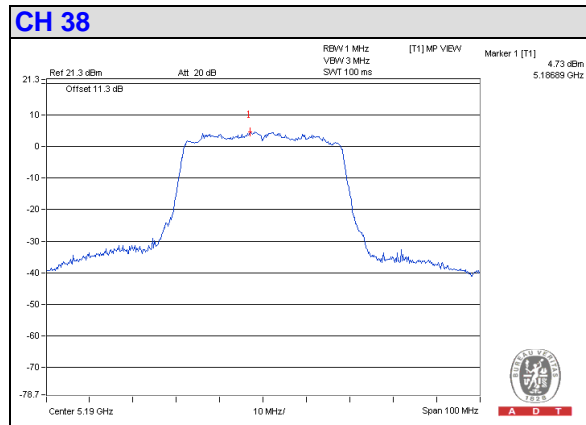
FINAL TEST DATE	May 24, 2013	TEST SITE NO.	OVEN B
TEMPERATURE	25 °C	HUMIDITY	60 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n (40MHz, MCS 8)

802.11n(40MHz, MCS8)<Ant. 1+ Ant. 3>

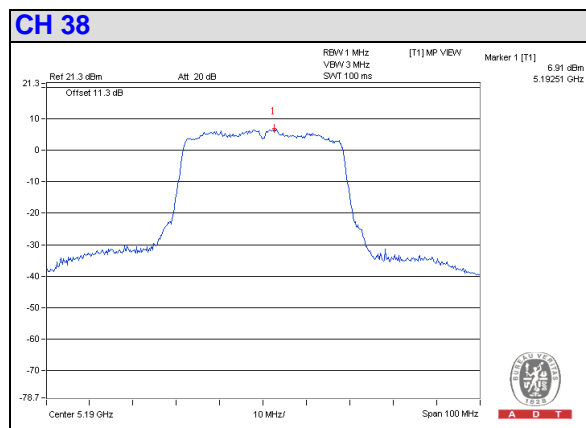
CHAN.	CHAN. FREQ. (MHz)	PEAK VALUE (dBm)		PPSD (dBm)		PEAK EXCURSION (dB)		LIMIT (dB)	PASS/FAIL
		Ant. 1	Ant. 3	Ant. 1	Ant. 3	Ant. 1	Ant. 3		
38	5190	4.73	6.91	-4.63	-3.31	9.36	10.22	13	PASS

NOTE: 1. Power Density was included the duty factor.

Ant. 1



Ant. 3





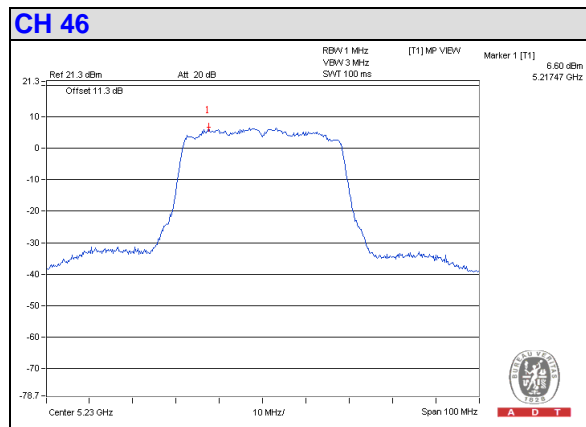
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802.11n(40MHz, MCS8)<Ant. 1+ Ant. 2>

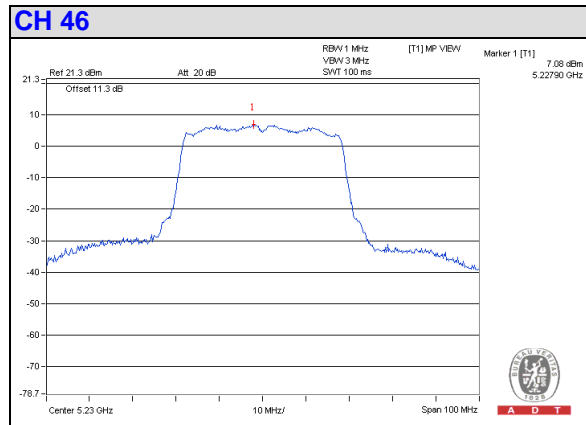
CHAN.	CHAN. FREQ. (MHz)	PEAK VALUE (dBm)		PPSD (dBm)		PEAK EXCURSION (dB)		LIMIT (dB)	PASS/FAIL
		Ant. 1	Ant. 2	Ant. 1	Ant. 2	Ant. 1	Ant. 2		
46	5230	6.60	7.08	-2.70	-2.85	9.30	9.93	13	PASS

NOTE: 1. Power Density was included the duty factor.

Ant. 1



Ant. 2





A D T

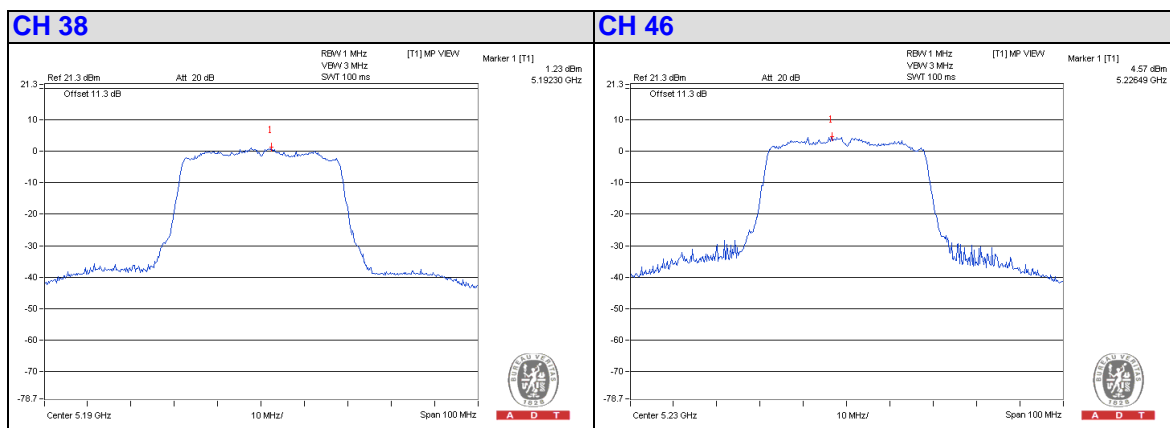
FINAL TEST DATE	May 24, 2013	TEST SITE NO.	OVEN B
TEMPERATURE	25 °C	HUMIDITY	60 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n (40MHz, MCS 16)

802.11n(40MHz, MCS16)< Ant. 1+ Ant. 2+ Ant. 3>

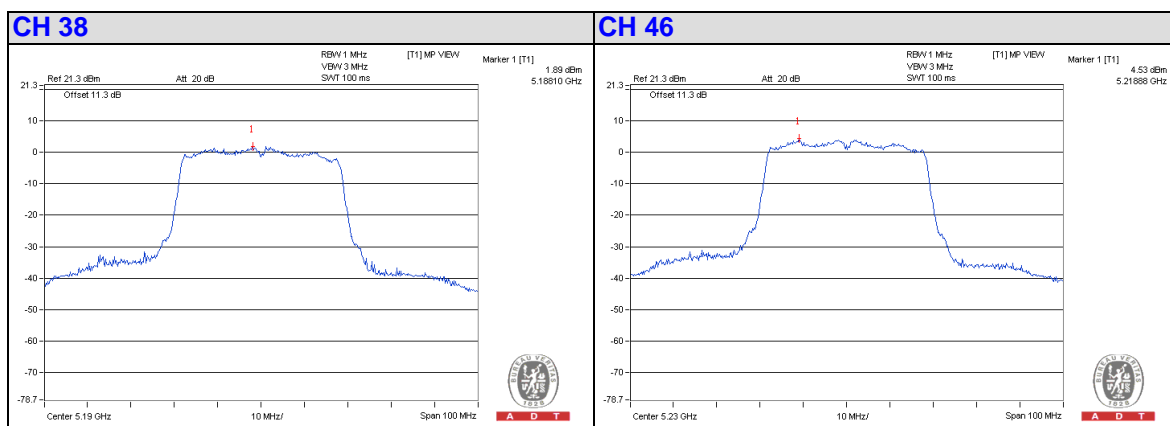
CHAN.	CHAN. FREQ. (MHz)	PEAK VALUE (dBm)			PPSD (dBm)			PEAK EXCURSION (dB)			LIMIT (dB)	PASS/FAIL
		Ant. 1	Ant. 2	Ant. 3	Ant. 1	Ant. 2	Ant. 3	Ant. 1	Ant. 2	Ant. 3		
38	5190	1.23	1.89	3.74	-8.31	-8.20	-6.74	9.54	10.09	10.48	13	PASS
46	5230	4.57	4.53	6.59	-5.03	-5.75	-3.75	9.60	10.28	10.34	13	PASS

NOTE: 1. Power Density was included the duty factor.

Ant. 1



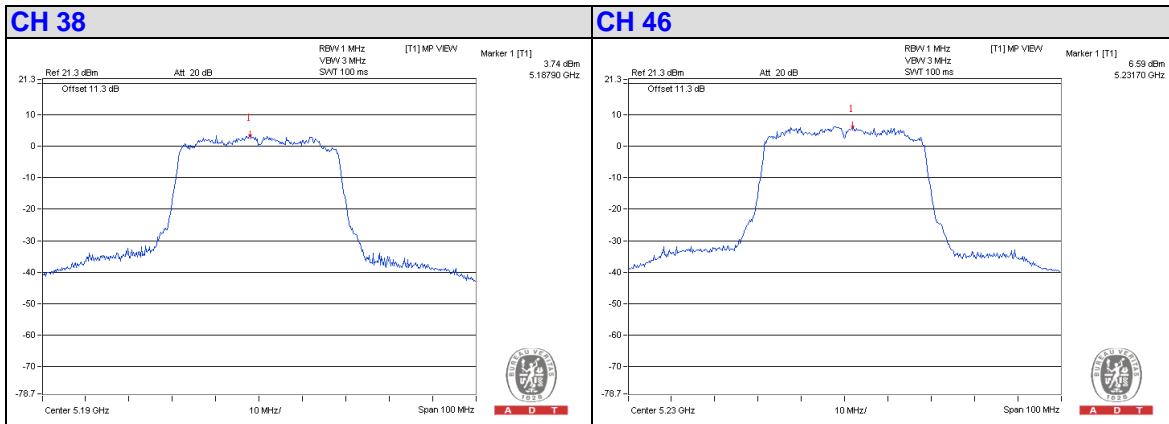
Ant. 2





A D T

Ant. 3





A D T

4.6 RADIATED EMISSIONS MEASUREMENT

4.6.1 LIMIT OF UNWANTED EMISSIONS IN THE RESTRICTED BANDS

Radiated emissions which fall within the restricted band specified on 15.205(a) must comply with the radiated emission limits specified as below table:

Frequency Range (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 (dB μ V/m) = 20 log Emission level (μ V/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.

4.6.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

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

NOTE: 1. The following KDB789033 D01 General UNII Test Procedures of Radiated Emissions measurement on IEEE 802.11 devices.

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

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



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4.6.3 MEASURING INSTRUMENTS AND SETTING

Please refer to section 5 of equipments list in this report. The following table is the setting of spectrum analyzer and receiver.

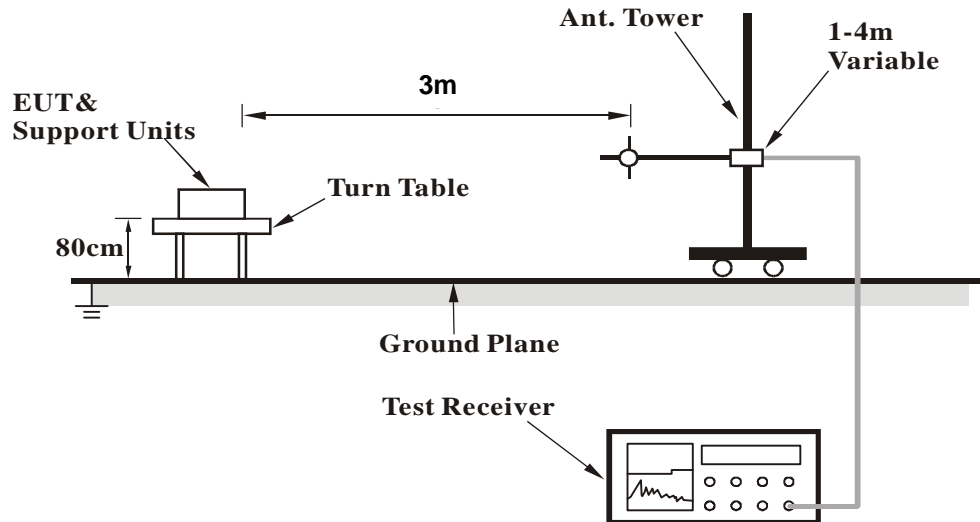
Spectrum Analyzer	Setting
Attenuation	Auto
Start Frequency	1GHz
Stop Frequency	10th carrier harmonic
RB / VB (Emission in restricted band)	1MHz / 3MHz for Peak, 1MHz / 10Hz for Average (Method VB)
RB / VB (Emission in non-restricted band)	1MHz / 3MHz for peak
Detector	Peak
Trace mode	max hold.

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1GHz / RB 120kHz for QP

4.6.4 TEST PROCEDURES

1. Configure the EUT according to ANSI C63.10. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 m to 4 m) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz RBW and 3MHz VBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer.
7. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
8. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
9. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High – Low scan is not required in this case.

4.6.5 TEST SETUP LAYOUT



4.6.6 TEST DEVIATION

There is no deviation with the original standard.

4.6.7 EUT OPERATING DURING TEST

The EUT was programmed to be in continuously transmitting mode.



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4.6.8 TEST RESULT OF RADIATED EMISSIONS (9kHz~30MHz)

FREQUENCY RANGE	9kHz~30MHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	25 °C	HUMIDITY	68 %
TEST ENGINEER	Andy Ho	CONFIGURATIONS	CTX
FINAL TEST DATE	May 24, 2013		

Freq. (MHz)	Level (dBuV)	Over Limit (dB)	Limit Line (dBuV)	Remark
-	-	-	-	See Note

Note:

The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Distance extrapolation factor = $40 \log(\text{specific distance} / \text{test distance})$ (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor.



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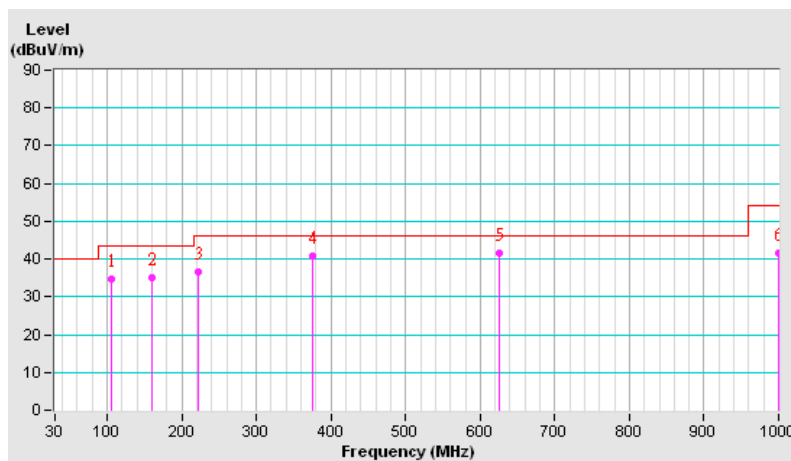
4.6.9 TEST RESULT OF RADIATED EMISSIONS (30MHz~1GHz)

FREQUENCY RANGE	30MHz~1GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	25 °C	HUMIDITY	68 %
TEST ENGINEER	Andy Ho	CONFIGURATIONS	802.11n(20MHz, MCS16) CH 48 / Ant.1 + Ant.2 + Ant.3
FINAL TEST DATE	May 24, 2013		

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	106.24	34.7 QP	43.5	-8.8	1.00 H	135	51.44	-16.75
2	160.37	35.2 QP	43.5	-8.3	1.50 H	249	48.55	-13.35
3	222.50	36.5 QP	46.0	-9.5	1.00 H	162	52.34	-15.87
4	374.98	40.8 QP	46.0	-5.2	1.00 H	126	51.19	-10.39
5	625.00	41.6 QP	46.0	-4.4	1.00 H	247	46.38	-4.82
6	999.95	41.6 QP	54.0	-12.5	1.50 H	118	40.10	1.45

REMARKS:

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





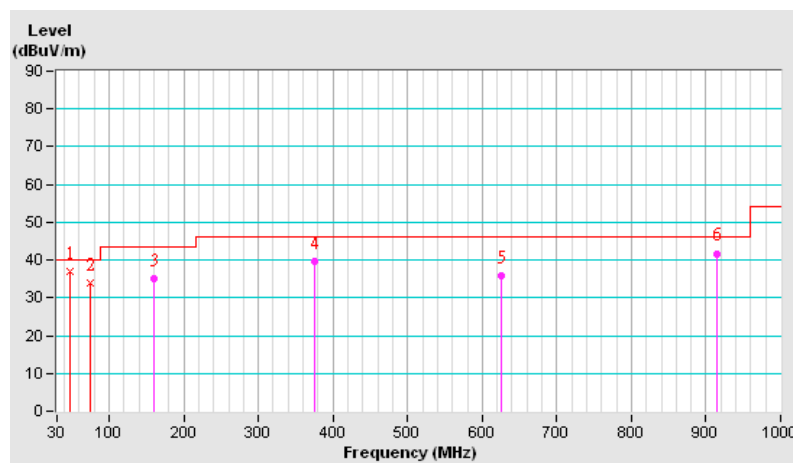
A D T

FREQUENCY RANGE	30MHz~1GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	25 °C	HUMIDITY	68 %
TEST ENGINEER	Andy Ho	CONFIGURATIONS	802.11n(20MHz, MCS16) CH 48 / Ant.1 + Ant.2 + Ant.3
FINAL TEST DATE	May 24, 2013		

