

FCC Test Report

Report No.: RF150203C07-1

FCC ID: TE7TGR1900

Test Model: TGR1900

Received Date: Feb. 03, 2015

Test Date: May 01 ~ May 29, 2015

Issued Date: Jun. 01, 2015

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Release Control Record

Issue No.	Description	Date Issued
RF150203C07-1	Original release	Jun. 01, 2015

1 Certificate of Conformity

Product: OnHub
Brand: TP-LINK
Test Model: TGR1900
Sample Status: Prototype
Applicant: TP-LINK TECHNOLOGIES CO., LTD.
Test Date: May 01 ~ May 29, 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 :  , **Date:** Jun. 01, 2015
Pettie Chen / Senior Specialist

Approved by :  , **Date:** Jun. 01, 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
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -15.48dB at 0.16172MHz.
15.407(b)(1/2/3/4/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -0.2dB at 5722.90, 6946.00MHz.
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(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is SMT type Micro coaxial RF Receptacle 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	Expanded Uncertainty (k=2) (\pm)
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	OnHub
Brand	TP-LINK
Test Model	TGR1900
Status of EUT	Prototype
Power Supply Rating	12Vdc (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 600.0Mbps 802.11ac: up to 1300.0Mbps
Operating Frequency	5180 ~ 5240MHz, 5745 ~ 5825MHz
Number of Channel	5180 ~ 5240MHz: 4 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 2 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80) 5745 ~ 5825MHz: 5 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 2 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80)
Output Power	1TX: 5180 ~ 5240MHz: 85.114mW 5745 ~ 5825MHz: 155.955mW 3TX: 5180 ~ 5240MHz: 894.250mW 5745 ~ 5825MHz: 845.331mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Refer to Note for more details
Data Cable Supplied	Adapter

Note:

1. The EUT provides 3 completed transmitter and 3 receivers.

WiFi Module	Operation Band	Modulation Mode	TX Function
QCA9880	2.4GHz	802.11b	3TX
		802.11g	3TX
		802.11n(HT20)	3TX
		802.11n(HT40)	3TX
QCA9880	5GHz	802.11a	3TX
		802.11n(HT20)	3TX
		802.11n(HT40)	3TX
		802.11ac(VHT20)	3TX
		802.11ac(VHT40)	3TX
QCA9882	2.4GHz	802.11b	1TX
		802.11g	1TX
		802.11n(HT20)	1TX
		802.11n(HT40)	1TX
	5GHz	802.11a	1TX
		802.11n(HT20)	1TX
		802.11n(HT40)	1TX
		802.11ac(VHT20)	1TX
		802.11ac(VHT40)	1TX
		802.11ac(VHT80)	1TX

*The modulation and bandwidth are similar for 802.11n mode for HT20/HT40 and 802.11ac mode for VHT20/VHT40, therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)

2. The EUT uses following adapter.

Brand	Ten Pao International Inc.
Model	S048CU1200330
Input Power	100-240Vac~50/60Hz, 1.5A Max
Output Power	12.0Vdc, 3300mA
Power Line	1.55m cable without core attached on adapter

3. The EUT uses following antennas.

Item	WiFi Module Model	Antenna	Antenna Gain	Antenna Connector
2.4G(3TX)	QCA9880	Metalsheet antenna (Chain 0)	7dBi	SMT type Micro coaxial RF Receptacle
		PCB antenna (Chain 1)	2dBi	
		PCB antenna (Chain 2)	2dBi	
5G(3TX)	QCA9880	PCB antenna	3dBi	SMT type Micro coaxial RF Receptacle
2.4G(1TX)	QCA9882	PCB antenna	2dBi	SMT type Micro coaxial RF Receptacle
5G(1TX) (joint use with 2.4G(1TX))	QCA9882	PCB antenna	5dBi	SMT type Micro coaxial RF Receptacle
BT	-	PCB antenna (on board)	3.5dBi	mini RF I connector (internal connection without plug)
ZigBee	-	PCB antenna	2dBi	SMT type Micro coaxial RF Receptacle

3.2 Description of Test Modes

FOR 5180 ~ 5240MHz

4 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

Channel	Frequency	Channel	Frequency
36	5180 MHz	44	5220 MHz
40	5200 MHz	48	5240 MHz

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40):

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
42	5210 MHz

FOR 5745 ~ 5825MHz:

5 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

Channel	Frequency	Channel	Frequency
149	5745MHz	161	5805MHz
153	5765MHz	165	5825MHz
157	5785MHz		

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40):

Channel	Frequency	Channel	Frequency
151	5755MHz	159	5795MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
155	5775MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

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)	TX FUNCTION
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6.0	1TX/3TX
-	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	BPSK	7.2	1TX/3TX
-	802.11n (HT40)		38 to 46	38, 46	OFDM	BPSK	15.0	1TX/3TX
-	802.11ac (VHT80)		42	42	OFDM	BPSK	32.5 / 97.5	1TX/3TX
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6.0	1TX/3TX
-	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	BPSK	7.2	1TX/3TX
-	802.11n (HT40)		151 to 159	151, 159	OFDM	BPSK	15.0	1TX/3TX
-	802.11ac (VHT80)		155	155	OFDM	BPSK	32.5 / 97.5	1TX/3TX

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)	TX FUNCTION
-	802.11a	5180-5240	36 to 48	48	OFDM	BPSK	6.0	1TX/3TX
-	802.11a	5745-5825	149 to 165		OFDM	BPSK	6.0	1TX/3TX

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)	TX FUNCTION
-	802.11a	5180-5240	36 to 48	48	OFDM	BPSK	6.0	1TX/3TX
-	802.11a	5745-5825	149 to 165		OFDM	BPSK	6.0	1TX/3TX

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)	TX FUNCTION
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6.0	1TX/3TX
-	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	BPSK	7.2	1TX/3TX
-	802.11n (HT40)		38 to 46	38, 46	OFDM	BPSK	15.0	1TX/3TX
-	802.11ac (VHT80)		42	42	OFDM	BPSK	32.5 / 97.5	1TX/3TX
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6.0	1TX/3TX
-	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	BPSK	7.2	1TX/3TX
-	802.11n (HT40)		151 to 159	151, 159	OFDM	BPSK	15.0	1TX/3TX
-	802.11ac (VHT80)		155	155	OFDM	BPSK	32.5 / 97.5	1TX/3TX

Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE\geq1G	25deg. C, 60%RH	120Vac, 60Hz	Ted Chang
RE$<$1G	25deg. C, 60%RH	120Vac, 60Hz	Ted Chang
PLC	20deg. C, 70%RH	120Vac, 60Hz	Jones Chang
APCM	25deg. C, 60%RH	120Vac, 60Hz	Nick Chen

3.3 Duty Cycle of Test Signal

1TX:

Duty cycle of test signal is < 98 %, duty factor is required

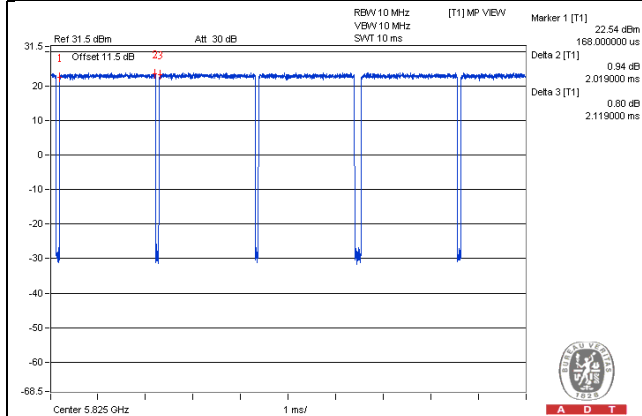
802.11a: Duty cycle = 2.019/2.119 = 0.953, Duty factor = $10 * \log(1/0.953) = 0.21$

802.11n (HT20): Duty cycle = 4.945/5.055 = 0.978, Duty factor = $10 * \log(1/0.978) = 0.10$

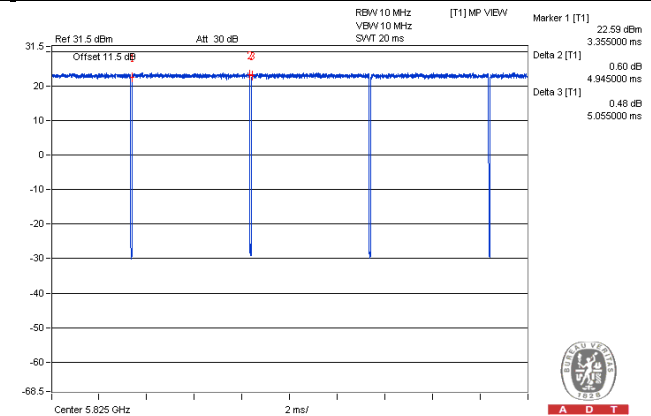
802.11n (HT40): Duty cycle = 2.395/2.487 = 0.963, Duty factor = $10 * \log(1/0.963) = 0.16$

802.11ac (VHT80): Duty cycle = 1.127/1.247 = 0.904, Duty factor = $10 * \log(1/0.904) = 0.44$

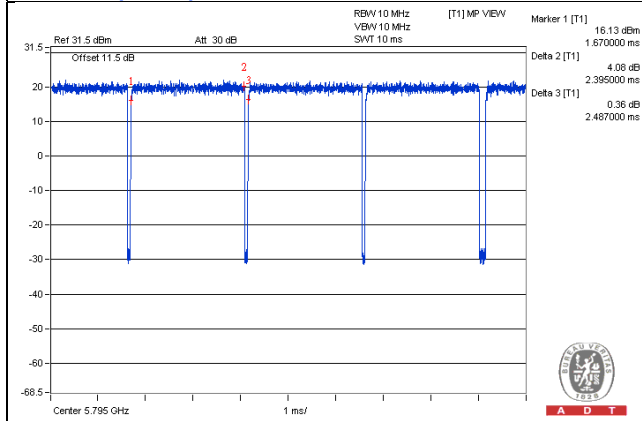
802.11a



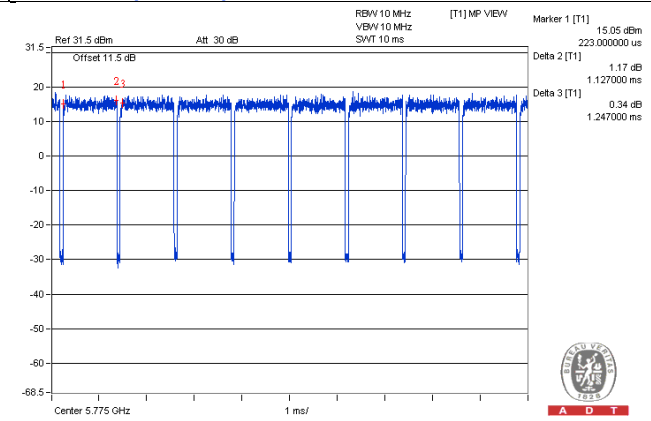
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



3TX:

Duty cycle of test signal is > 98%, duty factor is not required.

802.11n (HT20): Duty cycle = $4.951/4.966 = 0.997$

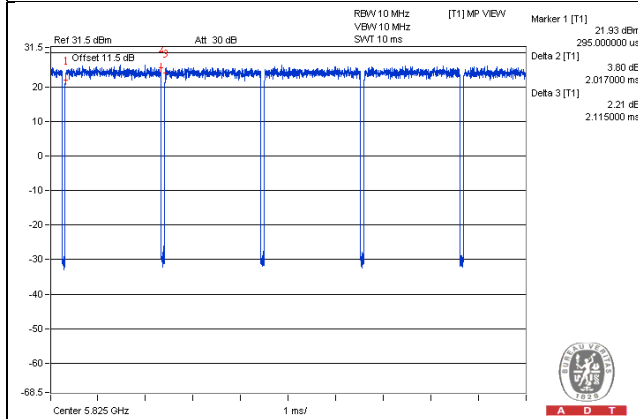
Duty cycle of test signal is < 98 %, duty factor is required

802.11a: Duty cycle = $2.017/2.115 = 0.954$, Duty factor = $10 * \log(1/0.954) = 0.21$

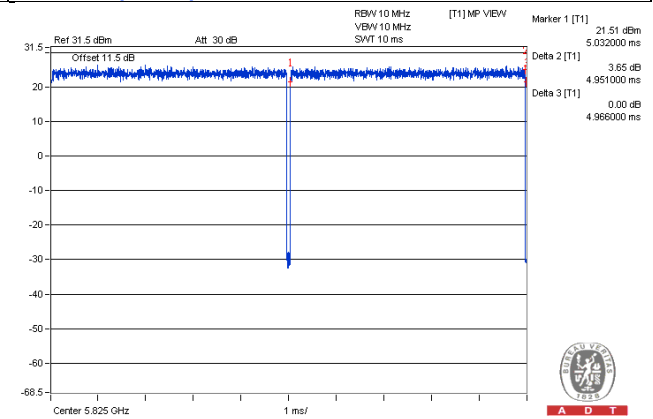
802.11n (HT40): Duty cycle = $2.397/2.489 = 0.967$, Duty factor = $10 * \log(1/0.967) = 0.16$

802.11ac (VHT80): Duty cycle = $1.117/1.212 = 0.922$, Duty factor = $10 * \log(1/0.922) = 0.35$

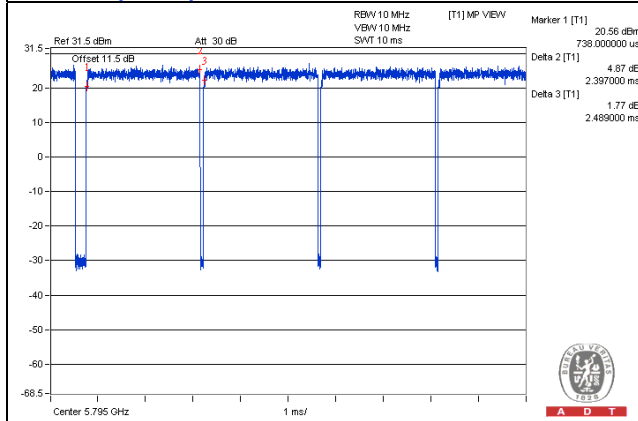
802.11a



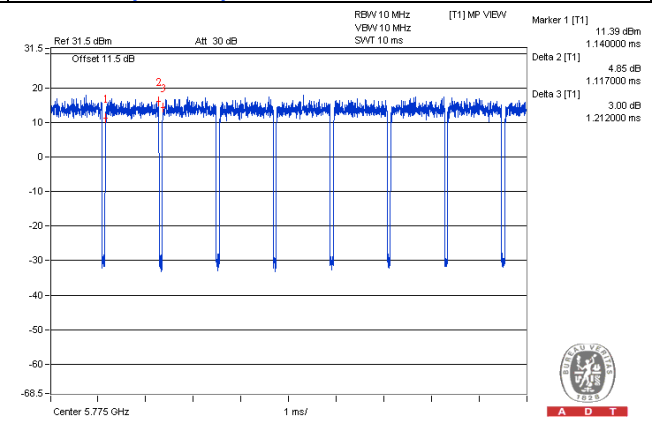
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



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.

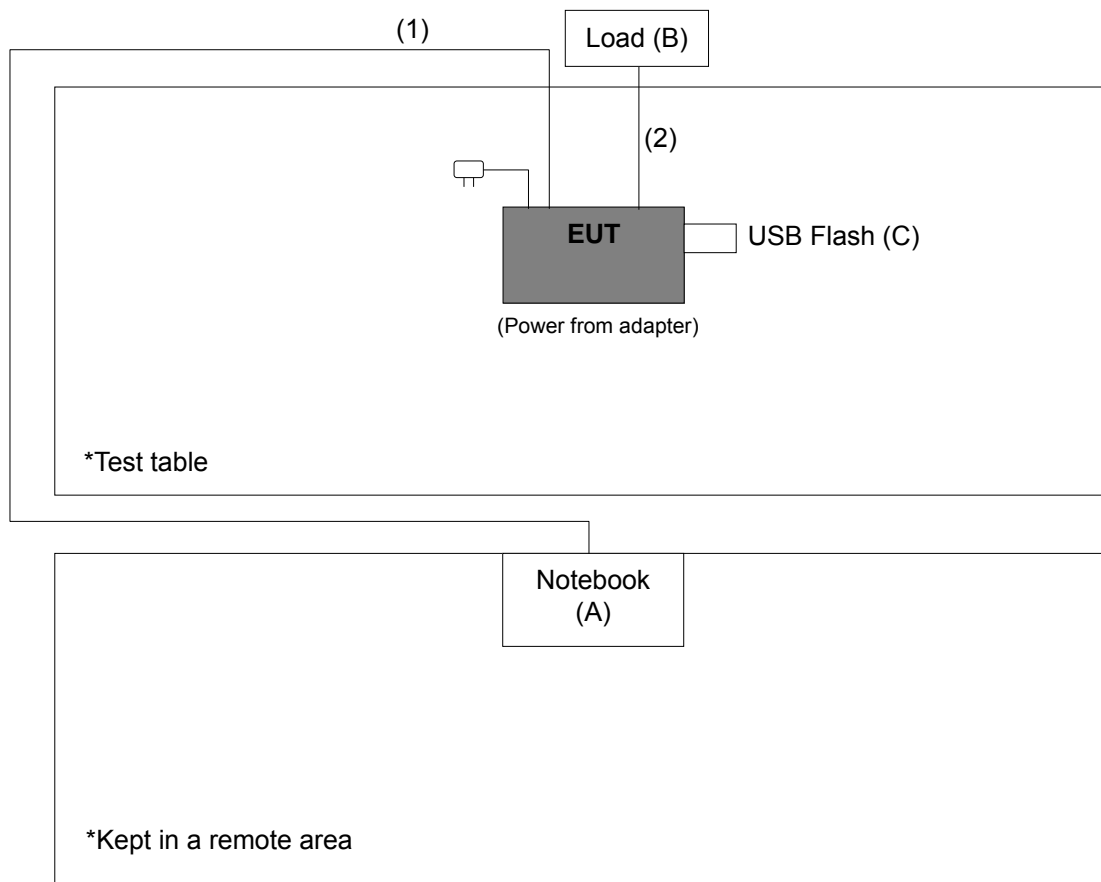
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	DELL	D531	CN-0XM006-48643-81 U-2610	QDS-BRCM1020	-
B.	Load	NA	NA	NA	NA	-
C.	USB Flash	SANDISK	SDCZ6-1024	NA	NA	-

