FCC Test Report

Report No.:	RF150204C08A
FCC ID:	GZ5NVG34NX4
Test Model:	NVG348BQ
Series Model:	NVG348Q, NVG343BQ
Received Date:	Feb. 04, 2015
Test Date:	Mar. 19 ~ Apr. 20, 2015
Issued Date:	Apr. 22, 2015
Applicant:	ARRIS Group,Inc.
Address:	2500 Walsh Ave. Santa Clara,CA 95051 USA
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan, R.O.C.
Test Location:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)

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Release Control Record

Issue No.	Description	Date Issued
RF150204C08A	Original release.	Apr. 22, 2015

1 Certificate of Conformity

Product:	NVG34X Series VDSL2 Gateway
Brand:	ARRIS
Test Model:	NVG348BQ
Series Model:	NVG348Q, NVG343BQ
Sample Status:	Engineering sample
Applicant:	ARRIS Group,Inc.
Test Date:	Mar. 19 ~ Apr. 20, 2015
Standards:	47 CFR FCC Part 15, Subpart E (Section 15.407) ANSI C63.10:2009

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

Prepared by : Celine Chou , **Date:** Apr. 22, 2015

Celine Chou / Specialist

Approved by : Ken Liu , **Date:** Apr. 22, 2015

Ken Liu / Senior Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.207 15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -18.38dB at 0.17192MHz.
15.407(b) (1/2/3/4/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -1.0dB at 10600.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is i-pex not a standard connector.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expended Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.44 dB
Radiated Emissions up to 1 GHz	30MHz ~ 200MHz	3.63 dB
	200MHz ~1000MHz	3.64 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	NVG34X Series VDSL2 Gateway
Brand	ARRIS
Test Model	NVG348BQ
Series Model	NVG348Q, NVG343BQ
Model Difference	Refer to Note
Status of EUT	Engineering sample
Power Supply Rating	12Vdc from adapter
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to 800.0Mbps 802.11ac: up to 1733.3Mbps
Operating Frequency	5260 ~ 5320MHz, 5500 ~ 5700MHz
Number of Channel	5260 ~ 5320MHz: 4 for 802.11a, 802.11n (20MHz) , 802.11ac (20MHz) 2 for 802.11n (40MHz), 802.11ac (40MHz) 1 for 802.11ac (80MHz) 5500 ~ 5700MHz: 8 for 802.11a, 802.11n (20MHz), 802.11ac (20MHz) 3 for 802.11n (40MHz), 802.11ac (40MHz) 1 for 802.11ac (80MHz)
Output Power	Beamform off: 5260 ~ 5320MHz: 250.673mW 5500 ~ 5700MHz: 246.596mW Beamform on: 5260 ~ 5320MHz: 90.487mW 5500 ~ 5700MHz: 88.566mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter
Data Cable Supplied	NA

Note:

1. This report is prepared for FCC class II permissive change. The difference compared with the original report (BV ADT report no.: RF150204C08-1) is adding 5.26GHz to 5.32GHz and 5.50GHz to 5.70GHz by software.

2. All models are listed as below.

Brand	Model	Difference	
		VoIP	Bonding
ARRIS	NVG348BQ	With	With
	NVG348Q	With	Without
	NVG343BQ	Without	With

*Model: NVG348BQ is the main test model.

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

Modulation Mode	TX FUNCTION	Beamforming mode
802.11a	4TX	Not support
802.11n (20MHz)	4TX	Support
802.11n (40MHz)	4TX	Support
802.11ac (20MHz)	4TX	Support
802.11ac (40MHz)	4TX	Support
802.11ac (80MHz)	4TX	Support

* The modulation and bandwidth are similar for 802.11n mode for 20MHz / 40MHz and 802.11ac mode for 20MHz / 40MHz, therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)

4. The EUT uses following adapter.

Adapter	
Brand	DVE
Model	DSA-24PFD-15
Input Power	100-120Vac~50/60Hz, 0.8A
Output Power	+12Vdc, 2A
Power Line	2.0m non-shielded cable without core attached on adapter

5. The following antennas were provided to the EUT.

Antenna Type	Dipole				
Antenna Connector	i-pex (MHF)				
Gain (dBi)	Frequency (MHz)				
	4900	5150	5350	5725	5850
Ant. 3	4.6	4.9	5.0	4.7	5.7
Ant. 4	3.8	3.5	2.9	3.2	3.2
Ant. 5	4.6	4.1	4.1	5.7	5.4
Ant. 6	3.9	3.5	5.2	4.2	4.5

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

3.2 Description of Test Modes

FOR 5260 ~ 5320MHz

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

Channel	Frequency	Channel	Frequency
52	5260 MHz	60	5300 MHz
56	5280 MHz	64	5320 MHz

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

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

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

Channel	Frequency
58	5290 MHz

FOR 5500 ~ 5700MHz

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

Channel	Frequency	Channel	Frequency
100	5500 MHz	116	5580 MHz
104	5520 MHz	132	5660 MHz
108	5540 MHz	136	5680 MHz
112	5560 MHz	140	5700 MHz

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

Channel	Frequency	Channel	Frequency
102	5510 MHz	134	5670 MHz
110	5550 MHz		

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

Channel	Frequency
106	5530MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
A	√	√	√	√	Beamforming off
B	√	-	-	√	Beamforming on

Where **RE≥1G:** Radiated Emission above 1GHz & Bandedge Measurement **RE<1G:** Radiated Emission below 1GHz

PLC: Power Line Conducted Emission **APCM:** Antenna Port Conducted Measurement

NOTE: The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-plane**.

Radiated Emission Test (Above 1GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.0
A, B	802.11n (20MHz)		52 to 64	52, 60, 64	OFDM	BPSK	7.2
A, B	802.11n (40MHz)		54 to 62	54, 62	OFDM	BPSK	15.0
A, B	802.11ac (80MHz)		58	58	OFDM	BPSK	130.0
A	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6.0
A, B	802.11n (20MHz)		100 to 140	100, 116, 140	OFDM	BPSK	7.2
A, B	802.11n (40MHz)		102 to 134	102, 110, 134	OFDM	BPSK	15.0
A, B	802.11ac (80MHz)		106	106	OFDM	BPSK	130.0

Radiated Emission Test (Below 1GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11a	5260-5320	52 to 64	52	OFDM	BPSK	6.0
		5500-5700	100 to 140		OFDM	BPSK	6.0

Power Line Conducted Emission Test:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11a	5260-5320	52 to 64	52	OFDM	BPSK	6.0
		5500-5700	100 to 140		OFDM	BPSK	6.0

Antenna Port Conducted Measurement:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.0
A, B	802.11n (20MHz)		52 to 64	52, 60, 64	OFDM	BPSK	7.2
A, B	802.11n (40MHz)		54 to 62	54, 62	OFDM	BPSK	15.0
A, B	802.11ac (80MHz)		58	58	OFDM	BPSK	130.0
A	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6.0
A, B	802.11n (20MHz)		100 to 140	100, 116, 140	OFDM	BPSK	7.2
A, B	802.11n (40MHz)		102 to 134	102, 110, 134	OFDM	BPSK	15.0
A, B	802.11ac (80MHz)		106	106	OFDM	BPSK	130.0

Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	19deg. C, 74%RH	120Vac, 60Hz	Tank Wu
RE<1G	25deg. C, 65%RH	120Vac, 60Hz	Ted Chang
PLC	24deg. C, 64%RH	120Vac, 60Hz	Match Tsui
APCM	25deg. C, 60%RH	120Vac, 60Hz	Antony Lee

3.3 Duty Cycle of Test Signal

Beamforming off mode

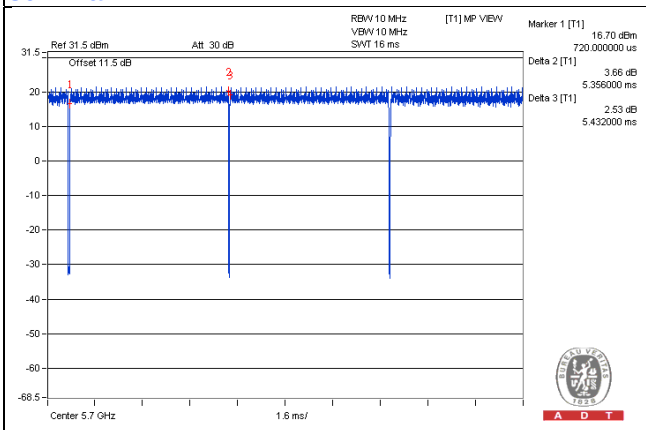
802.11a, 802.11n (20MHz): Duty cycle of test signal is > 98 %, duty factor is not required

802.11n (40MHz), 802.11ac (80MHz): Duty cycle of test signal is < 98 %, duty factor is required

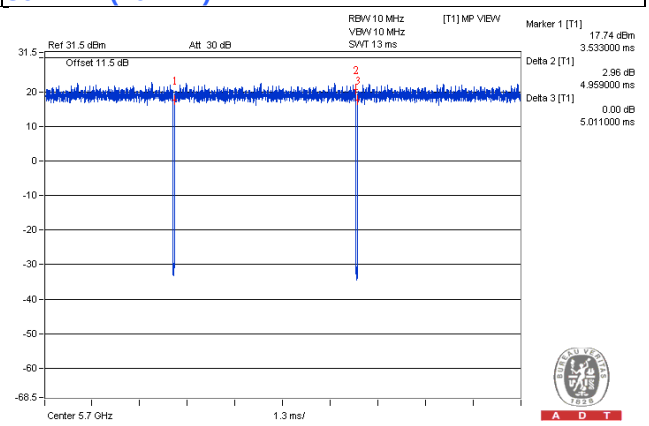
802.11n (40MHz): Duty cycle = 2.407/2.492 = 0.966, Duty factor = 10 * log(1/0.966) = 0.15

802.11ac (80MHz): Duty cycle = 1.143/1.218 = 0.938, Duty factor = 10 * log(1/0.938) = 0.28

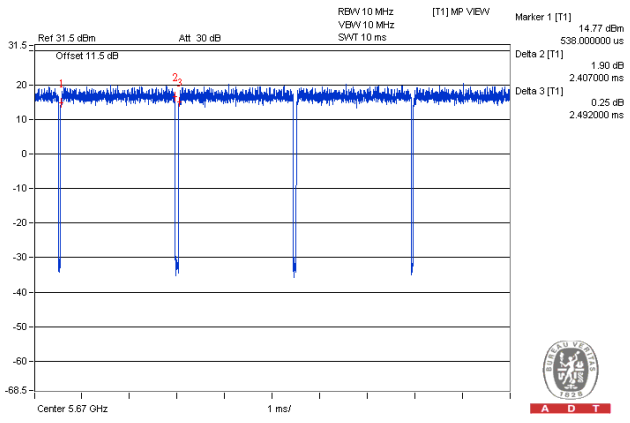
802.11a



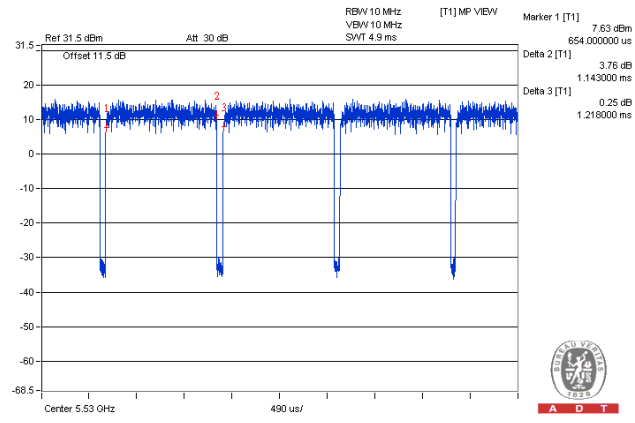
802.11n (20MHz)



802.11n (40MHz)



802.11ac (80MHz)



Beamforming on mode

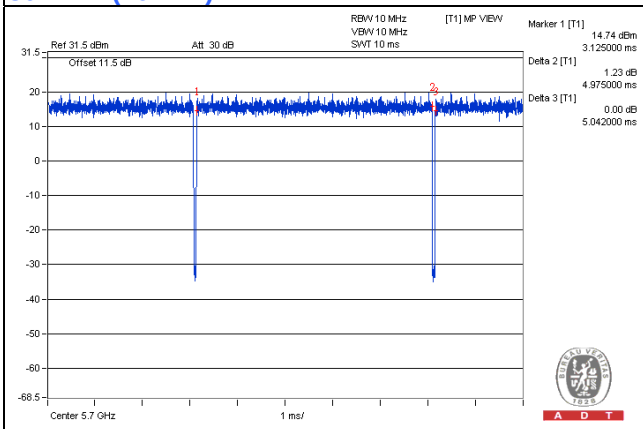
802.11n (20MHz): Duty cycle of test signal is > 98 %, duty factor is not required

802.11n (40MHz), 802.11ac (80MHz): Duty cycle of test signal is < 98 %, duty factor is required

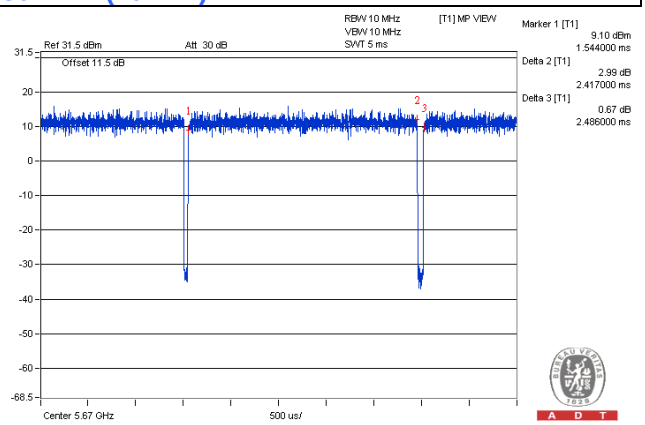
802.11n (40MHz): Duty cycle = 2.417/2.486 = 0.972, Duty factor = 10 * log(1/0.972) = 0.12

802.11ac (80MHz): Duty cycle = 1.132/1.198 = 0.945, Duty factor = 10 * log(1/0.945) = 0.25

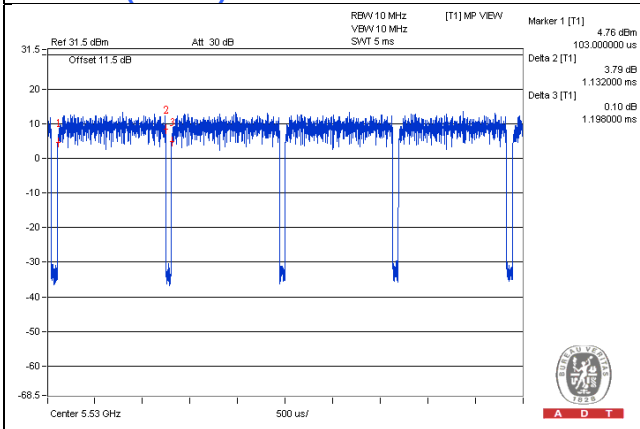
802.11n (20MHz)



802.11n (40MHz)



802.11ac (80MHz)