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	47.91	36.92 QP	40.00	-3.08	1.00 V	148	50.49	-13.57
2	74.64	34.02 QP	40.00	-5.98	1.05 V	0	50.91	-16.89
3	159.75	35.05 QP	43.50	-8.45	1.50 V	241	48.44	-13.39
4	374.98	39.68 QP	46.00	-6.32	1.50 V	360	50.07	-10.39
5	625.00	35.69 QP	46.00	-10.31	1.00 V	101	40.52	-4.83
6	914.72	41.72 QP	46.00	-4.28	1.00 V	156	41.59	0.13

REMARKS:

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



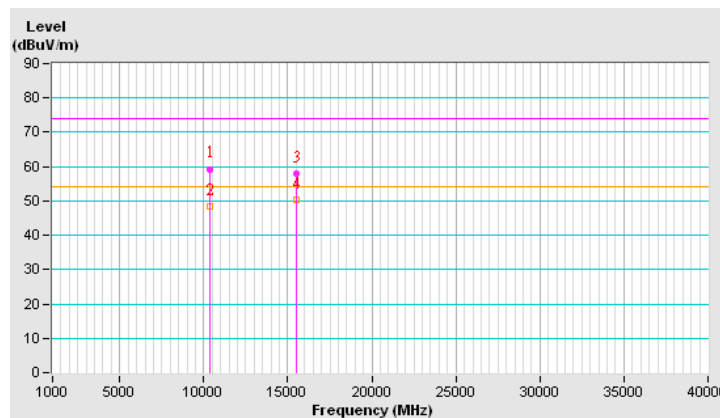
4.6.10 TEST RESULT OF RADIATED EMISSIONS (1GHz~40GHz)

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	24 °C	HUMIDITY	65 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	11a CH 36 / Ant.2
FINAL TEST DATE	May 18, 2013		

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	#10360.00	59.3 PK	74.0	-14.7	1.37 H	69	45.37	13.93
2	#10360.00	48.3 AV	54.0	-5.7	1.37 H	69	34.37	13.93
3	15540.00	57.9 PK	74.0	-16.1	1.00 H	165	38.72	19.18
4	15540.00	50.2 AV	54.0	-3.8	1.00 H	165	31.02	19.18

REMARKS:

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





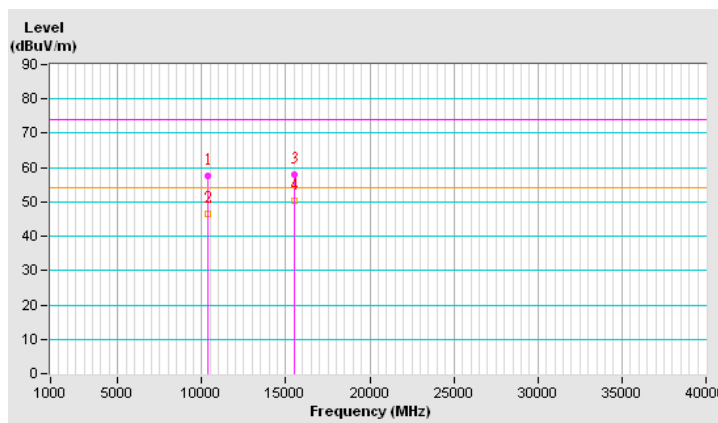
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	24 °C	HUMIDITY	65 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	11a CH 36 / Ant.2
FINAL TEST DATE	May 18, 2013		

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	#10360.00	57.5 PK	74.0	-16.5	1.10 V	228	43.57	13.93
2	#10360.00	46.5 AV	54.0	-7.5	1.10 V	228	32.57	13.93
3	15540.00	58.1 PK	74.0	-15.9	1.00 V	302	38.92	19.18
4	15540.00	50.3 AV	54.0	-3.7	1.00 V	302	31.12	19.18

REMARKS:

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





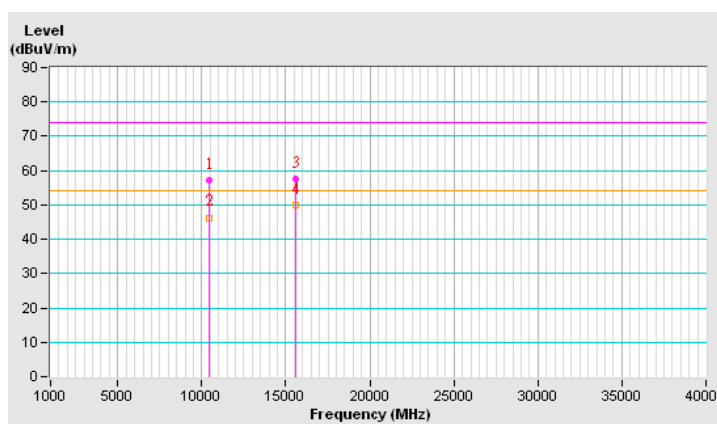
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	23 °C	HUMIDITY	63 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	11a CH 40 / Ant.1
FINAL TEST DATE	May 23, 2013		

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	#10400.00	57.2 PK	74.0	-16.8	1.06 H	289	43.88	13.32
2	#10400.00	46.3 AV	54.0	-7.7	1.06 H	289	32.98	13.32
3	15600.00	57.7 PK	74.0	-16.3	1.00 H	36	38.21	19.49
4	15600.00	49.8 AV	54.0	-4.2	1.00 H	36	30.31	19.49

REMARKS:

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





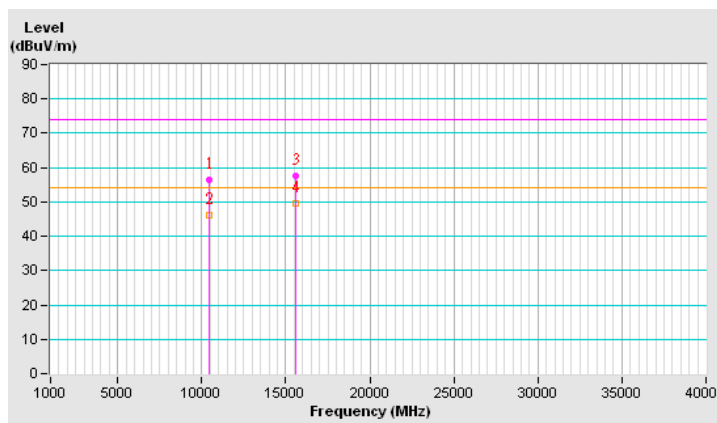
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	23 °C	HUMIDITY	63 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	11a CH 40 / Ant.1
FINAL TEST DATE	May 23, 2013		

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	#10400.00	56.5 PK	74.0	-17.5	1.00 V	178	43.18	13.32
2	#10400.00	46.1 AV	54.0	-7.9	1.00 V	178	32.78	13.32
3	15600.00	57.6 PK	74.0	-16.4	1.10 V	245	38.11	19.49
4	15600.00	49.5 AV	54.0	-4.5	1.10 V	245	30.01	19.49

REMARKS:

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





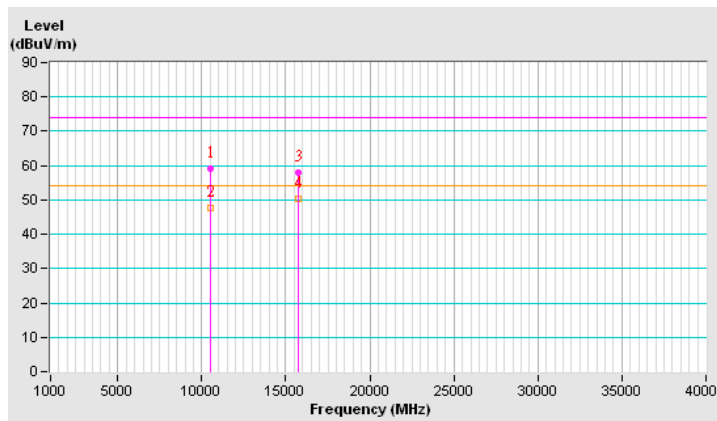
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	24 °C	HUMIDITY	65 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	11a CH 48 / Ant.2
FINAL TEST DATE	May 18, 2013		

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	#10480.00	59.1 PK	74.0	-14.9	1.36 H	67	44.89	14.21
2	#10480.00	47.8 AV	54.0	-6.2	1.36 H	67	33.59	14.21
3	15720.00	57.8 PK	74.0	-16.2	1.00 H	166	38.64	19.16
4	15720.00	50.2 AV	54.0	-3.8	1.00 H	166	31.04	19.16

REMARKS:

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





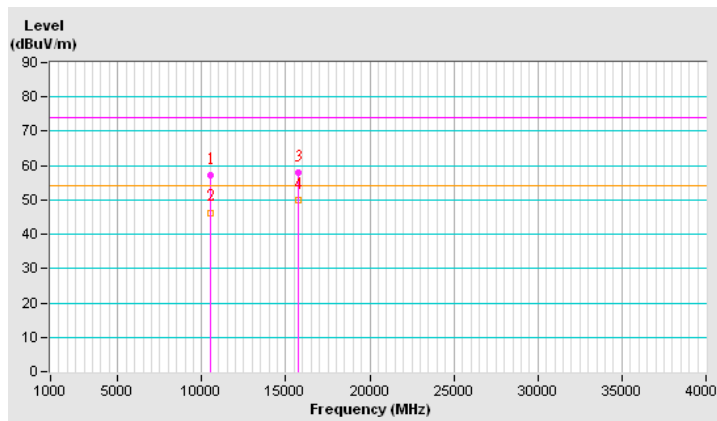
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	24 °C	HUMIDITY	65 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	11a CH 48 / Ant.2
FINAL TEST DATE	May 18, 2013		

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	#10480.00	57.1 PK	74.0	-16.9	1.09 V	212	42.89	14.21
2	#10480.00	46.3 AV	54.0	-7.7	1.09 V	212	32.09	14.21
3	15720.00	58.1 PK	74.0	-15.9	1.06 V	292	38.94	19.16
4	15720.00	50.1 AV	54.0	-3.9	1.06 V	292	30.94	19.16

REMARKS:

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





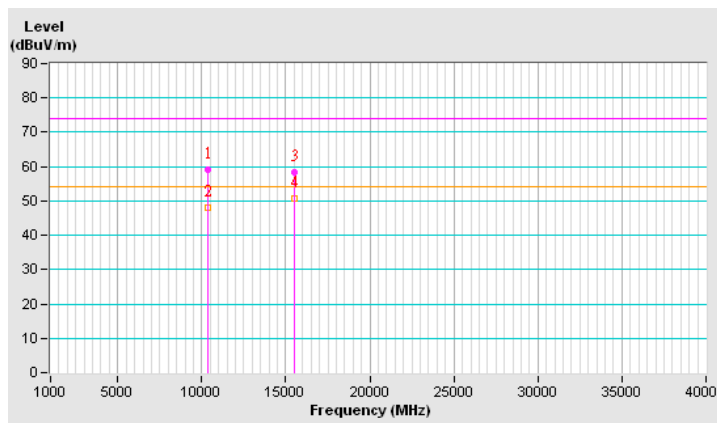
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	24 °C	HUMIDITY	65 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n(20MHz, MCS0) CH 36 / Ant.2
FINAL TEST DATE	May 18, 2013		

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	#10360.00	59.1 PK	74.0	-14.9	1.42 H	58	45.17	13.93
2	#10360.00	47.9 AV	54.0	-6.1	1.42 H	58	33.97	13.93
3	15540.00	58.2 PK	74.0	-15.8	1.00 H	180	39.02	19.18
4	15540.00	50.6 AV	54.0	-3.4	1.00 H	180	31.42	19.18

REMARKS:

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





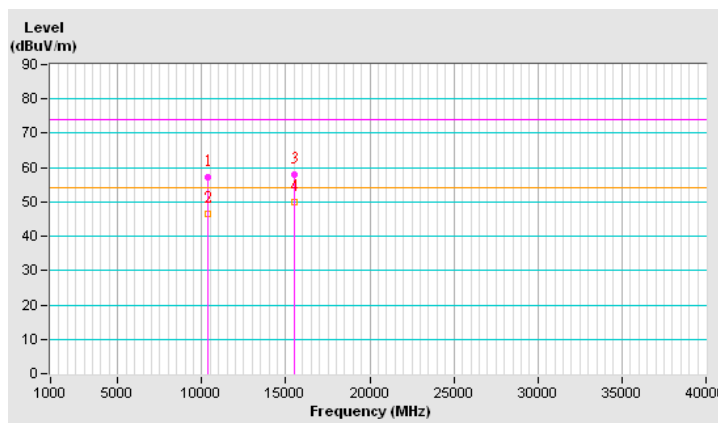
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	24 °C	HUMIDITY	65 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n(20MHz, MCS0) CH 36 / Ant.2
FINAL TEST DATE	May 18, 2013		

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	#10360.00	57.1 PK	74.0	-16.9	1.08 V	211	43.17	13.93
2	#10360.00	46.5 AV	54.0	-7.5	1.08 V	211	32.57	13.93
3	15540.00	58.0 PK	74.0	-16.0	1.07 V	304	38.82	19.18
4	15540.00	49.8 AV	54.0	-4.2	1.07 V	304	30.62	19.18

REMARKS:

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





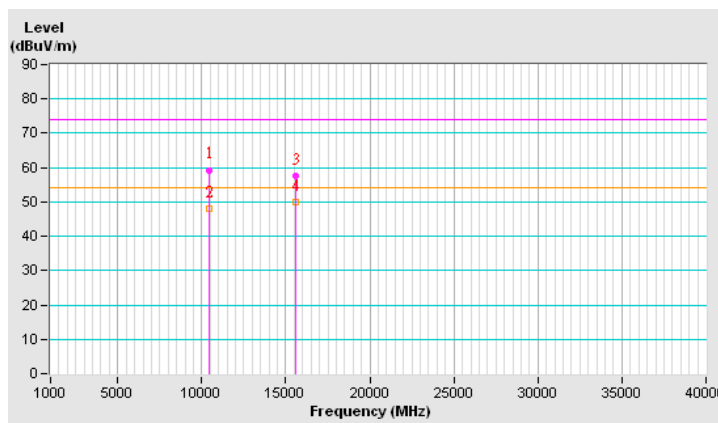
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	24 °C	HUMIDITY	65 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n(20MHz, MCS0) CH 40 / Ant.2
FINAL TEST DATE	May 18, 2013		

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	#10400.00	59.3 PK	74.0	-14.7	1.34 H	73	45.42	13.88
2	#10400.00	48.0 AV	54.0	-6.0	1.34 H	73	34.12	13.88
3	15600.00	57.4 PK	74.0	-16.6	1.00 H	169	38.31	19.09
4	15600.00	49.9 AV	54.0	-4.1	1.00 H	169	30.81	19.09

REMARKS:

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





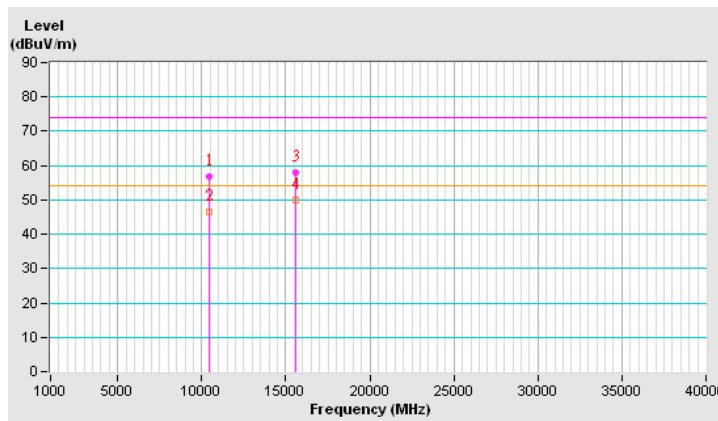
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	24 °C	HUMIDITY	65 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n(20MHz, MCS0) CH 40 / Ant.2
FINAL TEST DATE	May 18, 2013		

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	#10400.00	56.9 PK	74.0	-17.1	1.06 V	224	43.02	13.88
2	#10400.00	46.4 AV	54.0	-7.6	1.06 V	224	32.52	13.88
3	15600.00	57.8 PK	74.0	-16.2	1.06 V	283	38.71	19.09
4	15600.00	49.9 AV	54.0	-4.1	1.06 V	283	30.81	19.09

REMARKS:

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





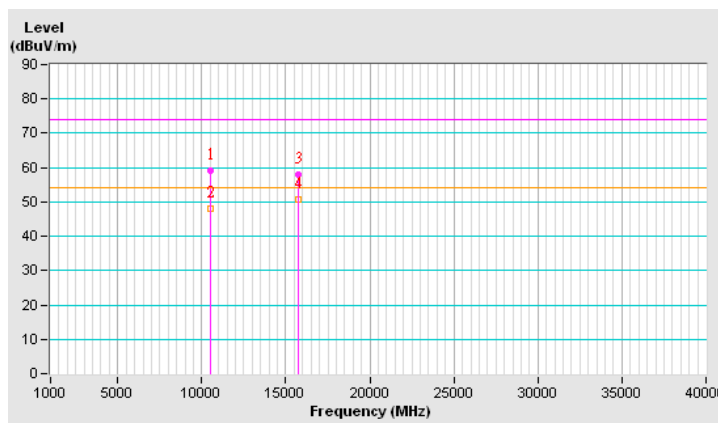
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	24 °C	HUMIDITY	65 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n(20MHz, MCS0) CH 48 / Ant.2
FINAL TEST DATE	May 18, 2013		