Note:

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

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RJ 45	1	3	N	0	-
2.	RJ 45	1	1.8	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 Procedures 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. Other emissions shall be at least 20dB below the highest level of the desired power:

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

NOTE:

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

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 (dBuV/m)	AV:54 (dBuV/m)
APPLICABLE TO	EIRP LIMIT	EQUIVALENT FIELD STRENGTH AT 3m
15.407(b)(1)	PK:-27 (dBm/MHz)	PK:68.2(dBuV/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(dBuV/m) ^{*1} PK: 78.2 (dBuV/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:

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

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, 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 BV ADT	AT100	AT93021705	NA	NA
Turn Table BV ADT	TT100	TT93021705	NA	NA
Turn Table Controller BV ADT	SC100	SC93021705	NA	NA
High Speed Peak Power Meter	ML2495A	0824011	Jul. 26, 2014	Jul. 25, 2015
Power Sensor	MA2411B	0738171	Jul. 26, 2014	Jul. 25, 2015
26GHz ~ 40GHz Amplifier	EM26400	815221	Oct. 18, 2014	Oct. 17, 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:

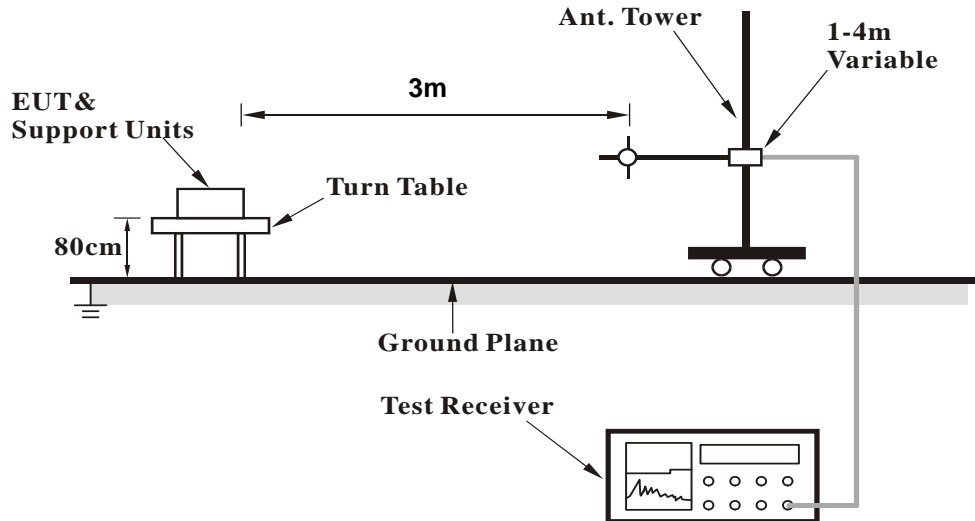
1. For emission measurements above 1 GHz, the EUT shall be placed at a height of 1.5 m above the ground at 3 meter chamber room for test. (Tracking Number 307455)
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 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 ($10 \log(1/\text{duty cycle})$).
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle \geq 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

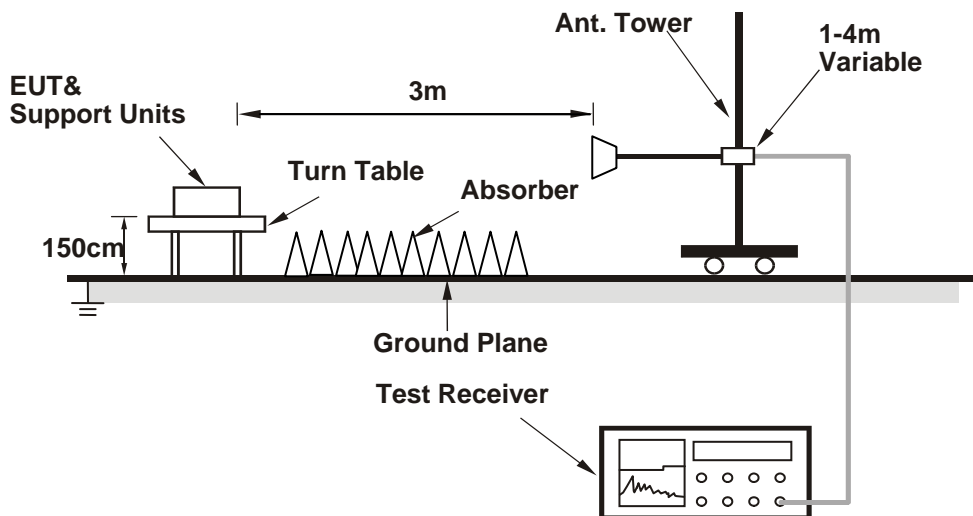
No deviation.

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

- Placed the EUT on the testing table.
- Prepared a notebook to act as communication partner and placed it outside of testing area.
- 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.
- The communication partner sent data to EUT by command "PING".
- The necessary accessories enable the system in full functions.

4.1.7 Test Results

1TX

Above 1GHz data:

802.11a

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	65.8 PK	74.0	-8.2	1.77 H	51	63.80	2.00
2	5150.00	49.8 AV	54.0	-4.2	1.77 H	51	47.80	2.00
3	*5180.00	105.9 PK			1.76 H	51	65.90	40.00
4	*5180.00	95.2 AV			1.76 H	51	55.20	40.00
5	#6907.00	66.8 PK	68.2	-1.4	1.09 H	172	59.30	7.50
6	#10360.00	59.7 PK	74.0	-14.3	1.00 H	51	44.70	15.00
7	#10360.00	46.5 AV	54.0	-7.5	1.00 H	51	31.50	15.00

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	5150.00	49.3 PK	74.0	-24.7	1.00 V	197	47.30	2.00
2	5150.00	34.9 AV	54.0	-19.1	1.00 V	197	32.90	2.00
3	*5180.00	98.6 PK			1.00 V	197	58.60	40.00
4	*5180.00	88.3 AV			1.00 V	197	48.30	40.00
5	#6907.00	63.4 PK	68.2	-4.8	2.11 V	160	55.90	7.50
6	#10360.00	61.0 PK	74.0	-13.0	1.54 V	84	46.00	15.00
7	#10360.00	46.5 AV	54.0	-7.5	1.54 V	84	31.50	15.00

REMARKS:

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

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

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	*5200.00	106.9 PK			1.95 H	310	66.80	40.10
2	*5200.00	96.3 AV			1.95 H	310	56.20	40.10
3	#6933.00	66.2 PK	68.2	-2.0	1.20 H	172	58.60	7.60
4	#10400.00	60.6 PK	74.0	-13.4	1.52 H	94	45.60	15.00
5	#10400.00	46.5 AV	54.0	-7.5	1.52 H	94	31.50	15.00

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	*5200.00	98.2 PK			1.19 V	199	58.10	40.10
2	*5200.00	87.8 AV			1.19 V	199	47.70	40.10
3	#6933.00	61.0 PK	68.2	-7.2	1.11 V	18	53.40	7.60
4	#10400.00	60.3 PK	74.0	-13.7	1.00 V	95	45.30	15.00
5	#10400.00	46.3 AV	54.0	-7.7	1.00 V	95	31.30	15.00

REMARKS:

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



CHANNEL	TX Channel 48	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	*5240.00	107.1 PK			1.72 H	309	67.00	40.10
2	*5240.00	96.3 AV			1.72 H	309	56.20	40.10
3	5350.00	56.0 PK	74.0	-18.0	1.72 H	309	54.00	2.00
4	5350.00	43.5 AV	54.0	-10.5	1.72 H	309	41.50	2.00
5	#6987.00	65.7 PK	68.2	-2.5	1.14 H	173	57.80	7.90
6	#10480.00	61.1 PK	74.0	-12.9	1.52 H	66	46.00	15.10
7	#10480.00	47.6 AV	54.0	-6.4	1.52 H	66	32.50	15.10

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	*5240.00	97.3 PK			1.40 V	206	57.20	40.10
2	*5240.00	86.4 AV			1.40 V	206	46.30	40.10
3	5350.00	57.3 PK	74.0	-16.7	1.52 V	64	55.30	2.00
4	5350.00	43.3 AV	54.0	-10.7	1.52 V	64	41.30	2.00
5	#6987.00	59.0 PK	68.2	-9.2	1.00 V	18	51.10	7.90
6	#10480.00	60.6 PK	74.0	-13.4	1.52 V	66	45.50	15.10
7	#10480.00	46.3 AV	54.0	-7.7	1.52 V	66	31.20	15.10

REMARKS:

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

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	#5714.90	60.7 PK	74.0	-13.3	1.79 H	235	58.10	2.60
2	#5714.90	44.8 AV	54.0	-9.2	1.79 H	235	42.20	2.60
3	#5722.90	74.7 PK	78.2	-3.5	1.79 H	235	72.10	2.60
4	#5725.00	61.0 PK	78.2	-17.2	1.79 H	233	58.40	2.60
5	*5745.00	105.6 PK			1.79 H	235	64.60	41.00
6	*5745.00	94.9 AV			1.79 H	235	53.90	41.00
7	7660.00	59.9 PK	74.0	-14.1	1.53 H	10	50.60	9.30
8	7660.00	52.6 AV	54.0	-1.4	1.53 H	10	43.30	9.30
9	11490.00	60.6 PK	74.0	-13.4	1.24 H	96	44.70	15.90
10	11490.00	48.4 AV	54.0	-5.6	1.24 H	96	32.50	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	#5714.90	58.2 PK	74.0	-15.8	1.90 V	177	55.60	2.60
2	#5714.90	42.8 AV	54.0	-11.2	1.90 V	177	40.20	2.60
3	#5722.90	71.3 PK	78.2	-6.9	1.89 V	174	68.70	2.60
4	#5725.00	58.2 PK	78.2	-20.0	1.89 V	174	55.60	2.60
5	*5745.00	102.1 PK			1.90 V	181	61.10	41.00
6	*5745.00	91.6 AV			1.90 V	181	50.60	41.00
7	7660.00	56.9 PK	74.0	-17.1	1.20 V	210	47.60	9.30
8	7660.00	49.9 AV	54.0	-4.1	1.20 V	210	40.60	9.30
9	11490.00	60.3 PK	74.0	-13.7	1.00 V	0	44.40	15.90
10	11490.00	48.3 AV	54.0	-5.7	1.00 V	0	32.40	15.90

REMARKS:

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

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	108.6 PK			1.73 H	235	67.50	41.10
2	*5785.00	97.6 AV			1.73 H	235	56.50	41.10
3	7713.00	58.1 PK	74.0	-15.9	1.21 H	8	48.80	9.30
4	7713.00	50.2 AV	54.0	-3.8	1.21 H	8	40.90	9.30
5	11570.00	61.3 PK	74.0	-12.7	1.96 H	64	45.70	15.60
6	11570.00	46.1 AV	54.0	-7.9	1.96 H	64	30.50	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	*5785.00	104.5 PK			1.88 V	210	63.40	41.10
2	*5785.00	94.4 AV			1.88 V	210	53.30	41.10
3	7713.00	54.9 PK	74.0	-19.1	1.00 V	180	45.60	9.30
4	7713.00	47.2 AV	54.0	-6.8	1.00 V	180	37.90	9.30
5	11570.00	61.1 PK	74.0	-12.9	1.00 V	360	45.50	15.60
6	11570.00	45.8 AV	54.0	-8.2	1.00 V	360	30.20	15.60

REMARKS:

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

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	107.8 PK			1.52 H	319	66.70	41.10
2	*5825.00	97.3 AV			1.52 H	319	56.20	41.10
3	#5850.00	64.6 PK	78.2	-13.6	1.52 H	319	61.60	3.00
4	#5852.10	77.8 PK	78.2	-0.4	1.52 H	319	74.80	3.00
5	#5860.10	71.5 PK	74.0	-2.5	1.52 H	319	68.50	3.00
6	#5860.10	52.2 AV	54.0	-1.8	1.52 H	319	49.20	3.00
7	#7766.00	66.4 PK	68.2	-1.8	1.00 H	10	56.80	9.60
8	11650.00	59.2 PK	74.0	-14.8	1.02 H	209	43.60	15.60
9	11650.00	45.6 AV	54.0	-8.4	1.02 H	209	30.00	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	*5825.00	105.1 PK			2.00 V	169	64.00	41.10
2	*5825.00	94.5 AV			2.00 V	169	53.40	41.10
3	#5850.00	50.9 PK	78.2	-27.3	1.91 V	170	47.90	3.00
4	#5852.10	74.0 PK	78.2	-4.2	1.91 V	170	71.00	3.00
5	#5860.10	67.7 PK	74.0	-6.3	1.91 V	170	64.70	3.00
6	#5860.10	49.6 AV	54.0	-4.4	1.91 V	170	46.60	3.00
7	#7766.00	62.9 PK	68.2	-5.3	1.18 V	211	53.30	9.60
8	11490.00	60.5 PK	74.0	-13.5	1.00 V	65	44.60	15.90
9	11490.00	46.5 AV	54.0	-7.5	1.00 V	65	30.60	15.90

REMARKS:

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

802.11n (HT20)

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	65.9 PK	74.0	-8.1	1.93 H	317	63.90	2.00
2	5150.00	50.4 AV	54.0	-3.6	1.93 H	317	48.40	2.00
3	*5180.00	107.0 PK			1.93 H	317	67.00	40.00
4	*5180.00	95.9 AV			1.93 H	317	55.90	40.00
5	#6907.00	66.6 PK	68.2	-1.6	1.00 H	167	59.10	7.50
6	#10360.00	61.5 PK	74.0	-12.5	1.05 H	34	46.50	15.00
7	#10360.00	46.2 AV	54.0	-7.8	1.05 H	34	31.20	15.00
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	5150.00	57.9 PK	74.0	-16.1	1.21 V	217	55.90	2.00
2	5150.00	45.8 AV	54.0	-8.2	1.21 V	217	43.80	2.00
3	*5180.00	98.7 PK			1.21 V	217	58.70	40.00
4	*5180.00	88.2 AV			1.21 V	217	48.20	40.00
5	#6907.00	61.0 PK	68.2	-7.2	2.01 V	339	53.50	7.50
6	#10360.00	60.2 PK	74.0	-13.8	1.54 V	96	45.20	15.00
7	#10360.00	47.5 AV	54.0	-6.5	1.54 V	96	32.50	15.00

REMARKS:

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

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

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	*5200.00	107.6 PK			1.85 H	163	67.50	40.10
2	*5200.00	96.4 AV			1.85 H	163	56.30	40.10
3	#6933.00	67.3 PK	68.2	-0.9	1.24 H	96	59.70	7.60
4	#10400.00	60.7 PK	74.0	-13.3	1.52 H	96	45.70	15.00
5	#10400.00	45.5 AV	54.0	-8.5	1.52 H	96	30.50	15.00

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	*5200.00	98.3 PK			1.21 V	209	58.20	40.10
2	*5200.00	87.6 AV			1.21 V	209	47.50	40.10
3	#6933.00	60.6 PK	68.2	-7.6	1.06 V	63	53.00	7.60
4	#10400.00	60.6 PK	74.0	-13.4	1.25 V	48	45.60	15.00
5	#10400.00	46.3 AV	54.0	-7.7	1.25 V	48	31.30	15.00

REMARKS:

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

CHANNEL	TX Channel 48	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	*5240.00	107.6 PK			1.65 H	102	67.50	40.10
2	*5240.00	96.6 AV			1.65 H	102	56.50	40.10
3	5350.00	56.3 PK	74.0	-17.7	1.05 H	24	54.30	2.00
4	5350.00	43.2 AV	54.0	-10.8	1.05 H	24	41.20	2.00
5	#6987.00	67.3 PK	68.2	-0.9	1.25 H	84	59.40	7.90
6	#10480.00	60.7 PK	74.0	-13.3	1.20 H	360	45.60	15.10
7	#10480.00	47.2 AV	54.0	-6.8	1.20 H	360	32.10	15.10

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	*5240.00	96.6 PK			1.05 V	211	56.50	40.10
2	*5240.00	86.1 AV			1.05 V	211	46.00	40.10
3	5350.00	57.0 PK	74.0	-17.0	1.52 V	9	55.00	2.00
4	5350.00	43.6 AV	54.0	-10.4	1.52 V	9	41.60	2.00
5	#6987.00	58.7 PK	68.2	-9.5	1.30 V	343	50.80	7.90
6	#10480.00	61.0 PK	74.0	-13.0	1.59 V	65	45.90	15.10
7	#10480.00	46.6 AV	54.0	-7.4	1.59 V	65	31.50	15.10

REMARKS:

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

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	#5714.90	60.5 PK	74.0	-13.5	1.74 H	210	57.90	2.60
2	#5714.90	44.6 AV	54.0	-9.4	1.74 H	210	42.00	2.60
3	#5722.90	74.4 PK	78.2	-3.8	1.74 H	210	71.80	2.60
4	#5725.00	60.7 PK	78.2	-17.5	1.77 H	230	58.10	2.60
5	*5745.00	105.2 PK			1.78 H	222	64.20	41.00
6	*5745.00	94.5 AV			1.78 H	222	53.50	41.00
7	7660.00	59.8 PK	74.0	-14.2	1.70 H	190	50.50	9.30
8	7660.00	52.4 AV	54.0	-1.6	1.70 H	190	43.10	9.30
9	11490.00	60.3 PK	74.0	-13.7	1.20 H	360	44.40	15.90
10	11490.00	48.3 AV	54.0	-5.7	1.20 H	360	32.40	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	#5714.90	57.8 PK	74.0	-16.2	1.82 V	180	55.20	2.60
2	#5714.90	42.5 AV	54.0	-11.5	1.82 V	180	39.90	2.60
3	#5722.90	71.6 PK	78.2	-6.6	1.79 V	170	69.00	2.60
4	#5725.00	58.1 PK	78.2	-20.1	1.80 V	188	55.50	2.60
5	*5745.00	101.9 PK			1.82 V	177	60.90	41.00
6	*5745.00	91.2 AV			1.82 V	177	50.20	41.00
7	7660.00	56.5 PK	74.0	-17.5	1.79 V	159	47.20	9.30
8	7660.00	49.4 AV	54.0	-4.6	1.79 V	159	40.10	9.30
9	11490.00	60.4 PK	74.0	-13.6	1.20 V	360	44.50	15.90
10	11490.00	48.1 AV	54.0	-5.9	1.20 V	360	32.20	15.90