3.4 Description of Support Units

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

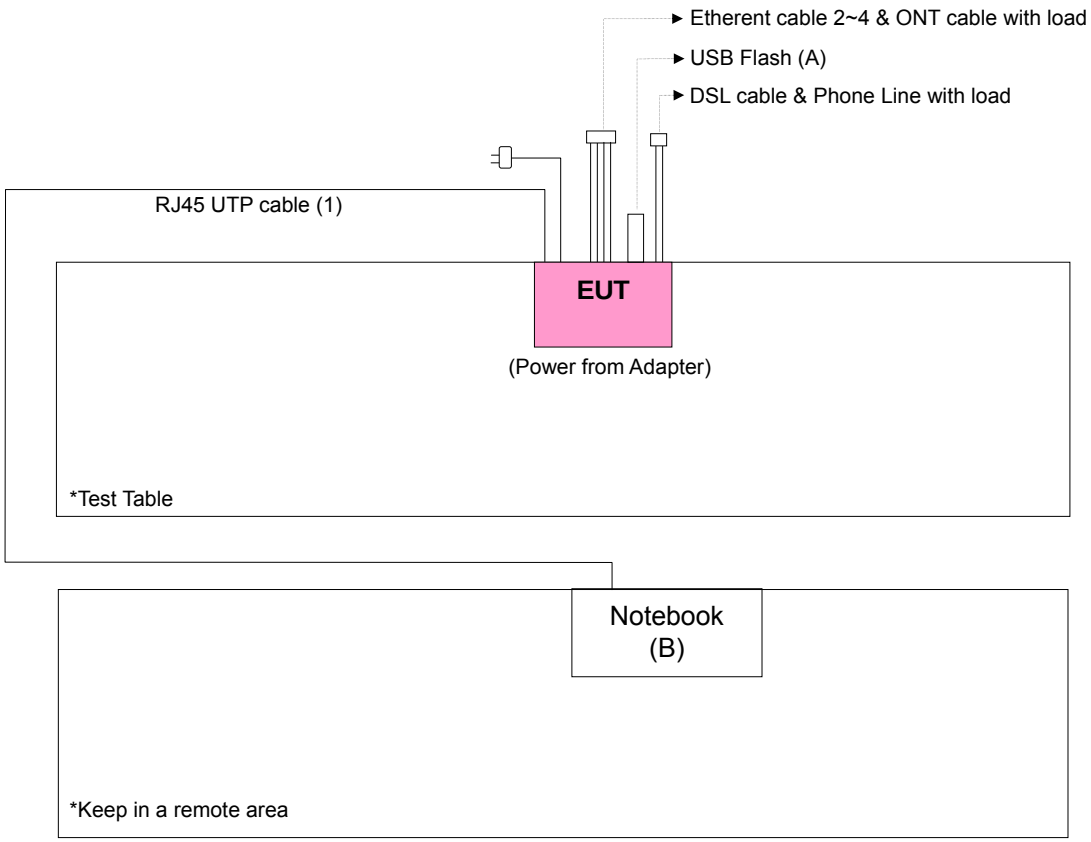
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	USB Flash	Transcend	V85	569992-8209	FCC DoC Approved	
B.	Notebook	DELL	Inspiron N4030	JCDJZM1	FCC DoC Approved	

Note:

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

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RJ45 cable	1	10	N	0	-

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards

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

FCC Part 15, Subpart E (15.407)

789033 D02 General UNII Test Procedure New Rules v01

662911 D01 Multiple Transmitter Output v02r01

ANSI C63.10-2009

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

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

NOTE:

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

LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

APPLICABLE TO	LIMIT	
789033 D02 General UNII Test Procedures New Rules v01	FIELD STRENGTH AT 3m	
	PK:74 (dBμV/m)	AV:54 (dBμV/m)
APPLICABLE TO	EIRP LIMIT	EQUIVALENT FIELD STRENGTH AT 3m
15.407(b)(1)	PK:-27 (dBm/MHz)	PK:68.2(dBμV/m)
15.407(b)(2)		
15.407(b)(3)		
15.407(b)(4)	PK:-27 (dBm/MHz) *1 PK:-17 (dBm/MHz) *2	PK: 68.2(dBμV/m) *1 PK:78.2 (dBμV/m) *2

NOTE: *1 beyond 10MHz of the band edge *2 within 10 MHz of band edge

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

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date Of Calibration	Due Date Of Calibration
Test Receiver ROHDE & SCHWARZ	ESCS30	100289	Dec. 01, 2014	Nov. 30, 2015
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	Mar. 30, 2014	Mar. 29, 2015
			Mar. 30, 2015	Mar. 29, 2016
BILOG Antenna SCHWARZBECK	VULB9168	9168-156	Feb. 06, 2015	Feb. 05, 2016
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-1169	Feb. 09, 2015	Feb. 08, 2016
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Feb. 09, 2015	Feb. 08, 2016
Preamplifier Agilent	8449B	3008A01911	Aug. 09, 2014	Aug. 08, 2015
Preamplifier Agilent	8447D	2944A10638	Aug. 09, 2014	Aug. 08, 2015
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	248780/4 309222/4 274092/4	Aug. 09, 2014	Aug. 08, 2015
RF signal cable Worken	8D-FB	Cable-CH9-01	Aug. 11, 2014	Aug. 10, 2015
Software BV ADT	ADT_Radiated_ V7.6.15.9.4	NA	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA	NA
Turn Table EMCO	2087-2.03	NA	NA	NA
Antenna Tower &Turn Table Controller EMCO	2090	NA	NA	NA
Turn Table BV ADT	TT100	TT93021705	NA	NA
Turn Table Controller BV ADT	SC100	SC93021705	NA	NA
26GHz ~ 40GHz Amplifier	EM26400	815221	Oct. 18, 2014	Oct. 17, 2015
High Speed Peak Power Meter	ML2495A	0824011	Jul. 26, 2014	Jul. 25, 2015
Power Sensor	MA2411B	0738171	Jul. 26, 2014	Jul. 25, 2015
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 09, 2014	Jun. 08, 2015

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. The test was performed in HwaYa Chamber 9.

3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.

4. The FCC Site Registration No. is 215374.

5. The IC Site Registration No. is IC 7450F-9.

4.1.3 Test Procedures

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

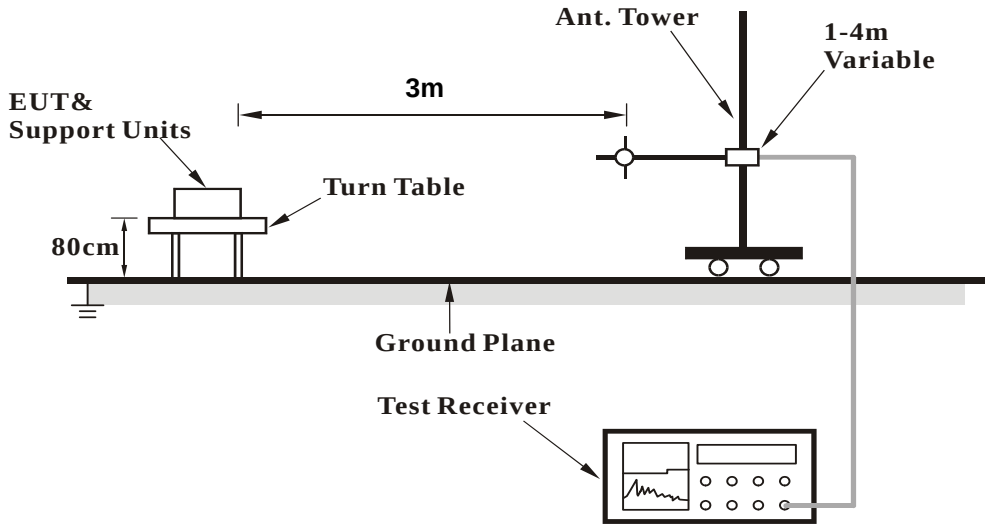
1. For emission measurements above 1 GHz, the EUT shall be placed at a height of 1.5 m above the ground at 3 meter chamber room for test.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor (10 log(1/duty cycle)).
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1GHz.
6. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

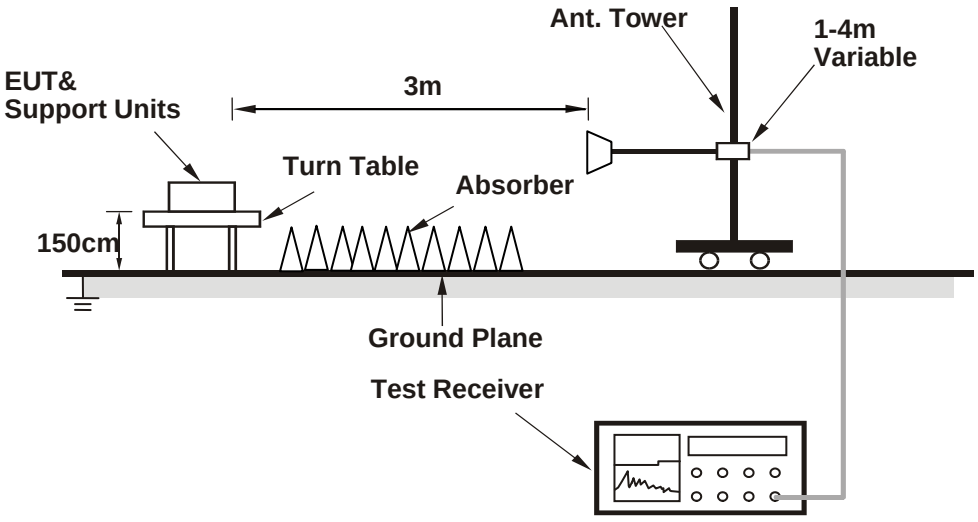
No deviation.

4.1.5 Test Set Up

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



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

4.1.6 EUT Operating Conditions

a. Placed the EUT on the testing table.
b. Prepared notebook to act as communication partner and placed it outside of testing area.
c. The communication partner connected with EUT via a RJ45 cable and ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
d. The necessary accessories enable the system in full functions.

4.1.7 Test Results

Above 1GHz Data

Beamforming off mode

802.11a

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	58.3 PK	74.0	-15.7	1.51 H	6	56.30	2.00
2	5150.00	45.1 AV	54.0	-8.9	1.51 H	6	43.10	2.00
3	*5260.00	111.8 PK			1.91 H	8	71.70	40.10
4	*5260.00	101.8 AV			1.91 H	8	61.70	40.10
5	5420.00	59.4 PK	74.0	-14.6	2.00 H	2	57.30	2.10
6	5420.00	47.5 AV	54.0	-6.5	2.00 H	2	45.40	2.10
7	#7013.00	55.8 PK	74.0	-18.2	1.70 H	352	47.70	8.10
8	#7013.00	46.6 AV	54.0	-7.4	1.70 H	352	38.50	8.10
9	#10520.00	65.3 PK	74.0	-8.7	1.31 H	197	50.00	15.30
10	#10520.00	52.6 AV	54.0	-1.4	1.31 H	197	37.30	15.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.1 PK	74.0	-17.9	1.10 V	66	54.10	2.00
2	5150.00	45.1 AV	54.0	-8.9	1.10 V	66	43.10	2.00
3	*5260.00	111.0 PK			1.36 V	72	70.90	40.10
4	*5260.00	101.6 AV			1.36 V	72	61.50	40.10
5	5420.00	58.0 PK	74.0	-16.0	1.00 V	344	55.90	2.10
6	5420.00	45.9 AV	54.0	-8.1	1.00 V	344	43.80	2.10
7	#7013.00	58.1 PK	74.0	-15.9	1.00 V	354	50.00	8.10
8	#7013.00	52.9 AV	54.0	-1.1	1.00 V	354	44.80	8.10
9	#10520.00	64.4 PK	74.0	-9.6	1.41 V	69	49.10	15.30
10	#10520.00	50.4 AV	54.0	-3.6	1.41 V	69	35.10	15.30

Remark:

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

CHANNEL	TX Channel 60	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*5300.00	112.0 PK			1.75 H	11	71.90	40.10
2	*5300.00	102.1 AV			1.75 H	11	62.00	40.10
3	5460.00	58.6 PK	74.0	-15.4	1.00 H	333	56.50	2.10
4	5460.00	48.3 AV	54.0	-5.7	1.00 H	333	46.20	2.10
5	#7066.00	55.1 PK	74.0	-18.9	1.11 H	348	46.50	8.60
6	#7066.00	45.9 AV	54.0	-8.1	1.11 H	348	37.30	8.60
7	10600.00	66.2 PK	74.0	-7.8	1.17 H	195	50.00	16.20
8	10600.00	52.5 AV	54.0	-1.5	1.17 H	195	36.30	16.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	110.2 PK			1.91 V	228	70.10	40.10
2	*5300.00	100.6 AV			1.91 V	228	60.50	40.10
3	5460.00	58.1 PK	74.0	-15.9	1.31 V	335	56.00	2.10
4	5460.00	46.9 AV	54.0	-7.1	1.31 V	335	44.80	2.10
5	#7066.00	57.0 PK	74.0	-17.0	1.00 V	352	48.40	8.60
6	#7066.00	49.1 AV	54.0	-4.9	1.00 V	352	40.50	8.60
7	10600.00	62.9 PK	74.0	-11.1	1.63 V	90	46.70	16.20
8	10600.00	50.5 AV	54.0	-3.5	1.63 V	90	34.30	16.20

Remark:

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

CHANNEL	TX Channel 64	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*5320.00	112.2 PK			1.74 H	6	72.00	40.20
2	*5320.00	102.2 AV			1.74 H	6	62.00	40.20
3	5350.00	64.5 PK	74.0	-9.5	1.80 H	6	62.50	2.00
4	5350.00	47.7 AV	54.0	-6.3	1.80 H	6	45.70	2.00
5	#7093.00	54.8 PK	74.0	-19.2	1.00 H	345	45.90	8.90
6	#7093.00	44.5 AV	54.0	-9.5	1.00 H	345	35.60	8.90
7	10640.00	62.7 PK	74.0	-11.3	1.35 H	192	46.40	16.30
8	10640.00	49.3 AV	54.0	-4.7	1.35 H	192	33.00	16.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	109.6 PK			1.89 V	224	69.40	40.20
2	*5320.00	100.3 AV			1.89 V	224	60.10	40.20
3	5350.00	61.0 PK	74.0	-13.0	1.62 V	332	59.00	2.00
4	5350.00	46.5 AV	54.0	-7.5	1.62 V	332	44.50	2.00
5	#7093.00	56.2 PK	74.0	-17.8	1.63 V	262	47.30	8.90
6	#7093.00	48.2 AV	54.0	-5.8	1.63 V	262	39.30	8.90
7	10640.00	59.9 PK	74.0	-14.1	1.17 V	56	43.60	16.30
8	10640.00	47.6 AV	54.0	-6.4	1.17 V	56	31.30	16.30

Remark:

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

CHANNEL	TX Channel 100	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	5460.00	60.9 PK	74.0	-13.1	1.83 H	2	58.80	2.10
2	5460.00	47.4 AV	54.0	-6.6	1.83 H	2	45.30	2.10
3	#5470.00	65.7 PK	74.0	-8.3	1.67 H	6	63.50	2.20
4	#5470.00	49.3 AV	54.0	-4.7	1.67 H	6	47.10	2.20
5	*5500.00	112.6 PK			1.59 H	3	72.30	40.30
6	*5500.00	102.7 AV			1.59 H	3	62.40	40.30
7	#5740.00	62.0 PK	74.0	-12.0	1.92 H	333	59.30	2.70
8	#5740.00	52.0 AV	54.0	-2.0	1.92 H	333	49.30	2.70
9	11000.00	61.7 PK	74.0	-12.3	1.00 H	193	44.00	17.70
10	11000.00	49.1 AV	54.0	-4.9	1.00 H	193	31.40	17.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	55.4 PK	74.0	-18.6	1.42 V	337	53.30	2.10
2	5460.00	42.8 AV	54.0	-11.2	1.42 V	337	40.70	2.10
3	#5470.00	56.4 PK	74.0	-17.6	1.26 V	341	54.20	2.20
4	#5470.00	42.8 AV	54.0	-11.2	1.26 V	341	40.60	2.20
5	*5500.00	111.1 PK			1.68 V	55	70.80	40.30
6	*5500.00	101.7 AV			1.68 V	55	61.40	40.30
7	#5740.00	57.2 PK	74.0	-16.8	1.00 V	121	54.50	2.70
8	#5740.00	43.9 AV	54.0	-10.1	1.00 V	121	41.20	2.70
9	11000.00	61.9 PK	74.0	-12.1	1.00 V	322	44.20	17.70
10	11000.00	49.2 AV	54.0	-4.8	1.00 V	322	31.50	17.70

Remark:

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

CHANNEL	TX Channel 116	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*5580.00	110.2 PK			1.17 H	345	69.70	40.50
2	*5580.00	100.2 AV			1.17 H	345	59.70	40.50
3	#5820.00	61.0 PK	74.0	-13.0	1.71 H	338	58.20	2.80
4	#5820.00	51.4 AV	54.0	-2.6	1.71 H	338	48.60	2.80
5	11160.00	59.8 PK	74.0	-14.2	1.00 H	193	43.40	16.40
6	11160.00	47.4 AV	54.0	-6.6	1.00 H	193	31.00	16.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	111.0 PK			1.65 V	55	70.50	40.50
2	*5580.00	101.7 AV			1.65 V	55	61.20	40.50
3	#5820.00	58.7 PK	74.0	-15.3	1.64 V	54	55.90	2.80
4	#5820.00	49.1 AV	54.0	-4.9	1.64 V	54	46.30	2.80
5	11160.00	59.6 PK	74.0	-14.4	1.00 V	311	43.20	16.40
6	11160.00	47.6 AV	54.0	-6.4	1.00 V	311	31.20	16.40

Remark:

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

CHANNEL	TX Channel 140	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*5700.00	112.4 PK			1.72 H	351	71.60	40.80
2	*5700.00	103.0 AV			1.72 H	351	62.20	40.80
3	#5725.00	67.0 PK	74.0	-7.0	1.89 H	164	64.40	2.60
4	#5725.00	51.1 AV	54.0	-2.9	1.89 H	164	48.50	2.60
5	11400.00	59.8 PK	74.0	-14.2	1.00 H	322	43.60	16.20
6	11400.00	46.6 AV	54.0	-7.4	1.00 H	322	30.40	16.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	108.5 PK			1.40 V	338	67.70	40.80
2	*5700.00	99.2 AV			1.40 V	338	58.40	40.80
3	#5725.00	62.1 PK	74.0	-11.9	1.52 V	327	59.50	2.60
4	#5725.00	47.7 AV	54.0	-6.3	1.52 V	327	45.10	2.60
5	11400.00	58.9 PK	74.0	-15.1	1.00 V	169	42.70	16.20
6	11400.00	45.7 AV	54.0	-8.3	1.00 V	169	29.50	16.20

Remark:

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

802.11n (20MHz)

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	58.1 PK	74.0	-15.9	1.59 H	9	56.10	2.00
2	5150.00	45.1 AV	54.0	-8.9	1.59 H	9	43.10	2.00
3	*5260.00	112.8 PK			1.95 H	14	72.70	40.10
4	*5260.00	102.5 AV			1.95 H	14	62.40	40.10
5	5420.00	60.2 PK	74.0	-13.8	2.00 H	357	58.10	2.10
6	5420.00	48.3 AV	54.0	-5.7	2.00 H	357	46.20	2.10
7	#7013.00	55.5 PK	68.2	-12.7	1.67 H	350	47.40	8.10
8	#10520.00	65.5 PK	74.0	-8.5	1.35 H	198	50.20	15.30
9	#10520.00	51.9 AV	54.0	-2.1	1.35 H	198	36.60	15.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.5 PK	74.0	-17.5	1.13 V	67	54.50	2.00
2	5150.00	45.6 AV	54.0	-8.4	1.13 V	67	43.60	2.00
3	*5260.00	111.0 PK			1.36 V	64	70.90	40.10
4	*5260.00	100.8 AV			1.36 V	64	60.70	40.10
5	5420.00	58.2 PK	74.0	-15.8	1.00 V	349	56.10	2.10
6	5420.00	46.3 AV	54.0	-7.7	1.00 V	349	44.20	2.10
7	#7013.00	58.3 PK	68.2	-9.9	1.16 V	346	50.20	8.10
8	#10520.00	64.5 PK	74.0	-9.5	1.44 V	71	49.20	15.30
9	#10520.00	50.8 AV	54.0	-3.2	1.44 V	71	35.50	15.30

Remark:

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

CHANNEL	TX Channel 60	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*5300.00	112.6 PK			1.71 H	358	72.50	40.10
2	*5300.00	101.9 AV			1.71 H	358	61.80	40.10
3	5460.00	58.7 PK	74.0	-15.3	1.00 H	331	56.60	2.10
4	5460.00	48.4 AV	54.0	-5.6	1.00 H	331	46.30	2.10
5	#7066.00	55.1 PK	74.0	-18.9	1.01 H	342	46.50	8.60
6	#7066.00	45.8 AV	54.0	-8.2	1.01 H	342	37.20	8.60
7	10600.00	65.8 PK	74.0	-8.2	1.19 H	188	49.60	16.20
8	10600.00	52.5 AV	54.0	-1.5	1.19 H	188	36.30	16.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	110.5 PK			1.29 V	56	70.40	40.10
2	*5300.00	100.3 AV			1.29 V	56	60.20	40.10
3	5460.00	58.3 PK	74.0	-15.7	1.33 V	343	56.20	2.10
4	5460.00	47.0 AV	54.0	-7.0	1.33 V	343	44.90	2.10
5	#7066.00	57.0 PK	74.0	-17.0	1.00 V	355	48.40	8.60
6	#7066.00	49.2 AV	54.0	-4.8	1.00 V	355	40.60	8.60
7	10600.00	63.0 PK	74.0	-11.0	1.66 V	89	46.80	16.20
8	10600.00	50.9 AV	54.0	-3.1	1.66 V	89	34.70	16.20

Remark:

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

CHANNEL	TX Channel 64	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*5320.00	112.6 PK			1.77 H	357	72.40	40.20
2	*5320.00	102.0 AV			1.77 H	357	61.80	40.20
3	5350.00	64.7 PK	74.0	-9.3	1.49 H	358	62.70	2.00
4	5350.00	48.8 AV	54.0	-5.2	1.49 H	358	46.80	2.00
5	#7093.00	55.8 PK	74.0	-18.2	1.61 H	336	46.90	8.90
6	#7093.00	45.0 AV	54.0	-9.0	1.61 H	336	36.10	8.90
7	10640.00	64.5 PK	74.0	-9.5	1.21 H	184	48.20	16.30
8	10640.00	50.9 AV	54.0	-3.1	1.21 H	184	34.60	16.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	110.2 PK			1.75 V	214	70.00	40.20
2	*5320.00	100.0 AV			1.75 V	214	59.80	40.20
3	5350.00	61.6 PK	74.0	-12.4	1.63 V	344	59.60	2.00
4	5350.00	47.1 AV	54.0	-6.9	1.63 V	344	45.10	2.00
5	#7093.00	57.2 PK	74.0	-16.8	1.25 V	2	48.30	8.90
6	#7093.00	49.2 AV	54.0	-4.8	1.25 V	2	40.30	8.90
7	10640.00	63.2 PK	74.0	-10.8	1.33 V	42	46.90	16.30
8	10640.00	49.9 AV	54.0	-4.1	1.33 V	42	33.60	16.30

Remark:

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

CHANNEL	TX Channel 100	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	5460.00	61.7 PK	74.0	-12.3	1.88 H	333	59.60	2.10
2	5460.00	48.5 AV	54.0	-5.5	1.88 H	333	46.40	2.10
3	#5470.00	64.7 PK	74.0	-9.3	1.85 H	334	62.50	2.20
4	#5470.00	49.0 AV	54.0	-5.0	1.85 H	334	46.80	2.20
5	*5500.00	112.4 PK			1.70 H	348	72.10	40.30
6	*5500.00	102.0 AV			1.70 H	348	61.70	40.30
7	#5740.00	61.6 PK	74.0	-12.4	1.99 H	319	58.90	2.70
8	#5740.00	52.1 AV	54.0	-1.9	1.99 H	319	49.40	2.70
9	11000.00	62.5 PK	74.0	-11.5	1.00 H	199	44.80	17.70
10	11000.00	50.1 AV	54.0	-3.9	1.00 H	199	32.40	17.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	55.9 PK	74.0	-18.1	1.44 V	339	53.80	2.10
2	5460.00	43.6 AV	54.0	-10.4	1.44 V	339	41.50	2.10
3	#5470.00	56.7 PK	74.0	-17.3	1.22 V	349	54.50	2.20
4	#5470.00	43.8 AV	54.0	-10.2	1.22 V	349	41.60	2.20
5	*5500.00	110.8 PK			1.68 V	35	70.50	40.30
6	*5500.00	101.0 AV			1.68 V	35	60.70	40.30
7	#5740.00	57.5 PK	74.0	-16.5	1.00 V	111	54.80	2.70
8	#5740.00	44.6 AV	54.0	-9.4	1.00 V	111	41.90	2.70
9	11000.00	62.5 PK	74.0	-11.5	1.00 V	312	44.80	17.70
10	11000.00	50.6 AV	54.0	-3.4	1.00 V	312	32.90	17.70

Remark:

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

CHANNEL	TX Channel 116	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*5580.00	114.0 PK			1.69 H	337	73.50	40.50
2	*5580.00	103.7 AV			1.69 H	337	63.20	40.50
3	#5820.00	62.7 PK	74.0	-11.3	1.74 H	323	59.90	2.80
4	#5820.00	51.9 AV	54.0	-2.1	1.74 H	323	49.10	2.80
5	11160.00	61.0 PK	74.0	-13.0	1.00 H	173	44.60	16.40
6	11160.00	48.7 AV	54.0	-5.3	1.00 H	173	32.30	16.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	111.0 PK			1.59 V	315	70.50	40.50
2	*5580.00	101.5 AV			1.59 V	315	61.00	40.50
3	#5820.00	59.5 PK	74.0	-14.5	1.18 V	33	56.70	2.80
4	#5820.00	50.0 AV	54.0	-4.0	1.18 V	33	47.20	2.80
5	11160.00	60.6 PK	74.0	-13.4	1.00 V	333	44.20	16.40
6	11160.00	48.5 AV	54.0	-5.5	1.00 V	333	32.10	16.40

Remark:

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

CHANNEL	TX Channel 140	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*5700.00	114.4 PK			1.77 H	332	73.60	40.80
2	*5700.00	104.3 AV			1.77 H	332	63.50	40.80
3	#5725.00	69.4 PK	74.0	-4.6	1.63 H	329	66.80	2.60
4	#5725.00	52.2 AV	54.0	-1.8	1.63 H	329	49.60	2.60
5	11400.00	62.2 PK	74.0	-11.8	1.00 H	293	46.00	16.20
6	11400.00	48.4 AV	54.0	-5.6	1.00 H	293	32.20	16.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	109.5 PK			1.27 V	33	68.70	40.80
2	*5700.00	99.8 AV			1.27 V	33	59.00	40.80
3	#5725.00	66.0 PK	74.0	-8.0	1.80 V	27	63.40	2.60
4	#5725.00	50.2 AV	54.0	-3.8	1.80 V	27	47.60	2.60
5	11400.00	62.0 PK	74.0	-12.0	1.00 V	175	45.80	16.20
6	11400.00	49.1 AV	54.0	-4.9	1.00 V	175	32.90	16.20

Remark:

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

802.11n (40MHz)

CHANNEL	TX Channel 54	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	58.4 PK	74.0	-15.6	1.89 H	320	56.40	2.00
2	5150.00	45.6 AV	54.0	-8.4	1.89 H	320	43.60	2.00
3	*5270.00	108.6 PK			1.83 H	12	68.50	40.10
4	*5270.00	99.0 AV			1.83 H	12	58.90	40.10
5	5430.00	60.0 PK	74.0	-14.0	1.89 H	329	57.90	2.10
6	5430.00	47.5 AV	54.0	-6.5	1.89 H	329	45.40	2.10
7	#7026.00	57.1 PK	74.0	-16.9	1.49 H	305	48.90	8.20
8	#7026.00	48.2 AV	54.0	-5.8	1.49 H	305	40.00	8.20
9	#10540.00	65.3 PK	74.0	-8.7	1.44 H	164	49.70	15.60
10	#10540.00	51.5 AV	54.0	-2.5	1.44 H	164	35.90	15.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	58.8 PK	74.0	-15.2	1.30 V	341	56.80	2.00
2	5150.00	45.5 AV	54.0	-8.5	1.30 V	341	43.50	2.00
3	*5270.00	107.3 PK			1.49 V	73	67.20	40.10
4	*5270.00	98.1 AV			1.49 V	73	58.00	40.10
5	5430.00	59.2 PK	74.0	-14.8	1.70 V	25	57.10	2.10
6	5430.00	46.4 AV	54.0	-7.6	1.70 V	25	44.30	2.10
7	#7026.00	58.5 PK	74.0	-15.5	1.00 V	355	50.30	8.20
8	#7026.00	52.5 AV	54.0	-1.5	1.00 V	355	44.30	8.20
9	#10540.00	62.8 PK	74.0	-11.2	1.33 V	24	47.20	15.60
10	#10540.00	49.9 AV	54.0	-4.1	1.33 V	24	34.30	15.60

Remark:

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

CHANNEL	TX Channel 62	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*5310.00	110.4 PK			1.64 H	8	70.30	40.10
2	*5310.00	102.0 AV			1.64 H	8	61.90	40.10
3	5350.00	67.7 PK	74.0	-6.3	1.41 H	0	65.70	2.00
4	5350.00	49.7 AV	54.0	-4.3	1.41 H	0	47.70	2.00
5	#7080.00	55.6 PK	74.0	-18.4	1.06 H	351	47.00	8.60
6	#7080.00	46.9 AV	54.0	-7.1	1.06 H	351	38.30	8.60
7	10620.00	60.6 PK	74.0	-13.4	1.73 H	33	44.40	16.20
8	10620.00	47.7 AV	54.0	-6.3	1.73 H	33	31.50	16.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	108.0 PK			1.35 V	69	67.90	40.10
2	*5310.00	98.7 AV			1.35 V	69	58.60	40.10
3	5350.00	70.7 PK	74.0	-3.3	1.49 V	73	68.70	2.00
4	5350.00	52.7 AV	54.0	-1.3	1.49 V	73	50.70	2.00
5	#7080.00	56.6 PK	74.0	-17.4	1.00 V	359	48.00	8.60
6	#7080.00	51.6 AV	54.0	-2.4	1.00 V	359	43.00	8.60
7	10620.00	59.8 PK	74.0	-14.2	2.01 V	101	43.60	16.20
8	10620.00	47.4 AV	54.0	-6.6	2.01 V	101	31.20	16.20

Remark:

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

CHANNEL	TX Channel 102	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	5460.00	64.0 PK	74.0	-10.0	1.57 H	27	61.90	2.10
2	5460.00	48.8 AV	54.0	-5.2	1.57 H	27	46.70	2.10
3	#5470.00	68.6 PK	74.0	-5.4	1.71 H	3	66.40	2.20
4	#5470.00	52.2 AV	54.0	-1.8	1.71 H	3	50.00	2.20
5	*5510.00	109.5 PK			1.75 H	319	69.20	40.30
6	*5510.00	99.9 AV			1.75 H	319	59.60	40.30
7	#5750.00	60.8 PK	74.0	-13.2	1.72 H	345	58.10	2.70
8	#5750.00	51.8 AV	54.0	-2.2	1.72 H	345	49.10	2.70
9	11020.00	60.1 PK	74.0	-13.9	1.00 H	200	42.70	17.40
10	11020.00	47.9 AV	54.0	-6.1	1.00 H	200	30.50	17.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	61.8 PK	74.0	-12.2	1.45 V	63	59.70	2.10
2	5460.00	47.7 AV	54.0	-6.3	1.45 V	63	45.60	2.10
3	#5470.00	66.2 PK	74.0	-7.8	1.47 V	70	64.00	2.20
4	#5470.00	49.6 AV	54.0	-4.4	1.47 V	70	47.40	2.20
5	*5510.00	107.1 PK			1.45 V	66	66.80	40.30
6	*5510.00	98.2 AV			1.45 V	66	57.90	40.30
7	#5750.00	59.0 PK	74.0	-15.0	1.00 V	333	56.30	2.70
8	#5750.00	49.5 AV	54.0	-4.5	1.00 V	333	46.80	2.70
9	11020.00	60.6 PK	74.0	-13.4	1.00 V	325	43.20	17.40
10	11020.00	47.9 AV	54.0	-6.1	1.00 V	325	30.50	17.40