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	#10480.00	59.0 PK	74.0	-15.0	1.31 H	78	44.79	14.21
2	#10480.00	47.9 AV	54.0	-6.1	1.31 H	78	33.69	14.21
3	15720.00	58.1 PK	74.0	-15.9	1.00 H	178	38.94	19.16
4	15720.00	50.6 AV	54.0	-3.4	1.00 H	178	31.44	19.16

REMARKS:

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





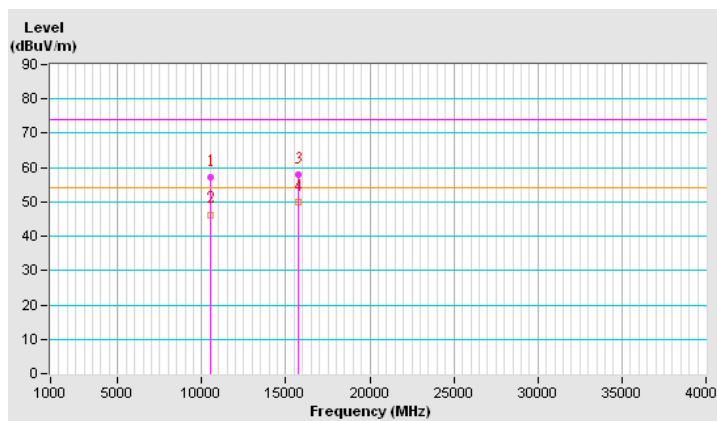
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	24 °C	HUMIDITY	65 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n(20MHz, MCS0) CH 48 / Ant.2
FINAL TEST DATE	May 18, 2013		

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	#10480.00	57.2 PK	74.0	-16.8	1.09 V	216	42.99	14.21
2	#10480.00	46.3 AV	54.0	-7.7	1.09 V	216	32.09	14.21
3	15720.00	57.9 PK	74.0	-16.1	1.10 V	281	38.74	19.16
4	15720.00	50.0 AV	54.0	-4.0	1.10 V	281	30.84	19.16

REMARKS:

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





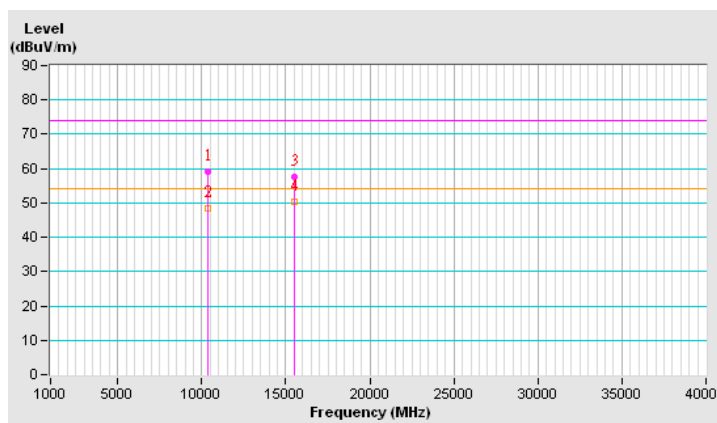
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	24 °C	HUMIDITY	65 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n(20MHz, MCS8) CH 36 / Ant.1 + Ant.2
FINAL TEST DATE	May 18, 2013		

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	#10360.00	59.0 PK	74.0	-15.0	1.34 H	65	45.07	13.93
2	#10360.00	48.3 AV	54.0	-5.7	1.34 H	65	34.37	13.93
3	15540.00	57.6 PK	74.0	-16.4	1.06 H	176	38.42	19.18
4	15540.00	50.3 AV	54.0	-3.7	1.06 H	176	31.12	19.18

REMARKS:

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





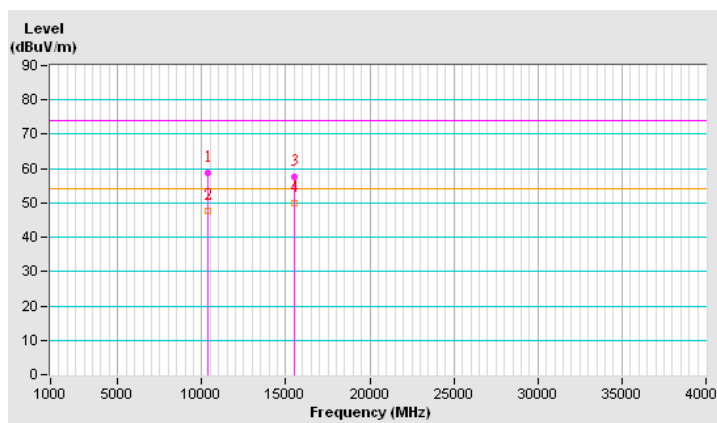
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	24 °C	HUMIDITY	65 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n(20MHz, MCS8) CH 36 / Ant.1 + Ant.2
FINAL TEST DATE	May 18, 2013		

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	#10360.00	58.8 PK	74.0	-15.2	1.01 V	78	44.87	13.93
2	#10360.00	47.6 AV	54.0	-6.4	1.01 V	78	33.67	13.93
3	15540.00	57.4 PK	74.0	-16.6	1.00 V	209	38.22	19.18
4	15540.00	49.8 AV	54.0	-4.2	1.00 V	209	30.62	19.18

REMARKS:

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





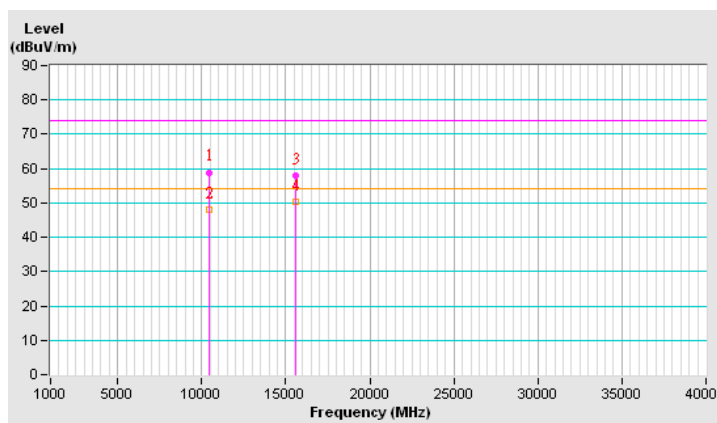
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	24 °C	HUMIDITY	65 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n(20MHz, MCS8) CH 40 / Ant.1 + Ant.2
FINAL TEST DATE	May 18, 2013		

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	#10400.00	58.9 PK	74.0	-15.1	1.32 H	73	45.02	13.88
2	#10400.00	48.1 AV	54.0	-5.9	1.32 H	73	34.22	13.88
3	15600.00	57.9 PK	74.0	-16.1	1.09 H	190	38.81	19.09
4	15600.00	50.4 AV	54.0	-3.6	1.09 H	190	31.31	19.09

REMARKS:

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





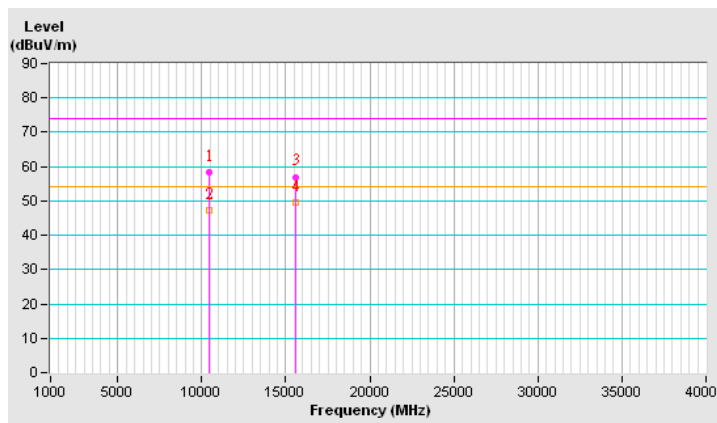
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	24 °C	HUMIDITY	65 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n(20MHz, MCS8) CH 40 / Ant.1 + Ant.2
FINAL TEST DATE	May 18, 2013		

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	#10400.00	58.2 PK	74.0	-15.8	1.00 V	73	44.32	13.88
2	#10400.00	47.2 AV	54.0	-6.8	1.00 V	73	33.32	13.88
3	15600.00	57.0 PK	74.0	-17.0	1.00 V	221	37.91	19.09
4	15600.00	49.6 AV	54.0	-4.4	1.00 V	221	30.51	19.09

REMARKS:

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





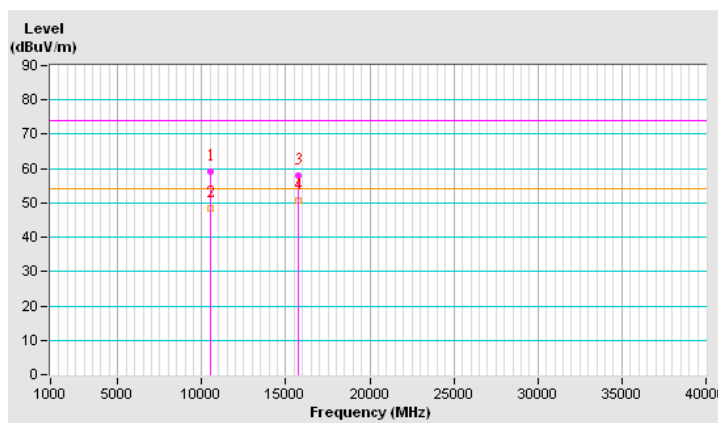
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	24 °C	HUMIDITY	65 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n(20MHz, MCS8) CH 48 / Ant.1 + Ant.2
FINAL TEST DATE	May 18, 2013		

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	#10480.00	59.1 PK	74.0	-14.9	1.36 H	73	44.89	14.21
2	#10480.00	48.5 AV	54.0	-5.5	1.36 H	73	34.29	14.21
3	15720.00	57.9 PK	74.0	-16.1	1.01 H	168	38.74	19.16
4	15720.00	50.8 AV	54.0	-3.2	1.01 H	168	31.64	19.16

REMARKS:

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





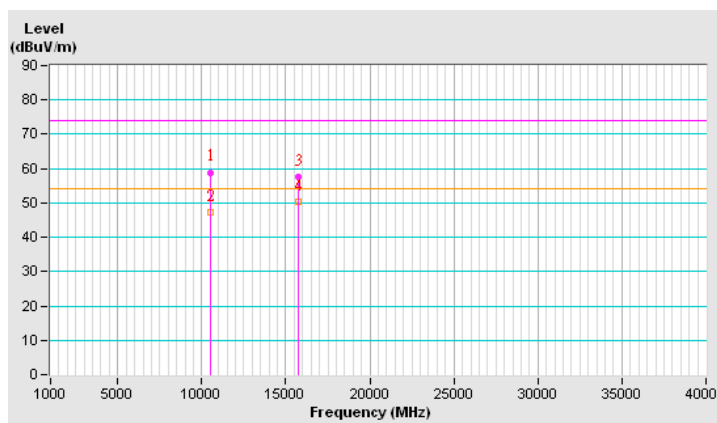
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	24 °C	HUMIDITY	65 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n(20MHz, MCS8) CH 48 / Ant.1 + Ant.2
FINAL TEST DATE	May 18, 2013		

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	#10480.00	58.9 PK	74.0	-15.1	1.02 V	69	44.69	14.21
2	#10480.00	47.4 AV	54.0	-6.6	1.02 V	69	33.19	14.21
3	15720.00	57.5 PK	74.0	-16.5	1.00 V	202	38.34	19.16
4	15720.00	50.2 AV	54.0	-3.8	1.00 V	202	31.04	19.16

REMARKS:

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





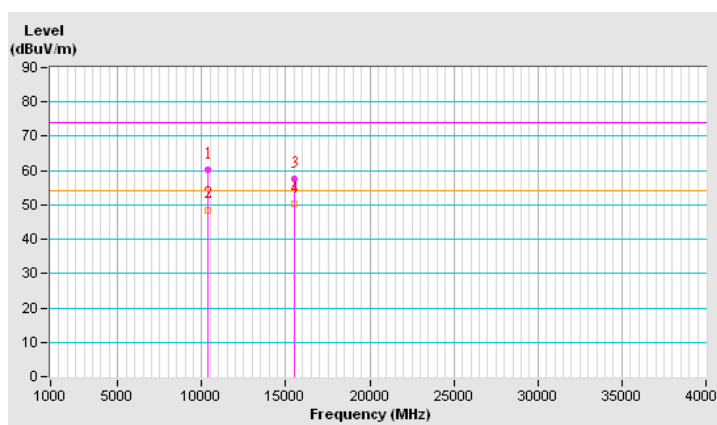
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	24 °C	HUMIDITY	65 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n(20MHz, MCS16) CH 36 / Ant.1 + Ant.2 + Ant.3
FINAL TEST DATE	May 18, 2013		

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	#10360.00	60.2 PK	74.0	-13.8	1.33 H	79	46.27	13.93
2	#10360.00	48.6 AV	54.0	-5.4	1.33 H	79	34.67	13.93
3	15540.00	57.6 PK	74.0	-16.4	1.00 H	211	38.42	19.18
4	15540.00	50.2 AV	54.0	-3.8	1.00 H	211	31.02	19.18

REMARKS:

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





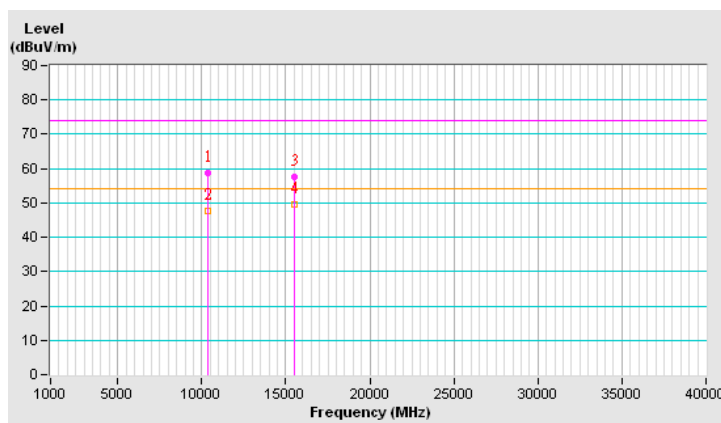
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	24 °C	HUMIDITY	65 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n(20MHz, MCS16) CH 36 / Ant.1 + Ant.2 + Ant.3
FINAL TEST DATE	May 18, 2013		

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	#10360.00	58.8 PK	74.0	-15.2	1.01 V	78	44.87	13.93
2	#10360.00	47.6 AV	54.0	-6.4	1.01 V	78	33.67	13.93
3	15540.00	57.4 PK	74.0	-16.6	1.00 V	209	38.22	19.18
4	15540.00	49.6 AV	54.0	-4.4	1.00 V	209	30.42	19.18

REMARKS:

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





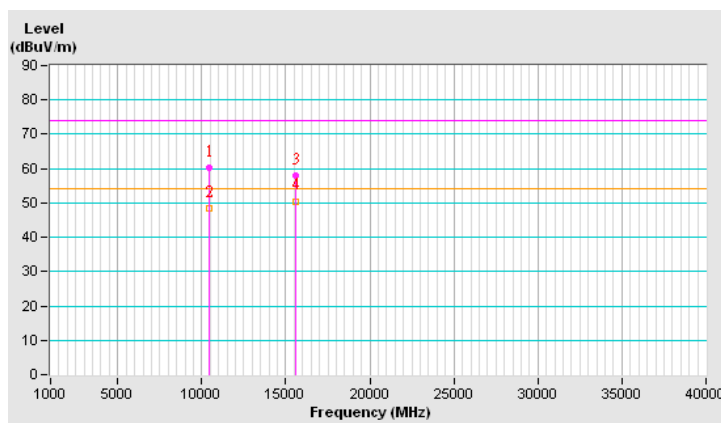
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	24 °C	HUMIDITY	65 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n(20MHz, MCS16) CH 40 / Ant.1 + Ant.2 + Ant.3
FINAL TEST DATE	May 18, 2013		

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	#10400.00	60.1 PK	74.0	-13.9	1.35 H	66	46.22	13.88
2	#10400.00	48.4 AV	54.0	-5.6	1.35 H	66	34.52	13.88
3	15600.00	58.1 PK	74.0	-15.9	1.00 H	218	39.01	19.09
4	15600.00	50.5 AV	54.0	-3.5	1.00 H	218	31.41	19.09

REMARKS:

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





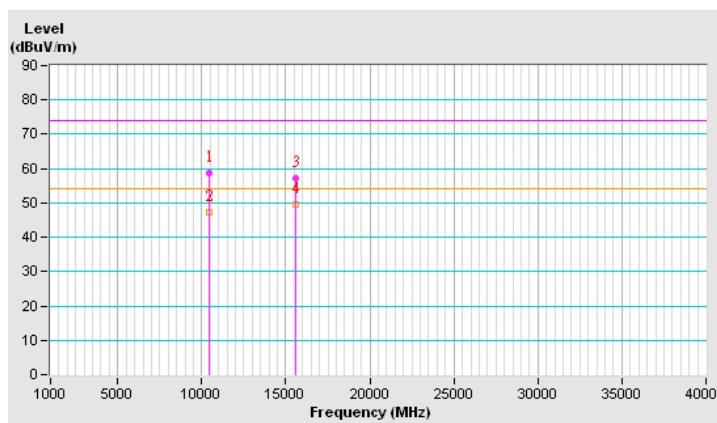
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	24 °C	HUMIDITY	65 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n(20MHz, MCS16) CH 40 / Ant.1 + Ant.2 + Ant.3
FINAL TEST DATE	May 18, 2013		