REMARKS:

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

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	108.0 PK			1.70 H	210	66.90	41.10
2	*5785.00	96.9 AV			1.70 H	210	55.80	41.10
3	7311.00	56.7 PK	74.0	-17.3	1.19 H	20	48.10	8.60
4	7311.00	48.8 AV	54.0	-5.2	1.19 H	20	40.20	8.60
5	11570.00	61.4 PK	74.0	-12.6	2.00 H	180	45.80	15.60
6	11570.00	46.3 AV	54.0	-7.7	2.00 H	180	30.70	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	*5785.00	103.2 PK			1.74 V	200	62.10	41.10
2	*5785.00	93.1 AV			1.74 V	200	52.00	41.10
3	7713.00	54.0 PK	74.0	-20.0	1.00 V	167	44.70	9.30
4	7713.00	46.3 AV	54.0	-7.7	1.00 V	167	37.00	9.30
5	11570.00	60.7 PK	74.0	-13.3	1.20 V	180	45.10	15.60
6	11570.00	45.6 AV	54.0	-8.4	1.20 V	180	30.00	15.60

REMARKS:

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

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	106.7 PK			1.49 H	310	65.60	41.10
2	*5825.00	96.5 AV			1.49 H	310	55.40	41.10
3	#5850.00	66.7 PK	78.2	-11.5	1.49 H	321	63.70	3.00
4	#5852.10	76.4 PK	78.2	-1.8	1.50 H	300	73.40	3.00
5	#5860.10	70.9 PK	74.0	-3.1	1.39 H	290	67.90	3.00
6	#5860.10	51.9 AV	54.0	-2.1	1.39 H	290	48.90	3.00
7	#7766.00	65.6 PK	68.2	-2.6	1.00 H	120	56.00	9.60
8	11650.00	59.0 PK	74.0	-15.0	1.00 H	330	43.40	15.60
9	11650.00	45.0 AV	54.0	-9.0	1.00 H	330	29.40	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	*5825.00	103.9 PK			1.99 V	170	62.80	41.10
2	*5825.00	93.3 AV			1.99 V	170	52.20	41.10
3	#5850.00	50.0 PK	78.2	-28.2	1.90 V	188	47.00	3.00
4	#5852.10	73.2 PK	78.2	-5.0	1.90 V	189	70.20	3.00
5	#5860.10	66.4 PK	74.0	-7.6	1.88 V	196	63.40	3.00
6	#5860.10	48.3 AV	54.0	-5.7	1.88 V	196	45.30	3.00
7	#7766.00	62.6 PK	68.2	-5.6	1.21 V	240	53.00	9.60
8	11490.00	60.4 PK	74.0	-13.6	1.00 V	10	44.50	15.90
9	11490.00	46.3 AV	54.0	-7.7	1.00 V	10	30.40	15.90

REMARKS:

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

802.11n (HT40)

CHANNEL	TX Channel 38	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	67.5 PK	74.0	-6.5	1.94 H	317	65.50	2.00
2	5150.00	53.5 AV	54.0	-0.5	1.94 H	317	51.50	2.00
3	*5190.00	100.3 PK			2.00 H	317	60.30	40.00
4	*5190.00	88.2 AV			2.00 H	317	48.20	40.00
5	#6920.00	63.3 PK	68.2	-4.9	1.15 H	10	55.70	7.60
6	#10380.00	61.6 PK	74.0	-12.4	1.05 H	39	46.60	15.00
7	#10380.00	46.3 AV	54.0	-7.7	1.05 H	39	31.30	15.00
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	5150.00	61.2 PK	74.0	-12.8	1.52 V	9	59.20	2.00
2	5150.00	46.7 AV	54.0	-7.3	1.52 V	9	44.70	2.00
3	*5190.00	96.0 PK			1.52 V	88	56.00	40.00
4	*5190.00	84.6 AV			1.52 V	88	44.60	40.00
5	#6920.00	56.2 PK	68.2	-12.0	1.45 V	224	48.60	7.60
6	#10380.00	59.5 PK	74.0	-14.5	1.18 V	34	44.50	15.00
7	#10380.00	47.0 AV	54.0	-7.0	1.18 V	34	32.00	15.00

REMARKS:

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

CHANNEL	TX Channel 46	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	*5230.00	106.9 PK			1.90 H	317	66.80	40.10
2	*5230.00	94.2 AV			1.90 H	317	54.10	40.10
3	5350.00	65.9 PK	74.0	-8.1	1.95 H	320	63.90	2.00
4	5350.00	49.5 AV	54.0	-4.5	1.95 H	320	47.50	2.00
5	#6973.00	67.5 PK	68.2	-0.5	1.28 H	13	59.70	7.80
6	#10460.00	61.9 PK	74.0	-12.1	1.06 H	48	46.90	15.00
7	#10460.00	46.4 AV	54.0	-7.6	1.06 H	48	31.40	15.00

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	*5230.00	102.8 PK			1.00 V	96	62.70	40.10
2	*5230.00	92.2 AV			1.00 V	96	52.10	40.10
3	5350.00	59.6 PK	74.0	-14.4	1.26 V	96	57.60	2.00
4	5350.00	44.6 AV	54.0	-9.4	1.26 V	96	42.60	2.00
5	#6973.00	61.3 PK	68.2	-6.9	1.00 V	48	53.50	7.80
6	#10460.00	60.2 PK	74.0	-13.8	1.54 V	77	45.20	15.00
7	#10460.00	46.2 AV	54.0	-7.8	1.54 V	77	31.20	15.00

REMARKS:

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

CHANNEL	TX Channel 151	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	#5714.90	69.7 PK	74.0	-4.3	1.93 H	240	67.10	2.60
2	#5714.90	53.2 AV	54.0	-0.8	1.93 H	240	50.60	2.60
3	#5722.90	62.0 PK	78.2	-16.2	1.93 H	240	59.40	2.60
4	#5725.00	49.8 PK	78.2	-28.4	1.93 H	240	47.20	2.60
5	*5755.00	100.3 PK			1.93 H	240	59.30	41.00
6	*5755.00	90.0 AV			1.93 H	240	49.00	41.00
7	7673.00	59.4 PK	74.0	-14.6	1.12 H	8	50.10	9.30
8	7673.00	53.3 AV	54.0	-0.7	1.12 H	8	44.00	9.30
9	11570.00	60.2 PK	74.0	-13.8	1.96 H	35	44.60	15.60
10	11570.00	46.8 AV	54.0	-7.2	1.96 H	35	31.20	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	#5714.90	66.3 PK	74.0	-7.7	1.79 V	244	63.70	2.60
2	#5714.90	49.9 AV	54.0	-4.1	1.79 V	244	47.30	2.60
3	#5722.90	58.1 PK	78.2	-20.1	1.79 V	244	55.50	2.60
4	#5725.00	47.9 PK	78.2	-30.3	1.81 V	250	45.30	2.60
5	*5755.00	59.2 PK			1.80 V	245	56.50	2.70
6	*5755.00	48.9 AV			1.80 V	245	46.20	2.70
7	7376.00	56.3 PK	74.0	-17.7	1.20 V	110	47.30	9.00
8	7376.00	51.3 AV	54.0	-2.7	1.20 V	110	42.30	9.00
9	11570.00	60.0 PK	74.0	-14.0	2.00 V	360	44.40	15.60
10	11570.00	46.6 AV	54.0	-7.4	2.00 V	360	31.00	15.60

REMARKS:

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

CHANNEL	TX Channel 159	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	103.2 PK			1.72 H	234	62.10	41.10
2	*5795.00	92.9 AV			1.72 H	234	51.80	41.10
3	#5850.00	61.5 PK	78.2	-16.7	1.58 H	231	58.50	3.00
4	#5852.10	74.1 PK	78.2	-4.1	1.40 H	235	71.10	3.00
5	#5860.00	57.2 PK	74.0	-16.8	1.87 H	52	54.20	3.00
6	#5860.00	53.0 AV	54.0	-1.0	1.87 H	52	50.00	3.00
7	7726.00	57.3 PK	74.0	-16.7	1.00 H	8	48.00	9.30
8	7726.00	51.7 AV	54.0	-2.3	1.00 H	8	42.40	9.30
9	11590.00	58.5 PK	74.0	-15.5	1.00 H	360	42.90	15.60
10	11590.00	45.5 AV	54.0	-8.5	1.00 H	360	29.90	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	*5795.00	101.0 PK			1.60 V	210	59.90	41.10
2	*5795.00	90.8 AV			1.60 V	210	49.70	41.10
3	#5850.00	60.9 PK	78.2	-17.3	1.60 V	200	57.90	3.00
4	#5852.10	73.3 PK	78.2	-4.9	1.55 V	215	70.30	3.00
5	#5860.00	55.1 PK	74.0	-18.9	1.66 V	220	52.10	3.00
6	#5860.00	52.0 AV	54.0	-2.0	1.66 V	220	49.00	3.00
7	7726.00	55.5 PK	74.0	-18.5	1.20 V	210	46.20	9.30
8	7726.00	50.9 AV	54.0	-3.1	1.20 V	210	41.60	9.30
9	11590.00	58.1 PK	74.0	-15.9	1.10 V	180	42.50	15.60
10	11590.00	45.2 AV	54.0	-8.8	1.10 V	180	29.60	15.60

REMARKS:

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

802.11ac (VHT80)

CHANNEL	TX Channel 42	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	70.3 PK	74.0	-3.7	2.12 H	317	68.30	2.00
2	5150.00	52.2 AV	54.0	-1.8	2.12 H	317	50.20	2.00
3	*5210.00	106.8 PK			2.15 H	322	66.70	40.10
4	*5210.00	93.9 AV			2.15 H	322	53.80	40.10
5	#6946.00	73.2 PK	68.2	-0.2	1.19 H	17	65.50	7.70
6	#10420.00	61.6 PK	74.0	-12.4	1.04 H	61	46.60	15.00
7	#10420.00	46.2 AV	54.0	-7.8	1.04 H	61	31.20	15.00

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	5150.00	66.0 PK	74.0	-8.0	1.57 V	48	64.00	2.00
2	5150.00	49.0 AV	54.0	-5.0	1.57 V	48	47.00	2.00
3	*5210.00	102.7 PK			1.42 V	10	62.60	40.10
4	*5210.00	92.1 AV			1.42 V	10	52.00	40.10
5	#6946.00	70.2 PK	68.2	-3.5	1.42 V	55	62.50	7.70
6	#10420.00	59.2 PK	74.0	-14.8	1.48 V	44	44.20	15.00
7	#10420.00	46.0 AV	54.0	-8.0	1.48 V	44	31.00	15.00

REMARKS:

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

CHANNEL	TX Channel 155	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	#5722.90	77.8 PK	78.2	-0.4	1.61 H	244	75.20	2.60
2	#5725.00	69.7 PK	78.2	-8.5	1.62 H	243	67.10	2.60
3	*5775.00	98.1 PK			1.00 H	238	57.10	41.00
4	*5775.00	88.2 AV			1.00 H	238	47.20	41.00
5	#5852.10	73.2 PK	78.2	-5.0	1.55 H	235	70.20	3.00
6	7700.00	57.9 PK	74.0	-16.1	1.56 H	14	48.60	9.30
7	7700.00	51.6 AV	54.0	-2.4	1.56 H	14	42.30	9.30
8	11510.00	58.4 PK	74.0	-15.6	1.33 H	180	42.70	15.70
9	11510.00	45.5 AV	54.0	-8.5	1.33 H	180	29.80	15.70

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	#5722.90	76.8 PK	78.2	-1.4	1.86 V	200	74.20	2.60
2	#5725.00	67.7 PK	78.2	-10.5	1.86 V	210	65.10	2.60
3	*5775.00	95.4 PK			1.86 V	200	54.40	41.00
4	*5775.00	85.3 AV			1.86 V	200	44.30	41.00
5	#5852.10	71.5 PK	78.2	-6.7	1.85 V	200	68.50	3.00
6	7700.00	56.5 PK	74.0	-17.5	1.74 V	189	47.20	9.30
7	7700.00	50.9 AV	54.0	-3.1	1.74 V	189	41.60	9.30
8	11510.00	57.3 PK	74.0	-16.7	1.20 V	0	41.60	15.70
9	11510.00	45.2 AV	54.0	-8.8	1.20 V	0	29.50	15.70

REMARKS:

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

Below 1GHz worst-case data:

802.11a

CHANNEL	TX Channel 48	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	53.28	23.3 QP	40.0	-16.7	1.01 H	6	37.50	-14.20
2	375.32	30.1 QP	46.0	-15.9	1.01 H	72	41.20	-11.10
3	499.48	29.2 QP	46.0	-16.8	1.50 H	144	37.90	-8.70
4	625.58	43.1 QP	46.0	-2.9	1.01 H	167	48.90	-5.80
5	749.74	33.7 QP	46.0	-12.3	1.01 H	189	37.40	-3.70
6	875.84	34.1 QP	46.0	-11.9	1.50 H	131	36.00	-1.90

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	51.34	33.7 QP	40.0	-6.3	1.49 V	6	48.10	-14.40
2	64.92	29.3 QP	40.0	-10.7	1.00 V	132	44.60	-15.30
3	499.48	39.8 QP	46.0	-6.2	1.00 V	197	48.50	-8.70
4	625.58	42.7 QP	46.0	-3.3	1.00 V	111	48.50	-5.80
5	749.74	36.0 QP	46.0	-10.0	1.49 V	231	39.70	-3.70
6	875.84	38.9 QP	46.0	-7.1	1.00 V	210	40.80	-1.90

REMARKS:

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

3TX

Above 1GHz data:

802.11a

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	61.6 PK	74.0	-12.4	1.20 H	149	59.60	2.00
2	5150.00	48.1 AV	54.0	-5.9	1.20 H	149	46.10	2.00
3	*5180.00	113.6 PK			1.38 H	146	73.60	40.00
4	*5180.00	103.3 AV			1.38 H	146	63.30	40.00
5	#6907.00	54.1 PK	74.0	-19.9	1.05 H	243	46.60	7.50
6	#6907.00	44.8 AV	54.0	-9.2	1.05 H	243	37.30	7.50
7	#10360.00	60.0 PK	74.0	-14.0	1.52 H	332	45.00	15.00
8	#10360.00	47.4 AV	54.0	-6.6	1.52 H	332	32.40	15.00

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	5150.00	70.1 PK	74.0	-3.9	1.64 V	51	68.10	2.00
2	5150.00	53.3 AV	54.0	-0.7	1.64 V	51	51.30	2.00
3	*5180.00	116.8 PK			1.20 V	2	76.80	40.00
4	*5180.00	106.7 AV			1.20 V	2	66.70	40.00
5	#6907.00	54.0 PK	74.0	-20.0	1.29 V	7	46.50	7.50
6	#6907.00	44.0 AV	54.0	-10.0	1.29 V	7	36.50	7.50
7	#10360.00	60.5 PK	74.0	-13.5	1.29 V	54	45.50	15.00
8	#10360.00	46.5 AV	54.0	-7.5	1.29 V	54	31.50	15.00

REMARKS:

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

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

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	57.9 PK	74.0	-16.1	1.21 H	233	55.90	2.00
2	5150.00	46.5 AV	54.0	-7.5	1.21 H	233	44.50	2.00
3	*5200.00	116.4 PK			1.37 H	144	76.30	40.10
4	*5200.00	105.7 AV			1.37 H	144	65.60	40.10
5	#6933.00	52.4 PK	74.0	-21.6	1.15 H	230	44.80	7.60
6	#6933.00	45.0 AV	54.0	-9.0	1.15 H	230	37.40	7.60
7	#10400.00	62.0 PK	74.0	-12.0	1.52 H	34	47.00	15.00
8	#10400.00	47.2 AV	54.0	-6.8	1.52 H	34	32.20	15.00

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	5150.00	66.1 PK	74.0	-7.9	1.63 V	70	64.10	2.00
2	5150.00	50.8 AV	54.0	-3.2	1.63 V	70	48.80	2.00
3	*5200.00	119.1 PK			1.20 V	355	79.00	40.10
4	*5200.00	109.2 AV			1.20 V	355	69.10	40.10
5	#6933.00	53.3 PK	74.0	-20.7	1.23 V	323	45.70	7.60
6	#6933.00	45.6 AV	54.0	-8.4	1.23 V	323	38.00	7.60
7	#10400.00	61.0 PK	74.0	-13.0	1.52 V	35	46.00	15.00
8	#10400.00	46.3 AV	54.0	-7.7	1.52 V	35	31.30	15.00

REMARKS:

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



CHANNEL	TX Channel 48	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	*5240.00	118.1 PK			1.35 H	131	78.00	40.10
2	*5240.00	107.6 AV			1.35 H	131	67.50	40.10
3	5350.00	59.0 PK	74.0	-15.0	1.52 H	35	57.00	2.00
4	5350.00	44.2 AV	54.0	-9.8	1.52 H	35	42.20	2.00
5	#6986.00	52.5 PK	74.0	-21.5	1.01 H	162	44.60	7.90
6	#6986.00	42.8 AV	54.0	-11.2	1.01 H	162	34.90	7.90
7	#10480.00	60.3 PK	74.0	-13.7	1.41 H	52	45.20	15.10
8	#10480.00	46.3 AV	54.0	-7.7	1.41 H	52	31.20	15.10