Remark:

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

CHANNEL	TX Channel 110	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*5550.00	108.5 PK			1.79 H	312	68.10	40.40
2	*5550.00	99.4 AV			1.79 H	312	59.00	40.40
3	#5790.00	61.1 PK	74.0	-12.9	1.68 H	342	58.30	2.80
4	#5790.00	52.1 AV	54.0	-1.9	1.68 H	342	49.30	2.80
5	11100.00	58.8 PK	74.0	-15.2	1.00 H	233	42.20	16.60
6	11100.00	46.7 AV	54.0	-7.3	1.00 H	233	30.10	16.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	108.0 PK			1.50 V	62	67.60	40.40
2	*5550.00	98.7 AV			1.50 V	62	58.30	40.40
3	#5790.00	59.2 PK	74.0	-14.8	1.00 V	335	56.40	2.80
4	#5790.00	50.1 AV	54.0	-3.9	1.00 V	335	47.30	2.80
5	11100.00	59.0 PK	74.0	-15.0	1.00 V	222	42.40	16.60
6	11100.00	46.6 AV	54.0	-7.4	1.00 V	222	30.00	16.60

Remark:

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

CHANNEL	TX Channel 134	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*5670.00	110.0 PK			1.67 H	1	69.30	40.70
2	*5670.00	100.6 AV			1.67 H	1	59.90	40.70
3	#5725.00	65.5 PK	74.0	-8.5	1.56 H	0	62.90	2.60
4	#5725.00	50.1 AV	54.0	-3.9	1.56 H	0	47.50	2.60
5	11340.00	59.5 PK	74.0	-14.5	1.00 H	331	43.00	16.50
6	11340.00	46.5 AV	54.0	-7.5	1.00 H	331	30.00	16.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	105.6 PK			1.54 V	64	64.90	40.70
2	*5670.00	96.9 AV			1.54 V	64	56.20	40.70
3	#5725.00	61.1 PK	74.0	-12.9	1.64 V	66	58.50	2.60
4	#5725.00	46.6 AV	54.0	-7.4	1.64 V	66	44.00	2.60
5	11340.00	59.4 PK	74.0	-14.6	1.00 V	159	42.90	16.50
6	11340.00	46.2 AV	54.0	-7.8	1.00 V	159	29.70	16.50

Remark:

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

802.11ac (80MHz)

CHANNEL	TX Channel 58	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*5290.00	105.1 PK			1.60 H	0	65.00	40.10
2	*5290.00	94.7 AV			1.60 H	0	54.60	40.10
3	5350.00	71.2 PK	74.0	-2.8	1.69 H	0	69.20	2.00
4	5350.00	52.1 AV	54.0	-1.9	1.69 H	0	50.10	2.00
5	#7053.00	55.2 PK	74.0	-18.8	1.42 H	339	46.70	8.50
6	#7053.00	47.1 AV	54.0	-6.9	1.42 H	339	38.60	8.50
7	#10580.00	59.9 PK	74.0	-14.1	1.70 H	29	44.00	15.90
8	#10580.00	47.2 AV	54.0	-6.8	1.70 H	29	31.30	15.90
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5290.00	102.3 PK			1.52 V	66	62.20	40.10
2	*5290.00	92.7 AV			1.52 V	66	52.60	40.10
3	5350.00	70.3 PK	74.0	-3.7	1.50 V	69	68.30	2.00
4	5350.00	52.1 AV	54.0	-1.9	1.50 V	69	50.10	2.00
5	#7053.00	56.9 PK	74.0	-17.1	1.32 V	20	48.40	8.50
6	#7053.00	51.1 AV	54.0	-2.9	1.32 V	20	42.60	8.50
7	#10580.00	60.5 PK	74.0	-13.5	1.40 V	40	44.60	15.90
8	#10580.00	47.5 AV	54.0	-6.5	1.40 V	40	31.60	15.90

Remark:

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

CHANNEL	TX Channel 106	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	5460.00	66.6 PK	74.0	-7.4	1.60 H	0	64.50	2.10
2	5460.00	51.1 AV	54.0	-2.9	1.60 H	0	49.00	2.10
3	#5470.00	69.2 PK	74.0	-4.8	1.63 H	315	67.00	2.20
4	#5470.00	52.2 AV	54.0	-1.8	1.63 H	315	50.00	2.20
5	*5530.00	105.5 PK			1.74 H	351	65.10	40.40
6	*5530.00	95.8 AV			1.74 H	351	55.40	40.40
7	#5770.00	60.6 PK	74.0	-13.4	1.68 H	337	57.90	2.70
8	#5770.00	51.2 AV	54.0	-2.8	1.68 H	337	48.50	2.70
9	11060.00	60.4 PK	74.0	-13.6	1.00 H	343	43.30	17.10
10	11060.00	47.8 AV	54.0	-6.2	1.00 H	343	30.70	17.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	64.4 PK	74.0	-9.6	1.49 V	53	62.30	2.10
2	5460.00	49.4 AV	54.0	-4.6	1.49 V	53	47.30	2.10
3	#5470.00	67.5 PK	74.0	-6.5	1.47 V	57	65.30	2.20
4	#5470.00	50.1 AV	54.0	-3.9	1.47 V	57	47.90	2.20
5	*5530.00	102.5 PK			1.46 V	52	62.10	40.40
6	*5530.00	96.3 AV			1.46 V	52	55.90	40.40
7	#5770.00	58.8 PK	74.0	-15.2	1.04 V	324	56.10	2.70
8	#5770.00	49.4 AV	54.0	-4.6	1.04 V	324	46.70	2.70
9	11060.00	61.1 PK	74.0	-12.9	1.33 V	355	44.00	17.10
10	11060.00	48.1 AV	54.0	-5.9	1.33 V	355	31.00	17.10

Remark:

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

Beamforming on mode

802.11n (20MHz)

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	58.7 PK	74.0	-15.3	1.76 H	17	56.70	2.00
2	5150.00	46.0 AV	54.0	-8.0	1.76 H	17	44.00	2.00
3	*5260.00	116.2 PK			1.71 H	18	76.10	40.10
4	*5260.00	104.3 AV			1.71 H	18	64.20	40.10
5	5420.00	59.8 PK	74.0	-14.2	1.95 H	3	57.70	2.10
6	5420.00	47.6 AV	54.0	-6.4	1.95 H	3	45.50	2.10
7	#7013.00	56.5 PK	68.2	-11.7	1.48 H	348	48.40	8.10
8	#10520.00	66.6 PK	74.0	-7.4	1.31 H	200	51.30	15.30
9	#10520.00	52.8 AV	54.0	-1.2	1.31 H	200	37.50	15.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.8 PK	74.0	-16.2	1.87 V	59	55.80	2.00
2	5150.00	46.0 AV	54.0	-8.0	1.87 V	59	44.00	2.00
3	*5260.00	113.2 PK			1.52 V	65	73.10	40.10
4	*5260.00	101.9 AV			1.52 V	65	61.80	40.10
5	5420.00	58.3 PK	74.0	-15.7	1.00 V	339	56.20	2.10
6	5420.00	46.3 AV	54.0	-7.7	1.00 V	339	44.20	2.10
7	#7013.00	59.1 PK	68.2	-9.1	1.42 V	345	51.00	8.10
8	#10520.00	64.4 PK	74.0	-9.6	1.18 V	173	49.10	15.30
9	#10520.00	50.5 AV	54.0	-3.5	1.18 V	173	35.20	15.30

Remark:

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

CHANNEL	TX Channel 60	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*5300.00	115.2 PK			1.75 H	1	75.10	40.10
2	*5300.00	103.1 AV			1.75 H	1	63.00	40.10
3	5460.00	60.4 PK	74.0	-13.6	1.90 H	354	58.30	2.10
4	5460.00	48.9 AV	54.0	-5.1	1.90 H	354	46.80	2.10
5	#7066.00	55.5 PK	74.0	-18.5	1.42 H	341	46.90	8.60
6	#7066.00	46.1 AV	54.0	-7.9	1.42 H	341	37.50	8.60
7	10600.00	67.8 PK	74.0	-6.2	1.32 H	192	51.60	16.20
8	**10600.00**	**53.0 AV**	**54.0**	**-1.0**	**1.32 H**	**192**	**36.80**	**16.20**
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	113.2 PK			1.43 V	63	73.10	40.10
2	*5300.00	101.4 AV			1.43 V	63	61.30	40.10
3	5460.00	58.9 PK	74.0	-15.1	1.36 V	340	56.80	2.10
4	5460.00	47.7 AV	54.0	-6.3	1.36 V	340	45.60	2.10
5	#7066.00	57.2 PK	74.0	-16.8	1.00 V	339	48.60	8.60
6	#7066.00	49.5 AV	54.0	-4.5	1.00 V	339	40.90	8.60
7	10600.00	63.4 PK	74.0	-10.6	1.66 V	101	47.20	16.20
8	10600.00	51.5 AV	54.0	-2.5	1.66 V	101	35.30	16.20

Remark:

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

CHANNEL	TX Channel 64	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*5320.00	115.9 PK			1.78 H	18	75.70	40.20
2	*5320.00	104.3 AV			1.78 H	18	64.10	40.20
3	5350.00	65.5 PK	74.0	-8.5	1.88 H	10	63.50	2.00
4	5350.00	49.6 AV	54.0	-4.4	1.88 H	10	47.60	2.00
5	#7093.00	55.1 PK	74.0	-18.9	1.40 H	335	46.20	8.90
6	#7093.00	44.5 AV	54.0	-9.5	1.40 H	335	35.60	8.90
7	10640.00	64.0 PK	74.0	-10.0	1.36 H	161	47.70	16.30
8	10640.00	50.4 AV	54.0	-3.6	1.36 H	161	34.10	16.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	73.9 PK			1.01 V	326	71.80	2.10
2	*5320.00	62.2 AV			1.01 V	326	60.10	2.10
3	5350.00	61.0 PK	74.0	-13.0	1.00 V	325	59.00	2.00
4	5350.00	46.6 AV	54.0	-7.4	1.00 V	325	44.60	2.00
5	#7093.00	56.7 PK	74.0	-17.3	1.66 V	279	47.80	8.90
6	#7093.00	49.1 AV	54.0	-4.9	1.66 V	279	40.20	8.90
7	10640.00	60.9 PK	74.0	-13.1	1.19 V	77	44.60	16.30
8	10640.00	48.5 AV	54.0	-5.5	1.19 V	77	32.20	16.30

Remark:

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

CHANNEL	TX Channel 100	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	5460.00	61.9 PK	74.0	-12.1	1.96 H	10	59.80	2.10
2	5460.00	48.7 AV	54.0	-5.3	1.96 H	10	46.60	2.10
3	#5470.00	65.0 PK	74.0	-9.0	1.98 H	7	62.80	2.20
4	#5470.00	49.3 AV	54.0	-4.7	1.98 H	7	47.10	2.20
5	*5500.00	114.9 PK			1.99 H	1	74.60	40.30
6	*5500.00	103.3 AV			1.99 H	1	63.00	40.30
7	#5740.00	63.0 PK	74.0	-11.0	2.00 H	341	60.30	2.70
8	#5740.00	52.3 AV	54.0	-1.7	2.00 H	341	49.60	2.70
9	11000.00	62.9 PK	74.0	-11.1	1.00 H	221	45.20	17.70
10	11000.00	50.5 AV	54.0	-3.5	1.00 H	221	32.80	17.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	56.3 PK	74.0	-17.7	1.56 V	340	54.20	2.10
2	5460.00	44.2 AV	54.0	-9.8	1.56 V	340	42.10	2.10
3	#5470.00	57.3 PK	74.0	-16.7	1.29 V	350	55.10	2.20
4	#5470.00	44.5 AV	54.0	-9.5	1.29 V	350	42.30	2.20
5	*5500.00	112.2 PK			1.30 V	62	71.90	40.30
6	*5500.00	100.4 AV			1.30 V	62	60.10	40.30
7	#5740.00	57.9 PK	74.0	-16.1	1.00 V	131	55.20	2.70
8	#5740.00	45.0 AV	54.0	-9.0	1.00 V	131	42.30	2.70
9	11000.00	62.8 PK	74.0	-11.2	1.00 V	331	45.10	17.70
10	11000.00	50.8 AV	54.0	-3.2	1.00 V	331	33.10	17.70

Remark:

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

CHANNEL	TX Channel 116	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*5580.00	116.1 PK			1.83 H	3	75.60	40.50
2	*5580.00	104.7 AV			1.83 H	3	64.20	40.50
3	#5820.00	63.4 PK	74.0	-10.6	1.75 H	345	60.60	2.80
4	#5820.00	52.7 AV	54.0	-1.3	1.75 H	345	49.90	2.80
5	11160.00	61.2 PK	74.0	-12.8	1.00 H	177	44.80	16.40
6	11160.00	49.0 AV	54.0	-5.0	1.00 H	177	32.60	16.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	112.0 PK			1.93 V	272	71.50	40.50
2	*5580.00	100.3 AV			1.93 V	272	59.80	40.50
3	#5820.00	60.8 PK	74.0	-13.2	1.23 V	53	58.00	2.80
4	#5820.00	50.6 AV	54.0	-3.4	1.23 V	53	47.80	2.80
5	11160.00	61.3 PK	74.0	-12.7	1.00 V	301	44.90	16.40
6	11160.00	49.2 AV	54.0	-4.8	1.00 V	301	32.80	16.40

Remark:

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

CHANNEL	TX Channel 140	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*5700.00	114.2 PK			1.61 H	2	73.40	40.80
2	*5700.00	102.8 AV			1.61 H	2	62.00	40.80
3	#5725.00	69.4 PK	74.0	-4.6	1.75 H	360	66.80	2.60
4	#5725.00	52.3 AV	54.0	-1.7	1.75 H	360	49.70	2.60
5	11400.00	62.7 PK	74.0	-11.3	1.00 H	299	46.50	16.20
6	11400.00	48.4 AV	54.0	-5.6	1.00 H	299	32.20	16.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	112.0 PK			1.80 V	337	71.20	40.80
2	*5700.00	100.3 AV			1.80 V	337	59.50	40.80
3	#5725.00	66.4 PK	74.0	-7.6	1.73 V	33	63.80	2.60
4	#5725.00	50.3 AV	54.0	-3.7	1.73 V	33	47.70	2.60
5	11400.00	62.4 PK	74.0	-11.6	1.00 V	177	46.20	16.20
6	11400.00	49.3 AV	54.0	-4.7	1.00 V	177	33.10	16.20

Remark:

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

802.11n (40MHz)

CHANNEL	TX Channel 54	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	58.5 PK	74.0	-15.5	1.87 H	329	56.50	2.00
2	5150.00	45.8 AV	54.0	-8.2	1.87 H	329	43.80	2.00
3	*5270.00	112.4 PK			1.91 H	12	72.30	40.10
4	*5270.00	100.1 AV			1.91 H	12	60.00	40.10
5	5430.00	60.3 PK	74.0	-13.7	1.88 H	346	58.20	2.10
6	5430.00	47.7 AV	54.0	-6.3	1.88 H	346	45.60	2.10
7	#7026.00	57.3 PK	74.0	-16.7	1.48 H	349	49.10	8.20
8	#7026.00	48.9 AV	54.0	-5.1	1.48 H	349	40.70	8.20
9	#10540.00	64.9 PK	74.0	-9.1	1.31 H	199	49.30	15.60
10	#10540.00	51.2 AV	54.0	-2.8	1.31 H	199	35.60	15.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	58.7 PK	74.0	-15.3	1.29 V	344	56.70	2.00
2	5150.00	45.6 AV	54.0	-8.4	1.29 V	344	43.60	2.00
3	*5270.00	109.9 PK			1.50 V	71	69.80	40.10
4	*5270.00	98.0 AV			1.50 V	71	57.90	40.10
5	5430.00	59.3 PK	74.0	-14.7	1.77 V	30	57.20	2.10
6	5430.00	47.0 AV	54.0	-7.0	1.77 V	30	44.90	2.10
7	#7026.00	58.3 PK	74.0	-15.7	1.00 V	349	50.10	8.20
8	#7026.00	52.3 AV	54.0	-1.7	1.00 V	349	44.10	8.20
9	#10540.00	63.4 PK	74.0	-10.6	1.33 V	25	47.80	15.60
10	#10540.00	50.1 AV	54.0	-3.9	1.33 V	25	34.50	15.60