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	#10400.00	58.8 PK	74.0	-15.2	1.01 V	84	44.92	13.88
2	#10400.00	47.4 AV	54.0	-6.6	1.01 V	84	33.52	13.88
3	15600.00	57.2 PK	74.0	-16.8	1.06 V	208	38.11	19.09
4	15600.00	49.7 AV	54.0	-4.3	1.06 V	208	30.61	19.09

REMARKS:

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





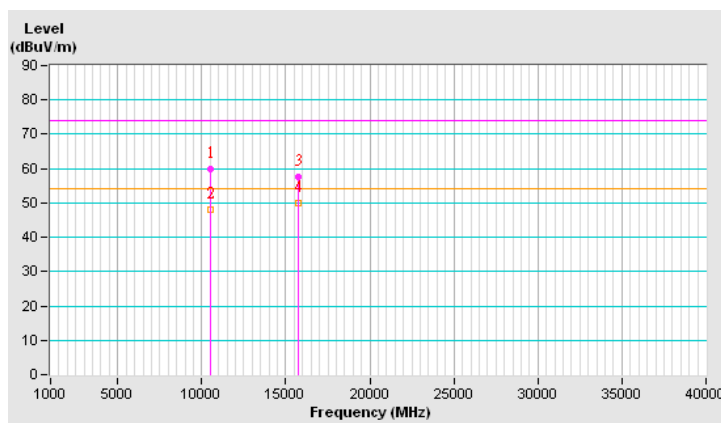
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	24 °C	HUMIDITY	65 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n(20MHz, MCS16) CH 48 / Ant.1 + Ant.2 + Ant.3
FINAL TEST DATE	May 18, 2013		

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	#10480.00	59.8 PK	74.0	-14.2	1.33 H	70	45.59	14.21
2	#10480.00	47.9 AV	54.0	-6.1	1.33 H	70	33.69	14.21
3	15720.00	57.7 PK	74.0	-16.3	1.00 H	207	38.54	19.16
4	15720.00	50.1 AV	54.0	-3.9	1.00 H	207	30.94	19.16

REMARKS:

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





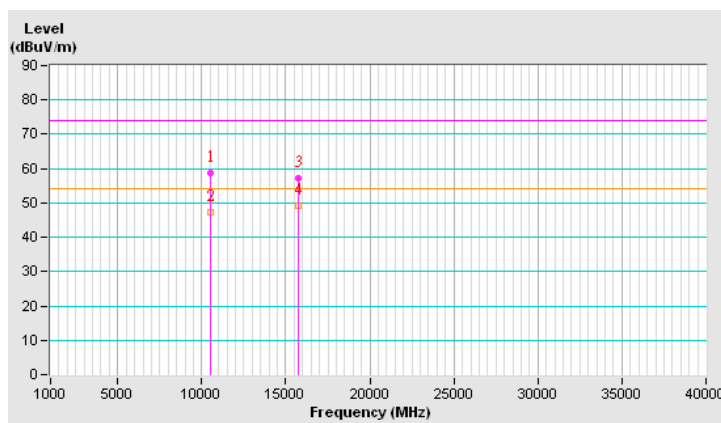
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	24 °C	HUMIDITY	65 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n(20MHz, MCS16) CH 48 / Ant.1 + Ant.2 + Ant.3
FINAL TEST DATE	May 18, 2013		

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	#10480.00	58.7 PK	74.0	-15.3	1.00 V	70	44.49	14.21
2	#10480.00	47.3 AV	54.0	-6.7	1.00 V	70	33.09	14.21
3	15720.00	57.1 PK	74.0	-16.9	1.08 V	197	37.94	19.16
4	15720.00	49.3 AV	54.0	-4.7	1.08 V	197	30.14	19.16

REMARKS:

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





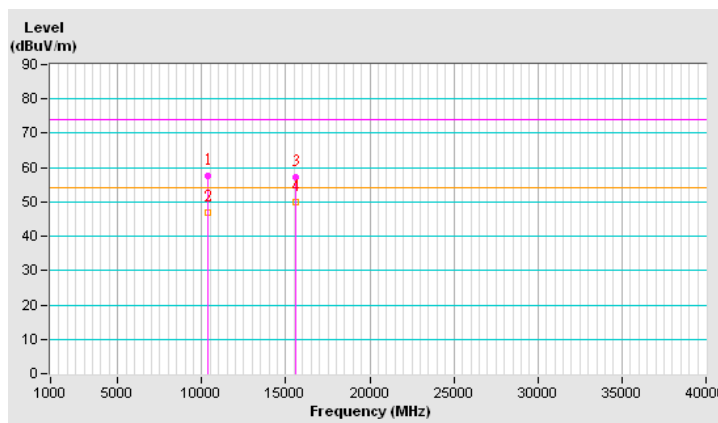
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Tim Ho	CONFIGURATIONS	802.11n(40MHz, MCS0) CH 38 / Ant.3
FINAL TEST DATE	May 23, 2013		

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	#10380.00	57.7 PK	74.0	-16.3	1.00 H	67	43.79	13.91
2	#10380.00	47.0 AV	54.0	-7.0	1.00 H	67	33.09	13.91
3	15570.00	57.3 PK	74.0	-16.7	1.02 H	200	38.17	19.13
4	15570.00	49.9 AV	54.0	-4.1	1.02 H	200	30.77	19.13

REMARKS:

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





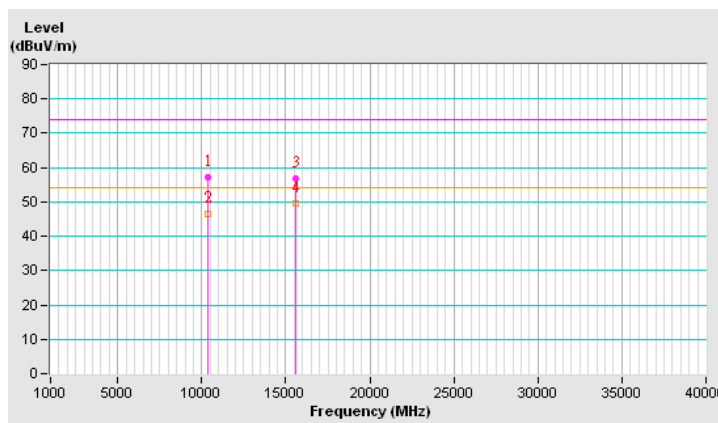
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Tim Ho	CONFIGURATIONS	802.11n(40MHz, MCS0) CH 38 / Ant.3
FINAL TEST DATE	May 23, 2013		

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	#10380.00	57.3 PK	74.0	-16.7	1.35 V	272	43.39	13.91
2	#10380.00	46.4 AV	54.0	-7.6	1.35 V	272	32.49	13.91
3	15570.00	56.8 PK	74.0	-17.2	1.00 V	288	37.67	19.13
4	15570.00	49.6 AV	54.0	-4.4	1.00 V	288	30.47	19.13

REMARKS:

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





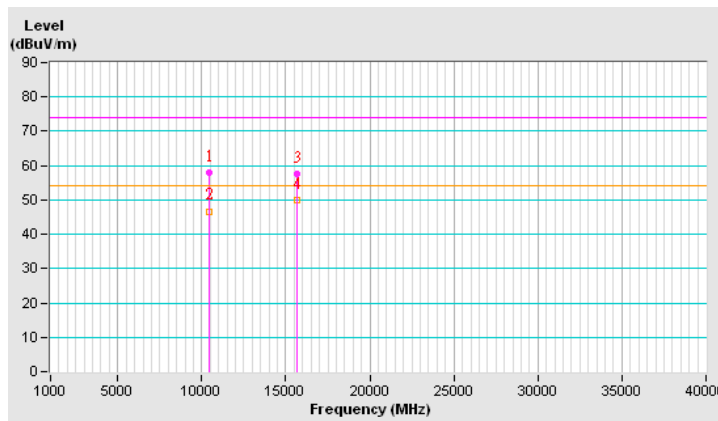
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	24 °C	HUMIDITY	65 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n(40MHz, MCS0) CH 46 / Ant.2
FINAL TEST DATE	May 18, 2013		

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	#10460.00	57.8 PK	74.0	-16.2	1.26 H	60	43.68	14.12
2	#10460.00	46.7 AV	54.0	-7.3	1.26 H	60	32.58	14.12
3	15690.00	57.4 PK	74.0	-16.6	1.01 H	159	38.23	19.17
4	15690.00	50.1 AV	54.0	-3.9	1.01 H	159	30.93	19.17

REMARKS:

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





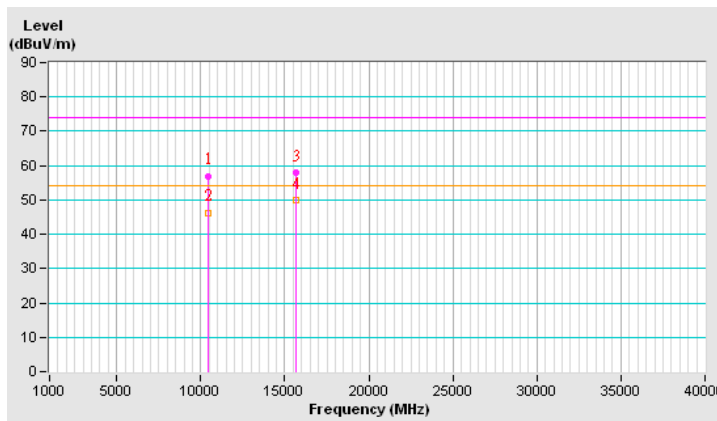
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	24 °C	HUMIDITY	65 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n(40MHz, MCS0) CH 46 / Ant.2
FINAL TEST DATE	May 18, 2013		

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	#10460.00	57.0 PK	74.0	-17.0	1.14 V	216	42.88	14.12
2	#10460.00	46.3 AV	54.0	-7.7	1.14 V	216	32.18	14.12
3	15690.00	57.9 PK	74.0	-16.1	1.08 V	278	38.73	19.17
4	15690.00	50.1 AV	54.0	-3.9	1.08 V	278	30.93	19.17

REMARKS:

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





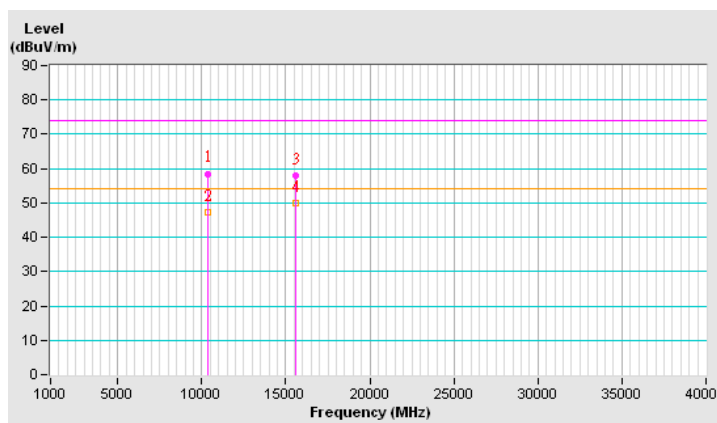
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	25 °C	HUMIDITY	68 %
TEST ENGINEER	Tim Ho	CONFIGURATIONS	802.11n(40MHz, MCS8) CH 38 / Ant.1 + Ant.3
FINAL TEST DATE	May 23, 2013		

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	#10380.00	58.50 PK	74.00	-15.50	1.00 H	80	45.08	13.42
2	#10380.00	47.30 AV	54.00	-6.70	1.00 H	80	33.88	13.42
3	15570.00	57.80 PK	74.00	-16.20	1.00 H	195	38.35	19.45
4	15570.00	49.90 AV	54.00	-4.10	1.00 H	195	30.45	19.45

REMARKS:

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





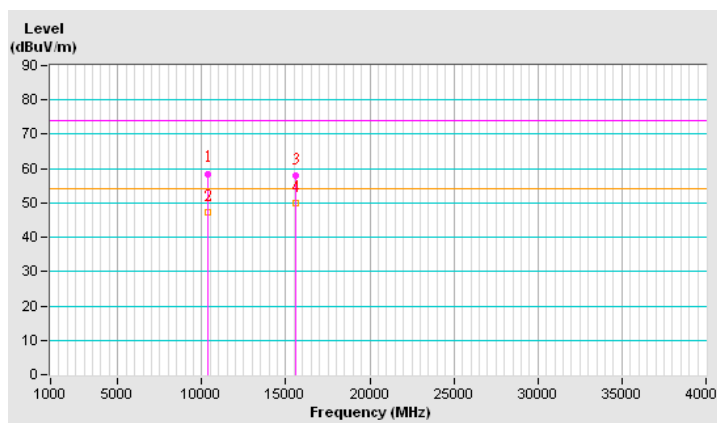
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	25 °C	HUMIDITY	68 %
TEST ENGINEER	Tim Ho	CONFIGURATIONS	802.11n(40MHz, MCS8) CH 38 / Ant.1 + Ant.3
FINAL TEST DATE	May 23, 2013		

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	#10380.00	58.8 PK	74.0	-15.2	1.01 V	78	45.38	13.42
2	#10380.00	47.6 AV	54.0	-6.4	1.01 V	78	34.18	13.42
3	15570.00	57.4 PK	74.0	-16.6	1.00 V	209	37.95	19.45
4	15570.00	49.8 AV	54.0	-4.2	1.00 V	209	30.35	19.45

REMARKS:

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





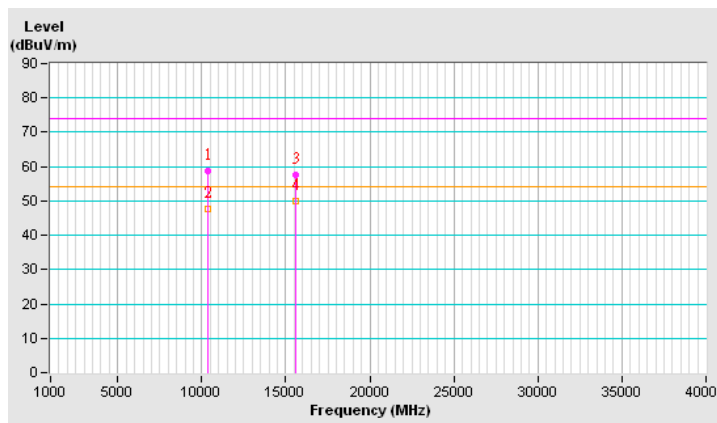
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	24 °C	HUMIDITY	65 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n(40MHz, MCS8) CH 46 / Ant.1 + Ant.2
FINAL TEST DATE	May 18, 2013		

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	#10460.00	58.9 PK	74.0	-15.1	1.33 H	65	44.78	14.12
2	#10460.00	48.3 AV	54.0	-5.7	1.33 H	65	34.18	14.12
3	15690.00	57.7 PK	74.0	-16.3	1.08 H	189	38.53	19.17
4	15690.00	50.3 AV	54.0	-3.7	1.08 H	189	31.13	19.17

REMARKS:

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





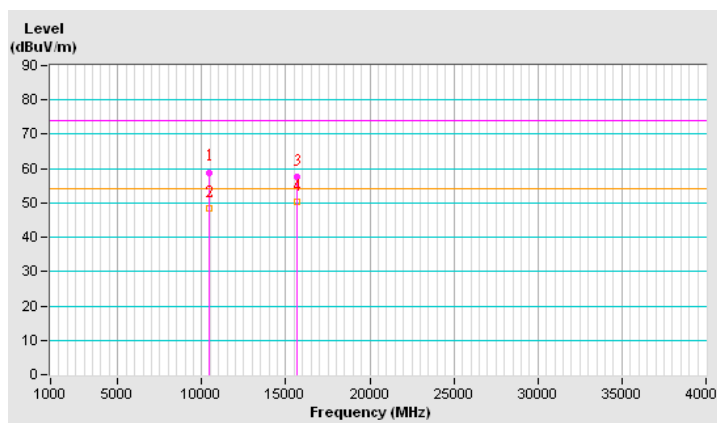
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	24 °C	HUMIDITY	65 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n(40MHz, MCS8) CH 46 / Ant.1 + Ant.2
FINAL TEST DATE	May 18, 2013		

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	#10460.00	59.1 PK	74.0	-14.9	1.00 V	64	44.98	14.12
2	#10460.00	47.9 AV	54.0	-6.1	1.00 V	64	33.78	14.12
3	15690.00	57.4 PK	74.0	-16.6	1.00 V	223	38.23	19.17
4	15690.00	49.7 AV	54.0	-4.3	1.00 V	223	30.53	19.17

REMARKS:

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





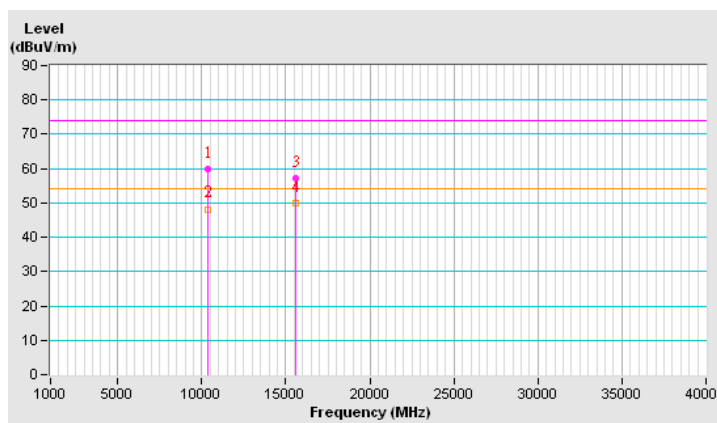
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	24 °C	HUMIDITY	65 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n(40MHz, MCS16) CH 38 / Ant.1 + Ant.2 + Ant.3
FINAL TEST DATE	May 18, 2013		