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	*5240.00	119.6 PK			1.95 V	353	79.50	40.10
2	*5240.00	108.9 AV			1.95 V	353	68.80	40.10
3	5350.00	60.0 PK	74.0	-14.0	1.77 V	141	58.00	2.00
4	5350.00	46.6 AV	54.0	-7.4	1.77 V	141	44.60	2.00
5	#6986.00	52.7 PK	74.0	-21.3	1.42 V	313	44.80	7.90
6	#6986.00	43.4 AV	54.0	-10.6	1.42 V	313	35.50	7.90
7	#10480.00	60.8 PK	74.0	-13.2	1.52 V	65	45.70	15.10
8	#10480.00	47.7 AV	54.0	-6.3	1.52 V	65	32.60	15.10

REMARKS:

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



CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	#5714.90	66.5 PK	74.0	-7.5	1.00 H	190	63.90	2.60
2	#5714.90	49.1 AV	54.0	-4.9	1.00 H	190	46.50	2.60
3	#5722.90	71.1 PK	78.2	-7.1	4.00 H	54	68.50	2.60
4	#5725.00	59.8 PK	78.2	-18.4	1.24 H	55	57.20	2.60
5	*5745.00	113.6 PK			1.00 H	85	72.60	41.00
6	*5745.00	103.1 AV			1.00 H	85	62.10	41.00
7	11490.00	66.0 PK	74.0	-8.0	1.88 H	172	50.10	15.90
8	11490.00	52.3 AV	54.0	-1.7	1.88 H	172	36.40	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	#5714.90	69.7 PK	74.0	-4.3	1.71 V	100	67.10	2.60
2	#5714.90	53.1 AV	54.0	-0.9	1.71 V	100	50.50	2.60
3	#5722.90	75.2 PK	78.2	-3.0	1.86 V	110	72.60	2.60
4	#5725.00	63.9 PK	78.2	-14.3	1.00 V	100	61.30	2.60
5	*5745.00	116.5 PK			1.00 V	100	75.50	41.00
6	*5745.00	106.3 AV			1.00 V	100	65.30	41.00
7	11490.00	61.6 PK	74.0	-12.4	1.20 V	63	45.70	15.90
8	11490.00	48.4 AV	54.0	-5.6	1.20 V	63	32.50	15.90

REMARKS:

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



CHANNEL	TX Channel 157	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	114.2 PK			1.04 H	192	73.10	41.10
2	*5785.00	104.0 AV			1.04 H	192	62.90	41.10
3	11570.00	67.1 PK	74.0	-6.9	1.58 H	99	51.50	15.60
4	11570.00	53.7 AV	54.0	-0.3	2.07 H	169	38.10	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	*5785.00	118.6 PK			1.79 V	349	77.50	41.10
2	*5785.00	108.4 AV			1.79 V	349	67.30	41.10
3	11570.00	62.6 PK	74.0	-11.4	1.20 V	6	47.00	15.60
4	11570.00	48.1 AV	54.0	-5.9	1.20 V	6	32.50	15.60

REMARKS:

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

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	111.1 PK			1.00 H	292	70.00	41.10
2	*5825.00	100.6 AV			1.00 H	292	59.50	41.10
3	#5850.00	57.5 PK	78.2	-20.7	1.20 H	41	54.50	3.00
4	#5852.10	67.3 PK	78.2	-10.9	1.89 H	66	64.30	3.00
5	#5860.10	56.4 PK	74.0	-17.6	1.27 H	27	53.40	3.00
6	#5860.10	44.3 AV	54.0	-9.7	1.27 H	27	41.30	3.00
7	11650.00	67.8 PK	74.0	-6.2	1.55 H	189	52.20	15.60
8	11650.00	53.4 AV	54.0	-0.6	1.55 H	189	37.80	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	*5825.00	115.3 PK			1.00 V	352	74.20	41.10
2	*5825.00	105.0 AV			1.00 V	352	63.90	41.10
3	#5850.00	56.9 PK	78.2	-21.3	1.24 V	88	53.90	3.00
4	#5852.10	72.3 PK	78.2	-5.9	1.03 V	66	69.30	3.00
5	#5860.10	58.3 PK	74.0	-15.7	1.99 V	3	55.30	3.00
6	#5860.10	45.9 AV	54.0	-8.1	1.99 V	3	42.90	3.00
7	11650.00	62.4 PK	74.0	-11.6	1.00 V	153	46.80	15.60
8	11650.00	48.2 AV	54.0	-5.8	1.00 V	153	32.60	15.60

REMARKS:

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

802.11n (HT20)

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	60.0 PK	74.0	-14.0	1.15 H	96	58.00	2.00
2	5150.00	48.2 AV	54.0	-5.8	1.15 H	96	46.20	2.00
3	*5180.00	114.1 PK			1.19 H	120	74.10	40.00
4	*5180.00	103.9 AV			1.19 H	120	63.90	40.00
5	#6907.00	54.4 PK	74.0	-19.6	1.20 H	65	46.90	7.50
6	#6907.00	45.7 AV	54.0	-8.3	1.20 H	65	38.20	7.50
7	#10360.00	61.0 PK	74.0	-13.0	1.45 H	88	46.00	15.00
8	#10360.00	47.6 AV	54.0	-6.4	1.45 H	88	32.60	15.00

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	5150.00	68.5 PK	74.0	-5.5	1.55 V	96	66.50	2.00
2	5150.00	52.3 AV	54.0	-1.7	1.55 V	96	50.30	2.00
3	*5180.00	119.9 PK			1.61 V	96	79.90	40.00
4	*5180.00	108.5 AV			1.61 V	96	68.50	40.00
5	#6907.00	53.8 PK	74.0	-20.2	1.34 V	330	46.30	7.50
6	#6907.00	44.8 AV	54.0	-9.2	1.34 V	330	37.30	7.50
7	#10360.00	58.4 PK	74.0	-15.6	1.29 V	27	43.40	15.00
8	#10360.00	46.2 AV	54.0	-7.8	1.29 V	27	31.20	15.00

REMARKS:

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

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

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	*5200.00	116.6 PK			1.16 H	161	76.50	40.10
2	*5200.00	106.3 AV			1.16 H	161	66.20	40.10
3	#6933.00	52.1 PK	74.0	-21.9	1.00 H	96	44.50	7.60
4	#6933.00	40.8 AV	54.0	-13.2	1.00 H	96	33.20	7.60
5	#10400.00	60.7 PK	74.0	-13.3	1.84 H	6	45.70	15.00
6	#10400.00	46.2 AV	54.0	-7.8	1.84 H	6	31.20	15.00

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	*5200.00	119.9 PK			1.53 V	103	79.80	40.10
2	*5200.00	108.7 AV			1.53 V	103	68.60	40.10
3	#6933.00	52.6 PK	74.0	-21.4	1.51 V	321	45.00	7.60
4	#6933.00	44.2 AV	54.0	-9.8	1.51 V	321	36.60	7.60
5	#10400.00	61.5 PK	74.0	-12.5	1.00 V	124	46.50	15.00
6	#10400.00	46.3 AV	54.0	-7.7	1.00 V	124	31.30	15.00

REMARKS:

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

CHANNEL	TX Channel 48	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	*5240.00	115.9 PK			2.00 H	173	75.80	40.10
2	*5240.00	105.2 AV			2.00 H	173	65.10	40.10
3	5350.00	58.0 PK	74.0	-16.0	1.20 H	65	56.00	2.00
4	5350.00	45.2 AV	54.0	-8.8	1.20 H	65	43.20	2.00
5	#6986.00	51.1 PK	74.0	-22.9	1.52 H	77	43.20	7.90
6	#6986.00	41.5 AV	54.0	-12.5	1.52 H	77	33.60	7.90
7	#10480.00	59.7 PK	74.0	-14.3	1.24 H	115	44.60	15.10
8	#10480.00	47.1 AV	54.0	-6.9	1.24 H	115	32.00	15.10

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	*5240.00	118.1 PK			1.19 V	48	78.00	40.10
2	*5240.00	107.0 AV			1.19 V	48	66.90	40.10
3	5350.00	59.2 PK	74.0	-14.8	1.24 V	153	57.20	2.00
4	5350.00	46.3 AV	54.0	-7.7	1.24 V	153	44.30	2.00
5	#6986.00	51.9 PK	74.0	-22.1	1.22 V	322	44.00	7.90
6	#6986.00	42.9 AV	54.0	-11.1	1.22 V	322	35.00	7.90
7	#10480.00	60.4 PK	74.0	-13.6	1.54 V	27	45.30	15.10
8	#10480.00	47.2 AV	54.0	-6.8	1.54 V	27	32.10	15.10

REMARKS:

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

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	#5714.90	66.6 PK	74.0	-7.4	1.00 H	290	64.00	2.60
2	#5714.90	49.1 AV	54.0	-4.9	1.00 H	290	46.50	2.60
3	#5722.90	75.3 PK	78.2	-2.9	1.20 H	45	72.70	2.60
4	#5725.00	60.6 PK	78.2	-17.6	1.52 H	66	58.00	2.60
5	*5745.00	114.5 PK			1.11 H	48	73.50	41.00
6	*5745.00	103.6 AV			1.11 H	48	62.60	41.00
7	11490.00	66.1 PK	74.0	-7.9	1.95 H	167	50.20	15.90
8	11490.00	52.2 AV	54.0	-1.8	1.95 H	167	36.30	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	#5714.90	68.7 PK	74.0	-5.3	1.50 V	99	66.10	2.60
2	#5714.90	51.2 AV	54.0	-2.8	1.50 V	99	48.60	2.60
3	#5722.90	78.0 PK	78.2	-0.2	1.81 V	280	75.40	2.60
4	#5725.00	64.3 PK	78.2	-13.9	1.75 V	321	61.70	2.60
5	*5745.00	113.8 PK			1.00 V	91	72.80	41.00
6	*5745.00	103.8 AV			1.00 V	91	62.80	41.00
7	11490.00	60.4 PK	74.0	-13.6	1.00 V	152	44.50	15.90
8	11490.00	46.9 AV	54.0	-7.1	1.00 V	152	31.00	15.90

REMARKS:

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

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	114.3 PK			1.33 H	60	73.20	41.10
2	*5785.00	104.2 AV			1.33 H	60	63.10	41.10
3	11570.00	67.0 PK	74.0	-7.0	1.82 H	169	51.40	15.60
4	11570.00	53.0 AV	54.0	-1.0	1.82 H	169	37.40	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	*5785.00	117.2 PK			1.81 V	346	76.10	41.10
2	*5785.00	107.3 AV			1.81 V	346	66.20	41.10
3	11570.00	62.5 PK	74.0	-11.5	1.20 V	16	46.90	15.60
4	11570.00	48.2 AV	54.0	-5.8	1.20 V	16	32.60	15.60

REMARKS:

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

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	111.1 PK			1.14 H	59	70.00	41.10
2	*5825.00	100.4 AV			1.14 H	59	59.30	41.10
3	#5850.00	58.0 PK	78.2	-20.2	1.20 H	66	55.00	3.00
4	#5852.00	73.0 PK	78.2	-5.2	1.20 H	34	70.00	3.00
5	#5860.10	59.9 PK	74.0	-14.1	1.20 H	96	56.90	3.00
6	#5860.10	46.5 AV	54.0	-7.5	1.20 H	96	43.50	3.00
7	11650.00	68.5 PK	74.0	-5.5	1.26 H	167	52.90	15.60
8	11650.00	53.2 AV	54.0	-0.8	1.26 H	167	37.60	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	*5825.00	112.9 PK			1.00 V	215	71.80	41.10
2	*5825.00	103.3 AV			1.00 V	215	62.20	41.10
3	#5850.00	49.9 PK	78.2	-28.3	1.61 V	315	46.90	3.00
4	#5852.10	65.6 PK	78.2	-12.6	1.61 V	315	62.60	3.00
5	#5860.10	60.1 PK	74.0	-13.9	1.74 V	215	57.10	3.00
6	#5860.10	46.4 AV	54.0	-7.6	1.74 V	215	43.40	3.00
7	11650.00	62.9 PK	74.0	-11.1	1.00 V	130	47.30	15.60
8	11650.00	49.8 AV	54.0	-4.2	1.00 V	130	34.20	15.60

REMARKS:

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

802.11n (HT40)

CHANNEL	TX Channel 38	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	62.2 PK	74.0	-11.8	1.48 H	313	60.20	2.00
2	5150.00	48.1 AV	54.0	-5.9	1.48 H	313	46.10	2.00
3	*5190.00	109.5 PK			1.76 H	25	69.50	40.00
4	*5190.00	98.8 AV			1.76 H	25	58.80	40.00
5	#6920.00	53.1 PK	74.0	-20.9	1.24 H	84	45.50	7.60
6	#6920.00	40.1 AV	54.0	-13.9	1.24 H	84	32.50	7.60
7	#10380.00	61.0 PK	74.0	-13.0	1.20 H	64	46.00	15.00
8	#10380.00	47.1 AV	54.0	-6.9	1.20 H	64	32.10	15.00

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	5150.00	68.3 PK	74.0	-5.7	1.06 V	62	66.30	2.00
2	5150.00	53.5 AV	54.0	-0.5	1.06 V	62	51.50	2.00
3	*5190.00	110.6 PK			1.27 V	40	70.60	40.00
4	*5190.00	101.0 AV			1.27 V	40	61.00	40.00
5	#6920.00	53.2 PK	74.0	-20.8	1.52 V	69	45.60	7.60
6	#6920.00	41.1 AV	54.0	-12.9	1.52 V	69	33.50	7.60
7	#10380.00	60.9 PK	74.0	-13.1	1.52 V	96	45.90	15.00
8	#10380.00	47.6 AV	54.0	-6.4	1.52 V	96	32.60	15.00

REMARKS:

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

CHANNEL	TX Channel 46	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	*5230.00	112.6 PK			1.37 H	137	72.50	40.10
2	*5230.00	101.8 AV			1.37 H	137	61.70	40.10
3	5350.00	59.6 PK	74.0	-14.4	1.57 H	96	57.60	2.00
4	5350.00	44.6 AV	54.0	-9.4	1.57 H	96	42.60	2.00
5	#6973.00	52.9 PK	74.0	-21.1	1.01 H	158	45.10	7.80
6	#6973.00	41.4 AV	54.0	-12.6	1.01 H	158	33.60	7.80
7	#10460.00	59.5 PK	74.0	-14.5	1.58 H	95	44.50	15.00
8	#10460.00	47.6 AV	54.0	-6.4	1.58 H	95	32.60	15.00

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	*5230.00	117.7 PK			1.32 V	58	77.60	40.10
2	*5230.00	106.0 AV			1.32 V	58	65.90	40.10
3	5350.00	62.4 PK	74.0	-11.6	1.77 V	148	60.40	2.00
4	5350.00	48.1 AV	54.0	-5.9	1.77 V	148	46.10	2.00
5	#6973.33	53.1 PK	74.0	-20.9	1.41 V	320	45.30	7.80
6	#6973.33	44.0 AV	54.0	-10.0	1.41 V	320	36.20	7.80
7	#10460.00	61.2 PK	74.0	-12.8	1.44 V	63	46.20	15.00
8	#10460.00	46.4 AV	54.0	-7.6	1.44 V	63	31.40	15.00

REMARKS:

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



CHANNEL	TX Channel 151	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	#5714.90	65.1 PK	74.0	-8.9	1.24 H	55	62.50	2.60
2	#5714.90	49.8 AV	54.0	-4.2	1.24 H	55	47.20	2.60
3	#5722.90	72.1 PK	78.2	-6.1	1.24 H	75	69.50	2.60
4	#5725.00	60.8 PK	78.2	-17.4	1.20 H	85	58.20	2.60
5	*5755.00	109.3 PK			1.12 H	58	68.30	41.00
6	*5755.00	98.9 AV			1.12 H	58	57.90	41.00
7	11510.00	61.0 PK	74.0	-13.0	1.24 H	6	45.30	15.70
8	11510.00	47.3 AV	54.0	-6.7	1.24 H	6	31.60	15.70

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	#5714.90	68.3 PK	74.0	-5.7	1.66 V	277	65.70	2.60
2	#5714.90	53.3 AV	54.0	-0.7	1.66 V	277	50.70	2.60
3	#5722.90	76.4 PK	78.2	-1.8	1.73 V	338	73.80	2.60
4	#5725.00	64.4 PK	78.2	-13.8	1.73 V	338	61.80	2.60
5	*5755.00	113.1 PK			1.45 V	331	72.10	41.00
6	*5755.00	102.9 AV			1.45 V	331	61.90	41.00
7	11510.00	62.3 PK	74.0	-11.7	1.52 V	95	46.60	15.70
8	11510.00	47.0 AV	54.0	-7.0	1.52 V	95	31.30	15.70

REMARKS:

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

CHANNEL	TX Channel 159	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	111.7 PK			1.04 H	57	70.60	41.10
2	*5795.00	101.2 AV			1.04 H	57	60.10	41.10
3	#5850.00	54.7 PK	78.2	-23.5	1.63 H	66	51.70	3.00
4	#5852.10	69.9 PK	78.2	-8.3	1.24 H	74	66.90	3.00
5	#5860.10	66.5 PK	74.0	-7.5	1.24 H	22	63.50	3.00
6	#5860.10	50.2 AV	54.0	-3.8	1.24 H	22	47.20	3.00
7	11590.00	64.9 PK	74.0	-9.1	1.80 H	174	49.30	15.60
8	11590.00	51.7 AV	54.0	-2.3	1.80 H	174	36.10	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	*5795.00	117.5 PK			1.78 V	337	76.40	41.10
2	*5795.00	106.7 AV			1.78 V	337	65.60	41.10
3	#5850.00	58.6 PK	78.2	-19.6	1.97 V	350	55.60	3.00
4	#5852.10	72.5 PK	78.2	-5.7	1.97 V	350	69.50	3.00
5	#5860.10	69.0 PK	74.0	-5.0	2.15 V	241	66.00	3.00
6	#5860.10	53.6 AV	54.0	-0.4	2.15 V	241	50.60	3.00
7	11590.00	62.2 PK	74.0	-11.8	1.52 V	66	46.60	15.60
8	11590.00	48.2 AV	54.0	-5.8	1.52 V	66	32.60	15.60