Remark:

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

CHANNEL	TX Channel 62	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*5310.00	111.4 PK			1.89 H	15	71.30	40.10
2	*5310.00	99.9 AV			1.89 H	15	59.80	40.10
3	5350.00	71.6 PK	74.0	-2.4	1.79 H	18	69.60	2.00
4	5350.00	52.1 AV	54.0	-1.9	1.79 H	18	50.10	2.00
5	#7080.00	56.4 PK	74.0	-17.6	1.05 H	339	47.80	8.60
6	#7080.00	47.7 AV	54.0	-6.3	1.05 H	339	39.10	8.60
7	10620.00	61.3 PK	74.0	-12.7	1.77 H	19	45.10	16.20
8	10620.00	49.0 AV	54.0	-5.0	1.77 H	19	32.80	16.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	108.5 PK			1.23 V	342	68.40	40.10
2	*5310.00	96.7 AV			1.23 V	342	56.60	40.10
3	5350.00	70.9 PK	74.0	-3.1	1.55 V	79	68.90	2.00
4	5350.00	52.9 AV	54.0	-1.1	1.55 V	79	50.90	2.00
5	#7080.00	56.8 PK	74.0	-17.2	1.00 V	355	48.20	8.60
6	#7080.00	51.7 AV	54.0	-2.3	1.00 V	355	43.10	8.60
7	10620.00	60.4 PK	74.0	-13.6	2.00 V	122	44.20	16.20
8	10620.00	48.3 AV	54.0	-5.7	2.00 V	122	32.10	16.20

Remark:

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

CHANNEL	TX Channel 102	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	5460.00	65.1 PK	74.0	-8.9	1.99 H	19	63.00	2.10
2	5460.00	49.2 AV	54.0	-4.8	1.99 H	19	47.10	2.10
3	#5470.00	72.3 PK	74.0	-1.7	1.99 H	23	70.10	2.20
4	#5470.00	51.9 AV	54.0	-2.1	1.99 H	23	49.70	2.20
5	*5510.00	111.0 PK			1.79 H	15	70.70	40.30
6	*5510.00	99.2 AV			1.79 H	15	58.90	40.30
7	#5750.00	60.9 PK	74.0	-13.1	1.91 H	359	58.20	2.70
8	#5750.00	51.9 AV	54.0	-2.1	1.91 H	359	49.20	2.70
9	11020.00	60.9 PK	74.0	-13.1	1.00 H	293	43.50	17.40
10	11020.00	48.6 AV	54.0	-5.4	1.00 H	293	31.20	17.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	62.3 PK	74.0	-11.7	1.44 V	67	60.20	2.10
2	5460.00	47.9 AV	54.0	-6.1	1.44 V	67	45.80	2.10
3	#5470.00	65.1 PK	74.0	-8.9	1.44 V	80	62.90	2.20
4	#5470.00	49.7 AV	54.0	-4.3	1.44 V	80	47.50	2.20
5	*5510.00	107.6 PK			1.63 V	351	67.30	40.30
6	*5510.00	96.6 AV			1.63 V	351	56.30	40.30
7	#5750.00	59.5 PK	74.0	-14.5	1.00 V	339	56.80	2.70
8	#5750.00	50.0 AV	54.0	-4.0	1.00 V	339	47.30	2.70
9	11020.00	61.7 PK	74.0	-12.3	1.00 V	298	44.30	17.40
10	11020.00	48.6 AV	54.0	-5.4	1.00 V	298	31.20	17.40

Remark:

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

CHANNEL	TX Channel 110	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*5550.00	112.2 PK			1.95 H	17	71.80	40.40
2	*5550.00	100.6 AV			1.95 H	17	60.20	40.40
3	#5790.00	61.4 PK	74.0	-12.6	1.89 H	356	58.60	2.80
4	#5790.00	52.3 AV	54.0	-1.7	1.89 H	356	49.50	2.80
5	11100.00	60.4 PK	74.0	-13.6	1.00 H	321	43.80	16.60
6	11100.00	48.7 AV	54.0	-5.3	1.00 H	321	32.10	16.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	108.2 PK			1.88 V	238	67.80	40.40
2	*5550.00	97.0 AV			1.88 V	238	56.60	40.40
3	#5790.00	59.6 PK	74.0	-14.4	1.00 V	333	56.80	2.80
4	#5790.00	50.7 AV	54.0	-3.3	1.00 V	333	47.90	2.80
5	11100.00	59.8 PK	74.0	-14.2	1.00 V	233	43.20	16.60
6	11100.00	47.7 AV	54.0	-6.3	1.00 V	233	31.10	16.60

Remark:

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

CHANNEL	TX Channel 134	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*5670.00	113.1 PK			1.61 H	4	72.40	40.70
2	*5670.00	100.8 AV			1.61 H	4	60.10	40.70
3	#5725.00	65.8 PK	74.0	-8.2	1.71 H	13	63.20	2.60
4	#5725.00	51.5 AV	54.0	-2.5	1.71 H	13	48.90	2.60
5	11340.00	60.7 PK	74.0	-13.3	1.00 H	330	44.20	16.50
6	11340.00	48.0 AV	54.0	-6.0	1.00 H	330	31.50	16.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	108.5 PK			1.55 V	70	67.80	40.70
2	*5670.00	97.5 AV			1.55 V	70	56.80	40.70
3	#5725.00	61.8 PK	74.0	-12.2	1.66 V	70	59.20	2.60
4	#5725.00	47.4 AV	54.0	-6.6	1.66 V	70	44.80	2.60
5	11340.00	60.1 PK	74.0	-13.9	1.00 V	173	43.60	16.50
6	11340.00	47.6 AV	54.0	-6.4	1.00 V	173	31.10	16.50

Remark:

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

802.11ac (80MHz)

CHANNEL	TX Channel 58	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	*5290.00	110.6 PK			1.82 H	5	70.50	40.10
2	*5290.00	98.5 AV			1.82 H	5	58.40	40.10
3	5350.00	71.8 PK	74.0	-2.2	1.66 H	11	69.80	2.00
4	5350.00	52.3 AV	54.0	-1.7	1.66 H	11	50.30	2.00
5	#7053.00	56.2 PK	74.0	-17.8	1.68 H	340	47.70	8.50
6	#7053.00	47.4 AV	54.0	-6.6	1.68 H	340	38.90	8.50
7	#10580.00	62.7 PK	74.0	-11.3	1.66 H	27	46.80	15.90
8	#10580.00	48.7 AV	54.0	-5.3	1.66 H	27	32.80	15.90
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5290.00	107.5 PK			1.11 V	62	67.40	40.10
2	*5290.00	96.0 AV			1.11 V	62	55.90	40.10
3	5350.00	70.5 PK	74.0	-3.5	1.52 V	66	68.50	2.00
4	5350.00	52.3 AV	54.0	-1.7	1.52 V	66	50.30	2.00
5	#7053.00	57.1 PK	74.0	-16.9	1.33 V	29	48.60	8.50
6	#7053.00	51.3 AV	54.0	-2.7	1.33 V	29	42.80	8.50
7	#10580.00	61.8 PK	74.0	-12.2	1.44 V	55	45.90	15.90
8	#10580.00	48.4 AV	54.0	-5.6	1.44 V	55	32.50	15.90

Remark:

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

CHANNEL	TX Channel 106	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	5460.00	67.9 PK	74.0	-6.1	2.00 H	14	65.80	2.10
2	5460.00	51.8 AV	54.0	-2.2	2.00 H	14	49.70	2.10
3	#5470.00	72.2 PK	74.0	-1.8	2.00 H	13	70.00	2.20
4	#5470.00	52.4 AV	54.0	-1.6	2.00 H	13	50.20	2.20
5	*5530.00	108.9 PK			1.77 H	360	68.50	40.40
6	*5530.00	97.3 AV			1.77 H	360	56.90	40.40
7	#5770.00	61.7 PK	74.0	-12.3	1.98 H	339	59.00	2.70
8	#5770.00	51.4 AV	54.0	-2.6	1.98 H	339	48.70	2.70
9	11060.00	62.0 PK	74.0	-12.0	1.00 H	329	44.90	17.10
10	11060.00	49.0 AV	54.0	-5.0	1.00 H	329	31.90	17.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	65.0 PK	74.0	-9.0	1.55 V	60	62.90	2.10
2	5460.00	50.2 AV	54.0	-3.8	1.55 V	60	48.10	2.10
3	#5470.00	68.5 PK	74.0	-5.5	1.49 V	66	66.30	2.20
4	#5470.00	50.4 AV	54.0	-3.6	1.49 V	66	48.20	2.20
5	*5530.00	106.9 PK			1.84 V	232	66.50	40.40
6	*5530.00	95.4 AV			1.84 V	232	55.00	40.40
7	#5770.00	59.6 PK	74.0	-14.4	1.03 V	338	56.90	2.70
8	#5770.00	50.2 AV	54.0	-3.8	1.03 V	338	47.50	2.70
9	11060.00	61.6 PK	74.0	-12.4	1.23 V	359	44.50	17.10
10	11060.00	49.0 AV	54.0	-5.0	1.23 V	359	31.90	17.10

Remark:

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

Below 1GHz worst-case data

802.11a

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

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	99.84	29.9 QP	43.5	-13.6	2.00 H	274	48.70	-18.80
2	359.80	35.0 QP	46.0	-11.0	1.01 H	250	46.50	-11.50
3	480.08	35.6 QP	46.0	-10.4	1.01 H	129	44.70	-9.10
4	625.58	36.2 QP	46.0	-9.8	1.25 H	231	42.00	-5.80
5	875.84	36.4 QP	46.0	-9.6	1.51 H	278	38.30	-1.90
6	1000.00	34.3 QP	54.0	-19.7	2.00 H	33	34.30	0.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	55.22	34.5 QP	40.0	-5.5	2.00 V	232	49.00	-14.50
2	105.66	35.2 QP	43.5	-8.3	1.24 V	289	53.00	-17.80
3	359.80	42.2 QP	46.0	-3.8	1.24 V	322	53.70	-11.50
4	441.28	42.1 QP	46.0	-3.9	1.24 V	304	51.70	-9.60
5	559.62	38.6 QP	46.0	-7.4	1.00 V	347	46.20	-7.60
6	961.20	37.7 QP	54.0	-16.3	1.00 V	298	37.90	-0.20

Remark:

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

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

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

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date Of Calibration	Due Date Of Calibration
Test Receiver ROHDE & SCHWARZ	ESCI	100612	Sep. 30, 2014	Sep. 29, 2015
RF signal cable Woken	5D-FB	Cable-HYC01-01	Dec. 26, 2014	Dec. 25, 2015
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	847265/023	Oct. 21, 2014	Oct. 20, 2015
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Jul. 21, 2014	Jul. 20, 2015
Software ADT	BV ADT_Cond_ V7.3.7.3	NA	NA	NA

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

4.2.3 Test Procedures

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

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

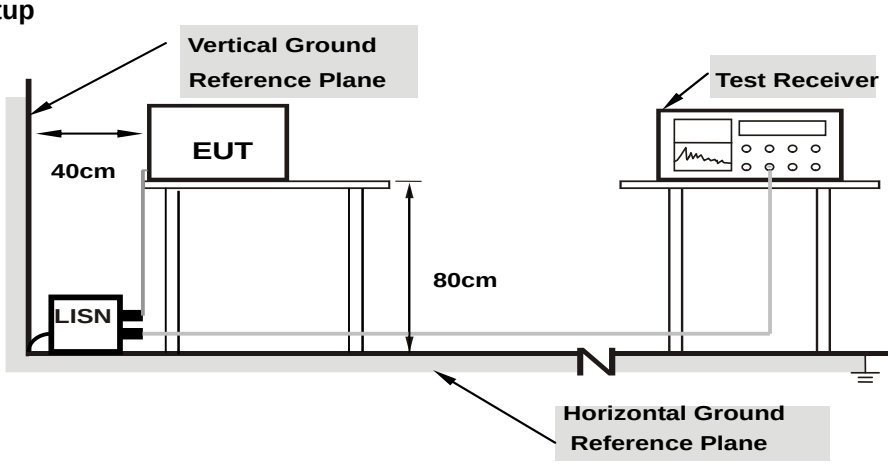
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

NOTE: The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



Note: 1.Support units were connected to second LISN.

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

4.2.6 EUT Operating Conditions

Same as 4.1.6.

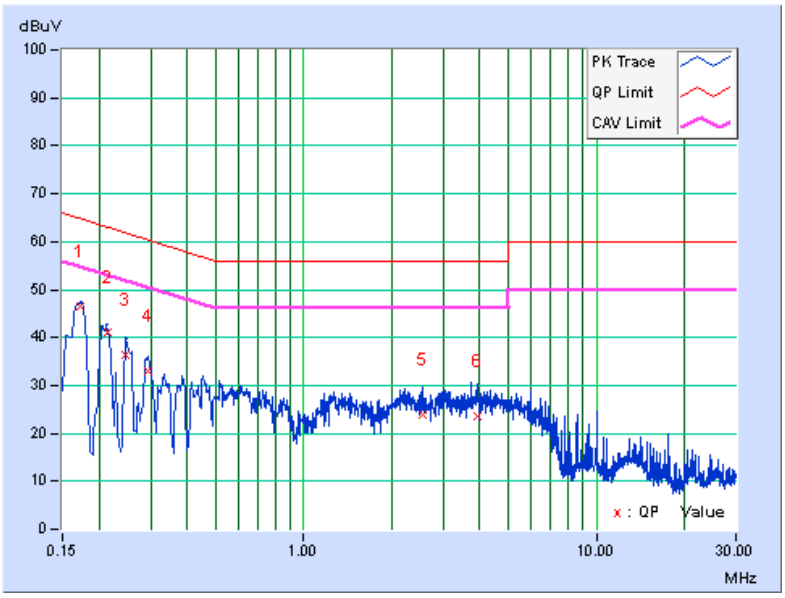
4.2.7 Test Results

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.17192**	**0.05**	**46.43**	**35.20**	**46.48**	**35.25**	**64.87**	**54.87**	**-18.38**	**-19.61**
2	0.21282	0.06	41.09	29.34	41.15	29.40	63.09	53.09	-21.94	-23.69
3	0.24775	0.06	36.40	24.60	36.46	24.66	61.83	51.83	-25.37	-27.17
4	0.29351	0.06	32.97	23.47	33.03	23.53	60.42	50.42	-27.39	-26.89
5	2.53510	0.14	23.72	13.80	23.86	13.94	56.00	46.00	-32.14	-32.06
6	3.90751	0.19	23.28	14.39	23.47	14.58	56.00	46.00	-32.53	-31.42

Remarks:

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

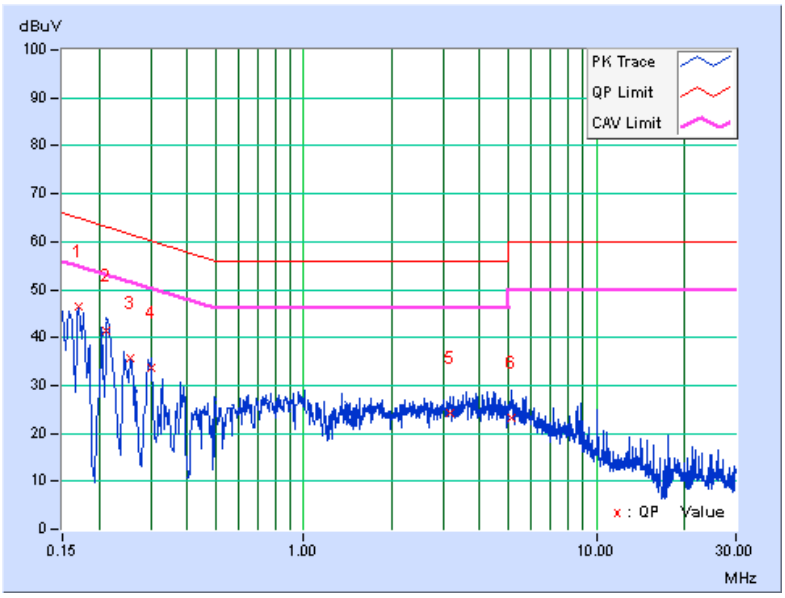


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16955	0.05	46.31	34.77	46.36	34.82	64.98	54.98	-18.62	-20.16
2	0.21256	0.05	41.47	29.60	41.52	29.65	63.10	53.10	-21.58	-23.45
3	0.25593	0.05	35.72	23.01	35.77	23.06	61.56	51.56	-25.79	-28.50
4	0.30214	0.06	33.56	21.79	33.62	21.85	60.18	50.18	-26.57	-28.34
5	3.15288	0.16	24.15	14.87	24.31	15.03	56.00	46.00	-31.69	-30.97
6	5.13134	0.23	22.85	13.73	23.08	13.96	60.00	50.00	-36.92	-36.04

Remarks:

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



4.3 Transmit Power Measurment

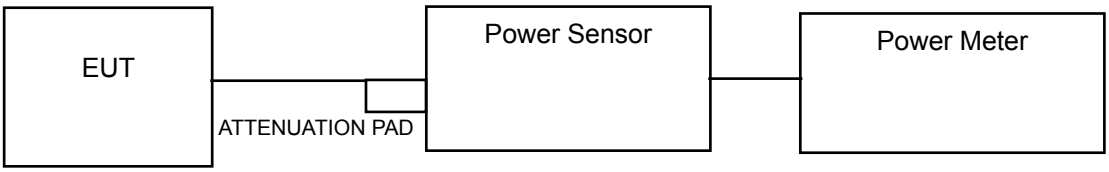
4.3.1 Limits of Transmit Power Measurement

Operation Band	EUT Category		LIMIT
U-NII-1	---	Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p ≦ 125mW(21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
	---	Fixed point-to-point Access Point	1 Watt (30 dBm)
	---	Indoor Access Point	1 Watt (30 dBm)
	---	Mobile and Portable client device	250mW (24 dBm)
U-NII-2A	√		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-2C	√		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-3	---		1 Watt (30 dBm)

*B is the 26 dB emission bandwidth in megahertz

Per KDB 662911 Method of conducted output power measurement on IEEE 802.11 devices,
Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};
Array Gain = 5 log(N_{ANT}/N_{SS}) dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.
For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

4.3.2 Test Setup



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

FOR AVERAGE POWER MEASUREMENT

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

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

For 802.11ac (80MHz)

a. Set span to encompass the entire 26 dB EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
b. Set sweep trigger to “free run”.
c. Set RBW = 1 MHz.
d. Set VBW ≥ 3 MHz
e. Number of points in sweep ≥ 2 Span / RBW.
f. Sweep time ≤ (number of points in sweep) * T
g. Detector = RMS.
h. Trace mode = max hold.
i. Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.

4.3.5 Deviation fromTest Standard

No deviation.

4.3.6 EUT Operating Conditions

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

4.3.7 Test Result

POWER OUTPUT:

Beamforming off mode

802.11a

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	14.30	15.10	14.20	14.60	114.417	20.58	24.00	Pass
60	5300	14.50	15.30	14.30	14.50	117.167	20.69	24.00	Pass
64	5320	14.40	15.20	14.20	14.70	116.470	20.66	24.00	Pass
100	5500	14.30	15.10	14.10	14.50	113.162	20.54	24.00	Pass
116	5580	14.60	15.30	14.30	14.80	119.839	20.79	24.00	Pass
140	5700	14.50	15.20	14.50	14.90	120.384	20.81	24.00	Pass

Note:

Chain 0

1. 11dBm + 10log(23.39) = 24.69 dBm > 24dBm.
2. 11dBm + 10log(23.39) = 24.69 dBm > 24dBm.
3. 11dBm + 10log(23.16) = 24.65 dBm > 24dBm.
4. 11dBm + 10log(23.13) = 24.64 dBm > 24dBm.
5. 11dBm + 10log(23.25) = 24.66 dBm > 24dBm.
6. 11dBm + 10log(22.95) = 24.61 dBm > 24dBm.

Chain 1

1. 11dBm + 10log(23.63) = 24.73 dBm > 24dBm.
2. 11dBm + 10log(23.75) = 24.76 dBm > 24dBm.
3. 11dBm + 10log(23.61) = 24.73 dBm > 24dBm.
4. 11dBm + 10log(23.57) = 24.72 dBm > 24dBm.
5. 11dBm + 10log(23.77) = 24.76 dBm > 24dBm.
6. 11dBm + 10log(23.82) = 24.77 dBm > 24dBm.

Chain 2

1. 11dBm + 10log(23.23) = 24.66 dBm > 24dBm.
2. 11dBm + 10log(23.39) = 24.69 dBm > 24dBm.
3. 11dBm + 10log(23.24) = 24.66 dBm > 24dBm.
4. 11dBm + 10log(22.94) = 24.61 dBm > 24dBm.
5. 11dBm + 10log(22.99) = 24.62 dBm > 24dBm.
6. 11dBm + 10log(22.75) = 24.57 dBm > 24dBm.

Chain 3

1. 11dBm + 10log(23.37) = 24.69 dBm > 24dBm.
2. 11dBm + 10log(23.46) = 24.70 dBm > 24dBm.
3. 11dBm + 10log(23.31) = 24.68 dBm > 24dBm.
4. 11dBm + 10log(23.56) = 24.72 dBm > 24dBm.
5. 11dBm + 10log(23.59) = 24.73 dBm > 24dBm.
6. 11dBm + 10log(23.50) = 24.71 dBm > 24dBm.

802.11n (20MHz)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	14.30	15.00	14.20	14.40	112.383	20.51	24.00	Pass
60	5300	14.20	15.20	14.10	14.60	113.960	20.57	24.00	Pass
64	5320	14.40	15.30	14.30	14.70	117.853	20.71	24.00	Pass
100	5500	14.40	15.03	14.20	14.80	115.887	20.64	24.00	Pass
116	5580	14.30	15.40	14.10	14.90	118.196	20.73	24.00	Pass
140	5700	14.20	15.20	14.40	14.90	117.861	20.71	24.00	Pass

Note:

Chain 0

1. 11dBm + 10log(25.13) = 25.00 dBm > 24dBm.
2. 11dBm + 10log(24.83) = 24.95 dBm > 24dBm.
3. 11dBm + 10log(25.06) = 24.99 dBm > 24dBm.
4. 11dBm + 10log(25.15) = 25.01 dBm > 24dBm.
5. 11dBm + 10log(24.66) = 24.92 dBm > 24dBm.
6. 11dBm + 10log(24.81) = 24.95 dBm > 24dBm.

Chain 1

1. 11dBm + 10log(24.89) = 24.96 dBm > 24dBm.
2. 11dBm + 10log(24.62) = 24.91 dBm > 24dBm.
3. 11dBm + 10log(24.94) = 24.97 dBm > 24dBm.
4. 11dBm + 10log(24.79) = 24.94 dBm > 24dBm.
5. 11dBm + 10log(24.90) = 24.96 dBm > 24dBm.
6. 11dBm + 10log(24.85) = 24.95 dBm > 24dBm.

Chain 2

1. 11dBm + 10log(24.17) = 24.83 dBm > 24dBm.
2. 11dBm + 10log(24.23) = 24.84 dBm > 24dBm.
3. 11dBm + 10log(24.37) = 24.87 dBm > 24dBm.
4. 11dBm + 10log(24.78) = 24.94 dBm > 24dBm.
5. 11dBm + 10log(24.26) = 24.85 dBm > 24dBm.
6. 11dBm + 10log(24.73) = 24.93 dBm > 24dBm.

Chain 3

1. 11dBm + 10log(24.22) = 24.84 dBm > 24dBm.
2. 11dBm + 10log(24.01) = 24.80 dBm > 24dBm.
3. 11dBm + 10log(23.80) = 24.77 dBm > 24dBm.
4. 11dBm + 10log(23.88) = 24.78 dBm > 24dBm.
5. 11dBm + 10log(23.48) = 24.71 dBm > 24dBm.
6. 11dBm + 10log(23.86) = 24.78 dBm > 24dBm.

802.11n (40MHz)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	17.87	17.71	17.87	18.40	**250.673**	23.99	24.00	Pass
62	5310	16.83	17.26	16.54	17.01	196.722	22.94	24.00	Pass
102	5510	17.93	17.25	17.20	16.97	217.43	23.37	24.00	Pass
110	5550	17.69	17.09	17.15	16.70	208.571	23.19	24.00	Pass
134	5670	18.01	18.14	17.93	17.49	**246.596**	23.92	24.00	Pass

Note:

Chain 0

1. 11dBm + 10log(44.51) = 27.48 dBm > 24dBm.
2. 11dBm + 10log(44.51) = 27.48 dBm > 24dBm.
3. 11dBm + 10log(44.19) = 27.45 dBm > 24dBm.
4. 11dBm + 10log(44.36) = 27.47 dBm > 24dBm.
5. 11dBm + 10log(44.61) = 27.49 dBm > 24dBm.

Chain 1

1. 11dBm + 10log(43.95) = 27.43 dBm > 24dBm.
2. 11dBm + 10log(43.91) = 27.43 dBm > 24dBm.
3. 11dBm + 10log(43.85) = 27.42 dBm > 24dBm.
4. 11dBm + 10log(43.76) = 27.41 dBm > 24dBm.
5. 11dBm + 10log(44.15) = 27.45 dBm > 24dBm.

Chain 2

1. 11dBm + 10log(44.28) = 27.46 dBm > 24dBm.
2. 11dBm + 10log(44.10) = 27.44 dBm > 24dBm.
3. 11dBm + 10log(44.42) = 27.48 dBm > 24dBm.
4. 11dBm + 10log(44.05) = 27.44 dBm > 24dBm.
5. 11dBm + 10log(44.43) = 27.48 dBm > 24dBm.

Chain 3

1. 11dBm + 10log(43.89) = 27.42 dBm > 24dBm.
2. 11dBm + 10log(43.95) = 27.43 dBm > 24dBm.
3. 11dBm + 10log(43.85) = 27.42 dBm > 24dBm.
4. 11dBm + 10log(44.08) = 27.44 dBm > 24dBm.
5. 11dBm + 10log(44.18) = 27.45 dBm > 24dBm.

802.11ac (80MHz)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	15.51	15.58	15.41	15.66	143.271	21.56	24.00	Pass
106	5530	15.61	15.33	15.52	15.34	140.354	21.47	24.00	Pass

Note:
Chain 0
1. 11dBm + 10log(83.78) = 30.23 dBm > 24dBm.
2. 11dBm + 10log(83.88) = 30.24 dBm > 24dBm.

Chain 1
1. 11dBm + 10log(82.18) = 30.15 dBm > 24dBm.
2. 11dBm + 10log(81.20) = 30.10 dBm > 24dBm.

Chain 2
1. 11dBm + 10log(83.78) = 30.23 dBm > 24dBm.
2. 11dBm + 10log(83.65) = 30.22 dBm > 24dBm.

Chain 3
1. 11dBm + 10log(83.22) = 30.20 dBm > 24dBm.
2. 11dBm + 10log(83.25) = 30.20 dBm > 24dBm.

Beamforming on mode

802.11n (20MHz)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
52	5260	13.21	13.89	13.07	13.29	87.039	19.40	19.63	Pass
60	5300	13.48	13.82	12.70	13.30	86.384	19.36	19.63	Pass
64	5320	13.31	14.23	12.73	13.77	**90.487**	19.57	19.63	Pass
100	5500	13.35	12.81	13.28	12.89	81.461	19.11	19.48	Pass
116	5580	13.26	12.84	12.74	12.81	78.307	18.94	19.48	Pass
140	5700	13.75	13.56	13.20	13.23	88.344	19.46	19.48	Pass

U-NII-2A: Gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/4$]= 10.37 dBi > 6dBi , so the power limit shall be reduced to 24-(10.37-6) = 19.63dBm.

U-NII-2C: Gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/4$]= 10.52 dBi > 6dBi , so the power limit shall be reduced to 24-(10.52-6) = 19.48dBm.

Note:

Chain 0

1. 11dBm + 10log(24.88) = 24.96 dBm > 19.63dBm.
2. 11dBm + 10log(24.96) = 24.97 dBm > 19.63dBm.
3. 11dBm + 10log(25.06) = 24.99 dBm > 19.63dBm.
4. 11dBm + 10log(24.88) = 24.96 dBm > 19.48dBm.
5. 11dBm + 10log(25.13) = 25.00 dBm > 19.48dBm.
6. 11dBm + 10log(24.90) = 24.96 dBm > 19.48dBm.

Chain 1

1. 11dBm + 10log(25.18) = 25.01 dBm > 19.63dBm.
2. 11dBm + 10log(24.96) = 24.97 dBm > 19.63dBm.
3. 11dBm + 10log(25.25) = 25.02 dBm > 19.63dBm.
4. 11dBm + 10log(24.89) = 24.96 dBm > 19.48dBm.
5. 11dBm + 10log(24.97) = 24.97 dBm > 19.48dBm.
6. 11dBm + 10log(25.04) = 24.99 dBm > 19.48dBm.

Chain 2

1. 11dBm + 10log(24.11) = 24.82 dBm > 19.63dBm.
2. 11dBm + 10log(24.72) = 24.93 dBm > 19.63dBm.
3. 11dBm + 10log(24.77) = 24.94 dBm > 19.63dBm.
4. 11dBm + 10log(24.67) = 24.92 dBm > 19.48dBm.
5. 11dBm + 10log(24.47) = 24.89 dBm > 19.48dBm.
6. 11dBm + 10log(24.29) = 24.85 dBm > 19.48dBm.

Chain 3

1. 11dBm + 10log(24.18) = 24.83 dBm > 19.63dBm.
2. 11dBm + 10log(24.08) = 24.82 dBm > 19.63dBm.
3. 11dBm + 10log(24.07) = 24.81 dBm > 19.63dBm.
4. 11dBm + 10log(23.95) = 24.79 dBm > 19.48dBm.
5. 11dBm + 10log(23.77) = 24.76 dBm > 19.48dBm.
6. 11dBm + 10log(23.92) = 24.79 dBm > 19.48dBm.

802.11n (40MHz)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
54	5270	12.93	13.56	12.22	12.51	76.829	18.86	19.63	Pass
62	5310	13.02	13.30	12.31	12.93	78.081	18.93	19.63	Pass
102	5510	13.80	13.06	13.63	13.28	**88.566**	19.47	19.48	Pass
110	5550	13.70	13.06	13.28	13.24	86.039	19.35	19.48	Pass
134	5670	13.81	13.20	13.11	12.97	85.216	19.31	19.48	Pass

U-NII-2A: Gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2/4$]= 10.37 dBi > 6dBi , so the power limit shall be reduced to 24-(10.37-6) = 19.63dBm.

U-NII-2C: Gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2/4$]= 10.52 dBi > 6dBi , so the power limit shall be reduced to 24-(10.52-6) = 19.48dBm.

Note:

Chain 0

1. 11dBm + 10log(44.72) = 27.51 dBm > 19.63dBm.
2. 11dBm + 10log(44.65) = 27.50 dBm > 19.63dBm.
3. 11dBm + 10log(44.68) = 27.50 dBm > 19.48dBm.
4. 11dBm + 10log(44.38) = 27.47 dBm > 19.48dBm.
5. 11dBm + 10log(44.58) = 27.49 dBm > 19.48dBm.