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	#10380.00	59.9 PK	74.0	-14.1	1.30 H	65	45.99	13.91
2	#10380.00	48.2 AV	54.0	-5.8	1.30 H	65	34.29	13.91
3	15570.00	57.3 PK	74.0	-16.7	1.00 H	221	38.17	19.13
4	15570.00	49.9 AV	54.0	-4.1	1.00 H	221	30.77	19.13

REMARKS:

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





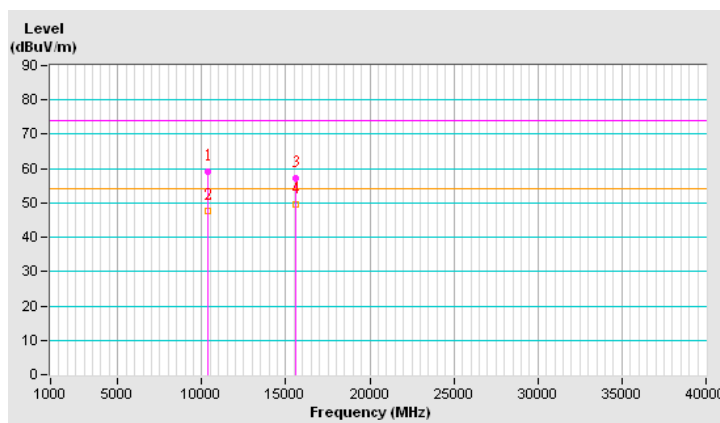
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	24 °C	HUMIDITY	65 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n(40MHz, MCS16) CH 38 / Ant.1 + Ant.2 + Ant.3
FINAL TEST DATE	May 18, 2013		

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	#10380.00	59.2 PK	74.0	-14.8	1.00 V	91	45.29	13.91
2	#10380.00	47.5 AV	54.0	-6.5	1.00 V	91	33.59	13.91
3	15570.00	57.1 PK	74.0	-16.9	1.02 V	194	37.97	19.13
4	15570.00	49.6 AV	54.0	-4.4	1.02 V	194	30.47	19.13

REMARKS:

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





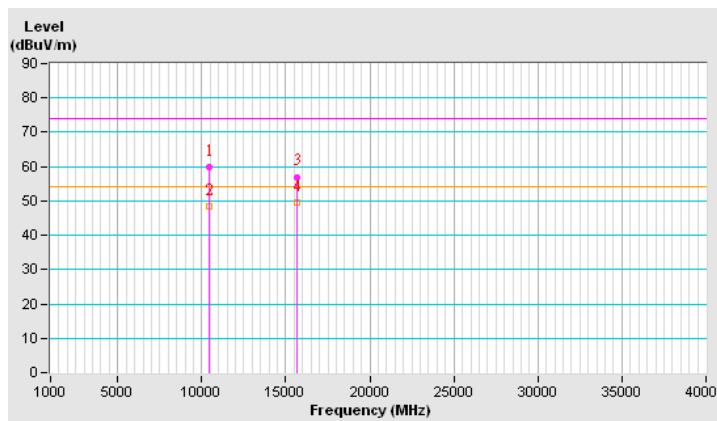
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	24 °C	HUMIDITY	65 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n(40MHz, MCS16) CH 46 / Ant.1 + Ant.2 + Ant.3
FINAL TEST DATE	May 18, 2013		

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	#10460.00	60.0 PK	74.0	-14.0	1.34 H	79	45.88	14.12
2	#10460.00	48.5 AV	54.0	-5.5	1.34 H	79	34.38	14.12
3	15690.00	57.0 PK	74.0	-17.0	1.00 H	215	37.83	19.17
4	15690.00	49.6 AV	54.0	-4.4	1.00 H	215	30.43	19.17

REMARKS:

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





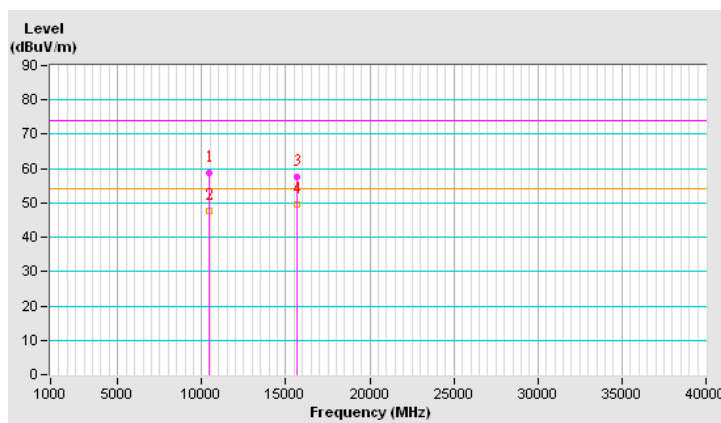
A D T

FREQUENCY RANGE	1GHz~40GHz	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	24 °C	HUMIDITY	65 %
TEST ENGINEER	Robert Cheng	CONFIGURATIONS	802.11n(40MHz, MCS16) CH 46 / Ant.1 + Ant.2 + Ant.3
FINAL TEST DATE	May 18, 2013		

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	#10460.00	58.8 PK	74.0	-15.2	1.01 V	78	44.68	14.12
2	#10460.00	47.6 AV	54.0	-6.4	1.01 V	78	33.48	14.12
3	15690.00	57.4 PK	74.0	-16.6	1.00 V	209	38.23	19.17
4	15690.00	49.6 AV	54.0	-4.4	1.00 V	209	30.43	19.17

REMARKS:

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



4.7 BAND EDGE EMISSIONS MEASUREMENT

4.7.1 LIMITS

For transmitters operating in the 5.15-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz (68.3dBuV/m at 3m). For transmitters operating in the 5.470-5.725 GHz band: all emissions outside of the 5.470-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz (68.3dBuV/m at 3m). For transmitters operating in the 5.725-5.825 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an EIRP of -17 dBm/MHz (78.3dBuV/m at 3m); for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an EIRP of -27 dBm/MHz (68.3dBuV/m at 3m). In addition, In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequency Range (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

4.7.2 MEASURING INSTRUMENTS AND SETTING

Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Analyzer	Setting
Attenuation	Auto
Span Frequency	100 MHz
RB / VB (Emission in restricted band)	1MHz / 3MHz for Peak, 1MHz / 10Hz for Average
RB / VB (Emission in non-restricted band)	100 kHz /300 kHz for Peak



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4.7.3 TEST PROCEDURES

1. The test procedure is the same as section 4.6.3, only the frequency range investigated is limited to 100MHz around bandedges.
2. In case the emission is fail due to the used RB/VB is too wide, marker-delta method of FCC KDB789033 D01 V01R02 will be followed.

4.7.4 TEST SETUP LAYOUT

This test setup layout is the same as that shown in section 4.6.4.

4.7.5 TEST DEVIATION

There is no deviation with the original standard.

4.7.6 EUT OPERATING DURING TEST

The EUT was programmed to be in continuously transmitting mode.

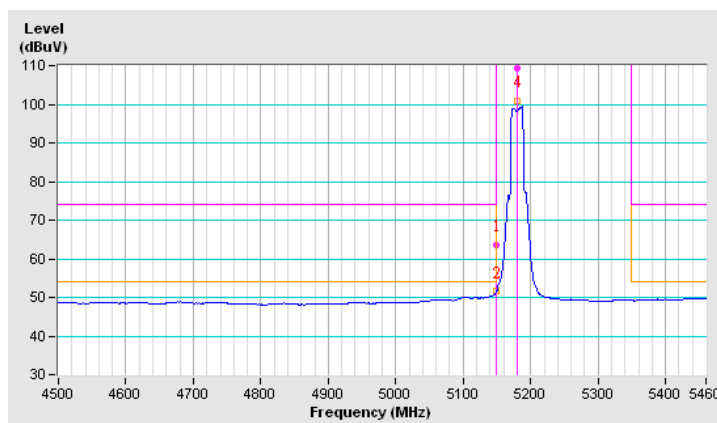
4.7.7 TEST RESULT OF BAND EDGE AND FUNDAMENTAL EMISSIONS

FINAL TEST DATE	May 15, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	11a CH 36 / Ant.2

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	5150.00	63.7 PK	74.0	-10.3	1.00 H	22	56.86	6.84
2	5150.00	51.6 AV	54.0	-2.4	1.00 H	22	44.76	6.84
3	*5180.00	109.2 PK			1.00 H	22	102.27	6.93
4	*5180.00	100.9 AV			1.00 H	22	93.97	6.93

REMARKS:

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





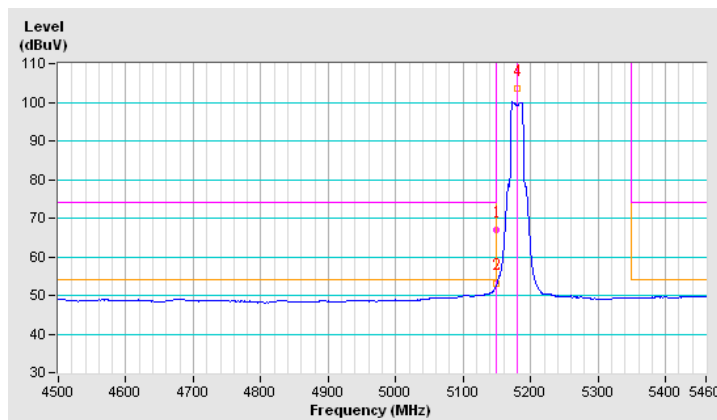
A D T

FINAL TEST DATE	May 15, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	11a CH 36 / Ant.2

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	5150.00	66.8 PK	74.0	-7.2	1.00 V	88	59.96	6.84
2	5150.00	53.2 AV	54.0	-0.8	1.00 V	88	46.36	6.84
3	*5180.00	111.4 PK			1.00 V	87	104.47	6.93
4	*5180.00	103.4 AV			1.00 V	87	96.47	6.93

REMARKS:

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





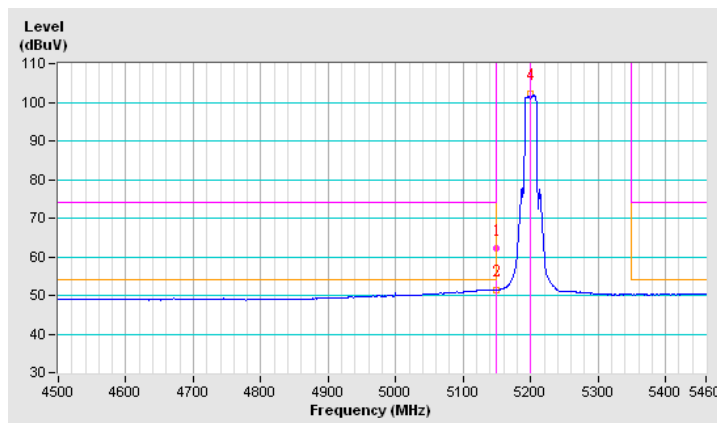
A D T

FINAL TEST DATE	May 17, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	25 °C	HUMIDITY	65 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	11a CH 40 / Ant.1

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	5150.00	62.1 PK	74.0	-11.9	1.04 H	29	55.26	6.84
2	5150.00	51.3 AV	54.0	-2.7	1.04 H	29	44.46	6.84
3	*5200.00	111.2 PK			1.02 H	31	104.21	6.99
4	*5200.00	102.3 AV			1.02 H	31	95.31	6.99

REMARKS:

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





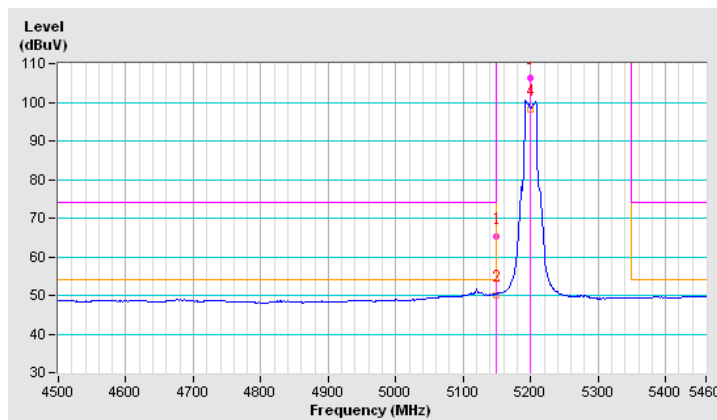
A D T

FINAL TEST DATE	May 23, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	11a CH 40 / Ant.1

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	5150.00	65.1 PK	74.0	-8.9	1.04 V	20	58.26	6.84
2	5150.00	50.0 AV	54.0	-4.0	1.04 V	20	43.16	6.84
3	*5200.00	106.2 PK			1.12 V	209	99.21	6.99
4	*5200.00	98.1 AV			1.12 V	209	91.11	6.99

REMARKS:

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

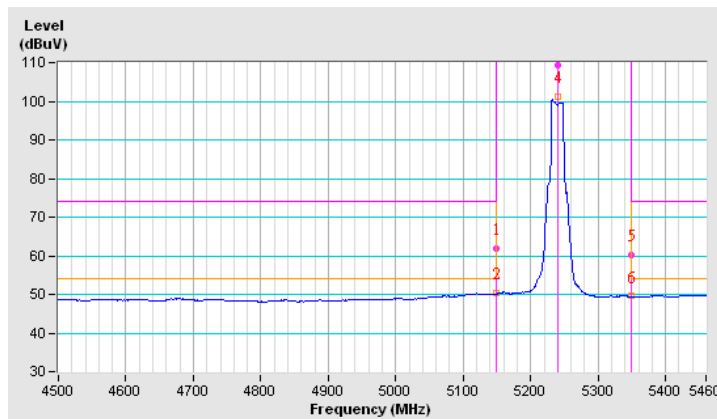


FINAL TEST DATE	May 15, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	11a CH 48 / Ant.2

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	5150.00	61.8 PK	74.0	-12.2	1.02 H	22	54.96	6.84
2	5150.00	50.4 AV	54.0	-3.6	1.02 H	22	43.56	6.84
3	*5240.00	109.4 PK			1.03 H	34	102.33	7.08
4	*5240.00	101.3 AV			1.03 H	34	94.22	7.08
5	5350.00	60.3 PK	74.0	-13.7	1.02 H	22	52.97	7.33
6	5350.00	49.5 AV	54.0	-4.5	1.02 H	22	42.17	7.33

REMARKS:

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

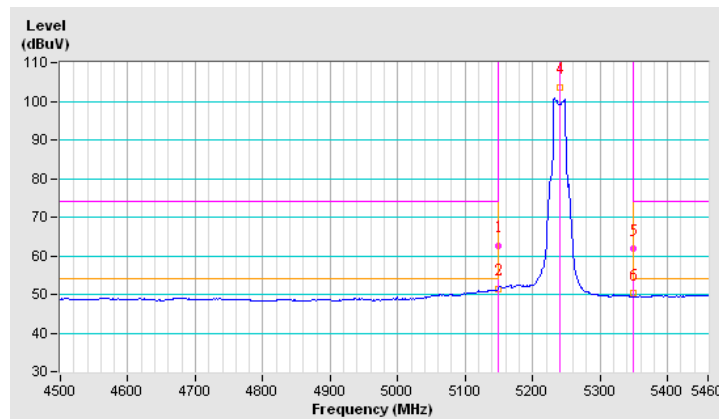


FINAL TEST DATE	May 15, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	11a CH 48 / Ant.2

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	5150.00	62.6 PK	74.0	-11.4	1.00 V	88	55.76	6.84
2	5150.00	51.4 AV	54.0	-2.6	1.00 V	88	44.56	6.84
3	*5240.00	112.3 PK			1.00 V	86	105.22	7.08
4	*5240.00	103.6 AV			1.00 V	86	96.52	7.08
5	5350.00	61.7 PK	74.0	-12.3	1.00 V	87	54.37	7.33
6	5350.00	50.2 AV	54.0	-3.8	1.00 V	87	42.87	7.33

REMARKS:

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





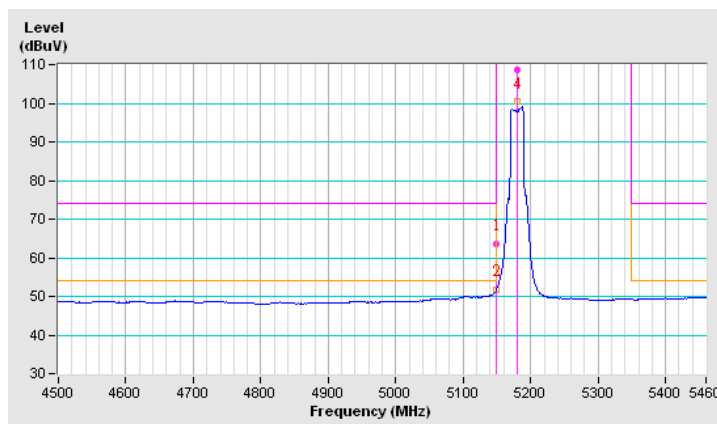
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FINAL TEST DATE	May 15, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	802.11n(20MHz, MCS0) CH 36 / Ant.2

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	5150.00	63.5 PK	74.0	-10.5	1.00 H	19	56.66	6.84
2	5150.00	51.7 AV	54.0	-2.3	1.00 H	19	44.86	6.84
3	*5180.00	108.7 PK			1.00 H	19	101.77	6.93
4	*5180.00	100.4 AV			1.00 H	19	93.47	6.93

REMARKS:

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





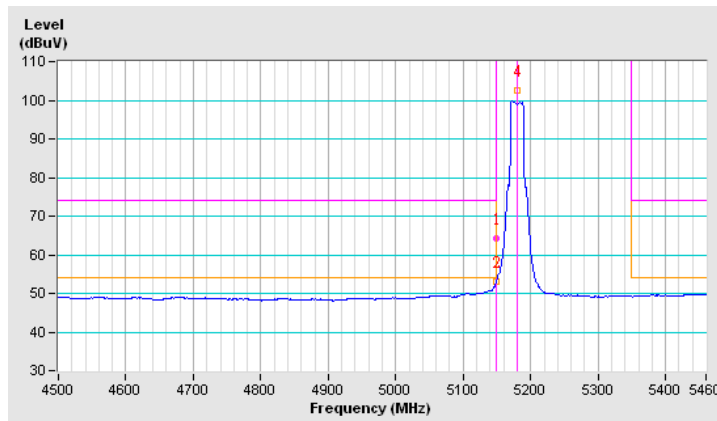
A D T

FINAL TEST DATE	May 15, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	802.11n(20MHz, MCS0) CH 36 / Ant.2

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	5150.00	64.4 PK	74.0	-9.6	1.00 V	88	57.56	6.84
2	5150.00	53.1 AV	54.0	-0.9	1.00 V	88	46.26	6.84
3	*5180.00	111.2 PK			1.00 V	87	104.27	6.93
4	*5180.00	102.6 AV			1.00 V	87	95.65	6.93

REMARKS:

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





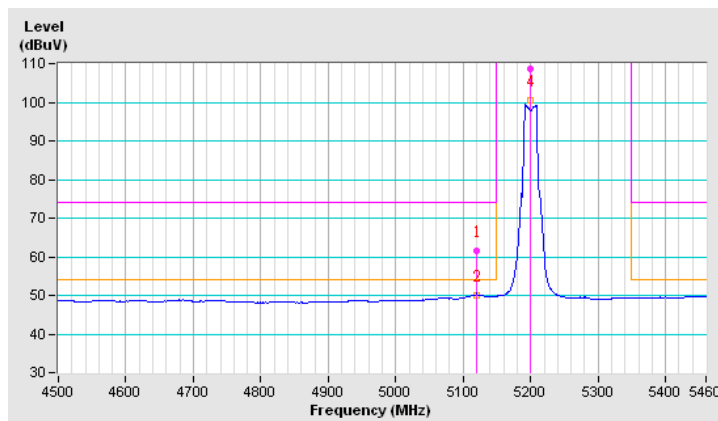
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FINAL TEST DATE	May 15, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	802.11n(20MHz, MCS0) CH 36 / Ant.2

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	5120.00	61.6 PK	74.0	-12.4	1.02 H	29	54.84	6.76
2	5120.00	50.1 AV	54.0	-3.9	1.02 H	29	43.34	6.76
3	*5200.00	108.8 PK			1.04 H	3	101.81	6.99
4	*5200.00	100.6 AV			1.04 H	3	93.61	6.99

REMARKS:

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





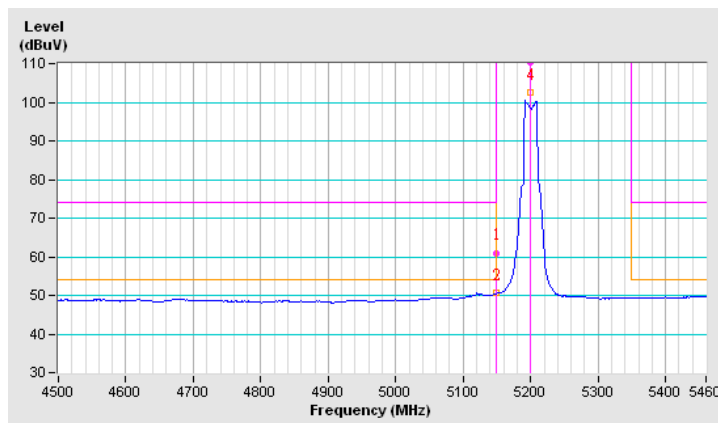
A D T

FINAL TEST DATE	May 15, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	802.11n(20MHz, MCS0) CH 40 / Ant.2

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	5150.00	60.9 PK	74.0	-13.1	1.00 V	86	54.06	6.84
2	5150.00	50.6 AV	54.0	-3.4	1.00 V	86	43.74	6.84
3	*5200.00	110.5 PK			1.00 V	87	103.51	6.99
4	*5200.00	102.4 AV			1.00 V	87	95.41	6.99

REMARKS:

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





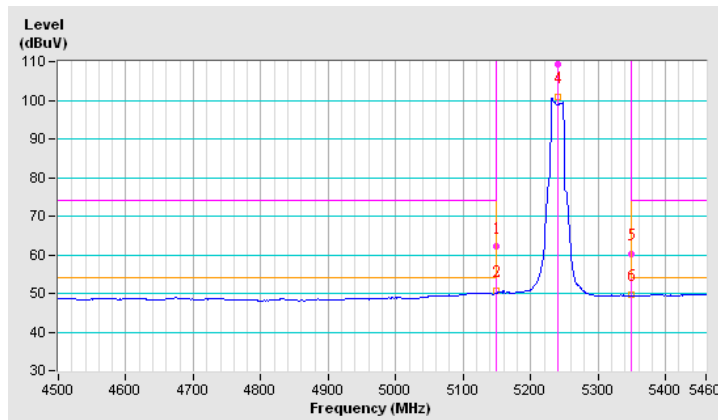
A D T

FINAL TEST DATE	May 15, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	802.11n(20MHz, MCS0) CH 48 / Ant.2

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	5150.00	62.1 PK	74.0	-11.9	1.00 H	21	55.26	6.84
2	5150.00	50.7 AV	54.0	-3.3	1.00 H	21	43.86	6.84
3	*5240.00	109.3 PK			1.03 H	12	102.22	7.08
4	*5240.00	100.8 AV			1.03 H	12	93.72	7.08
5	5350.00	60.3 PK	74.0	-13.7	1.00 H	15	52.97	7.33
6	5350.00	49.6 AV	54.0	-4.4	1.00 H	15	42.27	7.33

REMARKS:

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





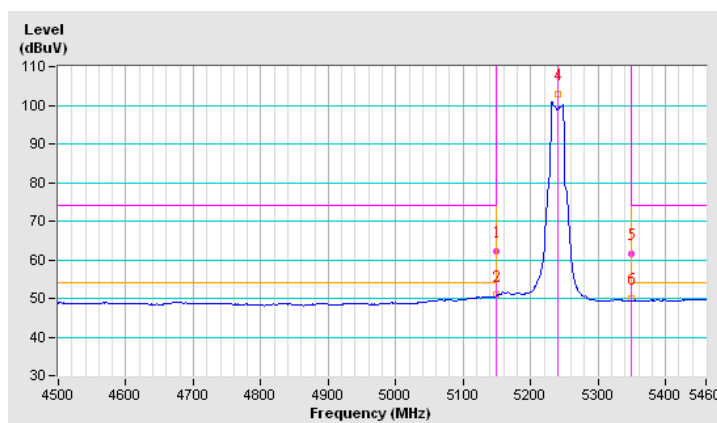
A D T

FINAL TEST DATE	May 15, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	802.11n(20MHz, MCS0) CH 48 / Ant.2

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	5150.00	62.3 PK	74.0	-11.7	1.00 V	87	55.46	6.84
2	5150.00	50.9 AV	54.0	-3.1	1.00 V	87	44.06	6.84
3	*5240.00	111.6 PK			1.00 V	86	104.52	7.08
4	*5240.00	103.0 AV			1.00 V	86	95.92	7.08
5	5350.00	61.5 PK	74.0	-12.5	1.00 V	85	54.17	7.33
6	5350.00	50.1 AV	54.0	-3.9	1.00 V	85	42.77	7.33

REMARKS:

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





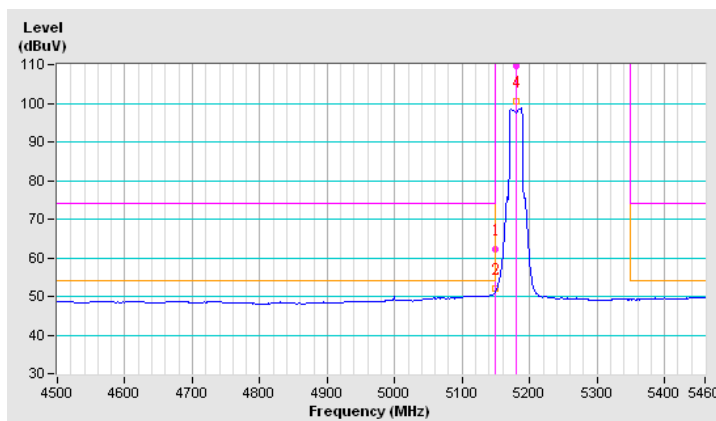
A D T

FINAL TEST DATE	May 16, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	802.11n(20MHz, MCS8) CH 36 / Ant.1 + Ant.2

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	5150.00	62.3 PK	74.0	-11.7	1.02 H	30	55.46	6.84
2	5150.00	52.1 AV	54.0	-1.9	1.02 H	30	45.26	6.84
3	*5180.00	109.8 PK			1.02 H	27	102.87	6.93
4	*5180.00	100.5 AV			1.02 H	27	93.57	6.93

REMARKS:

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





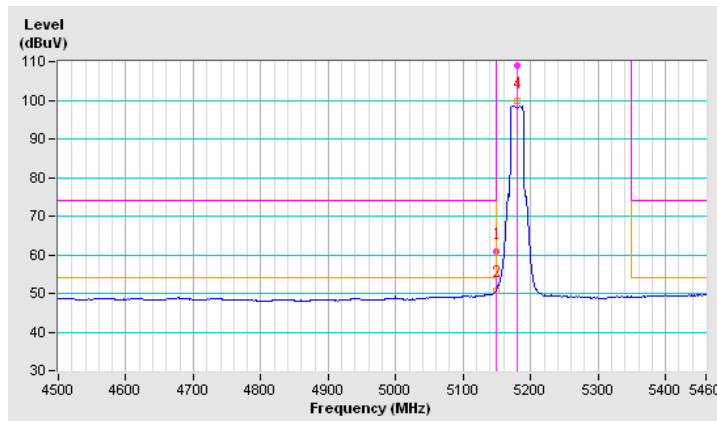
A D T

FINAL TEST DATE	May 16, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	802.11n(20MHz, MCS8) CH 36 / Ant.1 + Ant.2

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	5150.00	60.7 PK	74.0	-13.3	1.00 V	88	53.86	6.84
2	5150.00	50.7 AV	54.0	-3.3	1.00 V	88	43.86	6.84
3	*5180.00	109.0 PK			1.00 V	87	102.07	6.93
4	*5180.00	99.7 AV			1.00 V	87	92.77	6.93

REMARKS:

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





A D T

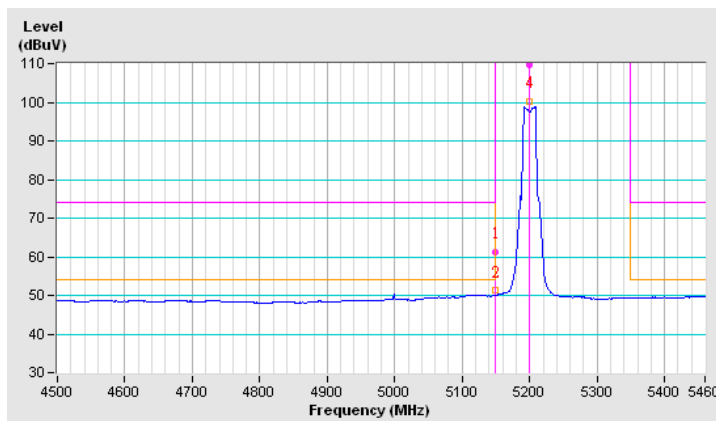
FINAL TEST DATE	May 16, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	802.11n(20MHz, MCS8) CH 40 / Ant.1 + Ant.2

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	5150.00	61.3 PK	74.0	-12.7	1.02 H	31	54.46	6.84
2	5150.00	51.2 AV	54.0	-2.8	1.02 H	31	44.36	6.84
3	*5200.00	109.6 PK			1.02 H	30	102.61	6.99
4	*5200.00	100.3 AV			1.02 H	30	93.31	6.99

REMARKS:

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





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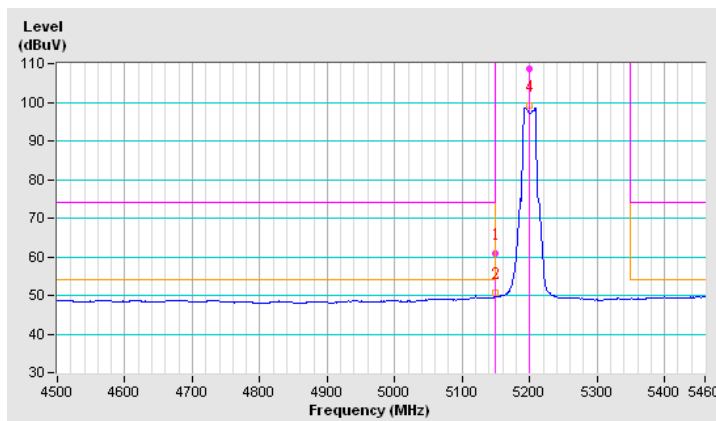
FINAL TEST DATE	May 16, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	802.11n(20MHz, MCS8) CH 40 / Ant.1 + Ant.2

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	5150.00	60.8 PK	74.0	-13.2	1.02 V	84	53.96	6.84
2	5150.00	50.6 AV	54.0	-3.4	1.02 V	84	43.76	6.84
3	*5200.00	108.6 PK			1.00 V	74	101.61	6.99
4	*5200.00	99.3 AV			1.00 V	74	92.31	6.99

REMARKS:

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





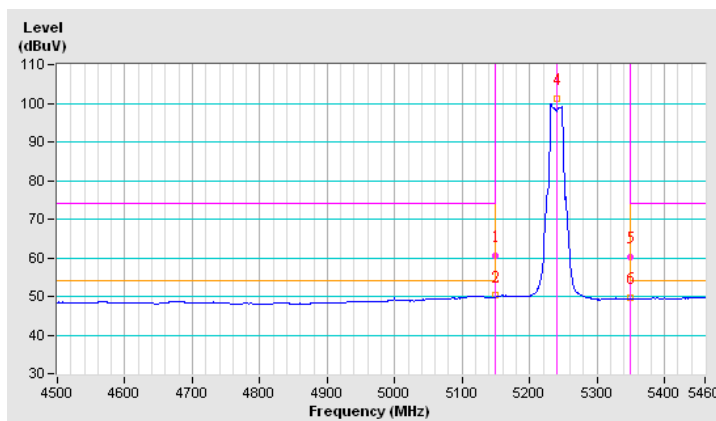
A D T

FINAL TEST DATE	May 16, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	802.11n(20MHz, MCS8) CH 48 / Ant.1 + Ant.2

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	5150.00	60.5 PK	74.0	-13.5	1.03 H	23	53.66	6.84
2	5150.00	50.2 AV	54.0	-3.8	1.03 H	23	43.36	6.84
3	*5240.00	111.3 PK			1.03 H	26	104.22	7.08
4	*5240.00	101.2 AV			1.03 H	26	94.12	7.08
5	5350.00	60.3 PK	74.0	-13.7	1.03 H	22	52.97	7.33
6	5350.00	49.7 AV	54.0	-4.3	1.03 H	22	42.37	7.33

REMARKS:

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





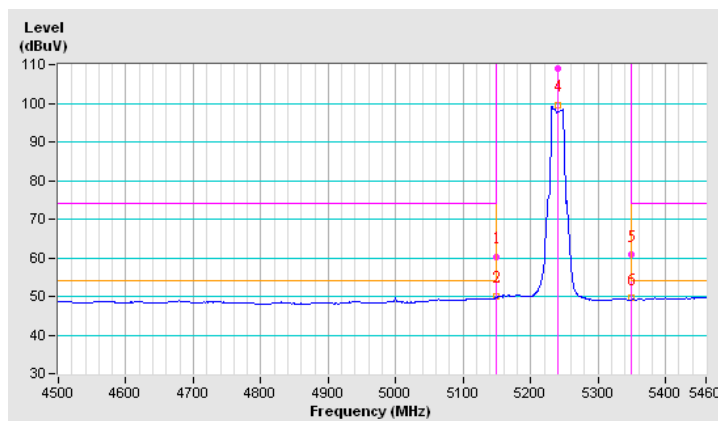
A D T

FINAL TEST DATE	May 16, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	802.11n(20MHz, MCS8) CH 48 / Ant.1 + Ant.2

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	5150.00	60.3 PK	74.0	-13.7	1.00 V	104	53.46	6.84
2	5150.00	50.0 AV	54.0	-4.0	1.00 V	104	43.16	6.84
3	*5240.00	108.9 PK			1.00 V	75	101.82	7.08
4	*5240.00	99.6 AV			1.00 V	75	92.52	7.08
5	5350.00	60.7 PK	74.0	-13.3	1.00 V	95	53.37	7.33
6	5350.00	49.5 AV	54.0	-4.5	1.00 V	95	42.17	7.33

REMARKS:

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





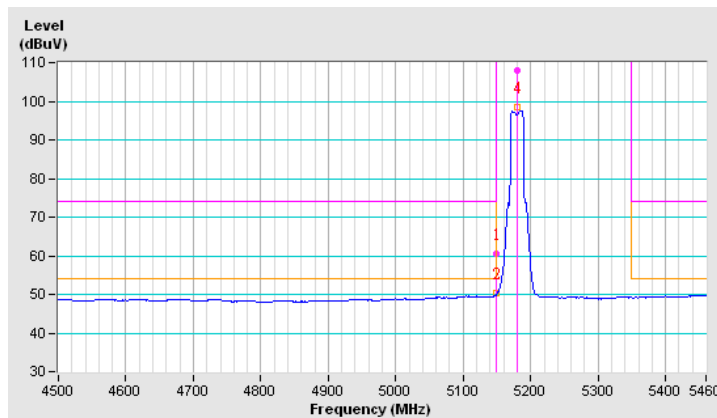
A D T

FINAL TEST DATE	May 16, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	802.11n(20MHz, MCS16) CH 36 / Ant.1 + Ant.2 + Ant. 3

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	5150.00	60.6 PK	74.0	-13.4	1.02 H	23	53.76	6.84
2	5150.00	50.3 AV	54.0	-3.7	1.02 H	23	43.46	6.84
3	*5180.00	108.0 PK			1.02 H	21	101.07	6.93
4	*5180.00	98.4 AV			1.02 H	21	91.47	6.93

REMARKS:

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





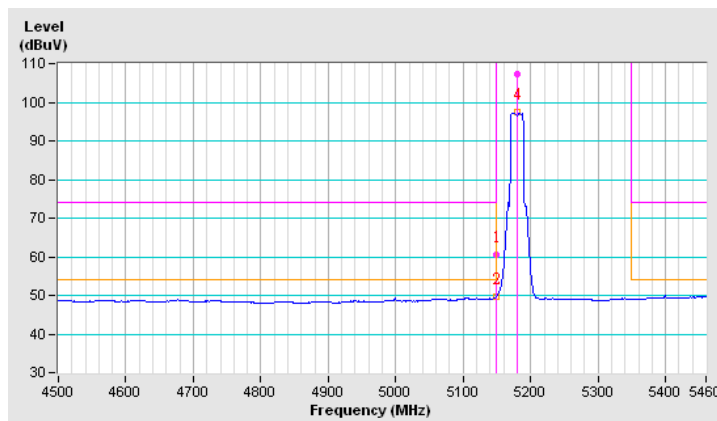
A D T

FINAL TEST DATE	May 16, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	802.11n(20MHz, MCS16) CH 36 / Ant.1 + Ant.2 + Ant. 3

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	5150.00	60.4 PK	74.0	-13.6	1.00 V	86	53.56	6.84
2	5150.00	49.5 AV	54.0	-4.5	1.00 V	86	42.66	6.84
3	*5180.00	107.4 PK			1.01 V	88	100.47	6.93
4	*5180.00	97.3 AV			1.01 V	88	90.37	6.93

REMARKS:

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





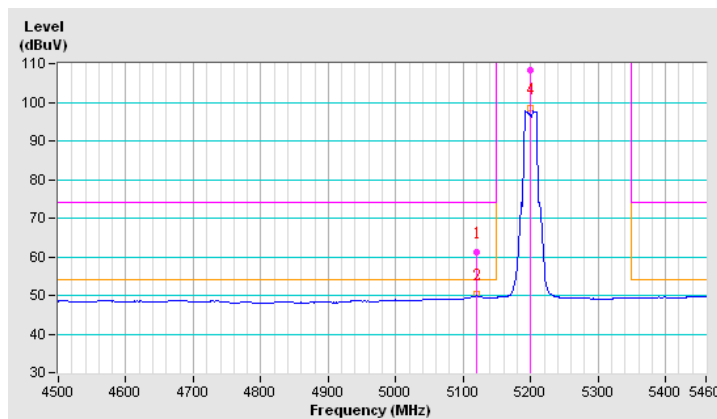
A D T

FINAL TEST DATE	May 16, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	802.11n(20MHz, MCS16) CH 40 / Ant.1 + Ant.2 + Ant. 3

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	5120.00	61.3 PK	74.0	-12.7	1.03 H	19	54.54	6.76
2	5120.00	50.5 AV	54.0	-3.5	1.03 H	19	43.74	6.76
3	*5200.00	108.4 PK			1.03 H	22	101.41	6.99
4	*5200.00	98.6 AV			1.03 H	22	91.61	6.99

REMARKS:

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





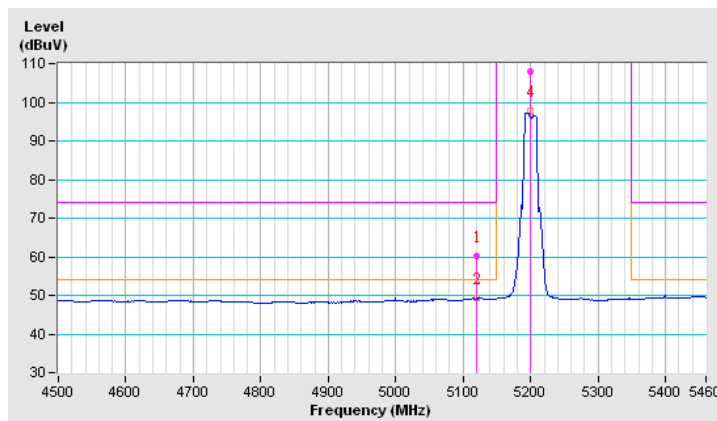
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FINAL TEST DATE	May 16, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	802.11n(20MHz, MCS16) CH 40 / Ant.1 + Ant.2 + Ant. 3

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	5120.00	60.3 PK	74.0	-13.7	1.03 V	82	53.54	6.76
2	5120.00	49.4 AV	54.0	-4.6	1.03 V	82	42.64	6.76
3	*5200.00	107.8 PK			1.01 V	101	100.81	6.99
4	*5200.00	97.8 AV			1.01 V	101	90.81	6.99

REMARKS:

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





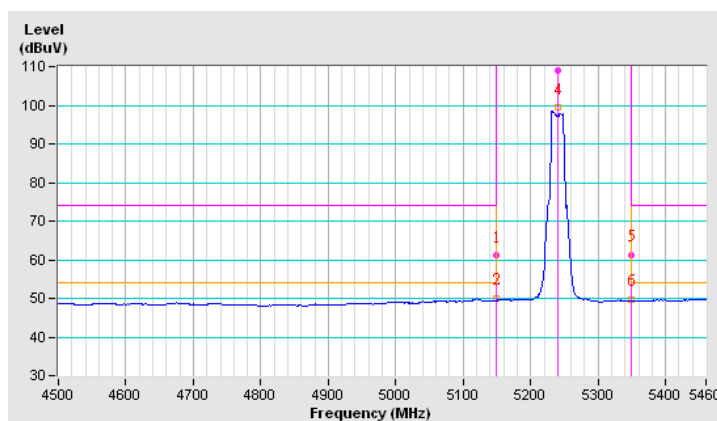
A D T

FINAL TEST DATE	May 16, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	802.11n(20MHz, MCS16) CH 48 / Ant.1 + Ant.2 + Ant. 3

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	5150.00	61.1 PK	74.0	-12.9	1.00 H	28	54.26	6.84
2	5150.00	50.1 AV	54.0	-3.9	1.00 H	28	43.26	6.84
3	*5240.00	108.9 PK			1.02 H	23	101.82	7.08
4	*5240.00	99.4 AV			1.02 H	23	92.32	7.08
5	5350.00	61.3 PK	74.0	-12.7	1.02 H	31	53.97	7.33
6	5350.00	49.6 AV	54.0	-4.4	1.02 H	31	42.27	7.33

REMARKS:

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





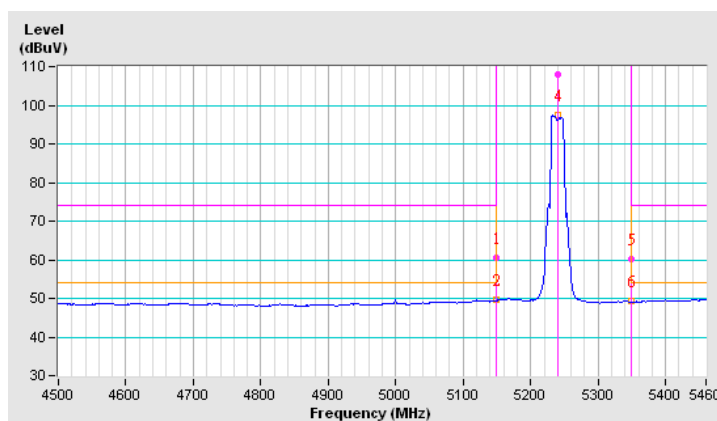
A D T

FINAL TEST DATE	May 16, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	802.11n(20MHz, MCS16) CH 48 / Ant.1 + Ant.2 + Ant. 3

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	5150.00	60.5 PK	74.0	-13.5	1.01 V	82	53.66	6.84
2	5150.00	49.7 AV	54.0	-4.3	1.01 V	82	42.86	6.84
3	*5240.00	107.8 PK			1.03 V	93	100.72	7.08
4	*5240.00	97.6 AV			1.03 V	93	90.52	7.08
5	5350.00	60.2 PK	74.0	-13.8	1.05 V	79	52.87	7.33
6	5350.00	49.4 AV	54.0	-4.6	1.05 V	79	42.07	7.33

REMARKS:

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





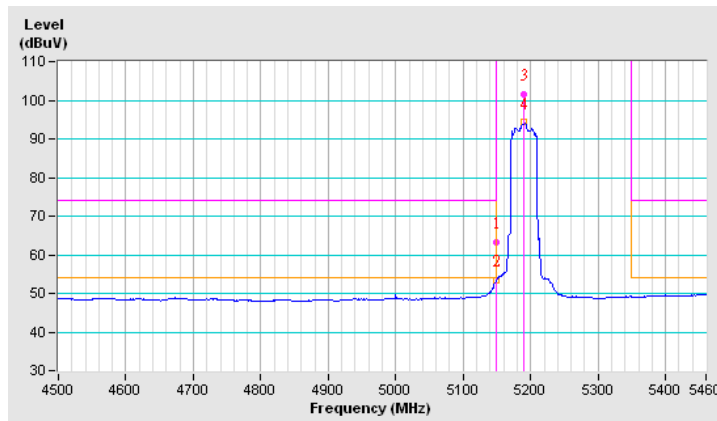
A D T

FINAL TEST DATE	May 16, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	802.11n(40MHz, MCS0) CH 40 / Ant.3

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	5150.00	63.2 PK	74.0	-10.8	1.36 H	31	56.36	6.84
2	5150.00	53.4 AV	54.0	-0.6	1.36 H	31	46.56	6.84
3	*5190.00	101.5 PK			1.37 H	22	94.54	6.96
4	*5190.00	94.3 AV			1.37 H	22	87.34	6.96

REMARKS:

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





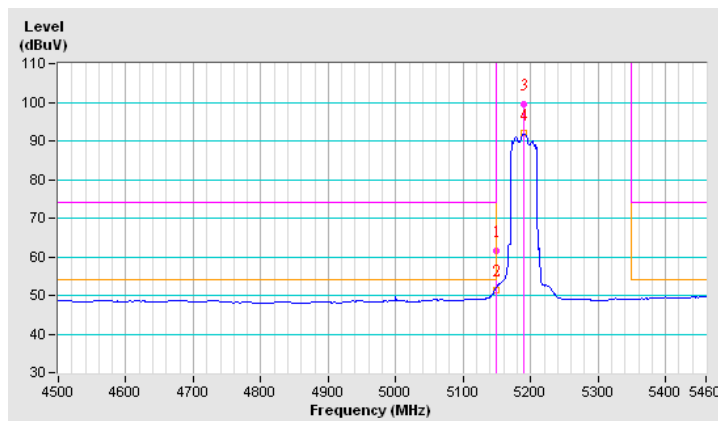
A D T

FINAL TEST DATE	May 16, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	802.11n(40MHz, MCS0) CH 40 / Ant.3

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	5150.00	61.6 PK	74.0	-12.4	1.00 V	95	54.76	6.84
2	5150.00	51.3 AV	54.0	-2.7	1.00 V	95	44.46	6.84
3	*5190.00	99.6 PK			1.00 V	93	92.64	6.96
4	*5190.00	91.9 AV			1.00 V	93	84.94	6.96

REMARKS:

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





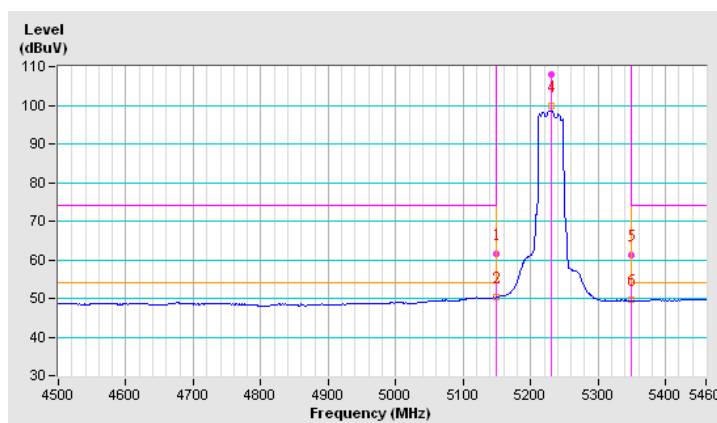
A D T

FINAL TEST DATE	May 15, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	802.11n(40MHz, MCS0) CH 46 / Ant.2

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	5150.00	61.6 PK	74.0	-12.4	1.00 H	21	54.76	6.84
2	5150.00	50.3 AV	54.0	-3.7	1.00 H	21	43.46	6.84
3	*5230.00	108.1 PK			1.00 H	23	101.04	7.06
4	*5230.00	99.8 AV			1.00 H	23	92.74	7.06
5	5350.00	61.3 PK	74.0	-12.7	1.00 H	23	53.97	7.33
6	5350.00	49.6 AV	54.0	-4.4	1.00 H	23	42.27	7.33

REMARKS:

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





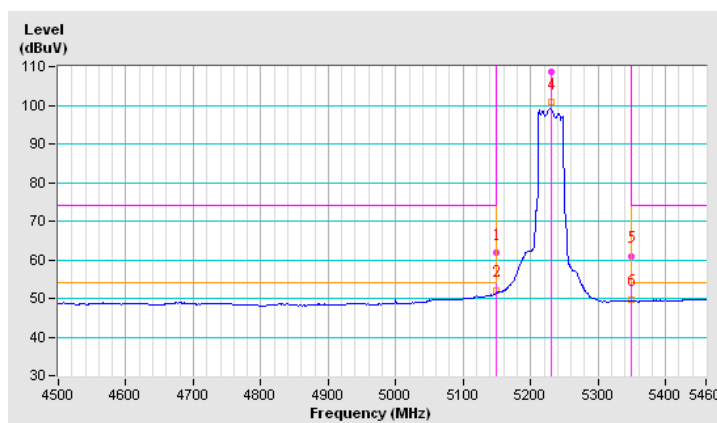
A D T

FINAL TEST DATE	May 15, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	802.11n(40MHz, MCS0) CH 46 / Ant.2

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	5150.00	61.7 PK	74.0	-12.3	1.00 V	87	54.86	6.84
2	5150.00	52.1 AV	54.0	-1.9	1.00 V	87	45.26	6.84
3	*5230.00	108.6 PK			1.00 V	87	101.54	7.06
4	*5230.00	100.7 AV			1.00 V	87	93.64	7.06
5	5350.00	60.9 PK	74.0	-13.1	1.01 V	87	53.57	7.33
6	5350.00	49.7 AV	54.0	-4.3	1.01 V	87	42.37	7.33

REMARKS:

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





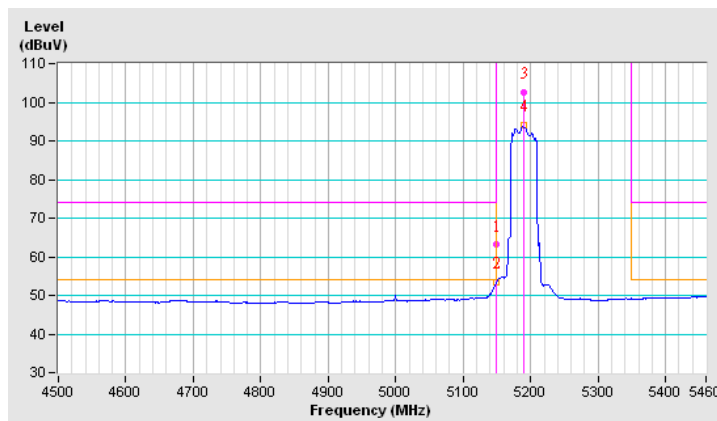
A D T

FINAL TEST DATE	May 16, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	802.11n(40MHz, MCS8) CH 38 / Ant.1 + Ant.3

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	5150.00	63.1 PK	74.0	-10.9	1.00 H	84	56.26	6.84
2	5150.00	53.5 AV	54.0	-0.5	1.00 H	84	46.66	6.84
3	*5190.00	102.5 PK			1.00 H	88	95.54	6.96
4	*5190.00	94.1 AV			1.00 H	88	87.14	6.96

REMARKS:

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





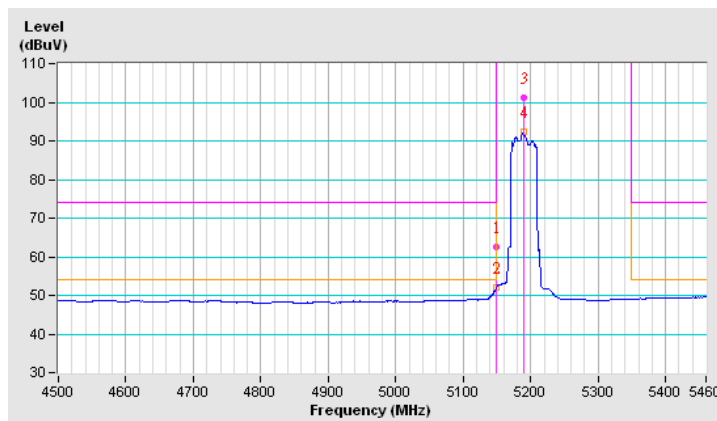
A D T

FINAL TEST DATE	May 16, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	802.11n(40MHz, MCS8) CH 38 / Ant.1 + Ant.3