REMARKS:

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

802.11ac (VHT80)

CHANNEL	TX Channel 42	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	69.7 PK	74.0	-4.3	1.20 H	34	67.70	2.00
2	5150.00	53.6 AV	54.0	-0.4	1.20 H	34	51.60	2.00
3	*5210.00	103.5 PK			1.38 H	178	63.40	40.10
4	*5210.00	93.3 AV			1.38 H	178	53.20	40.10
5	#10420.00	60.9 PK	74.0	-13.1	1.42 H	57	45.90	15.00
6	#10420.00	46.2 AV	54.0	-7.8	1.42 H	57	31.20	15.00
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	5150.00	68.5 PK	74.0	-5.5	1.55 V	101	66.50	2.00
2	5150.00	53.5 AV	54.0	-0.5	1.55 V	101	51.50	2.00
3	*5210.00	108.8 PK			1.91 V	236	68.70	40.10
4	*5210.00	97.8 AV			1.91 V	236	57.70	40.10
5	#10420.00	61.7 PK	74.0	-12.3	1.53 V	96	46.70	15.00
6	#10420.00	46.5 AV	54.0	-7.5	1.53 V	96	31.50	15.00

REMARKS:

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

CHANNEL	TX Channel 155	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	#5714.90	67.1 PK	74.0	-6.9	1.52 H	63	64.50	2.60
2	#5714.90	51.4 AV	54.0	-2.6	1.52 H	63	48.80	2.60
3	#5722.90	70.1 PK	78.2	-8.1	1.20 H	41	67.50	2.60
4	#5725.00	56.7 PK	78.2	-21.5	1.84 H	241	54.10	2.60
5	*5775.00	101.3 PK			1.12 H	61	60.30	41.00
6	*5775.00	91.1 AV			1.12 H	61	50.10	41.00
7	#5850.00	45.3 PK	78.2	-32.9	1.30 H	89	42.30	3.00
8	#5852.10	57.1 PK	78.2	-21.1	1.36 H	335	54.10	3.00
9	#5860.10	57.1 PK	74.0	-16.9	1.88 H	120	54.10	3.00
10	#5860.10	44.6 AV	54.0	-9.4	1.88 H	120	41.60	3.00
11	11550.00	61.2 PK	74.0	-12.8	1.24 H	74	45.60	15.60
12	11550.00	46.8 AV	54.0	-7.2	1.24 H	74	31.20	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	#5714.90	69.3 PK	74.0	-4.7	1.00 V	95	66.70	2.60
2	#5714.90	53.6 AV	54.0	-0.4	1.00 V	95	51.00	2.60
3	#5722.90	72.3 PK	78.2	-5.9	1.63 V	77	69.70	2.60
4	#5725.00	57.4 PK	78.2	-20.8	1.63 V	77	54.80	2.60
5	*5775.00	106.4 PK			1.80 V	336	65.40	41.00
6	*5775.00	94.8 AV			1.80 V	336	53.80	41.00
7	#5850.00	45.3 PK	78.2	-32.9	1.45 V	89	42.30	3.00
8	#5852.10	57.7 PK	78.2	-20.5	1.45 V	89	54.70	3.00
9	#5860.10	57.6 PK	74.0	-16.4	1.00 V	251	54.60	3.00
10	#5860.10	44.4 AV	54.0	-9.6	1.00 V	251	41.40	3.00
11	11550.00	62.2 PK	74.0	-11.8	1.52 V	64	46.60	15.60
12	11550.00	47.1 AV	54.0	-6.9	1.52 V	64	31.50	15.60

REMARKS:

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

Below 1GHz worst-case data:

802.11a

CHANNEL	TX Channel 48	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	499.48	29.8 QP	46.0	-16.2	1.50 H	160	38.50	-8.70
2	625.58	43.2 QP	46.0	-2.8	1.01 H	173	49.00	-5.80
3	749.74	32.9 QP	46.0	-13.1	1.01 H	180	36.60	-3.70
4	875.84	34.7 QP	46.0	-11.3	1.01 H	338	36.60	-1.90
5	930.16	30.0 QP	46.0	-16.0	1.01 H	354	30.60	-0.60
6	945.68	30.2 QP	46.0	-15.8	1.01 H	341	30.40	-0.20

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	53.28	33.4 QP	40.0	-6.6	1.00 V	11	47.60	-14.20
2	62.98	28.4 QP	40.0	-11.6	1.00 V	37	43.60	-15.20
3	499.48	40.4 QP	46.0	-5.6	1.00 V	189	49.10	-8.70
4	625.58	43.2 QP	46.0	-2.8	1.00 V	108	49.00	-5.80
5	749.74	36.3 QP	46.0	-9.7	1.50 V	229	40.00	-3.70
6	875.84	39.4 QP	46.0	-6.6	1.00 V	218	41.30	-1.90

REMARKS:

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

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

Frequency (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	ESCS30	100288	Apr. 27, 2015	Apr. 26, 2016
RF signal cable Woken	5D-FB	Cable-HYCO2-01	Dec. 26, 2014	Dec. 25, 2015
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Dec. 30, 2014	Dec. 29, 2015
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Jul. 10, 2014	Jul. 09, 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 2.
 3. The VCCI Site Registration No. is C-2047.

4.2.3 Test Procedures

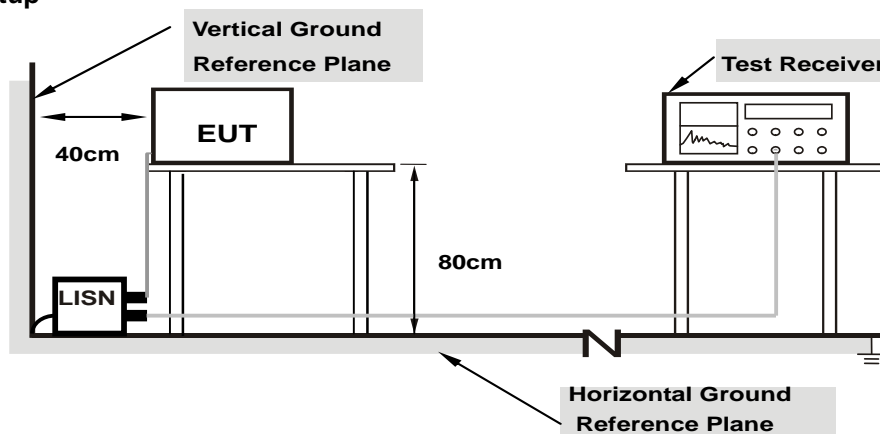
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

NOTE: 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

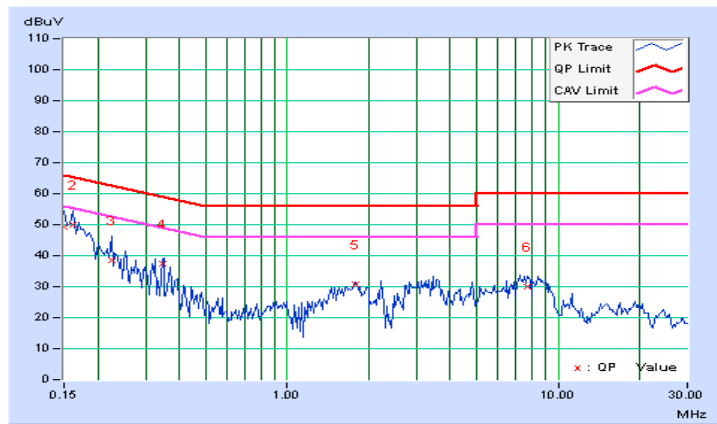
1TX

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.15000	0.19	49.12	29.21	49.31	29.40	66.00
2	0.16172	0.20	49.70	36.16	49.90	36.36	65.38	55.38	-15.48	-19.02
3	0.22422	0.20	38.21	24.48	38.41	24.68	62.66	52.66	-24.25	-27.98
4	0.34734	0.20	37.12	30.61	37.32	30.81	59.03	49.03	-21.71	-18.22
5	1.78906	0.35	30.21	24.09	30.56	24.44	56.00	46.00	-25.44	-21.56
6	7.68359	0.47	29.39	22.01	29.86	22.48	60.00	50.00	-30.14	-27.52

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.

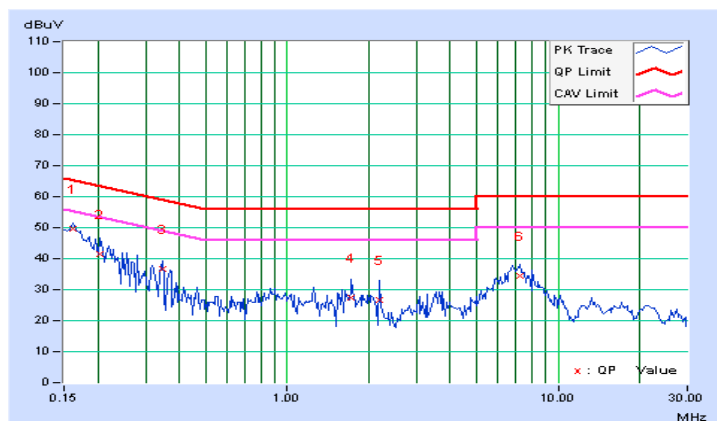


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.16172	0.21	49.57	35.94	49.78	36.15	65.38
2	0.20469	0.22	41.10	29.85	41.32	30.07	63.42	53.42	-22.10	-23.35
3	0.34531	0.24	36.55	32.72	36.79	32.96	59.07	49.07	-22.28	-16.11
4	1.71875	0.37	27.10	21.70	27.47	22.07	56.00	46.00	-28.53	-23.93
5	2.19141	0.41	26.12	16.10	26.53	16.51	56.00	46.00	-29.47	-29.49
6	7.19922	0.52	33.97	27.89	34.49	28.41	60.00	50.00	-25.51	-21.59

REMARKS:

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



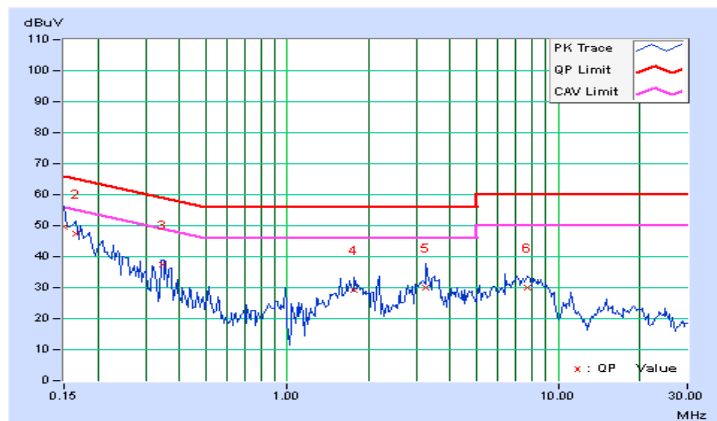
3TX

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.15000	0.19	49.38	29.43	49.57	29.62	66.00
2	0.16562	0.20	47.28	34.82	47.48	35.02	65.18	55.18	-17.70	-20.16
3	0.34744	0.20	37.32	30.87	37.52	31.07	59.02	49.02	-21.50	-17.95
4	1.76953	0.35	29.01	23.67	29.36	24.02	56.00	46.00	-26.64	-21.98
5	3.24609	0.40	29.51	21.19	29.91	21.59	56.00	46.00	-26.09	-24.41
6	7.70313	0.47	29.45	22.23	29.92	22.70	60.00	50.00	-30.08	-27.30

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.

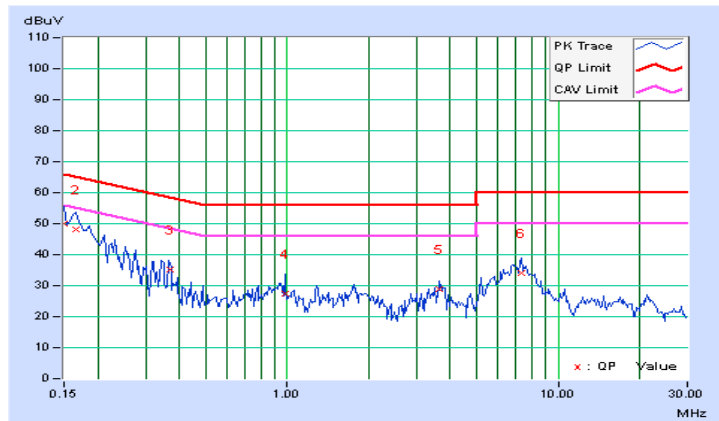


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.15000	0.20	49.73	29.17	49.93	29.37	66.00
2	0.16562	0.21	47.77	35.31	47.98	35.52	65.18	55.18	-17.20	-19.66
3	0.36866	0.25	35.12	31.94	35.37	32.19	58.53	48.53	-23.17	-16.35
4	0.98203	0.31	27.11	16.47	27.42	16.78	56.00	46.00	-28.58	-29.22
5	3.65234	0.45	28.30	18.35	28.75	18.80	56.00	46.00	-27.25	-27.20
6	7.28516	0.52	33.54	27.69	34.06	28.21	60.00	50.00	-25.94	-21.79

REMARKS:

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



4.3 Transmit Power Measurement

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 \leq 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,

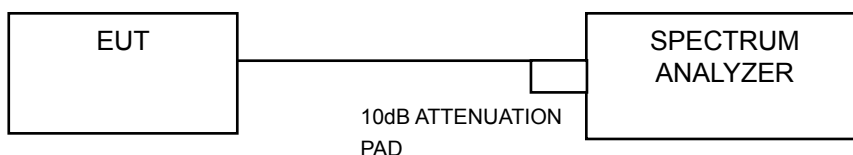
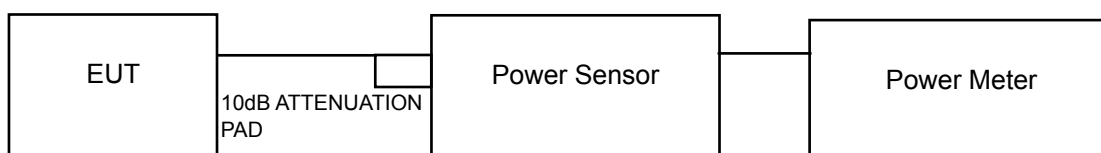
Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

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

789033 D02 General UNII Test Procedures New Rules v01 E/3/b

For 802.11a, 802.11n (HT20), 802.11n (HT40)

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 (VHT80)

789033 D02 General UNII Test Procedure New Rules v01

- 1) Set span to encompass the entire 26 dB EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
- 2) Set sweep trigger to "free run".
- 3) Set RBW = 1 MHz.
- 4) Set VBW \geq 3 MHz
- 5) Number of points in sweep \geq 2 Span / RBW.
- 6) Sweep time \leq (number of points in sweep) * T
- 7) Using emission bandwidth to determine the frequency span for integration the channel bandwidth.
- 8) Detector = RMS.
- 9) Trace mode = max hold.
- 10) Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

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

4.3.7 Test Result

POWER OUTPUT:

1TX

802.11a

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	72.277	18.59	30	Pass
40	5200	74.645	18.73	30	Pass
48	5240	76.208	18.82	30	Pass
149	5745	36.559	15.63	30	Pass
157	5785	155.955	21.93	30	Pass
165	5825	141.254	21.50	30	Pass

802.11n (HT20)

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	74.131	18.70	30	Pass
40	5200	72.444	18.60	30	Pass
48	5240	77.625	18.90	30	Pass
149	5745	38.019	15.80	30	Pass
157	5785	155.597	21.92	30	Pass
165	5825	144.544	21.60	30	Pass

802.11n (HT40)

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
38	5190	40.738	16.10	30	Pass
46	5230	85.114	19.30	30	Pass
151	5755	59.979	17.78	30	Pass
159	5795	87.902	19.44	30	Pass

802.11ac (VHT80)

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
42	5210	39.811	16.00	30	Pass
155	5775	47.973	16.81	30	Pass

3TX
802.11a

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)			Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
36	5180	23.84	23.77	22.51	658.573	28.19	30	Pass
40	5200	23.37	23.45	21.72	587.173	27.69	30	Pass
48	5240	23.35	23.76	24.42	730.650	28.64	30	Pass
149	5745	23.51	23.15	22.43	605.911	27.82	30	Pass
157	5785	24.91	24.25	24.05	829.912	29.19	30	Pass
165	5825	21.73	21.24	21.03	408.746	26.11	30	Pass

802.11n (HT20)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)			Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
36	5180	24.01	23.87	22.57	676.266	28.30	30	Pass
40	5200	23.41	23.16	21.90	581.176	27.64	30	Pass
48	5240	23.66	23.89	22.97	675.333	28.30	30	Pass
149	5745	18.79	18.57	17.83	208.302	23.19	30	Pass
157	5785	25.09	24.23	24.11	845.331	29.27	30	Pass
165	5825	21.68	21.13	20.98	402.263	26.05	30	Pass

802.11n (HT40)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)			Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
38	5190	18.23	19.06	18.03	210.598	23.23	30	Pass
46	5230	25.11	24.97	24.08	894.250	29.51	30	Pass
151	5755	21.77	21.21	21.02	408.918	26.12	30	Pass
159	5795	24.54	24.05	23.74	775.135	28.89	30	Pass

802.11ac (VHT80)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)			Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2				
42	5210	19.16	19.06	18.09	227.369	23.57	30	Pass
155	5775	17.83	17.17	16.91	161.884	22.09	30	Pass

26dB BANDWIDTH:**1TX****802.11a**

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	Pass / Fail
36	5180	35.47	Pass
40	5200	37.13	Pass
48	5240	35.48	Pass

802.11n (HT20)

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	Pass / Fail
36	5180	38.98	Pass
40	5200	39.24	Pass
48	5240	32.37	Pass

802.11n (HT40)

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	Pass / Fail
38	5190	46.63	Pass
46	5230	83.81	Pass