Chain 1

1. 11dBm + 10log(44.06) = 27.44 dBm > 19.63dBm.
2. 11dBm + 10log(44.04) = 27.44 dBm > 19.63dBm.
3. 11dBm + 10log(43.94) = 27.43 dBm > 19.48dBm.
4. 11dBm + 10log(43.85) = 27.42 dBm > 19.48dBm.
5. 11dBm + 10log(43.67) = 27.40 dBm > 19.48dBm.

Chain 2

1. 11dBm + 10log(44.24) = 27.46 dBm > 19.63dBm.
2. 11dBm + 10log(44.20) = 27.45 dBm > 19.63dBm.
3. 11dBm + 10log(44.23) = 27.46 dBm > 19.48dBm.
4. 11dBm + 10log(44.29) = 27.46 dBm > 19.48dBm.
5. 11dBm + 10log(44.26) = 27.46 dBm > 19.48dBm.

Chain 3

1. 11dBm + 10log(43.95) = 27.43 dBm > 19.63dBm.
2. 11dBm + 10log(43.72) = 27.41 dBm > 19.63dBm.
3. 11dBm + 10log(43.79) = 27.41 dBm > 19.48dBm.
4. 11dBm + 10log(43.96) = 27.43 dBm > 19.48dBm.
5. 11dBm + 10log(43.91) = 27.43 dBm > 19.48dBm.

802.11ac (80MHz)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
58	5290	13.45	13.37	13.25	13.83	89.148	19.50	19.63	Pass
106	5530	13.56	12.93	13.19	13.20	84.071	19.25	19.48	Pass

U-NII-2A: Gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/4$]= 10.37 dBi > 6dBi , so the power limit shall be reduced to 24-(10.37-6) = 19.63dBm.

U-NII-2C: Gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/4$]= 10.52 dBi > 6dBi , so the power limit shall be reduced to 24-(10.52-6) = 19.48dBm.

Note:

Chain 0
1. 11dBm + 10log(83.70) = 30.23 dBm > 19.63dBm.
2. 11dBm + 10log(84.00) = 30.24 dBm > 19.48dBm.

Chain 1
1. 11dBm + 10log(81.94) = 30.13 dBm > 19.63dBm.
2. 11dBm + 10log(81.06) = 30.09 dBm > 19.48dBm.

Chain 2
1. 11dBm + 10log(84.08) = 30.25 dBm > 19.63dBm.
2. 11dBm + 10log(83.48) = 30.22 dBm > 19.48dBm.

Chain 3
1. 11dBm + 10log(83.52) = 30.22 dBm > 19.63dBm.
2. 11dBm + 10log(83.21) = 30.20 dBm > 19.48dBm.

26dB BANDWIDTH:

Beamforming off mode

802.11a

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)				Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	
52	5260	23.39	23.63	23.23	23.37	Pass
60	5300	23.39	23.75	23.39	23.46	Pass
64	5320	23.16	23.61	23.24	23.31	Pass
100	5500	23.13	23.57	22.94	23.56	Pass
116	5580	23.25	23.77	22.99	23.59	Pass
140	5700	22.95	23.82	22.75	23.50	Pass

802.11n (20MHz)

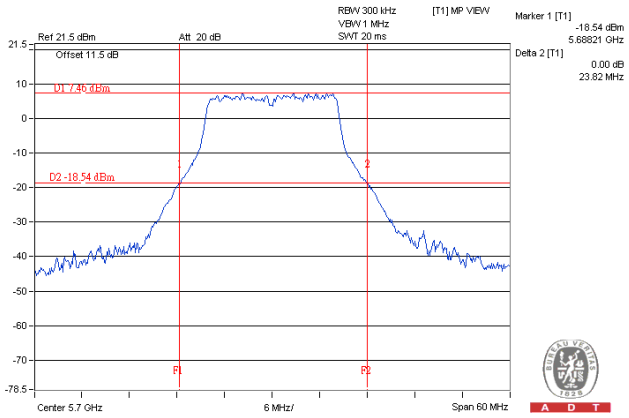
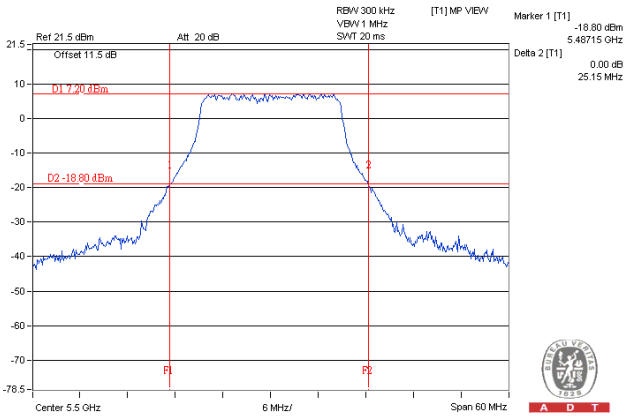
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)				Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	
52	5260	25.13	24.89	24.17	24.22	Pass
60	5300	24.83	24.62	24.23	24.01	Pass
64	5320	25.06	24.94	24.37	23.80	Pass
100	5500	25.15	24.79	24.78	23.88	Pass
116	5580	24.66	24.90	24.26	23.48	Pass
140	5700	24.81	24.85	24.73	23.86	Pass

802.11n (40MHz)

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)				Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	
54	5270	44.51	43.95	44.28	43.89	Pass
62	5310	44.51	43.91	44.10	43.95	Pass
102	5510	44.19	43.85	44.42	43.85	Pass
110	5550	44.36	43.76	44.05	44.08	Pass
134	5670	44.61	44.15	44.43	44.18	Pass

802.11ac (80MHz)

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)				Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	
58	5290	83.78	82.18	83.78	83.22	Pass
106	5530	83.88	81.20	83.65	83.25	Pass

Spectrum Plot of Worst Value	
802.11a	802.11n (20MHz)
	
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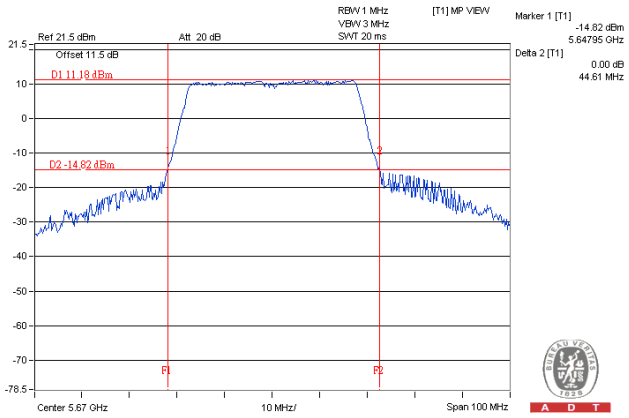
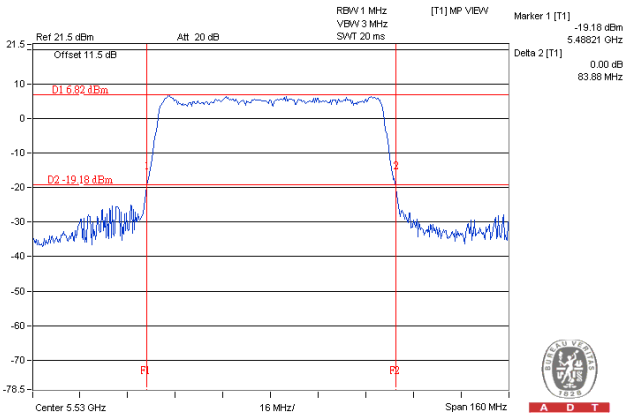
	

Beamforming on mode

802.11n (20MHz)

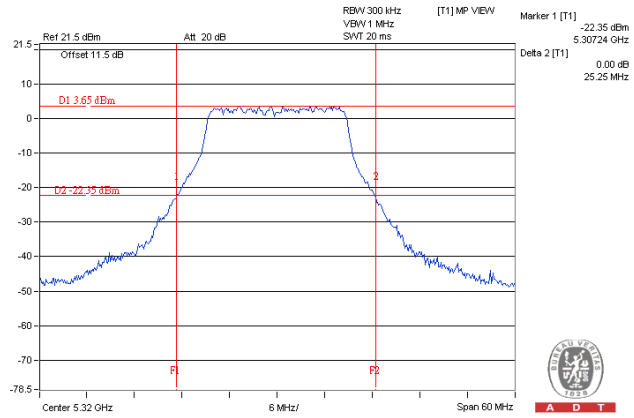
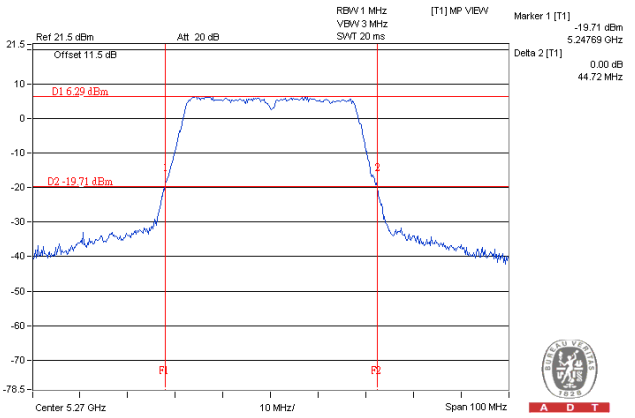
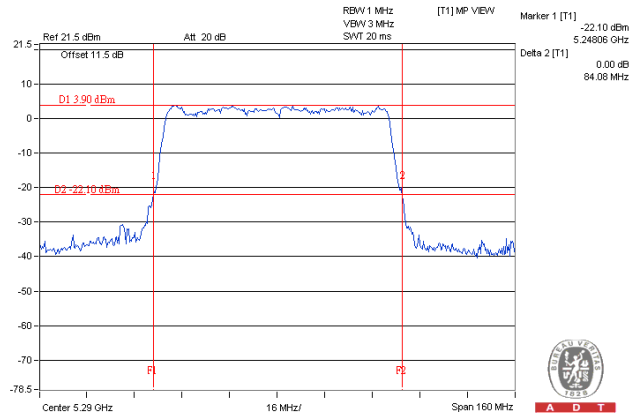
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)				Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	
52	5260	24.88	25.18	24.11	24.18	Pass
60	5300	24.96	24.96	24.72	24.08	Pass
64	5320	25.06	25.25	24.77	24.07	Pass
100	5500	24.88	24.89	24.67	23.95	Pass
116	5580	25.13	24.97	24.47	23.77	Pass
140	5700	24.90	25.04	24.29	23.92	Pass

802.11n (40MHz)

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)				Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	
54	5270	44.72	44.06	44.24	43.95	Pass
62	5310	44.65	44.04	44.20	43.72	Pass
102	5510	44.68	43.94	44.23	43.79	Pass
110	5550	44.38	43.85	44.29	43.96	Pass
134	5670	44.58	43.67	44.26	43.91	Pass

802.11ac (80MHz)

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)				Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	
58	5290	83.70	81.94	84.08	83.52	Pass
106	5530	84.00	81.06	83.48	83.21	Pass

Spectrum Plot of Worst Value	
802.11n (20MHz)	802.11n (40MHz)
	
802.11ac (80MHz)	
	

EUT MAXIMUM CONDUCTED POWER

Beamforming off mode

802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	117.167	20.69
5470~5725	120.384	20.81

NOTE: Manufacturer provides Transmit Power Control description to meet this requirement.

802.11n (20MHz)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	117.853	20.71
5470~5725	118.196	20.73

NOTE: Manufacturer provides Transmit Power Control description to meet this requirement.

802.11n (40MHz)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	250.673	23.99
5470~5725	246.596	23.92

NOTE: Manufacturer provides Transmit Power Control description to meet this requirement.

802.11ac (80MHz)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	143.271	21.56
5470~5725	140.354	21.47

NOTE: Manufacturer provides Transmit Power Control description to meet this requirement.

Beamforming on mode

802.11n (20MHz)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	90.487	19.57
5470~5725	88.344	19.46

NOTE: Manufacturer provides Transmit Power Control description to meet this requirement.

802.11n (40MHz)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	78.081	18.93
5470~5725	88.566	19.47

NOTE: Manufacturer provides Transmit Power Control description to meet this requirement.

802.11ac (80MHz)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	89.148	19.50
5470~5725	84.071	19.25

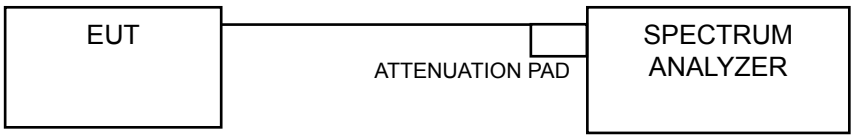
NOTE: Manufacturer provides Transmit Power Control description to meet this requirement.

4.4 Peak Power Spectral Density Measurement

4.4.1 Limits of Peak Power Spectral Density Measurement

Operation Band	EUT Category		LIMIT
U-NII-1	---	Outdoor Access Point	17dBm/ MHz
	---	Fixed point-to-point Access Point	
	---	Indoor Access Point	
	---	Mobile and Portable client device	11dBm/ MHz
U-NII-2A	√		11dBm/ MHz
U-NII-2C	√		11dBm/ MHz
U-NII-3	---		30dBm/ 500kHz

4.4.2 Test Setup



4.4.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.4 Test Procedures

Without duty cycle (Using method SA-1):

a. Set span to encompass the entire emission bandwidth (EBW) of the signal.

b. Set RBW = 30 kHz, Set VBW ≥ 1 MHz, Detector = RMS

c. Set Channel power measure = 1MHz

d. Sweep time = auto, trigger set to “free run”.

e. Trace average at least 100 traces in power averaging mode.

f. Record the max value

With duty cycle (Using method SA-2):

a. Set span to encompass the entire emission bandwidth (EBW) of the signal.

b. Set RBW = 30 kHz, Set VBW ≥ 1 MHz, Detector = RMS

c. Set Channel power measure = 1MHz

d. Sweep time = auto, trigger set to “free run”.

e. Trace average at least 100 traces in power averaging mode.

f. Record the max value and add 10 log (1/duty cycle)

4.4.5 Deviation from Test Standard

No deviation.

4.4.6 EUT Operating Conditions

Same as Item 4.3.6.

4.4.7 Test Results

Beamforming off mode

802.11a

Channel	Frequency (MHz)	PSD (dBm)				Total Power Density (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3			
52	5260	-0.45	0.77	0.07	-0.37	6.05	6.63	Pass
60	5300	-0.13	0.73	0.06	-0.35	6.12	6.63	Pass
64	5320	0.12	0.90	-0.10	0.51	6.39	6.63	Pass
100	5500	0.18	0.46	0.08	-0.08	6.18	6.48	Pass
116	5580	0.00	0.59	-0.46	-0.60	5.93	6.48	Pass
140	5700	0.00	0.75	0.28	0.07	6.31	6.48	Pass

Note: 1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

2. U-NII-2A: Gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2/4$]= 10.37 dBi > 6dBi , so the power density limit shall be reduced to 11-(10.37-6) = 6.63dBm.
U-NII-2C: Gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2/4$]= 10.52 dBi > 6dBi , so the power density limit shall be reduced to 11-(10.52-6) = 6.48dBm.

802.11n (20MHz)

Channel	Frequency (MHz)	PSD (dBm)				Total Power Density (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3			
52	5260	0.01	0.44	-0.06	0.35	6.21	6.63	Pass
60	5300	0.15	0.63	-0.46	0.36	6.21	6.63	Pass
64	5320	0.23	0.41	-0.12	0.55	6.30	6.63	Pass
100	5500	0.07	0.74	-0.29	-0.24	6.11	6.48	Pass
116	5580	0.19	0.51	-0.48	0.40	6.19	6.48	Pass
140	5700	-0.12	0.40	-0.42	-0.27	5.93	6.48	Pass

Note: 1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

2. U-NII-2A: Gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2/4$]= 10.37 dBi > 6dBi , so the power density limit shall be reduced to 11-(10.37-6) = 6.63dBm.
U-NII-2C: Gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2/4$]= 10.52 dBi > 6dBi , so the power density limit shall be reduced to 11-(10.52-6) = 6.48dBm.