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	5150.00	62.5 PK	74.0	-11.5	1.13 V	201	55.66	6.84
2	5150.00	52.1 AV	54.0	-1.9	1.13 V	201	45.26	6.84
3	*5190.00	101.3 PK			1.12 V	212	94.34	6.96
4	*5190.00	92.3 AV			1.12 V	212	85.34	6.96

REMARKS:

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





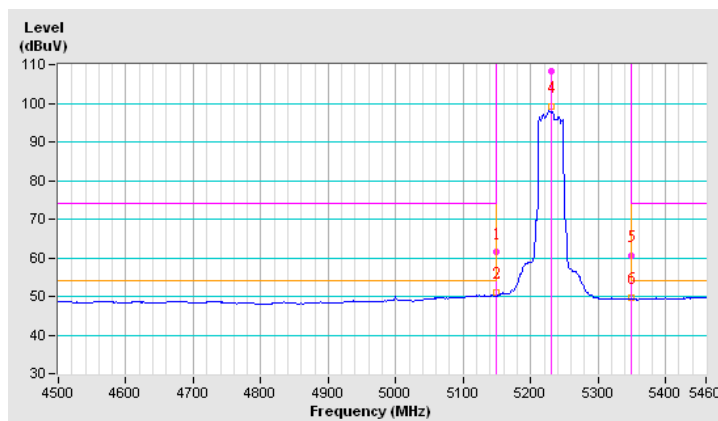
A D T

FINAL TEST DATE	May 16, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	802.11n(40MHz, MCS8) CH 46 / Ant.1 + Ant.2

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	5150.00	61.4 PK	74.0	-12.6	1.03 H	21	54.56	6.84
2	5150.00	51.1 AV	54.0	-2.9	1.03 H	21	44.26	6.84
3	*5230.00	108.2 PK			1.03 H	27	101.14	7.06
4	*5230.00	99.3 AV			1.03 H	27	92.24	7.06
5	5350.00	60.6 PK	74.0	-13.4	1.01 H	25	53.27	7.33
6	5350.00	49.6 AV	54.0	-4.4	1.01 H	25	42.27	7.33

REMARKS:

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





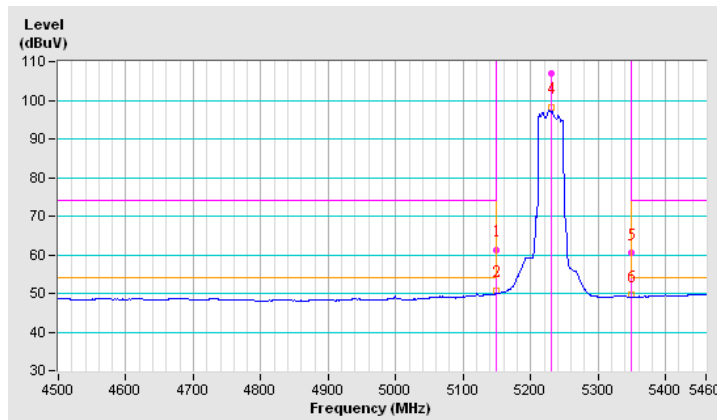
A D T

FINAL TEST DATE	May 16, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	802.11n(40MHz, MCS8) CH 46 / Ant.1 + Ant.2

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	5150.00	61.3 PK	74.0	-12.7	1.01 V	83	54.46	6.84
2	5150.00	50.8 AV	54.0	-3.2	1.01 V	83	43.96	6.84
3	*5230.00	106.9 PK			1.00 V	86	99.84	7.06
4	*5230.00	98.1 AV			1.00 V	86	91.04	7.06
5	5350.00	60.4 PK	74.0	-13.6	1.00 V	88	53.07	7.33
6	5350.00	49.5 AV	54.0	-4.5	1.00 V	88	42.17	7.33

REMARKS:

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





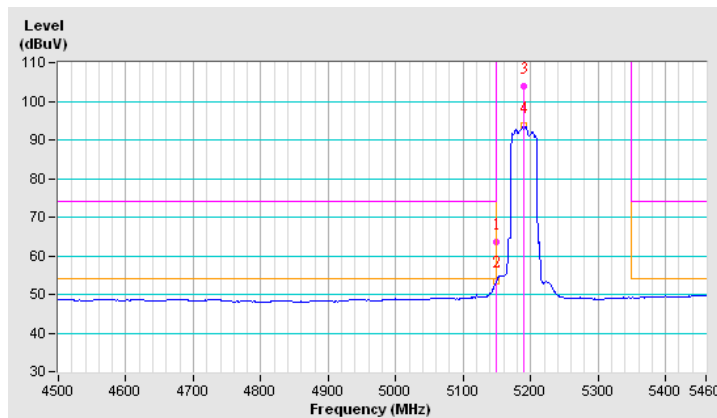
A D T

FINAL TEST DATE	May 16, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	802.11n(40MHz, MCS16) CH 38 / Ant.1 + Ant.2 + Ant. 3

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	5150.00	63.4 PK	74.0	-10.6	1.04 H	24	56.56	6.84
2	5150.00	53.5 AV	54.0	-0.5	1.04 H	24	46.66	6.84
3	*5190.00	103.8 PK			1.03 H	22	96.84	6.96
4	*5190.00	93.6 AV			1.03 H	22	86.64	6.96

REMARKS:

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





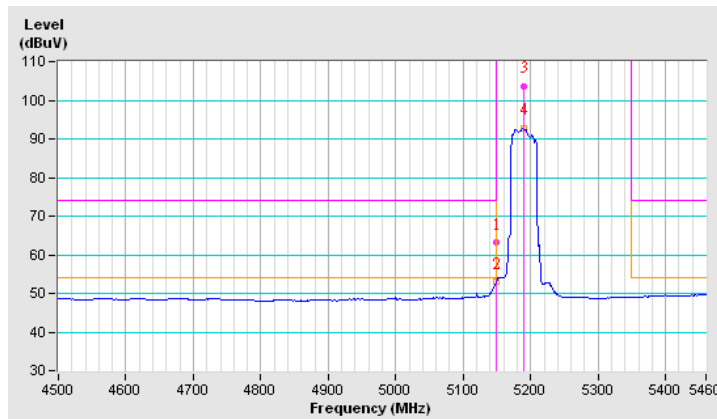
A D T

FINAL TEST DATE	May 16, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	802.11n(40MHz, MCS16) CH 38 / Ant.1 + Ant.2 + Ant. 3

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	5150.00	63.1 PK	74.0	-10.9	1.01 V	87	56.26	6.84
2	5150.00	52.9 AV	54.0	-1.1	1.01 V	87	46.06	6.84
3	*5190.00	103.6 PK			1.00 V	89	96.64	6.96
4	*5190.00	92.7 AV			1.00 V	89	85.74	6.96

REMARKS:

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





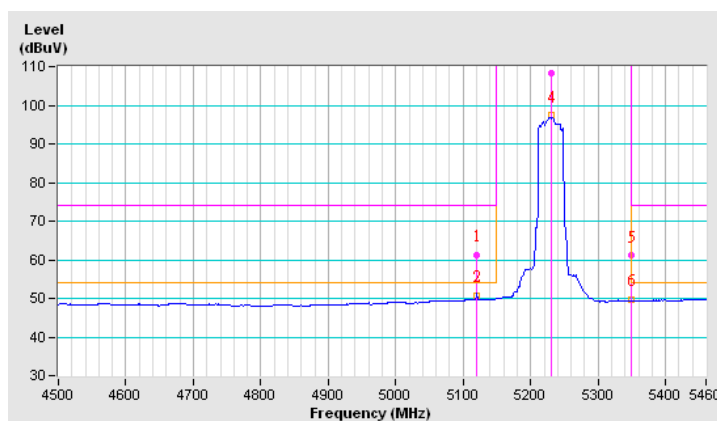
A D T

FINAL TEST DATE	May 16, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	802.11n(40MHz, MCS16) CH 46 / Ant.1 + Ant.2 + Ant. 3

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	5120.00	61.3 PK	74.0	-12.7	1.04 H	21	54.54	6.76
2	5120.00	50.6 AV	54.0	-3.4	1.04 H	21	43.84	6.76
3	*5230.00	108.3 PK			1.02 H	29	101.24	7.06
4	*5230.00	97.3 AV			1.02 H	29	90.24	7.06
5	5350.00	61.1 PK	74.0	-12.9	1.02 H	32	53.77	7.33
6	5350.00	49.8 AV	54.0	-4.2	1.02 H	32	42.47	7.33

REMARKS:

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





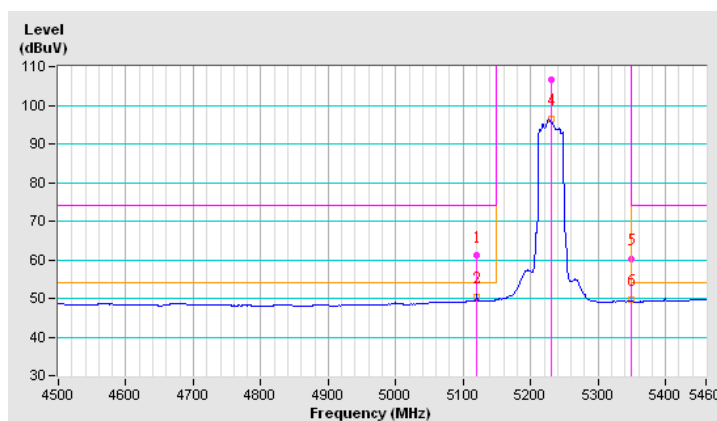
A D T

FINAL TEST DATE	May 16, 2013	TEST SITE NO.	966 Chamber No. H
TEMPERATURE	21 °C	HUMIDITY	72 %
TEST ENGINEER	Chilin Lee	CONFIGURATIONS	802.11n(40MHz, MCS16) CH 46 / Ant.1 + Ant.2 + Ant. 3

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	5120.00	61.1 PK	74.0	-12.9	1.00 V	85	54.34	6.76
2	5120.00	50.4 AV	54.0	-3.6	1.00 V	85	43.64	6.76
3	*5230.00	106.6 PK			1.00 V	94	99.54	7.06
4	*5230.00	96.5 AV			1.00 V	94	89.44	7.06
5	5350.00	60.2 PK	74.0	-13.8	1.01 V	81	52.87	7.33
6	5350.00	49.7 AV	54.0	-4.3	1.01 V	81	42.37	7.33

REMARKS:

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





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4.8 FREQUENCY STABILITY MEASUREMENT

4.8.1 LIMITS

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emissions is maintained within the band of operation under all conditions of normal operation as specified in the user's manual or ± 20 ppm (IEEE 802.11n specification).

4.8.2 MEASURING INSTRUMENTS AND SETTING

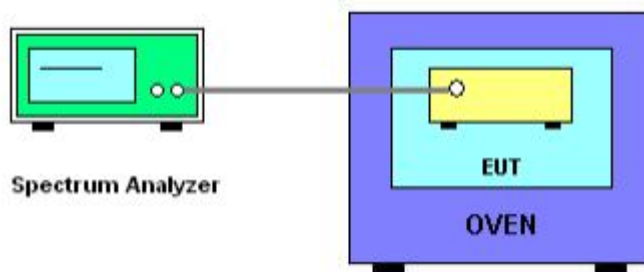
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Analyzer	Setting
Attenuation	Auto
Span Frequency	Entire absence of modulation emissions bandwidth
RB	10 kHz
VB	10 kHz
Sweep Time	Auto

4.8.3 TEST PROCEDURES

1. The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
2. The EUT was programmed to be in continuously un-modulation transmitting mode.
3. Set the spectrum analyzer span to view the entire un-modulation emissions bandwidth.
4. Turn the EUT on and couple its output to a spectrum analyzer.
5. Turn the EUT off and set the chamber to the highest temperature specified.
6. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
7. Extreme temperature rule is -30°C ~ 50°C .
8. Repeat step 4 and 5 with the temperature chamber set to the lowest temperature.
9. The test chamber was allowed to stabilize at $+20$ degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

4.8.4 TEST SETUP LAYOUT



4.8.5 TEST DEVIATION

There is no deviation with the original standard.

4.8.6 EUT OPERATING DURING TEST

The EUT was programmed to be in continuously transmitting mode.



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4.8.7 TEST RESULT OF FREQUENCY STABILITY

FREQUENCY STABILITY VERSUS TEMP.									
OPERATING FREQUENCY: 5240MHz									
TEMP. (°C)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift
		(MHz)	%	(MHz)	%	(MHz)	%	(MHz)	%
50	120	5240.0182	0.00035	5240.021	0.00040	5240.0192	0.00037	5240.0219	0.00042
40	120	5239.9719	-0.00054	5239.9731	-0.00051	5239.974	-0.00050	5239.9784	-0.00041
30	120	5240.0189	0.00036	5240.018	0.00034	5240.0152	0.00029	5240.0163	0.00031
20	120	5240.0069	0.00013	5240.002	0.00004	5240.0068	0.00013	5240.0091	0.00017
10	120	5239.9791	-0.00040	5239.9777	-0.00043	5239.9818	-0.00035	5239.9818	-0.00035
0	120	5239.9978	-0.00004	5240.0005	0.00001	5239.9932	-0.00013	5240.0003	0.00001
-10	120	5240.015	0.00029	5240.0232	0.00044	5240.0159	0.00030	5240.0146	0.00028
-20	120	5240.018	0.00034	5240.0142	0.00027	5240.0145	0.00028	5240.014	0.00027
-30	120	5239.9934	-0.00013	5239.9928	-0.00014	5239.997	-0.00006	5239.9949	-0.00010

FREQUENCY STABILITY VERSUS VOLTAGE									
OPERATING FREQUENCY: 5240MHz									
TEMP. (°C)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift
		(MHz)	%	(MHz)	%	(MHz)	%	(MHz)	%
20	138	5240.0064	0.00012	5240.0011	0.00002	5240.006	0.00011	5240.0084	0.00016
	120	5240.0069	0.00013	5240.002	0.00004	5240.0068	0.00013	5240.0091	0.00017
	102	5240.0077	0.00015	5240.0011	0.00002	5240.006	0.00011	5240.0091	0.00017

4.9 ANTENNA REQUIREMENTS

4.9.1 LIMITS

Except for special regulations, the Low-power Radio-frequency Devices must not be equipped with any jacket for installing an antenna with extension cable. An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

4.9.2 ANTENNA CONNECTOR CONSTRUCTION

Please refer to section 3.2 in this test report; antenna connector complied with the requirements.



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5. LIST OF MEASURING EQUIPMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver	ESCS 30	100375	Mar. 08, 2013	Mar. 07, 2014
Line-Impedance Stabilization Network (for EUT) SCHWARZBECK	NSLK8127	8127-522	Sep. 06, 2012	Sep. 05, 2013
Line-Impedance Stabilization Network (for Peripheral)	ENV216	100072	June 08, 2012	June 07, 2013
RF Cable (JYEBAO)	5DFB	COCCAB-003	Mar. 11, 2013	Mar. 10, 2014
50 ohms Terminator	50	EMC-3	Sep. 25, 2012	Sep. 24, 2013
Software ADT	BV ADT_Cond_V7.3.7.3	NA	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Shielded Room No. C.



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DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer Agilent	E4446A	MY48250253	Sep. 03, 2012	Sep. 02, 2013
MXE EMI Receiver Agilent	N9038A	MY50010156	Jan. 16, 2013	Jan. 15, 2014
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-04	Nov. 14, 2012	Nov. 13, 2013
Pre-Amplifier Agilent	8449B	3008A01923	Oct. 30, 2012	Oct. 29, 2013
Pre-Amplifier SPACEK LABS	SLKKa-48-6	9K16	Nov. 14, 2012	Nov. 13, 2013
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Mar. 25, 2013	Mar. 24, 2014
Horn_Antenna AISI	AIH.8018	0000220091110	Nov. 27, 2012	Nov. 26, 2013
Horn_Antenna SCHWARZBECK	BBHA 9170	9170-424	Oct. 12, 2012	Oct. 11, 2013
RF Cable	NA	RF104-205 RF104-207 RF104-202	Dec. 26, 2012	Dec. 25, 2013
RF Cable	NA	CHHCAB_001	Oct. 07, 2012	Oct. 06, 2013
Software	ADT_Radiated _V8.7.07	NA	NA	NA
Antenna Tower & Turn Table CT	NA	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 horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3. The test was performed in 966 Chamber No. H.



A D T

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSP 40	100036	Jan. 21, 2013	Jan. 20, 2014
Spectrum Analyzer Agilent	E4446A	MY48250253	Sep. 03 , 2012	Sep. 02, 2013
Power meter Anritsu	ML2495A	0824006	May 20, 2013	May 19, 2014
Power sensor Anritsu	MA2411B	0738172	May 20, 2013	May 19, 2014
AC Power Source EXTECH Electronics	6205	1440452	NA	NA
Temperature & Humidity Chamber GIANTFORCE	GTH-150-40-SP -AR	MAA0812-008	Jan. 17, 2013	Jan. 16, 2014
DC Power Supply Topward	6603D	795558	NA	NA

- NOTE:**
1. The test was performed in Oven room B
 2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.



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: 886-2-26052943

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.



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

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

--- END ---