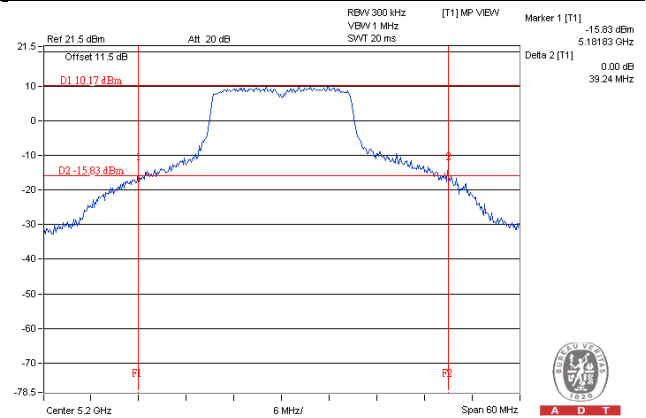
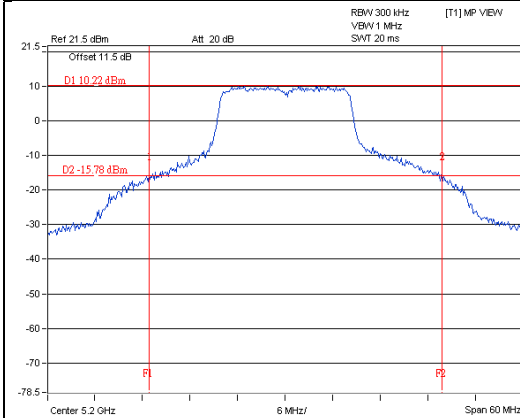
802.11ac (VHT80)

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	Pass / Fail
42	5210	92.98	Pass

Spectrum Plot of Worst Value

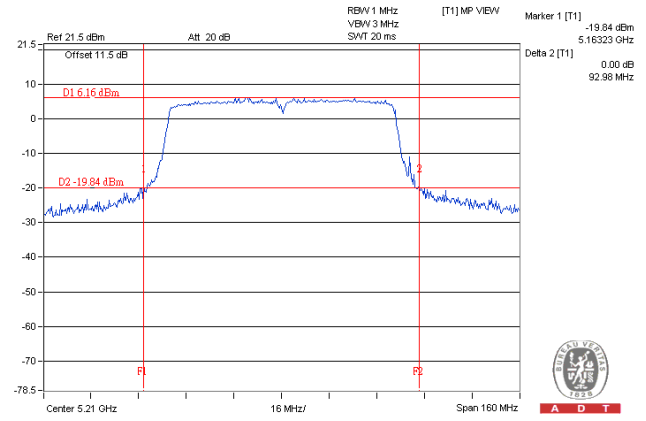
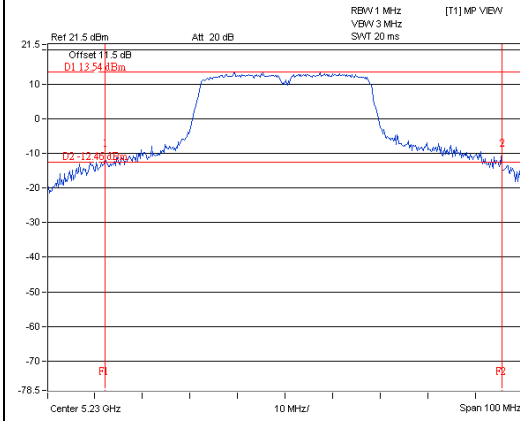
802.11a

802.11n (HT20)



802.11n (HT40)

802.11ac (VHT80)



3TX
802.11a

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			Pass / Fail
		Chain 0	Chain 1	Chain 2	
36	5180	25.63	24.76	23.09	Pass
40	5200	25.37	24.54	23.08	Pass
48	5240	23.18	25.72	22.83	Pass

802.11n (HT20)

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			Pass / Fail
		Chain 0	Chain 1	Chain 2	
36	5180	26.69	27.87	22.53	Pass
40	5200	24.89	24.40	22.01	Pass
48	5240	24.91	28.89	24.35	Pass

802.11n (HT40)

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			Pass / Fail
		Chain 0	Chain 1	Chain 2	
38	5190	47.34	45.88	46.27	Pass
46	5230	63.53	52.21	59.94	Pass

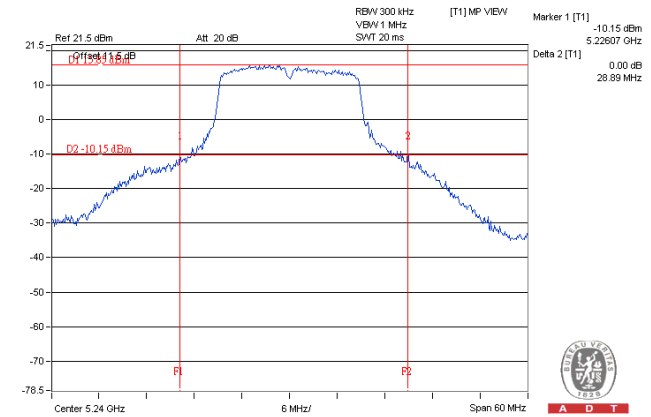
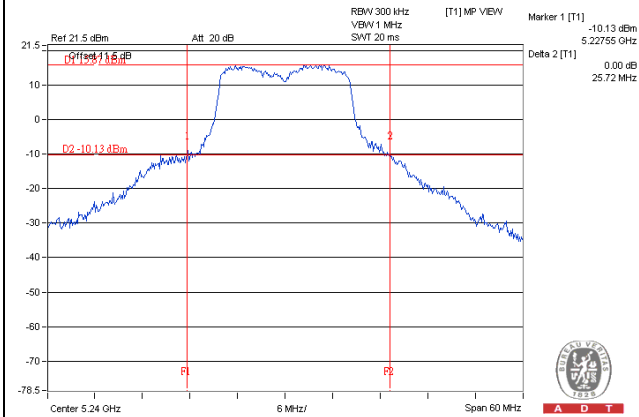
802.11ac (VHT80)

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			Pass / Fail
		Chain 0	Chain 1	Chain 2	
42	5210	90.03	87.14	87.16	Pass

Spectrum Plot of Worst Value

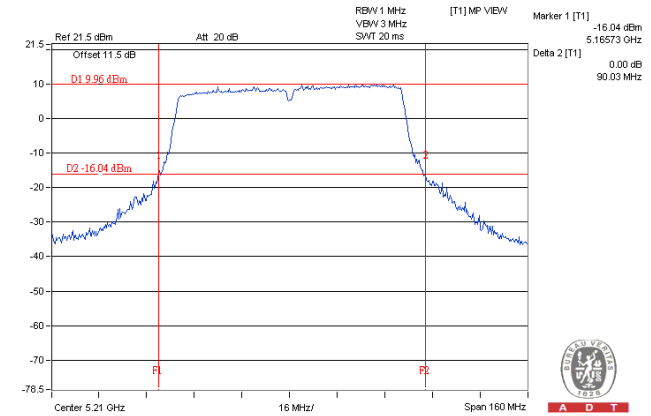
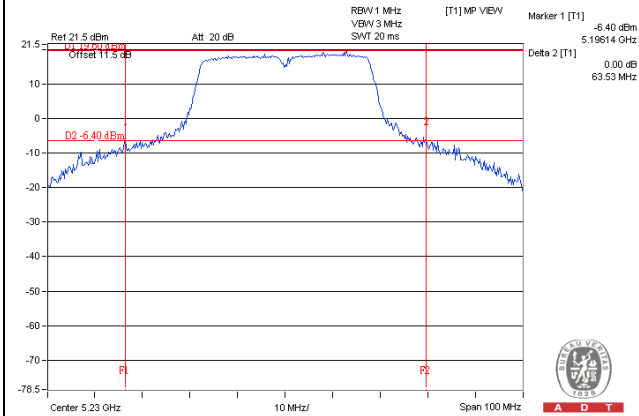
802.11a

802.11n (HT20)



802.11n (HT40)

802.11ac (VHT80)



OCCUPIED BANDWIDTH:**802.11a**

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	18.12
40	5200	18.96
48	5240	18.36
149	5745	17.04
157	5785	32.28
165	5825	31.68

802.11n (HT20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	19.32
40	5200	20.04
48	5240	18.60
149	5745	18.12
157	5785	34.32
165	5825	33.24

802.11n (HT40)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
38	5190	36.84
46	5230	37.80
151	5755	37.56
159	5795	38.64

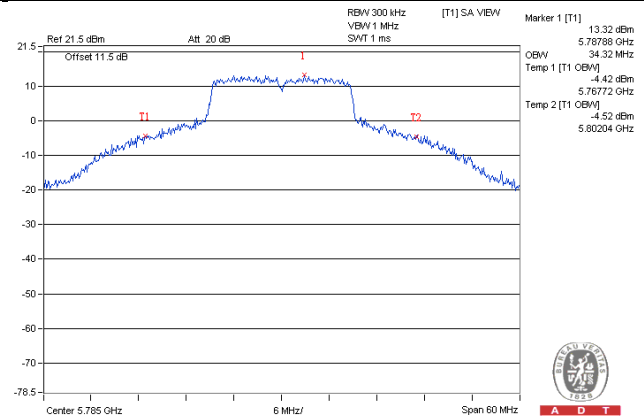
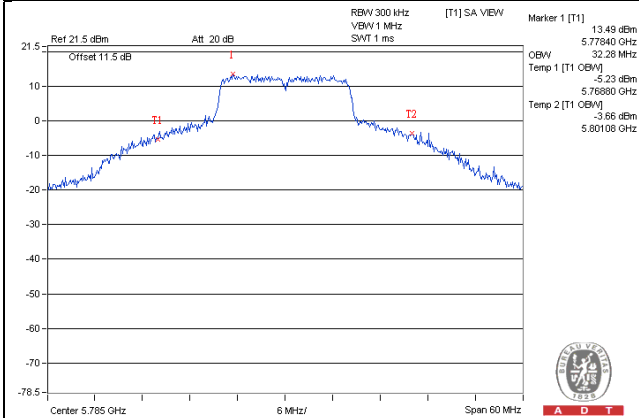
802.11ac (VHT80)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
42	5210	75.84
155	5775	76.80

Spectrum Plot of Worst Value

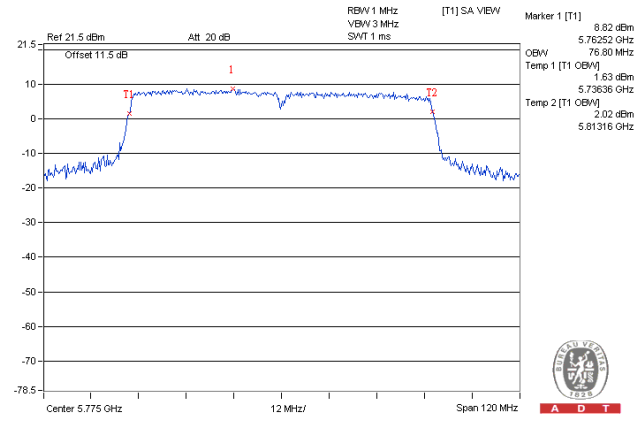
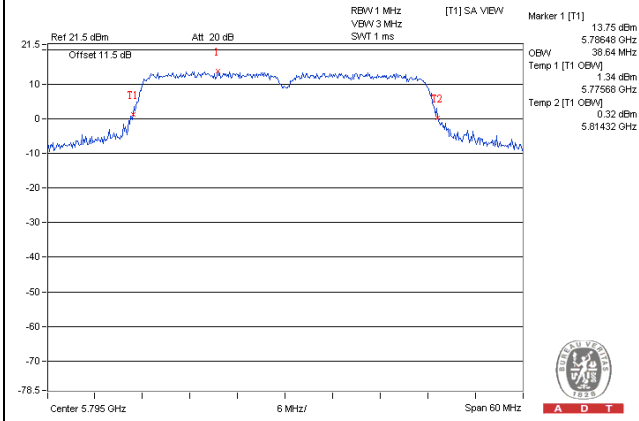
802.11a

802.11n (HT20)



802.11n (HT40)

802.11ac (VHT80)



3TX
802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
36	5180	16.92	16.92	16.80
40	5200	16.92	16.92	16.68
48	5240	16.92	16.92	16.80
149	5745	16.78	16.87	16.70
157	5785	17.52	17.40	17.40
165	5825	16.68	16.80	16.68

802.11n (HT20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
36	5180	18.12	18.24	17.88
40	5200	18.12	17.88	17.88
48	5240	18.12	18.00	18.00
149	5745	18.00	18.00	17.88
157	5785	18.60	18.36	18.24
165	5825	17.88	18.00	17.76

802.11n (HT40)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
38	5190	36.84	36.96	37.20
46	5230	37.44	37.32	36.96
151	5755	37.08	36.84	36.84
159	5795	37.44	37.20	37.08

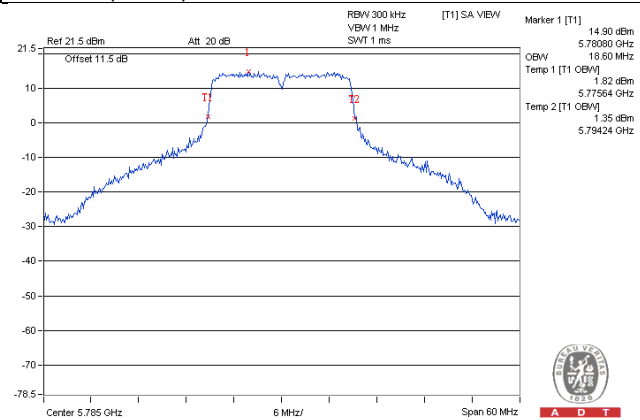
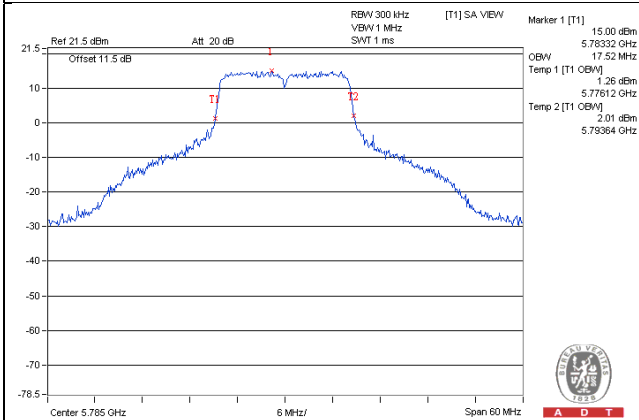
802.11ac (VHT80)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)		
		Chain 0	Chain 1	Chain 2
42	5210	76.08	76.08	75.36
155	5775	76.08	76.08	76.08

Spectrum Plot of Worst Value

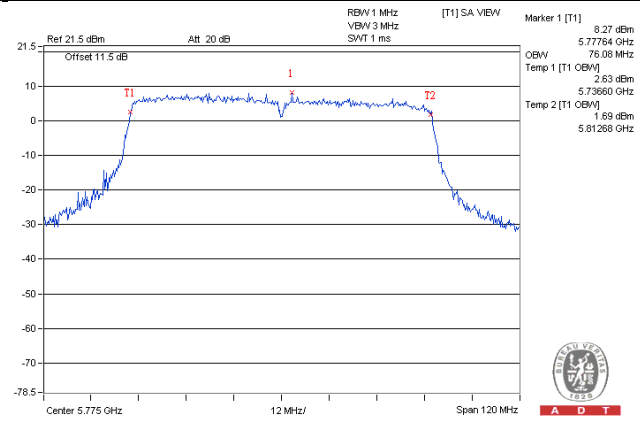
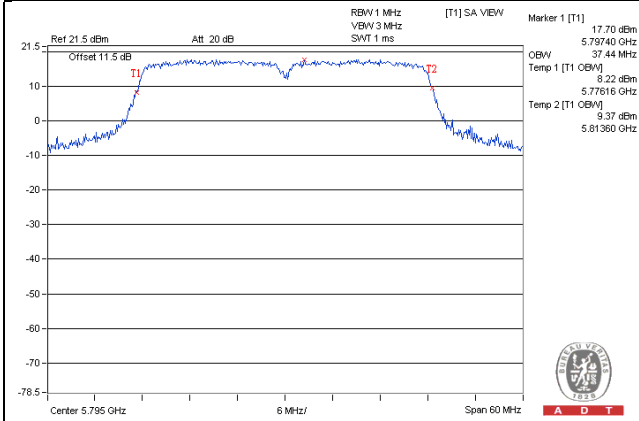
802.11a

802.11n (HT20)



802.11n (HT40)

802.11ac (VHT80)

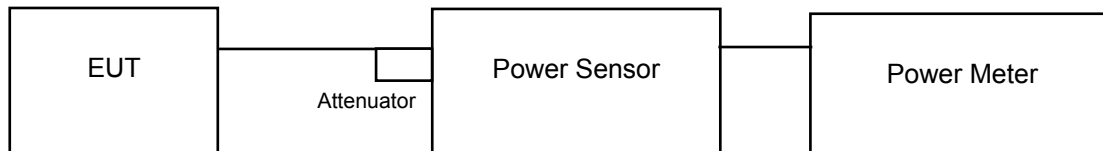


4.4 Peak Power Spectral Density Measurement

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

789033 D02 General UNII Test Procedures New Rules v01 E/2/b

For U-NII-1 band:

Using method SA-2

- a. Set span to encompass the entire emission bandwidth (EBW) of the signal.
- b. Set RBW = 30 kHz, Set VBW \geq 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)

789033 D02 General UNII Test Procedures New Rules v01 F/5

For U-NII-3 band:

- a. Set span to encompass the entire emission bandwidth (EBW) of the signal.
- b. Set RBW = 500 kHz, Set VBW \geq 3 RBW, Detector = RMS
- c. Sweep time = auto, trigger set to "free run".
- d. Trace average at least 100 traces in power averaging mode.
- e. Record the max value and add 10 log (1/duty cycle)
- f. Scale the observed power level to an equivalent value in 500 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where $BWCF = 10\log(500\text{ kHz}/300\text{kHz})$

4.4.5 Deviation from Test Standard

No deviation.