802.11n (40MHz)

Channel	Frequency (MHz)	PSD (dBm)				Total Psd W/O Duty Factor (dBm)	Duty Factor	Total Psd With Duty Factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
54	5270	-0.76	-1.18	-1.03	-0.97	5.04	0.15	5.19	6.63	Pass
62	5310	-1.04	-1.43	-2.13	-0.97	4.65	0.15	4.80	6.63	Pass
102	5510	-0.82	-2.51	-1.27	-1.20	4.62	0.15	4.77	6.48	Pass
110	5550	-1.39	-2.35	-1.36	-1.43	4.41	0.15	4.56	6.48	Pass
134	5670	-1.75	-2.83	-1.69	-0.74	4.33	0.15	4.48	6.48	Pass

Note: 1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

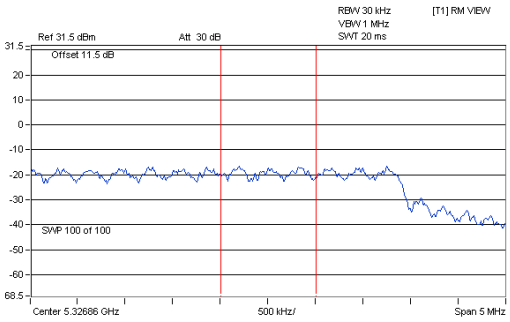
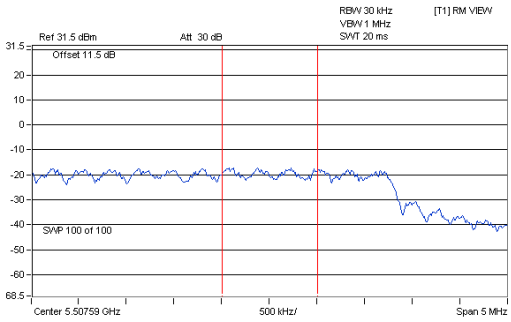
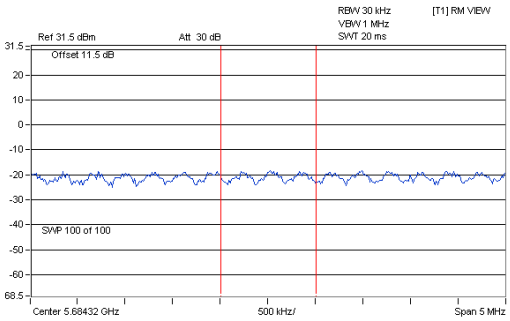
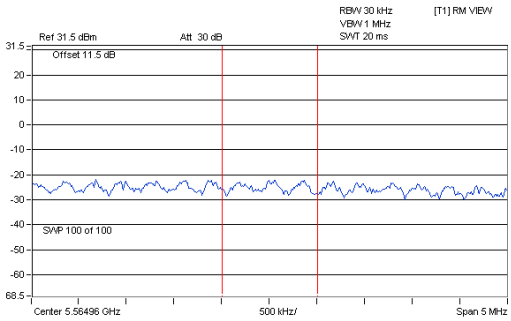
2. U-NII-2A: Gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2/4$]= 10.37 dBi > 6dBi , so the power density limit shall be reduced to 11-(10.37-6) = 6.63dBm.
   U-NII-2C: Gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2/4$]= 10.52 dBi > 6dBi , so the power density limit shall be reduced to 11-(10.52-6) = 6.48dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (80MHz)

Channel	Frequency (MHz)	PSD (dBm)				Total Psd W/O Duty Factor (dBm)	Duty Factor	Total Psd With Duty Factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
58	5290	-5.13	-5.41	-6.35	-5.07	0.56	0.28	0.84	6.63	Pass
106	5530	-5.85	-6.05	-6.90	-4.76	0.20	0.28	0.48	6.48	Pass

Note: 1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

2. U-NII-2A: Gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2/4$]= 10.37 dBi > 6dBi , so the power density limit shall be reduced to 11-(10.37-6) = 6.63dBm.
   U-NII-2C: Gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2/4$]= 10.52 dBi > 6dBi , so the power density limit shall be reduced to 11-(10.52-6) = 6.48dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value	
802.11a	802.11n (20MHz)
 TX Channel Bandwidth 1 MHz Power 0.9 dBm	 TX Channel Bandwidth 1 MHz Power 0.74 dBm
802.11n (40MHz)	802.11ac (80MHz)
 TX Channel Bandwidth 1 MHz Power -0.74 dBm	 TX Channel Bandwidth 1 MHz Power -4.76 dBm

Beamforming on mode

802.11n (20MHz)

Channel	Frequency (MHz)	PSD (dBm)				Total Power Density (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3			
52	5260	-1.88	-2.30	-2.48	-2.39	3.76	6.63	Pass
60	5300	-2.22	-2.44	-2.83	-2.29	3.58	6.63	Pass
64	5320	-2.68	-2.71	-3.15	-2.14	3.37	6.63	Pass
100	5500	-3.07	-2.83	-3.44	-3.11	2.91	6.48	Pass
116	5580	-2.81	-2.52	-2.60	-2.93	3.31	6.48	Pass
140	5700	-2.48	-2.57	-2.79	-2.19	3.52	6.48	Pass

Note: 1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

2. U-NII-2A: Gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2/4$]= 10.37 dBi > 6dBi , so the power density limit shall be reduced to 11-(10.37-6) = 6.63dBm.
U-NII-2C: Gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2/4$]= 10.52 dBi > 6dBi , so the power density limit shall be reduced to 11-(10.52-6) = 6.48dBm.

802.11n (40MHz)

Channel	Frequency (MHz)	PSD (dBm)				Total Psd W/O Duty Factor (dBm)	Duty Factor	Total Psd With Duty Factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
54	5270	-6.19	-5.50	-6.65	-6.13	-0.07	0.12	0.05	6.63	Pass
62	5310	-6.62	-6.17	-6.88	-6.05	-0.39	0.12	-0.27	6.63	Pass
102	5510	-5.49	-6.42	-5.65	-6.10	0.12	0.12	0.24	6.48	Pass
110	5550	-5.65	-6.54	-5.91	-5.91	0.03	0.12	0.15	6.48	Pass
134	5670	-6.11	-6.21	-6.13	-6.43	-0.19	0.12	-0.07	6.48	Pass

Note: 1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

2. U-NII-2A: Gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2/4$]= 10.37 dBi > 6dBi , so the power density limit shall be reduced to 11-(10.37-6) = 6.63dBm.
U-NII-2C: Gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2/4$]= 10.52 dBi > 6dBi , so the power density limit shall be reduced to 11-(10.52-6) = 6.48dBm.

3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (80MHz)

Channel	Frequency (MHz)	PSD (dBm)				Total Psd W/O Duty Factor (dBm)	Duty Factor	Total Psd With Duty Factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
58	5290	-8.29	-8.46	-8.55	-8.48	-2.43	0.25	-2.18	6.63	Pass
106	5530	-8.29	-8.36	-9.39	-8.52	-2.60	0.25	-2.35	6.48	Pass

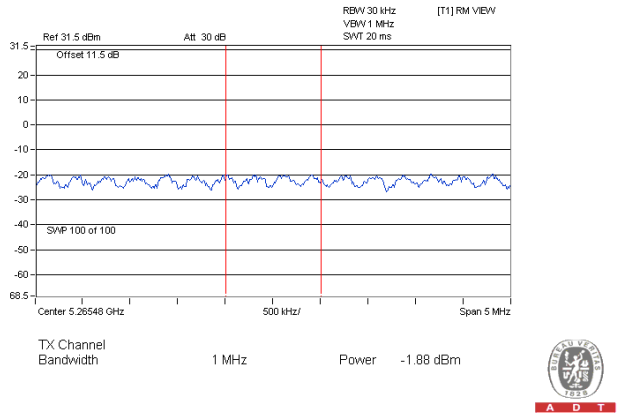
Note: 1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

2. U-NII-2A: Gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2/4$]= 10.37 dBi > 6dBi , so the power density limit shall be reduced to 11-(10.37-6) = 6.63dBm.
   U-NII-2C: Gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2/4$]= 10.52 dBi > 6dBi , so the power density limit shall be reduced to 11-(10.52-6) = 6.48dBm.

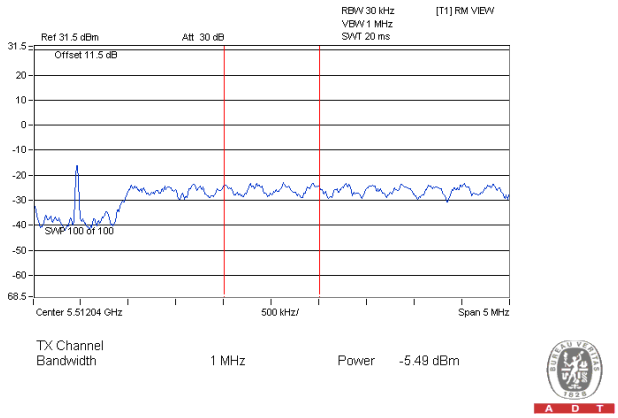
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

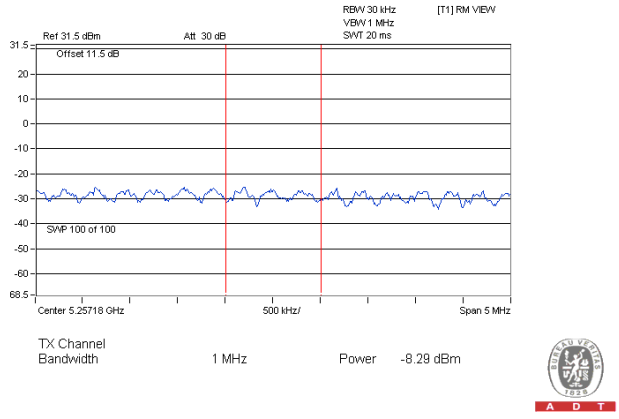
802.11n (20MHz)



802.11n (40MHz)



802.11ac (80MHz)

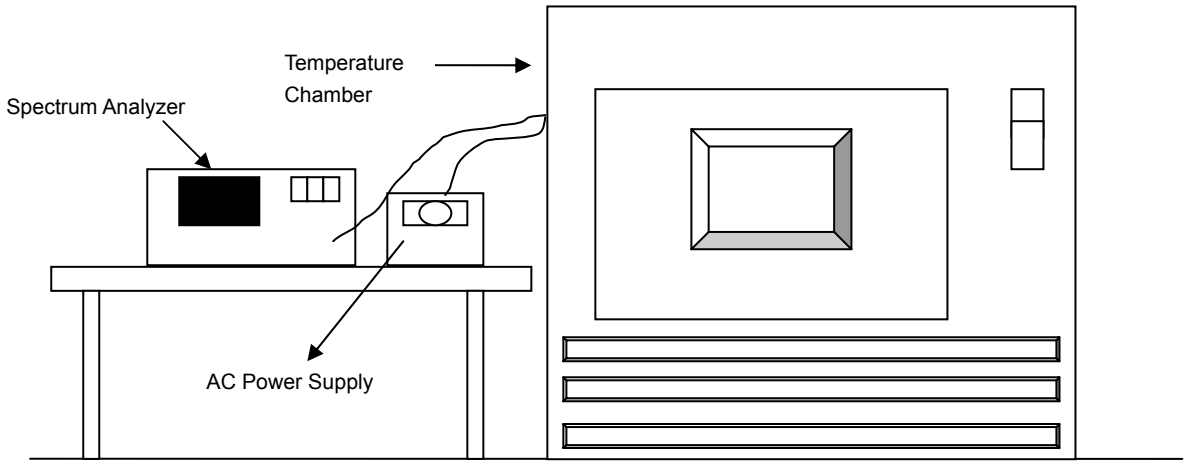


4.5 Frequency Stability

4.5.1 Limits of Frequency Stability Measurement

The frequency of the carrier signal shall be maintained within band of operation

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedure

a. The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.

b. Turn the EUT on and couple its output to a spectrum analyzer.

c. Turn the EUT off and set the chamber to the highest temperature specified.

d. 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.

e. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.

f. 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.

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

Set the EUT transmit at un-modulation mode to test frequency stability.

4.5.7 Test Results

Beamforming off mode

Frequemcy Stability Versus Temp.									
Operating Frequency: 5320MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
50	120	5319.9938	-0.00012	5319.9936	-0.00012	5319.9964	-0.00007	5319.9959	-0.00008
40	120	5319.9967	-0.00006	5319.9986	-0.00003	5319.9961	-0.00007	5319.9989	-0.00002
30	120	5320.025	0.00047	5320.0258	0.00048	5320.0252	0.00047	5320.0278	0.00052
20	120	5319.9858	-0.00027	5319.9848	-0.00029	5319.9839	-0.00030	5319.9848	-0.00029
10	120	5320.0214	0.00040	5320.0242	0.00045	5320.0263	0.00049	5320.0241	0.00045
0	120	5319.9912	-0.00017	5319.9883	-0.00022	5319.9916	-0.00016	5319.992	-0.00015
-10	120	5319.9749	-0.00047	5319.9746	-0.00048	5319.9743	-0.00048	5319.975	-0.00047
-20	120	5320.0276	0.00052	5320.0269	0.00051	5320.0233	0.00044	5320.0269	0.00051
-30	120	5320.0057	0.00011	5320.001	0.00002	5320.0042	0.00008	5320.0047	0.00009

Frequemcy Stability Versus Temp.									
Operating Frequency: 5320MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
20	138	5319.9862	-0.00026	5319.9854	-0.00027	5319.9839	-0.00030	5319.9858	-0.00027
	120	5319.9858	-0.00027	5319.9848	-0.00029	5319.9839	-0.00030	5319.9848	-0.00029
	102	5319.9853	-0.00028	5319.9839	-0.00030	5319.9839	-0.00030	5319.9838	-0.00030

Beamforming on mode

Frequemcy Stability Versus Temp.									
Operating Frequency: 5260MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
50	120	5260.0222	0.00042	5260.02	0.00038	5260.0229	0.00044	5260.0239	0.00045
40	120	5260.0202	0.00038	5260.0175	0.00033	5260.0201	0.00038	5260.0177	0.00034
30	120	5259.9758	-0.00046	5259.9758	-0.00046	5259.9769	-0.00044	5259.9764	-0.00045
20	120	5259.9913	-0.00017	5259.9928	-0.00014	5259.9917	-0.00016	5259.9927	-0.00014
10	120	5259.9891	-0.00021	5259.9889	-0.00021	5259.9885	-0.00022	5259.9908	-0.00017
0	120	5260.015	0.00029	5260.0152	0.00029	5260.0165	0.00031	5260.0169	0.00032
-10	120	5260.0014	0.00003	5260.0017	0.00003	5259.9989	-0.00002	5259.9985	-0.00003
-20	120	5259.984	-0.00030	5259.9802	-0.00038	5259.9828	-0.00033	5259.9829	-0.00033
-30	120	5260.0124	0.00024	5260.0131	0.00025	5260.0153	0.00029	5260.0153	0.00029

Frequemcy Stability Versus Temp.									
Operating Frequency: 5260MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
20	138	5259.9922	-0.00015	5259.9922	-0.00015	5259.9913	-0.00017	5259.9925	-0.00014
	120	5259.9913	-0.00017	5259.9928	-0.00014	5259.9917	-0.00016	5259.9927	-0.00014
	102	5259.9909	-0.00017	5259.9934	-0.00013	5259.9915	-0.00016	5259.9923	-0.00015

5 Pictures of Test Arrangements

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

Appendix – Information on the Testing Laboratories

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

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

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

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

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