4.4.6 EUT Operating Conditions

Same as Item 4.3.6.

4.4.7 Test Results

For U-NII-1 Band

1TX

802.11a

Channel	Frequency (MHz)	PSD W/O Duty Factor (dBm)	Duty Factor	PSD WITH Duty Factor (dBm)	Maximum Limit (dBm)	Pass / Fail
36	5180	5.52	0.21	5.73	17	Pass
40	5200	5.72	0.21	5.93	17	Pass
48	5240	5.49	0.21	5.70	17	Pass

802.11n (HT20)

Channel	Frequency (MHz)	PSD W/O Duty Factor (dBm)	Duty Factor	PSD WITH Duty Factor (dBm)	Maximum Limit (dBm)	Pass / Fail
36	5180	5.23	0.10	5.33	17	Pass
40	5200	5.43	0.10	5.53	17	Pass
48	5240	4.69	0.10	4.79	17	Pass

802.11n (HT40)

Channel	Frequency (MHz)	PSD W/O Duty Factor (dBm)	Duty Factor	PSD WITH Duty Factor (dBm)	Maximum Limit (dBm)	Pass / Fail
38	5190	-1.45	0.16	-1.29	17	Pass
46	5230	2.41	0.16	2.57	17	Pass

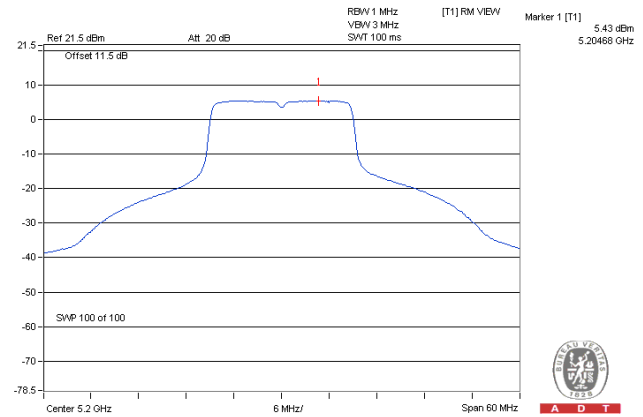
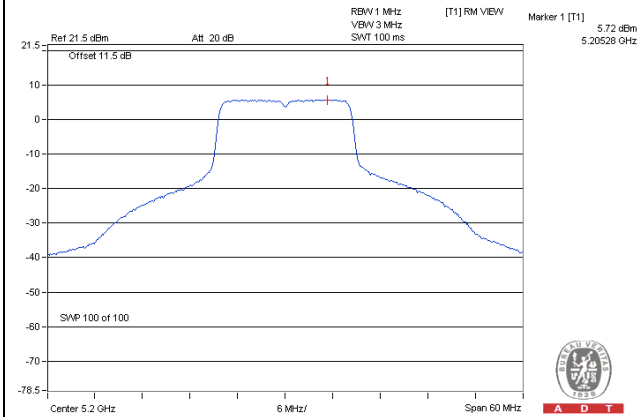
802.11ac (VHT80)

Channel	Frequency (MHz)	PSD W/O Duty Factor (dBm)	Duty Factor	PSD WITH Duty Factor (dBm)	Maximum Limit (dBm)	Pass / Fail
42	5210	-6.49	0.44	-6.05	17	Pass

Spectrum Plot of Worst Value

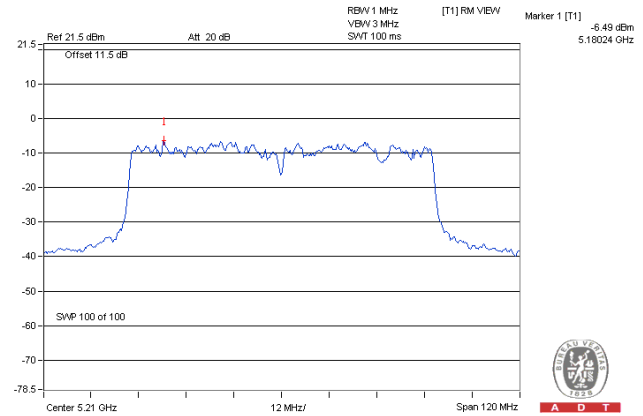
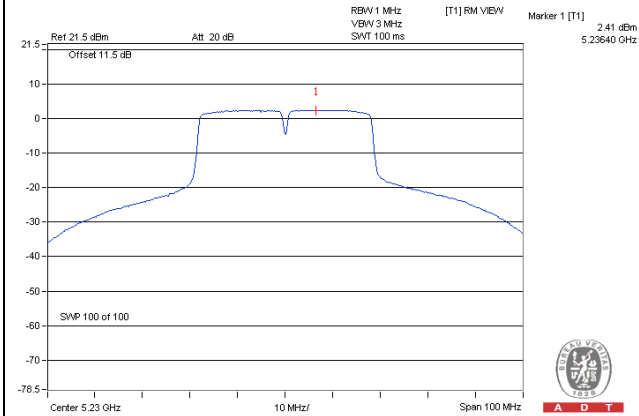
802.11a

802.11n (HT20)



802.11n (HT40)

802.11ac (VHT80)



3TX

802.11a

Chan.	Frequency (MHz)	PSD (dBm/MHz)			Total PSD W/O Duty Factor (dBm/MHz)	Duty Factor	Total PSD With Duty Factor (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2					
36	5180	10.08	10.27	9.78	14.81	0.21	15.02	15.23	Pass
40	5200	10.23	10.47	9.64	14.89	0.21	15.10	15.23	Pass
48	5240	10.06	10.46	9.20	14.70	0.21	14.91	15.23	Pass

Note:

- 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.
- For U-NII-1:** Directional gain = $3\text{dBi} + 10\log(3) = 7.77\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17 - (7.77 - 6) = 15.23\text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

Channel	Frequency (MHz)	PSD (dBm/MHz)			Total Power Density (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2			
36	5180	10.24	10.63	9.73	14.99	15.23	Pass
40	5200	10.15	10.33	9.86	14.89	15.23	Pass
48	5240	10.31	10.77	10.08	15.17	15.23	Pass

Note:

- 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.
- For U-NII-1:** Directional gain = $3\text{dBi} + 10\log(3) = 7.77\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17 - (7.77 - 6) = 15.23\text{dBm}$.

802.11n (HT40)

Chan.	Frequency (MHz)	PSD (dBm/MHz)			Total PSD W/O Duty Factor (dBm/MHz)	Duty Factor	Total PSD With Duty Factor (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2					
38	5190	2.33	2.70	2.25	7.21	0.16	7.37	15.23	Pass
46	5230	8.26	8.78	8.37	13.25	0.16	13.41	15.23	Pass

Note:

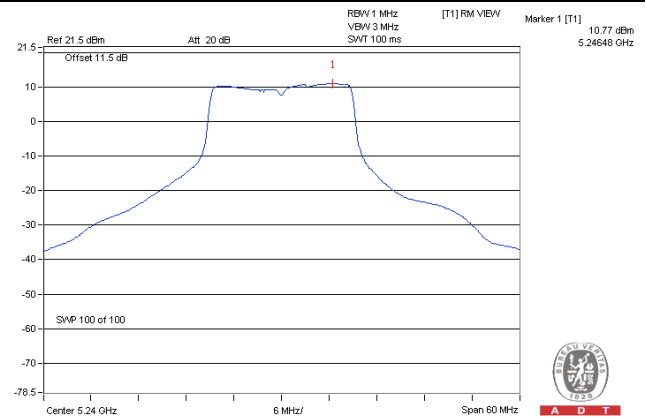
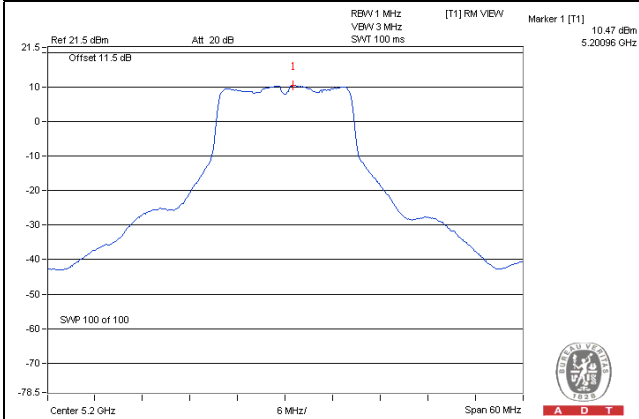
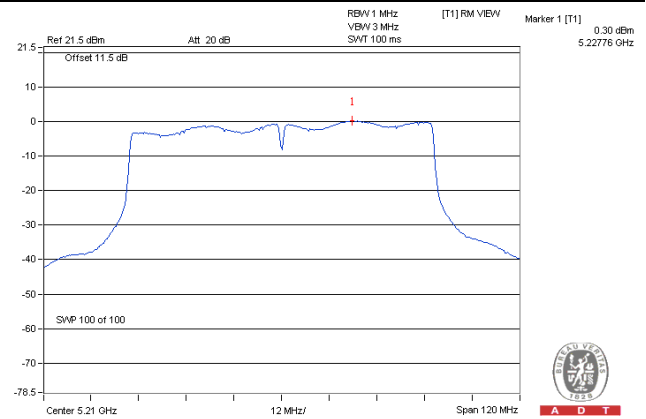
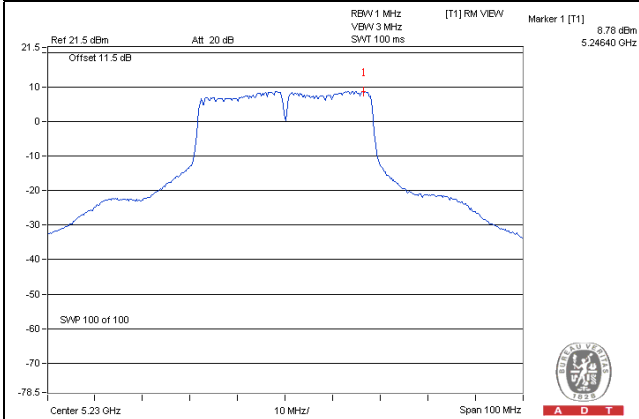
- Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- For U-NII-1:** Directional gain = $3\text{dBi} + 10\log(3) = 7.77\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17 - (7.77 - 6) = 15.23\text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

Chan.	Frequency (MHz)	PSD (dBm/MHz)			Total PSD W/O Duty Factor (dBm/MHz)	Duty Factor	Total PSD With Duty Factor (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2					
42	5210	-0.60	0.30	-1.12	4.34	0.35	4.69	15.23	Pass

Note:

- 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.
- For U-NII-1:** Directional gain = $3\text{dBi} + 10\log(3) = 7.77\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $17 - (7.77 - 6) = 15.23\text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value**802.11a****802.11n (HT20)****802.11n (HT40)****802.11ac (VHT80)**

For U-NII-3 Band

1TX

802.11a

Chan.	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	Duty Factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
149	5745	-4.71	-2.49	0.21	-2.28	30	Pass
157	5785	0.36	2.58	0.21	2.79	30	Pass
165	5825	0.11	2.33	0.21	2.54	30	Pass

802.11n (HT20)

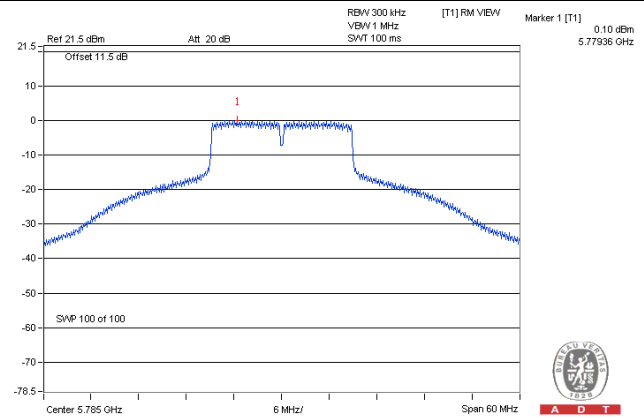
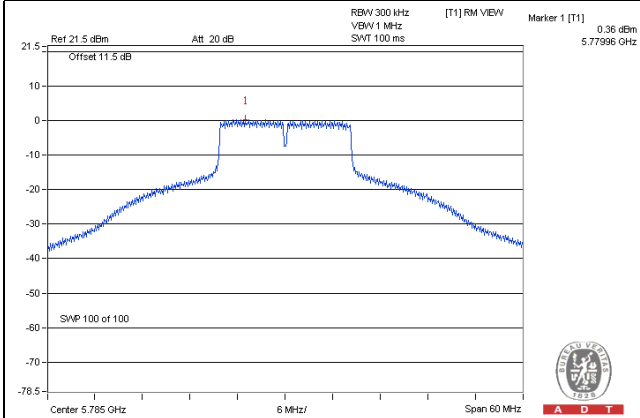
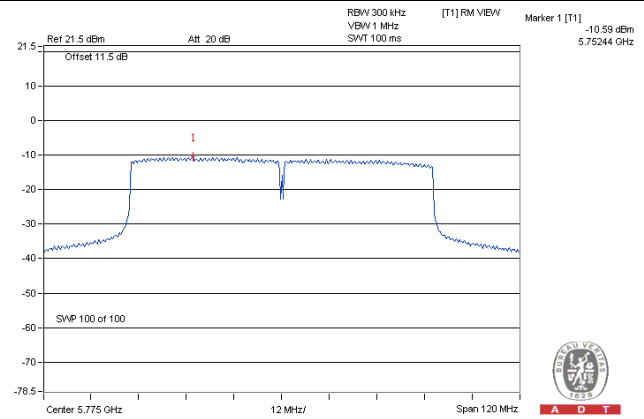
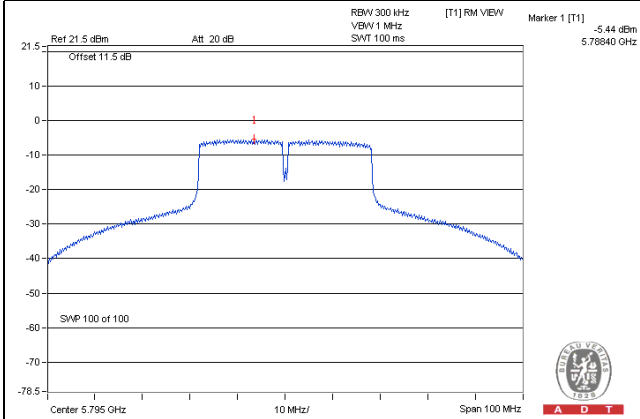
Chan.	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	Duty Factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
149	5745	-4.91	-2.69	0.10	-2.59	30	Pass
157	5785	0.10	2.32	0.10	2.42	30	Pass
165	5825	-0.29	1.93	0.10	2.03	30	Pass

802.11n (HT40)

Chan.	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	Duty Factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
151	5755	-6.73	-4.51	0.16	-4.35	30	Pass
159	5795	-5.44	-3.22	0.16	-3.06	30	Pass

802.11ac (VHT80)

Chan.	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	Duty Factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
155	5775	-10.59	-8.37	0.44	-7.93	30	Pass

Spectrum Plot of Worst Value**802.11a****802.11n (HT20)****802.11n (HT40)****802.11ac (VHT80)**

3TX

802.11a

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=3) dB	Duty Factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	149	5745	1.04	3.26	4.77	0.21	8.24	28.23	Pass
	157	5785	2.63	4.85	4.77	0.21	9.83	28.23	Pass
	165	5825	-0.27	1.95	4.77	0.21	6.93	28.23	Pass
1	149	5745	1.14	3.36	4.77	0.21	8.34	28.23	Pass
	157	5785	2.16	4.38	4.77	0.21	9.36	28.23	Pass
	165	5825	-1.20	1.02	4.77	0.21	6.00	28.23	Pass
2	149	5745	0.83	3.05	4.77	0.21	8.03	28.23	Pass
	157	5785	2.22	4.44	4.77	0.21	9.42	28.23	Pass
	165	5825	-1.11	1.11	4.77	0.21	6.09	28.23	Pass

Note:

1. Directional gain = $3\text{dBi} + 10\log(3) = 7.77\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30 - (7.77 - 6) = 28.23\text{dBm}$.
2. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=3) dB	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	149	5745	0.35	2.57	4.77	7.34	28.23	Pass
	157	5785	2.40	4.62	4.77	9.39	28.23	Pass
	165	5825	-0.61	1.61	4.77	6.38	28.23	Pass
1	149	5745	0.46	2.68	4.77	7.45	28.23	Pass
	157	5785	2.03	4.25	4.77	9.02	28.23	Pass
	165	5825	-1.14	1.08	4.77	5.85	28.23	Pass
2	149	5745	0.04	2.26	4.77	7.03	28.23	Pass
	157	5785	1.90	4.12	4.77	8.89	28.23	Pass
	165	5825	-1.40	0.82	4.77	5.59	28.23	Pass

Note: Directional gain = $3\text{dBi} + 10\log(3) = 7.77\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30 - (7.77 - 6) = 28.23\text{dBm}$.

802.11n (HT40)

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=3) dB	Duty Factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	151	5755	-4.31	-2.09	4.77	0.16	2.84	28.23	Pass
	159	5795	-0.92	1.30	4.77	0.16	6.23	28.23	Pass
1	151	5755	-4.35	-2.13	4.77	0.16	2.80	28.23	Pass
	159	5795	-1.55	0.67	4.77	0.16	5.60	28.23	Pass
2	151	5755	-4.56	-2.34	4.77	0.16	2.59	28.23	Pass
	159	5795	-1.50	0.72	4.77	0.16	5.65	28.23	Pass

Note:

- Directional gain = $3\text{dBi} + 10\log(3) = 7.77\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30 - (7.77 - 6) = 28.23\text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=3) dB	Duty Factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	155	5775	-11.93	-9.71	4.77	0.35	-4.59	28.23	Pass
1	155	5775	-12.25	-10.03	4.77	0.35	-4.91	28.23	Pass
2	155	5775	-11.67	-9.45	4.77	0.35	-4.33	28.23	Pass

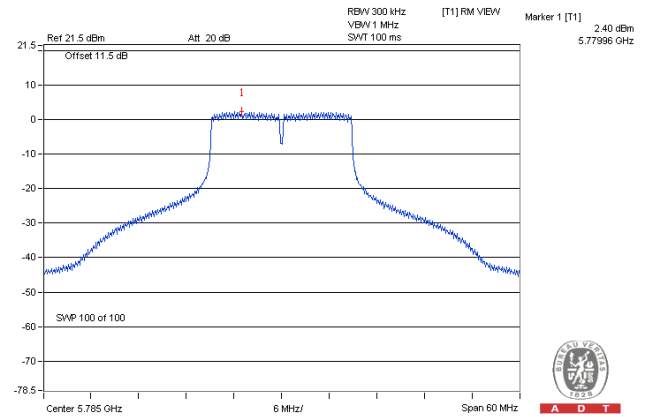
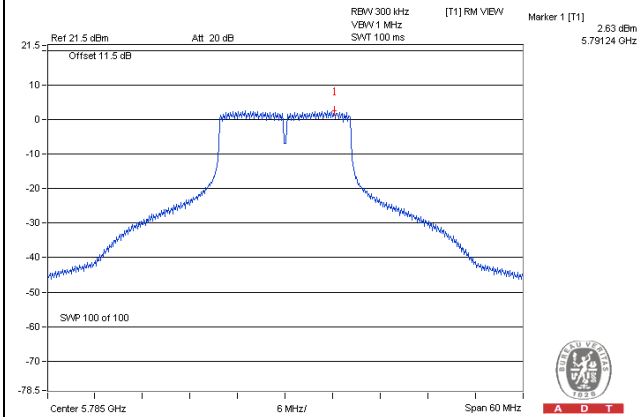
Note:

- Directional gain = $3\text{dBi} + 10\log(3) = 7.77\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $30 - (7.77 - 6) = 28.23\text{dBm}$.
- Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

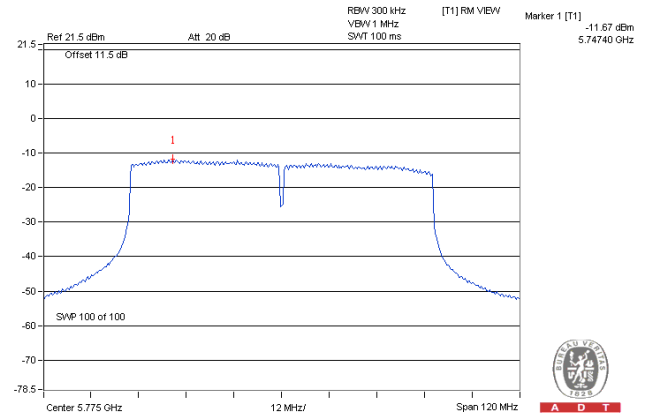
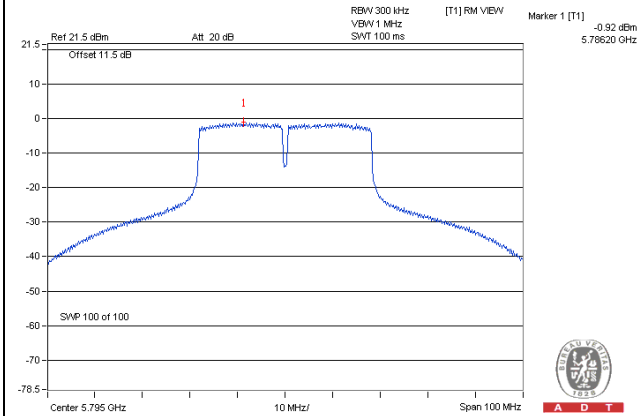
802.11a

802.11n (HT20)



802.11n (HT40)

802.11ac (VHT80)

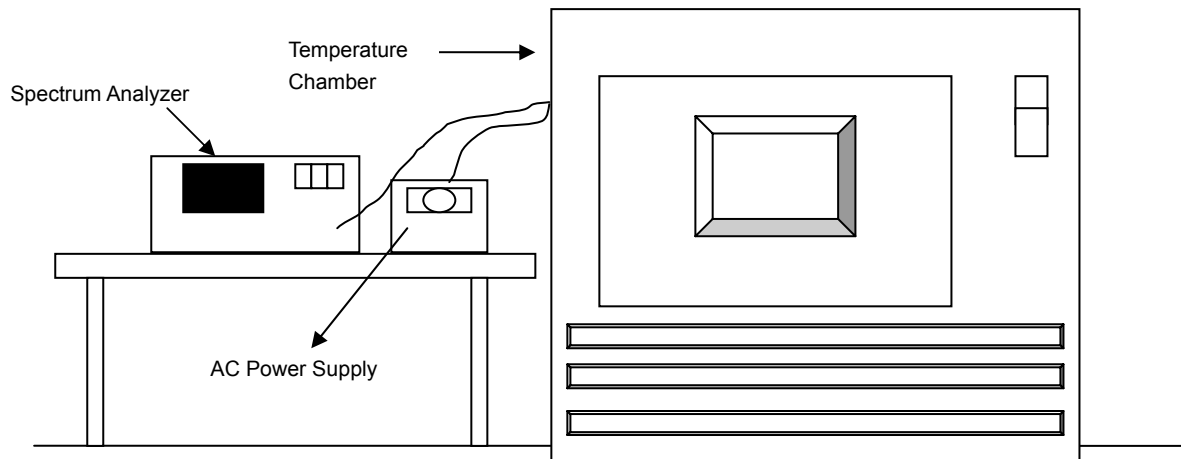


4.5 Frequency Stability

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

1TX

Frequency Stability Versus Temp.									
Operating Frequency: 5180MHz									
Temp. (°C)	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	5179.9999	0.00000	5180.0006	0.00001	5179.9985	-0.00003	5179.9994	-0.00001
40	120	5179.9733	-0.00052	5179.9767	-0.00045	5179.9748	-0.00049	5179.9774	-0.00044
30	120	5180.0104	0.00020	5180.0090	0.00017	5180.0128	0.00025	5180.0097	0.00019
20	120	5180.0210	0.00041	5180.0198	0.00038	5180.0192	0.00037	5180.0215	0.00042
10	120	5179.9812	-0.00036	5179.9817	-0.00035	5179.9811	-0.00036	5179.9848	-0.00029
0	120	5180.0083	0.00016	5180.0079	0.00015	5180.0110	0.00021	5180.0070	0.00014
-10	120	5180.0097	0.00019	5180.0088	0.00017	5180.0079	0.00015	5180.0083	0.00016
-20	120	5179.9940	-0.00012	5179.9902	-0.00019	5179.9907	-0.00018	5179.9945	-0.00011
-30	120	5180.0064	0.00012	5180.0019	0.00004	5180.0029	0.00006	5180.0057	0.00011

Frequency Stability Versus Temp.									
Operating Frequency: 5180MHz									
Temp. (°C)	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	5180.0200	0.00039	5180.0205	0.00040	5180.0198	0.00038	5180.0222	0.00043
	120	5180.0210	0.00041	5180.0198	0.00038	5180.0192	0.00037	5180.0215	0.00042
	102	5180.0218	0.00042	5180.0191	0.00037	5180.0194	0.00037	5180.0208	0.00040

3TX

Frequency Stability Versus Temp.									
Operating Frequency: 5180MHz									
Temp. (°C)	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	5179.9775	-0.00043	5179.9781	-0.00042	5179.9808	-0.00037	5179.9777	-0.00043
40	120	5179.9877	-0.00024	5179.9858	-0.00027	5179.9868	-0.00025	5179.9869	-0.00025
30	120	5180.0079	0.00015	5180.0099	0.00019	5180.0084	0.00016	5180.0111	0.00021
20	120	5180.0171	0.00033	5180.0163	0.00031	5180.0174	0.00034	5180.0149	0.00029
10	120	5180.0214	0.00041	5180.0247	0.00048	5180.0223	0.00043	5180.0209	0.00040
0	120	5180.0214	0.00041	5180.0226	0.00044	5180.0216	0.00042	5180.0216	0.00042
-10	120	5179.9980	-0.00004	5179.9958	-0.00008	5179.9987	-0.00003	5179.9973	-0.00005
-20	120	5179.9891	-0.00021	5179.9896	-0.00020	5179.9905	-0.00018	5179.9885	-0.00022
-30	120	5180.0245	0.00047	5180.0223	0.00043	5180.0208	0.00040	5180.0222	0.00043

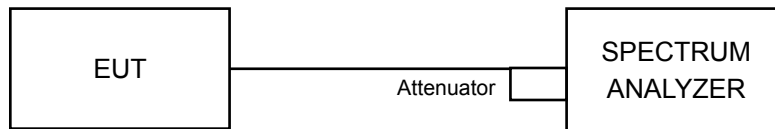
Frequency Stability Versus Temp.									
Operating Frequency: 5180MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
20	138	5180.0170	0.00033	5180.0156	0.00030	5180.0168	0.00032	5180.0149	0.00029
	120	5180.0171	0.00033	5180.0163	0.00031	5180.0174	0.00034	5180.0149	0.00029
	102	5180.0171	0.00033	5180.0164	0.00032	5180.0164	0.00032	5180.0139	0.00027

4.6 6dB Bandwidth Measurement

4.6.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

789033 D02 General UNII Test Procedures New Rules v01 (C)

MEASUREMENT PROCEDURE REF

- Set resolution bandwidth (RBW) = 100kHz
- Set the video bandwidth (VBW) $\geq 3 \times$ RBW, Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.
- Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

1TX

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	16.37	0.5	Pass
157	5785	16.43	0.5	Pass
165	5825	16.40	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	17.62	0.5	Pass
157	5785	17.63	0.5	Pass
165	5825	17.63	0.5	Pass

802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
151	5755	36.16	0.5	Pass
159	5795	36.44	0.5	Pass

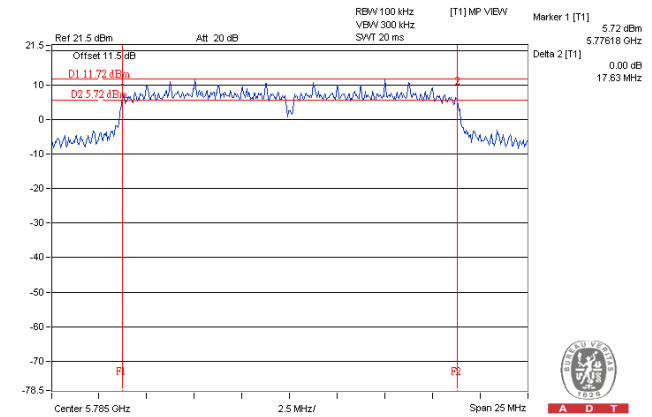
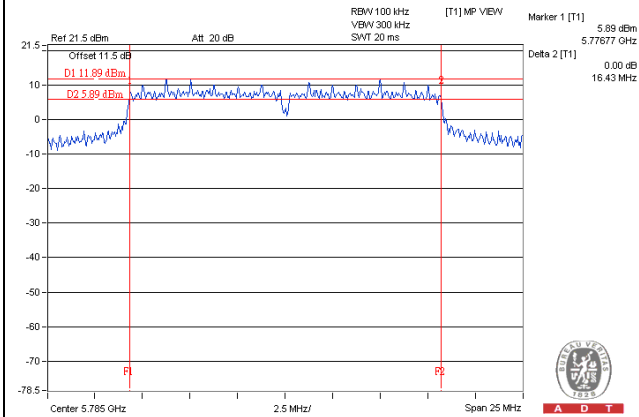
802.11ac (VHT80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
155	5775	75.80	0.5	Pass

Spectrum Plot of Worst Value

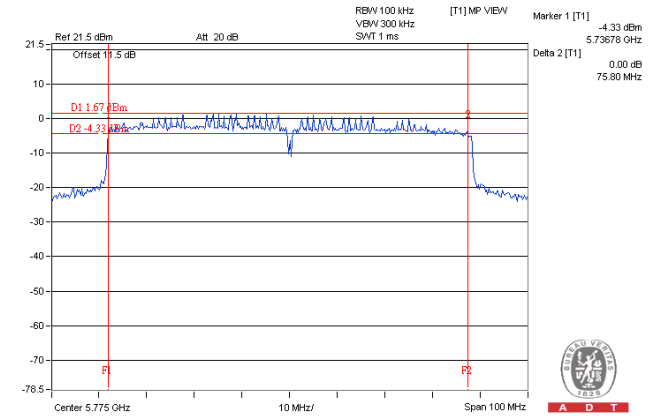
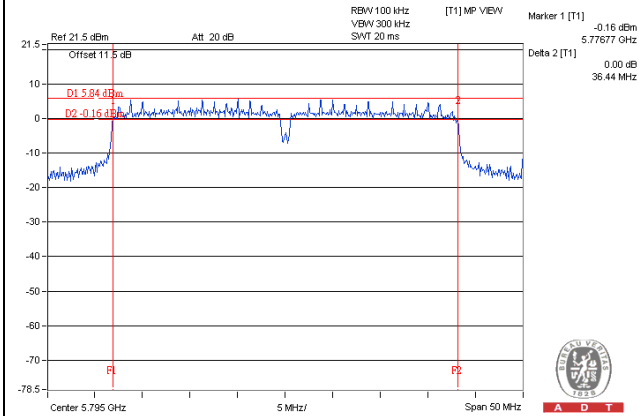
802.11a

802.11n (HT20)



802.11n (HT40)

802.11ac (VHT80)



3TX
802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
149	5745	16.40	16.38	16.38	0.5	Pass
157	5785	16.41	16.38	16.42	0.5	Pass
165	5825	16.42	16.42	16.43	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
149	5745	17.64	17.61	17.61	0.5	Pass
157	5785	17.64	17.63	17.62	0.5	Pass
165	5825	17.64	17.63	17.64	0.5	Pass

802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
151	5755	36.40	36.36	36.41	0.5	Pass
159	5795	36.37	36.37	36.34	0.5	Pass

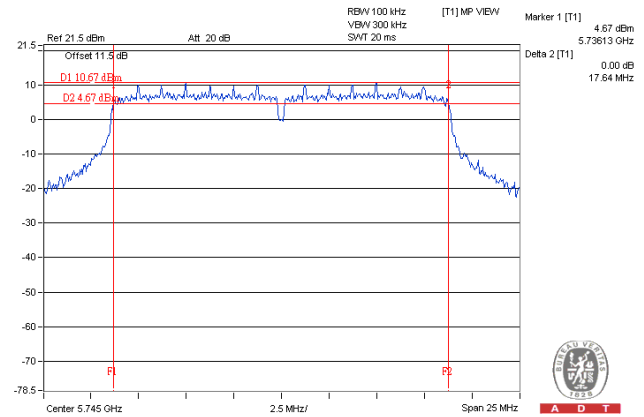
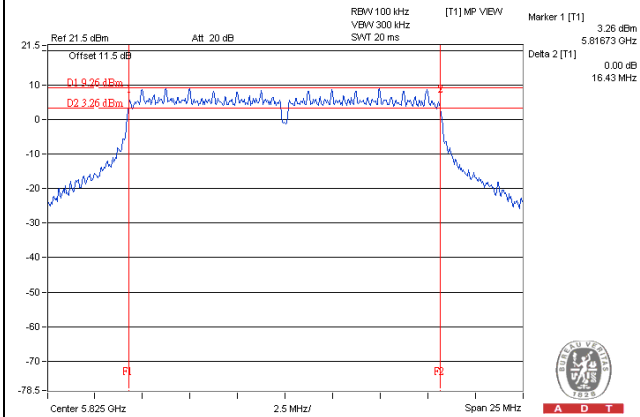
802.11ac (VHT80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2		
155	5775	76.26	75.96	73.37	0.5	Pass

Spectrum Plot of Worst Value

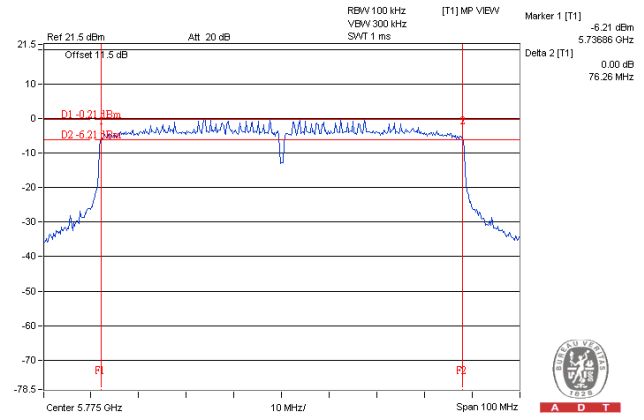
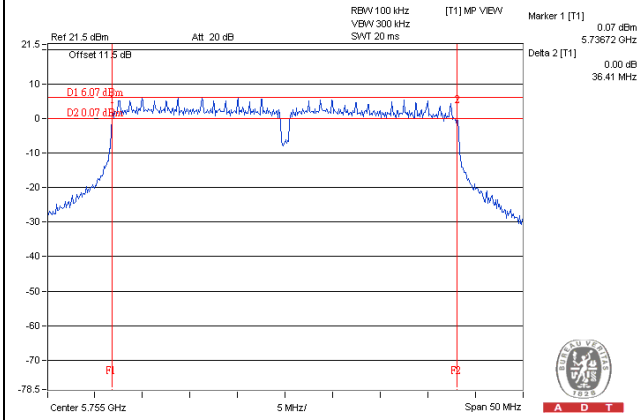
802.11a

802.11n (HT20)



802.11n (HT40)

802.11ac (VHT80)



5 Pictures of Test Arrangements

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



A D T

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:

Linko EMC/RF Lab

Tel: 886-2-26052180

Fax: 886-2-26051924

Hsin Chu EMC/RF Lab/Telecom Lab

Tel: 886-3-5935343

Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety

Tel: 886-3-3183232

Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

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

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